



- KVM systems as panel-mount devices (PM) or Operator Stations (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Optional resistive glass or foil touch screen
- Display of the 19" (1280 x 1024) resolution true to 5:4 format for the 22" device
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) versatile due to many different types of enclosures
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow

The MANTA platform IT-6x7 series KVM systems are available as 22" or 24" versions for installation in safe areas, and optionally with or without touch screen. We have the following versions available for data transmission to the PC in the safe area: copper cable for distances up to 150 m, multimode fibre optic for up to 550 m or single mode fibre optic for up to 10 km.

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The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS 304 / SS 316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

Field Systems

Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: IT-667-DV13-CAT-00000100020-00000000000 It is decoded as follows:				
Decoding	IT-667-DV13-CAT	-	00000100020	-	00000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
Order	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread. A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.				

Type Code Field System IT-6x7 Device Platform MANTA (Part 2)

Name	Version	Note	Code	Enclosures and accessories								
								0		0	0	0
Enclosure	No enclosure	Standard	0									
	Stainless steel enclosure cleanroom front door (CFR)	Extra	1									
	Stainless steel enclosure front door (FR)	Extra	2									
	Stainless steel enclosure back door (BD)	Extra	8									
Material	No material (no enclosure)	Standard	0									
	Stainless steel V2A (SS304)	Version	1									
	Stainless steel V4A (SS316) for CFR	Extra	2									
	Stainless steel V4A (SS316) for FR and BD	Extra	2									
Mounting option	None, panel mounting (no enclosure)	Standard	0									
	Wall mounting (not BD)	Extra	1									
	Mounted on stand or wall bracket	Version	2									
	Ceiling mounting	Version	3									
Outdoor installation	-20 °C	Standard	0									
	Outdoor -20 °C	Extra	3									
	Outdoor -30 °C (only for AC devices)	Extra	4									
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0									
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0									
	Keyboard enclosure stainless steel V4A (SS316)	Extra	>0									
	Keyboard language: DE, QWERTZ	Extra	1									
	Keyboard language: US, QWERTY	Extra	2									
	Keyboard language: FR, AZERTY	Extra	3									
	Keyboard language: CH	Extra	4									
	Keyboard language: ES	Extra	7									
	Keyboard language: SI	Extra	8									
Keyboard language: FR-BE	Extra	9										
Integrated pointing device	No integrated pointing device (option not possible)		0									
	Trackball 50 mm IP54	Standard	1									
	Touchpad	Extra	4									
	Joystick	Extra	5									
	Mouse module	Extra	6									
Separate pointing device	No separate pointing device		0									
Separate reader	No separate reader		0									
	RFID-Crypt reader (max. -30 °C), (requires enclosure) components mounted in enclosure	Extra	1									
	RFID-ASC reader (max. -30 °C), (requires enclosure) components mounted in enclosure	Extra	2									
	RFID-Crypt reader (max. -30 °C), (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	7									
	RFID-ASC reader (max. -30 °C), (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	8									
	Preparation for IDM-260-100S barcode reader * (max. -20 °C), wired, (requires enclosure) components mounted in enclosure	Extra	I									
	Preparation for IDM-261-BT-100S barcode reader (max. -20 °C), Bluetooth, inc. barcode reader, base station and cable (requires enclosure) components mounted in enclosure	Extra	M									
Emergency stop switch	No emergency stop switch		0									
	Emergency stop switch 8003, right ESR	Extra	1									
	Emergency stop switch 8003, left ESL	Extra	2									
Separate power supply	No separate power supply		0									
Further options 1	No further options 1		0									
Further options 2	No further options 2		0									

Technical Data

General

Product Type	Product Series PM IT-667
Product Type	22" KVM system
HMI Technology	Remote HMI KVM
Type	Panel-mount device
HMI WebCode	IT667A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display size centimetres	56
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	10 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series PM IT-677
Product Type	24" KVM system
HMI Technology	Remote HMI KVM
Type	Panel-mount device
HMI WebCode	IT677A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display size centimetres	61
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	10 kg
Mounting / Installation	
Mounting option	Panel-mount

Technical Data

General

Product Type	Product Series PM IT-687
Product Type	24" KVM system
HMI Technology	Remote HMI KVM
Type	Panel-mount device
HMI WebCode	IT687A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display size centimetres	61
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	10 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS IT-667
Product Type	22" KVM system
HMI Technology	Remote HMI KVM
Type	Operator station
HMI WebCode	IT667A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display size centimetres	56
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the technical data of the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS IT-677
Product Type	24" KVM system
HMI Technology	Remote HMI KVM
Type	Operator station
HMI WebCode	IT677A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display size centimetres	61
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the technical data of the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS IT-687
Product Type	24" KVM system
HMI Technology	Remote HMI KVM
Type	Operator station
HMI WebCode	IT687A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display size centimetres	61
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the technical data of the Operator Stations (OS).	

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Transmission Unit			
KVM-DVI3-CAT KVM Transmission Unit DVI3 Connection to PC via DVI/USB Data transmission CAT7 Desktop enclosure	221092 ▲	43	1.500
KVM-DVI3-MM-FO KVM Transmission Unit DVI3 Connection to PC via DVI/USB Data transmission MM-FO Desktop enclosure	221093 ▲	43	1.500
KVM-DVI3-SM-FO KVM Transmission Unit DVI3 Connection to PC via DVI/USB Data transmission SM-FO Desktop enclosure	221094 ▲	43	1.500
Accessories Transmission Unit			
DVI3-RackMountKit-1 19" Rack Mount front cover for 1 DVI3 transmission unit	221095	43	0.200
DVI3-RackMountKit-2 19" Rack mount front cover for 2 DVI3 transmission units	221096	43	1.000
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

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Overview

R. STAHL's Thin Clients are HMI products for the remote control of PCs or virtual workstations, for example via Ethernet and WLAN. The MANTA platform was developed for the pharmaceutical, life-science and fine chemical industries, and the EAGLE platform for machine operation and logistics. The SHARK platform is particularly suitable for rough ambient conditions and the oil and gas industry.

R. STAHL's Thin Clients are the most modern type of process visualisation in virtual networks. Each Thin Client, via IP addressing, provides flexible access to process automation, MES, ERP and other functions, providing a wide range of information on site. Software installation, upgrades and administration are carried out centrally and thus cost-effectively - they can easily be carried out during ongoing operations. Data communication uses Ethernet or WLAN via various protocols such as RDP and VNC. Our innovative REMOTE HMI FIRMWARE has been developed for process automation. It acts as an extra safeguard for data communication, supports redundancy concepts, simplifies administration and contains powerful diagnostic functions.

SHARK

Rugged Design Rigfloor



Rugged Design Operator station

MANTA

Panel-mount device



Operator station

EAGLE

Panel-mount device



Operator station



Operator station MANTA GMP

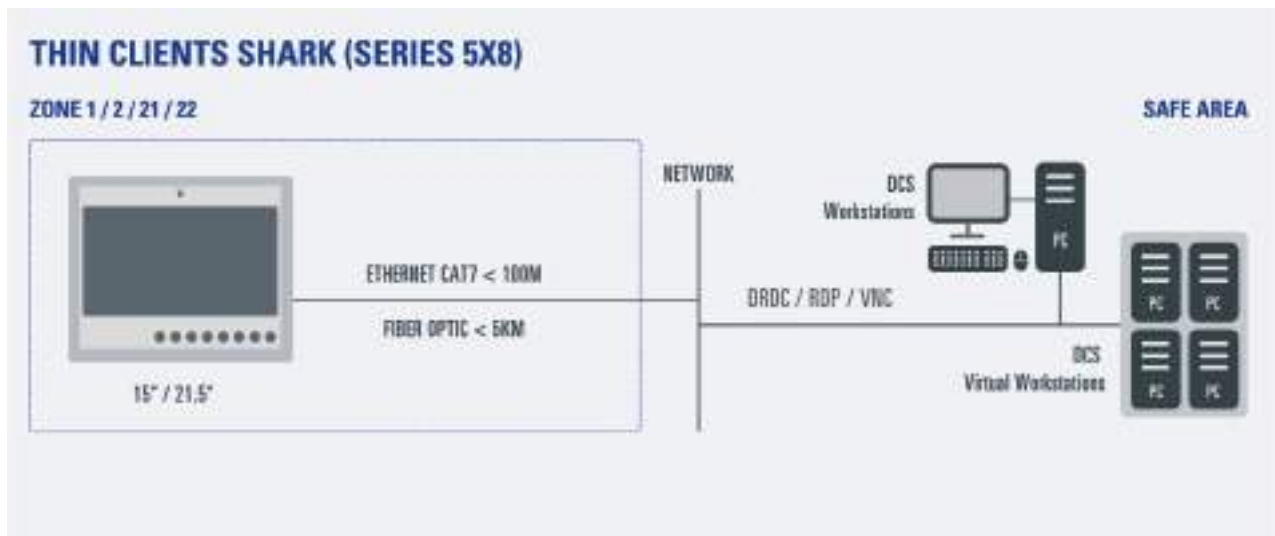


Highlights

- Flexible access from one operator station to one or more virtual or real workstations in a network
- Uncomplicated commissioning of Thin Clients due to driverless "plug-and-play" on the host system
- Maximum security and easy parameterisation with our proprietary REMOTE HMI FIRMWARE

Functional Principle

"Rugged" perfectly describes R. STAHL's Thin Clients with device platform SHARK. We have designed these HMI systems to be ideally suited to the most adverse ambient conditions. They are shock, vibration, seawater and salt-spray-proof, have IP66 and function problem-free in temperatures ranging from -40 °C to +65 °C, thanks to the integrated heater and our innovative application of the stack effect. The display and additional function keys are located underneath a chemically hardened, non-glare glass screen. The standard versions with their multi-touch screens and sunlight-readable, dimmable displays use state-of-the-art technology; the 21.5 inch models have card readers for access control as an option, and further options include Bluetooth and an integrated front camera.





- Thin Client with 15 inch or 21.5 inch display
- Rugged design: IP66, shock, vibration and seawater-proof, temperature range -40 °C to +65 °C
- Compact, lightweight HMI design with 15 inch display, ET < 25 kg / 55 lbs, MT < 18 kg / 40 lbs
- Optional sunlight-readable 15" SR display 1200 cd/m²
- Sunlight-readable 21.5" SR display as standard with 1000 cd/m²
- Optional integrated RFID reader for 21.5 inch display



All SHARK SERIES 500 HMIs are Thin Clients for hazardous areas; the ET devices have been designed and developed for zone 1 and 21, the MT devices for zone 2 and 22. Their rugged design makes them shock, vibration and seawater-proof and suitable for temperatures ranging from a minimum of -40 °C to a maximum of +65 °C. They are certified for degree of protection IP66. A chemically hardened, glare-free glass screen protects the display and the function keys, and, as a further option, also a projected-capacitive touch screen with multi-touch function, camera, Bluetooth and WLAN.

Data transmission versions: dual Ethernet as 10/100/1000Base-TX via CAT7 up to 100 m, dual Ethernet as 100Base-FX via multimode fibre optic up to 2 km and a TX interface in combination with optional WLAN (2.4 / 5 GHz).

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	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•	•	•

Field Systems	
Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: ET-538-2TX-2305010000M-B301000000 It is decoded as follows:
Decoding	ET-538-2TX - 2305010000M - B301000000
Meaning	Device version Hyphen Device sub-version Hyphen Enclosure and Accessories
Order	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread. A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.

Type Code Field System ET-/MT-5x8 Device Platform SHARK (Part 1)

Name	Version	Note	Code	Device design			More detailed device design								
				-	-	-	2	3	5			0	0	M	-
Series	Zone 1, 21		ET												
	Zone 2, 22		MT												
Display size	38 cm / 15		538												
	55 cm / 21.5"		598												
Ethernet	1x 1000Base-TX copper Ethernet can be combined with WLAN	Version	1TX												
	2x 1000Base-TX copper Ethernet cannot be combined with WLAN	Standard	2TX												
	2x 100Base-FX copper Ethernet cannot be combined with WLAN	Extra	2FX												
Processor	AMD GX-217GA		2												
RAM	4 GB		3												
Display type	Standard TFT (15" only)	Standard	0												
	Sunlight readable display 15"	Extra	1												
	Sunlight readable display 21.5"	Standard	1												
Data memory	60 GB		5												
Touch	No Touch	Standard	0												
	Capacitive glass touch 15"	Extra	3												
	Capacitive glass touch 21.5"	Extra	3												
Power supply	24 V DC	Extra	0												
	100 ... 240 V AC	Standard	1												
Optional interface 1	No optional interface	Standard	0												
	WLAN 2.4 GHz, no Bluetooth, no RFID	Extra	1												
	WLAN 2.4 GHz and 5 GHz, no Bluetooth, no RFID	Extra	2												
	No WLAN, Bluetooth, no RFID	Extra	3												
	WLAN 2.4 GHz, Bluetooth, no RFID	Extra	4												
	WLAN 2.4 GHz and 5 GHz, Bluetooth, no RFID	Extra	5												
	No WLAN, no Bluetooth, RFID-C5 (CRYPT) *	Extra	C												
	WLAN 2.4 GHz, no Bluetooth, RFID-C5 (CRYPT) *	Extra	D												
	WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID-C5 (CRYPT) *	Extra	E												
	no WLAN, Bluetooth, RFID-C5 (CRYPT) *	Extra	F												
	WLAN 2.4 GHz, Bluetooth, RFID-C5 (CRYPT) *	Extra	G												
	WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID-C5 (CRYPT) *	Extra	H												
	No WLAN, no Bluetooth, RFID-C6 (ASCII) *	Extra	I												
	WLAN 2.4 GHz, no Bluetooth, RFID-C6 (ASCII) *	Extra	J												
	WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID-C6 (ASCII) *	Extra	K												
	no WLAN, Bluetooth, RFID-C6 (ASCII) *	Extra	L												
WLAN 2.4 GHz, Bluetooth, RFID-C6 (ASCII) *	Extra	M													
WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID-C6 (ASCII) *	Extra	N													
For WLAN option only 1TX Ethernet version possible / * no RFID at 538															
Optional interface 2 / reader	No optional interface		0												
Option 3 / Option box	No option 3		0												
Enclosure design	VESA 200		0												
	VESA 200, with ST connector (FO version only)	Extra	2												
	VESA 200, no camera		3												
	VESA 200, Top Connect	Extra	5												
	VESA 200, Top Connect, with ST connector (FO version only)	Extra	6												
	VESA 200, Top Connect, no camera	Extra	7												
Operating system and image	Windows 10 IoT and Remote		M												
	Firmware V5														

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Type Code Field System ET-/MT-5x8 Device Platform SHARK (Part 2)

Name	Version	Note	Code	Enclosures and accessories												
				B	3			0	0	0	0	0	0	0		
Enclosure	Rugged Panel Design (RP)		B													
Material	Aluminium powder-coated, seawater-proof		3													
Mounting option	VESA 200	Standard	0													
	VESA 200, handles and feet (material SS316L)	Extra	4													
Outdoor installation	-10 °C	Standard	1													
	-40 °C	Extra	5													
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device		0													
	Keyboards can be ordered as an option and are listed under Accessories and Spare Parts.															
Integrated pointing device	No integrated pointing device (option not possible)		0													
Separate pointing device	No separate pointing device		0													
Separate reader	No separate reader		0													
Emergency stop switch	No emergency stop switch		0													
Separate power supply	No separate power supply		0													
Further options 1	No further options 1		0													
Further options 2	No further options 2		0													

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Price calculation

Standard field systems
 Standard field systems of the ET-/MT-5x8 devices, device platform SHARK, are combinations with the following features:

- 2x 1000Base-TX interface
- AMD GX processor
- 4 GB RAM
- TFT display for 15" or sunlight readable display for 21.5"
- 60 GB data memory
- AC power supply
- No optional interfaces
- Enclosure design, VESA 200 mounting
- Operating system Windows 10 IoT and Remote Firmware V5
- Outdoor option -10 °C
- No further mounting or enclosure options

The product code for this is:
 xT-5x8-2TX-2305010000M-B301000000
 The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Field systems options
 For all field systems other than the standard you need to add the extra charge of each required option to the basic price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Technical Data

General

Product Type	Product Series ET-538
Product Type	15" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET538A

Explosion Protection

Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex eb q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb [ia op is Da] IIIC T115°C Db
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 2 (1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2 (1) D Ex tb [ia op is Da] IIIC T115°C Db
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX

Ambient Conditions

Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater

Display

Display version	TFT colour display or sunlight-readable display
Display version 2	16.7 million colours
Display size inch	15
Display size centimetres	38
Display dimensions	4:3
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 450 cd/m ² SR 1200 cd/m ²
Display contrast	TFT 500:1 SR 600:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70000 h at +25 °C

Mechanical Data

Dimensions	380 mm x 394 mm x 137 mm (+52 mm cable entries)
Ingress protection	IP66
Weight	25 kg

Mounting / Installation

Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Technical Data	
General	
Product Type	Product Series ET-598
Product Type	21.5" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET598A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex eb q [Ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb [Ia op is Da] IIIC T115°C Db
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 2 (1) G Ex e q [Ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2 (1) D Ex tb [Ia op is Da] IIIC T115°C Db
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX
Ambient Conditions	
Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater
Display	
Display version	Sunlight readable display
Display version 2	16.7 million colours
Display size inch	21.5
Display size centimetres	55
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	SR 1000 cd/m ²
Display contrast	SR 1100:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C
Mechanical Data	
Dimensions	553 mm x 458 mm x 141 mm (+52 mm for cable entries)
Ingress protection	IP66
Weight	35 kg
Mounting / Installation	
Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Technical Data

General

Product Type	Product Series MT-538
Product Type	15" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT538A

Explosion Protection

Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex ec nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc [ja op is Da] IIIC T115°C Dc
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc [ja op is Da] IIIC T115°C Dc
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX

Ambient Conditions

Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater

Display

Display version	TFT colour display or sunlight-readable display
Display version 2	16.7 million colours
Display size inch	15
Display size centimetres	38
Display dimensions	4:3
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 450 cd/m ² SR 1200 cd/m ²
Display contrast	TFT 500:1 SR 600:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70000 h at +25 °C

Mechanical Data

Dimensions	380 mm x 394 mm x 137 mm (+52 mm cable entries)
Ingress protection	IP66
Weight	18 kg

Mounting / Installation

Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Technical Data	
General	
Product Type	Product Series MT-598
Product Type	21.5" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT598A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex ec nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc [ja op is Da] IIC T115°C Dc
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc [ja op is Da] IIC T115°C Dc
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX
Ambient Conditions	
Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater
Display	
Display version	Sunlight readable display
Display version 2	16.7 million colours
Display size inch	21.5
Display size centimetres	55
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	SR 1000 cd/m ²
Display contrast	SR 1100:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C
Mechanical Data	
Dimensions	553 mm x 458 mm x 141 mm (+52 mm for cable entries)
Ingress protection	IP66
Weight	35 kg
Mounting / Installation	
Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Keyboard / Pointing device Ex i			
KBDi-USB-TB50-DE-HSG-xx8-V4A-YM Keyboard with integrated trackball 50 mm USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	250149	43	12.500
KBDi-USB-TB50-US-HSG-xx8-V4A-YM Keyboard with integrated trackball 50 mm USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QZERTY	249706	43	12.500
KBDi-USB-TB50-FR-HSG-xx8-V4A-YM Keyboard with integrated trackball 50 mm USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AZERTY	256791	43	12.500
KBDi-USB-P-DE-HSG-xx8-V4A-YM Keyboard with integrated touchpad USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	256792	43	12.500
KBDi-USB-P-US-HSG-xx8-V4A-YM Keyboard with integrated touchpad USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QWERTY	250223	43	10.000
KBDi-USB-P-FR-HSG-xx8-V4A-YM Keyboard with integrated touchpad USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AWERTY	256793	43	12.500
KBDi-USB-J-DE-HSG-xx8-V4A-YM Keyboard with integrated joystick USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	256794	43	12.500
KBDi-USB-J-US-HSG-xx8-V4A-YM Keyboard with integrated joystick USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QWERTY	254921	43	12.500
KBDi-USB-J-FR-HSG-xx8-V4A-YM Keyboard with integrated joystick USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AZERTY	256795	43	12.500
KBDi-USB-M-DE-HSG-xx8-V4A-YM Keyboard with integrated mouse USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	253701	43	12.500
KBDi-USB-M-US-HSG-xx8-V4A-YM Keyboard with integrated mouse USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QZERTY	253700	43	12.500
KBDi-USB-M-FR-HSG-xx8-V4A-YM Keyboard with integrated mouse USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AZERTY	256796	43	12.500
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSI-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Media Converter			
Media Converter of 10/100 Base-Tx (1 x RJ45 port) to 100 Base-Fx "Ex op is" (1 x FO port SC); Multi mode (up to 4 km range); Webcode: 9721A	220381 ▲	75	0.240
Unmanaged Switch			
FX op is / TX SC			
Unmanaged Switch FX op is to TX; SC plug connector FO cable 4 multi mode (MM), 2 RJ45, Installation in Zone 2	243427 ▲	75	0.500
Transmission Unit KVM Box			
KVM-INFINITY-DUAL-2112T Digital KVM over IP transmission unit Remote monitoring and control, no software installation Multi-user (up to 16 users simultaneously) Video resolution up to 2560 x 1600 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	229329	43	1.500
KVM-DIGITAL-IPEPS Digital KVM over IP transmission unit Remote monitoring and control, Peer-to-Peer Video resolution up to 1920 x 1200 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	235686 ▲	43	1.650
Storage Media			
USBi-Drive-32GB USB Stick, intrinsically safe, 32 GB	261529	43	0.500
USBi-Drive-32GB-Recovery USB Stick, intrinsically safe, 32 GB with recovery and backup function	261530	43	0.500
Field Cable			
VB-FO-MIL-SC-SC-2m MilTac breakout FO cable, basic length 2 m, with SC connectors at both ends	202201	43	0.500
VB-FO-MIL-xm MilTac breakout FO cable, additional length in metres, price per metre	202202	43	0.140
VB-FO-SC-SC-62V04G-2m Indoor breakout FO cable, basic length 2 m, with SC connectors at both ends	202203	43	0.500
VB-FO-62V04G-xm Indoor breakout FO cable, additional length in metres, price per metre	202204	43	0.050
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000
Cable and Cable Accessories			
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <--> SC	229271	43	0.050

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

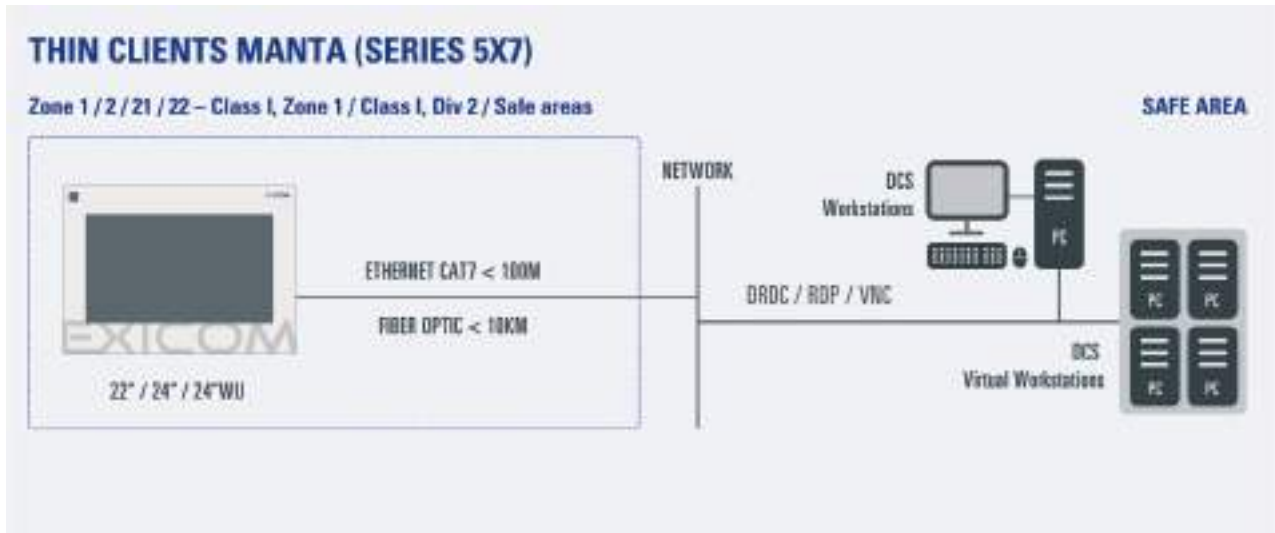
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Functional Principle

The Thin Clients from R. STAHL with device platform MANTA are geared towards the requirements of the pharmaceutical, chemical and life science industries. They are cleanroom-suitable, can display complex processes in brilliant image quality on widescreens and have glass touchscreens. They can be flexibly configured and are available as panel-mount devices (PM) or Operator Stations (OS) inside enclosures. Security is ensured with RFID readers and corresponding software in the automation system, granting access to authorised staff only and thus meeting the requirements according to 21 CFR part 11 and GAMP. Barcode readers connected via cable or Bluetooth can be used to simplify material inventory. Dual Ethernet and WLAN are further options.



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- Thin Clients as panel-mount device (PM) or Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Optional resistive glass or foil touch screen
- Display of the 19" (1280 x 1024) resolution true to 5:4 format for the 22" device
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) versatile due to many different types of enclosures
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow



All MANTA SERIES 500 HMIs are Thin Clients for hazardous areas; the ET devices have been developed for zone 1, 21 and Division 2, the MT devices for zone 2 and 22. The series ET-/MT-5x7 Thin Clients are available as 22" or 24" versions with or without touch screen. The following types of data transmission to the PC in the safe area are available: dual or single Ethernet as 10/100Base-TX via CAT5 up to 100 m, single Ethernet as 1000Base-SX via multimode fibre optic up to 550 m and single Ethernet as 1000Base-LX via single mode fibre optic up to 10 km.

The term "PM" covers all panel-mount devices that are provided without an enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS 304 / SS 316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

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	ATEX / IECEx					
	0	1	2	20	21	22
Zone						
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•			

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•				

Field Systems

Definition Field Systems	<p>A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows:</p> <p>ET-567-TX-730A010002M-0000000000</p> <p>It can be decoded as follows:</p>				
Decoding	ET-567-TX	-	730A010002M	-	0000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	<p>For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.</p>				
Order	<p>A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.</p>				

Type Code Field System ET-/MT-5x7 Device Platform MANTA (Part 1)

Name	Version	Note	Code	Device design			More detailed device design								
				-	-	-	7	3	0	A	0	0	0	M	-
Series	Zone 1, 21		ET												
	Zone 2, 22		MT												
Display size	56 cm / 22"		567												
	61 cm / 24"		577												
	61 cm / 24"WU		587												
Ethernet	1x 10/100Base-TX copper Ethernet	Standard	TX												
	2x 10/100Base-TX copper Ethernet	Extra	2TX												
	1x 1000Base-SX FO Ethernet	Extra	SX												
	1x 1000Base-LX FO Ethernet	Extra	LX												
Processor	ATOM E3845		7												
RAM	4 GB		3												
Display type	Standard TFT		0												
Data memory	64 GB		A												
Touch	No Touch	Standard	0												
	Analogue resistive touch	Extra	1												
	Analogue resistive glass touch	Extra	2												
Power supply	24 V DC	Extra	0												
	100 ... 240 V AC	Standard	1												
Optional interface 1	No optional interface		0												
Optional interface 2 / reader	No optional interface		0												
Option 3 / Option box	No option 3		0												
Enclosure design	Aluminium front plate	Standard	2												
	Rear mount module		3												
Operating system and image	Windows 10 IoT and Remote		M												
	Firmware V5														

Price calculation

Standard field systems

The standard fields system of ET-/MT-5x7 devices, device platform MANTA, are combinations with the following features:

- 10/100Base-TX interface
- ATOM E3845 processor
- 4 MB RAM
- TFT display
- 64 GB data memory
- No touch
- AC power supply
- No optional interfaces
- Operating system Windows 10 IoT and Remote Firmware V5
- Aluminium front plate

The product code for this is:

xT-5x7-TX-730A010002M-00000000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Notes on table part 2:

On types and material of enclosures:

Only the following values are permitted as possible product code combinations: 00, 11, 21, 81, 12, 22, 82

When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Not possible with BD enclosure.

Type Code Field System ET-/MT-5x7 Device Platform MANTA (Part 2)

Name	Version	Note	Code	Enclosures and accessories																
Enclosure	No enclosure	Standard	0							0										
	Stainless steel enclosure cleanroom front door (CFR)	Extra	1																	
	Stainless steel enclosure front door (FR)	Extra	2																	
	Stainless steel enclosure back door (BD)	Extra	8																	
Material	No material (no enclosure)	Standard	0																	
	Stainless steel V2A (SS304)	Version	1																	
	Stainless steel V4A (SS316) for CFR	Extra	2																	
	Stainless steel V4A (SS316) for FR and BD	Extra	2																	
Mounting option	None, panel mounting (no enclosure)	Standard	0																	
	Wall mounting (not BD)	Extra	1																	
	Mounted on stand or wall bracket	Version	2																	
	Ceiling mounting	Version	3																	
Outdoor installation	-20 °C	Standard	0																	
	Outdoor -20 °C	Extra	3																	
	Outdoor -30 °C (only for AC devices)	Extra	4																	
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0																	
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0																	
	Keyboard enclosure stainless steel V4A (SS316)	Extra	>0																	
	Keyboard language: DE, QWERTZ	Extra	1																	
	Keyboard language: US, QWERTY	Extra	2																	
	Keyboard language: FR, AZERTY	Extra	3																	
	Keyboard language: CH	Extra	4																	
	Keyboard language: ES	Extra	7																	
	Keyboard language: SI	Extra	8																	
	Keyboard language: FR-BE	Extra	9																	
Integrated pointing device	No integrated pointing device (option not possible)		0																	
	Trackball 50 mm IP54	Standard	1																	
	Touchpad	Extra	4																	
	Joystick	Extra	5																	
	Mouse module	Extra	6																	
Separate pointing device	No separate pointing device		0																	
Separate reader	No separate reader		0																	
	RFID-Crypt reader (max. -30 °C), inc. ReaderBox, (requires enclosure) components mounted in enclosure (not BD)	Extra	1																	
	RFID-ASC reader (max. -30 °C), inc. ReaderBox, (requires enclosure) components mounted in enclosure (not BD)	Extra	2																	
	RFID-Crypt reader (max. -30 °C), inc. ReaderBox, (requires enclosure) reader mounted in keyboard enclosure KBD (not BD) (no separate pointing device possible)	Extra	7																	
	RFID-ASC reader (max. -30 °C), inc. ReaderBox, (requires enclosure) reader mounted in keyboard enclosure KBD (not BD) (no separate pointing device possible)	Extra	8																	
	Preparation for IDM-160-ex-b Barcode reader * (max. -20 °C), wired, inc. ReaderBox (requires enclosure) components mounted in enclosure	Extra	4																	
	Preparation for IDM-161-BT-ex Barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	5																	
	Preparation for IDM-260-ex Barcode reader * (max. -20 °C), wired, inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	K																	
	Preparation for IDM-261-BT-ex Barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	L																	
Emergency stop switch	No emergency stop switch		0																	
	Emergency stop switch 8003, right ESR	Extra	1																	
	Emergency stop switch 8003, left ESL	Extra	2																	
Separate power supply	No separate power supply		0																	
Further options 1	No further options 1		0																	
Further options 2	No further options 2		0																	

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Technical Data

General

Product Type	Product Series PM ET-567
Product Type	22" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	ET567A

Explosion Protection

Certification IECEx	IECEX TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	32 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series PM ET-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	ET577A
Explosion Protection	
Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	32 kg
Mounting / Installation	
Mounting option	Panel-mount

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Technical Data

General

Product Type	Product Series PM ET-587
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	ET587A

Explosion Protection

Certification IECEx	IECEX TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	32 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS ET-567
Product Type	22" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET567A
Explosion Protection	
Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	64.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

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Technical Data

General

Product Type	Product Series OS ET-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET577A

Explosion Protection

Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	64.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS ET-587
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET587A
Explosion Protection	
Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	64.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

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Technical Data

General

Product Type	Product Series PM MT-567
Product Type	22" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	MT567A

Explosion Protection

Certification IECEx	IECEX BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	16 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series PM MT-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	MT577A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	16 kg
Mounting / Installation	
Mounting option	Panel-mount

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Technical Data

General

Product Type	Product Series PM MT-587
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	MT587A

Explosion Protection

Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	16 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS MT-567
Product Type	22" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT567A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	58.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

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Technical Data

General

Product Type	Product Series OS MT-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT577A

Explosion Protection

Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	58.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS MT-587
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT587A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	58.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSi-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Transmission Unit KVM Box			
KVM-INFINITY-DUAL-2112T Digital KVM over IP transmission unit Remote monitoring and control, no software installation Multi-user (up to 16 users simultaneously) Video resolution up to 2560 x 1600 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	229329	43	1.500
KVM-DIGITAL-IPEPS Digital KVM over IP transmission unit Remote monitoring and control, Peer-to-Peer Video resolution up to 1920 x 1200 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	235686 ▲	43	1.650
Media Converter / Switch			
SK-DRAG2-GBIC-SX Single Port Fiber Switch from 5x 10/100/1000Base-TX to 1000Base-SX Data transmission: LWL SX: 1000Base-SX, cable length max. 500 m Duplex LC connectors	260410	43	0.500
SK-DRAG2-GBIC-LX Single Port Fiber Switch from 5x 10/100/1000Base-TX to 1000Base-LX Data transmission: LWL LX: 1000Base-LX, cable length max. 10 m Duplex LC connectors	260411	43	0.500
SK-EL1000-2GU-3TX-4SX-opis Quad Port Fiber Switch from 3 x 10/100/1000Base-TX to 4 x 1000Base-SX Data transmission: LWL SX: 1000Base-SX, cable length 500 m Duplex LC connectors	236644	43	0.400
Field Cable			
VB-FO-MIL-SC-SC-2m MiITac breakout FO cable, basic length 2 m, with SC connectors at both ends	202201	43	0.500
VB-FO-MIL-xm MiITac breakout FO cable, additional length in metres, price per metre	202202	43	0.140
VB-FO-SC-SC-62V04G-2m Indoor breakout FO cable, basic length 2 m, with SC connectors at both ends	202203	43	0.500
VB-FO-62V04G-xm Indoor breakout FO cable, additional length in metres, price per metre	202204	43	0.050
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Cable and Cable Accessories			
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <--> SC	229271	43	0.050

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

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- KVM systems as panel-mount devices (PM) or Operator Stations (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Optional resistive glass or foil touch screen
- Display of the 19" (1280 x 1024) resolution true to 5:4 format for the 22" device
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) versatile due to many different types of enclosures
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow

All series IT-5x7 Thin clients are available as 22" or 24" versions and have been designed for installation in safe areas. They are available with or without touch screen. The following types of data transmission to the PC in the safe area are available: dual or single Ethernet as 10/100Base-TX via CAT5 up to 100 m, single Ethernet as 1000Base-SX via multimode fibre optic up to 550 m and single Ethernet as 1000Base-LX via single mode fibre optic up to 10 km.

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The term "PM" covers all panel-mount devices that are provided without an enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS 304 / SS 316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

Field Systems

Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: IT-567-TX-730A010002M-00000000000				
	It can be decoded as follows:				
Decoding	IT-567-TX	-	730A010002M	-	00000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.				
Order	A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.				

Type Code Field System IT-5x7 Device Platform MANTA (Part 1)

Name	Version	Note	Code	Device design				More detailed device design									
				IT-	-	-	7	3	0	A	0	0	0	M	-		
Series	Non-Ex		IT														
Display size	56 cm / 22"		567														
	61 cm / 24"		577														
	61 cm / 24"WU		587														
Ethernet	1x 10/100Base-TX copper Ethernet	Standard	TX														
	2x 10/100Base-TX copper Ethernet	Extra	2TX														
	1x 1000Base-SX FO Ethernet	Extra	SX														
	1x 1000Base-LX FO Ethernet	Extra	LX														
Processor	ATOM E3845		7														
RAM	4 GB		3														
Display type	Standard TFT		0														
Data memory	64 GB		A														
Touch	No Touch	Standard	0														
	Analogue resistive touch	Extra	1														
	Analogue resistive glass touch	Extra	2														
Power supply	24 V DC	Extra	0														
	100 ... 240 V AC	Standard	1														
Optional interface 1	No optional interface		0														
Optional interface 2 / reader	No optional interface		0														
Option 3 / Option box	No option 3		0														
Enclosure design	Aluminium front plate	Standard	2														
	Rear mount module		3														
Operating system and image	Windows 10 IoT and Remote Firmware V5		M														

Price calculation

Standard field systems

The standard fields system of IT-5x7 devices, device platform MANTA, are combinations with the following features:

- 10/100Base-TX interface
- ATOM E3845 processor
- 4 GB RAM
- TFT display
- 64 GB data memory
- No touch
- AC power supply
- No optional interfaces
- Operating system Windows 10 IoT and Remote Firmware V5
- Aluminium front plate

The product code for this is:

IT-5x7-TX-730A010002M-00000000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Notes on table part 2:

On types and material of enclosures:

Only the following values are permitted as possible product code combinations: 00, 11, 21, 81, 12, 22, 82

When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM-260-100S:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Type Code Field System IT-5x7 Device Platform MANTA (Part 2)

Name	Version	Note	Code	Enclosures and accessories													
Enclosure	No enclosure	Standard	0								0				0	0	0
	Stainless steel enclosure cleanroom front door (CFR)	Extra	1														
	Stainless steel enclosure front door (FR)	Extra	2														
	Stainless steel enclosure back door (BD)	Extra	8														
Material	No material (no enclosure)	Standard	0														
	Stainless steel V2A (SS304)	Version	1														
	Stainless steel V4A (SS316) for CFR	Extra	2														
	Stainless steel V4A (SS316) for FR and BD	Extra	2														
Mounting option	None, panel mounting (no enclosure)	Standard	0														
	Wall mounting (not BD)	Extra	1														
	Mounted on stand or wall bracket	Version	2														
	Ceiling mounting	Version	3														
Outdoor installation	-20 °C	Standard	0														
	Outdoor -20 °C	Extra	3														
	Outdoor -30 °C (only for AC devices)	Extra	4														
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0														
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0														
	Keyboard enclosure stainless steel V4A (SS316)	Extra	>0														
	Keyboard language: DE, QWERTZ	Extra	1														
	Keyboard language: US, QWERTY	Extra	2														
	Keyboard language: FR, AZERTY	Extra	3														
	Keyboard language: CH	Extra	4														
	Keyboard language: ES	Extra	7														
	Keyboard language: SI	Extra	8														
Integrated pointing device	No integrated pointing device (option not possible)		0														
	Trackball 50 mm IP54	Standard	1														
	Touchpad	Extra	4														
	Joystick	Extra	5														
	Mouse module	Extra	6														
Separate pointing device	No separate pointing device		0														
Separate reader	No separate reader		0														
	RFID-Crypt reader (max. -30 °C), (requires enclosure) components mounted in enclosure	Extra	1														
	RFID-ASC reader (max. -30 °C), (requires enclosure) components mounted in enclosure	Extra	2														
	RFID-Crypt reader (max. -30 °C), (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	7														
	RFID-ASC reader (max. -30 °C), (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	8														
	Preparation for IDM-260-100S barcode reader * (max. -20 °C), wired, (requires enclosure) components mounted in enclosure	Extra	I														
	Preparation for IDM-261-BT-100S barcode reader (max. -20 °C), Bluetooth, inc. barcode reader, base station and cable (requires enclosure) components mounted in enclosure	Extra	M														
Emergency stop switch	No emergency stop switch		0														
	Emergency stop switch 8003, right ESR	Extra	1														
	Emergency stop switch 8003, left ESL	Extra	2														
Separate power supply	No separate power supply		0														
Further options 1	No further options 1		0														
Further options 2	No further options 2		0														

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Technical Data

General

Product Type	Product Series PM IT-567
Product Type	22" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	IT567A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	10 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series PM IT-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	IT577A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	10 kg
Mounting / Installation	
Mounting option	Panel-mount

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Technical Data

General

Product Type	Product Series PM IT-587
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	IT587A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Cut-out	615 mm x 435 mm (+/-0.5 mm)
Ingress protection	IP66
Weight	10 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS IT-567
Product Type	22" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	IT567A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the technical data of the Operator Stations (OS).	

A9

Technical Data

General

Product Type	Product Series OS IT-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	IT577A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the technical data of the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS IT-587
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	IT587A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the technical data of the Operator Stations (OS).	

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Transmission Unit KVM Box			
KVM-INFINITY-DUAL-2112T Digital KVM over IP transmission unit Remote monitoring and control, no software installation Multi-user (up to 16 users simultaneously) Video resolution up to 2560 x 1600 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	229329	43	1.500
KVM-DIGITAL-IPEPS Digital KVM over IP transmission unit Remote monitoring and control, Peer-to-Peer Video resolution up to 1920 x 1200 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	235686 ▲	43	1.650
Storage Media			
USB-Drive-32GB-Recovery USB stick, 32 GB, with recovery and backup function	258078	43	0.100
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracketed with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

A9



- Modular Thin Client Operator Stations inside GMP cleanroom enclosure
- Display size 24" (1920 x 1080 pixels)
- Capacitive glass touch screen, multi-touch
- For installation in safe areas and cleanrooms according to EHEDG and EU-GMP directives for cleanliness class C
- Mounted on stand / mobile stand
- Dual monitor solutions
- Optional keyboard with pointer instrument as well as optional accessories such as RFID readers, barcode scanners, etc.

The MANTA GMP series IT-579 Operator Stations have been developed for installation in cleanrooms cleanliness class C according to EU-GMP and according to EHEDG. Data is transmitted via dual Ethernet 10/100/1000Base-TX via CAT7 for distances of up to 100 m.

The Operator Stations have a capacitive projected touch screen and can be mounted on a fixed or mobile stand. Available options include a keyboard with touch pad or trackball as well as other accessories such as RFID readers and barcode scanners.

A9

Field Systems

Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: IT-577-2TX-230531000SM-J12711000000				
	It is decoded as follows:				
Decoding	IT-577-2TX	-	230531000SM	-	J12711000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.				
Order	A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.				

Type Code Field System IT-5x7 Device Platform MANTA GMP (Part 1)

Name	Version	Note	Code	Device design				More detailed device design									
				IT-	577-	2TX	-	2	3	0	5	3	0	0	0	S	M
Series	None Ex		IT														
Display size	61 cm / 24"		577														
Ethernet	2x 10/100Base-TX copper Ethernet		2TX														
Processor	AMD GX-217GA		2														
RAM	4 GB		3														
Display type	Standard TFT		0														
Data memory	60 GB SSD	Standard	5														
Touch	Capacitive glass touch		3														
Power supply	24 V DC	Extra	0														
	100 ... 240 VAC	Standard	1														
Optional interface 1	No optional interface		0														
Optional interface 2 / reader	No optional interface		0														
Option 3 / Option box	No option 3		0														
Enclosure design	GMP rear mount module	Standard	S														
Operating system and image	Windows 10 IoT and Remote Firmware V5		M														

Price calculation

Standard field systems

The standard field systems of the IT-577 devices, device platform MANTA GMP, are combinations with the following features:

- 2x 10/100Base-TX interface
- AMD GX-217GA processor
- 4 GB RAM
- TFT display
- 60 GB data memory
- Capacitive glass touch
- AC power supply
- No optional interfaces
- GMP rear mount module
- Operating system Windows 10 IoT and Remote Firmware V5
- GMP enclosure
- Stainless steel V2A
- Mounted on stand
- Indoor 0 °C - 45 °C
- No keyboard, no pointing device
- No separate reader

The product code for this is:

IT-577-2TX-230531000SM-J12700000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Note:

By the time this price list went to press the prices for the IT-577 MANTA GMP platform devices had not been finalised, which is why they are not listed. Please contact R. STAHL HMI Systems GmbH for information.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Type Code Field System IT-5x7 Device Platform MANTA GMP (Part 2)

Name	Version	Note	Code	Enclosures and accessories										
				J	2	7		0	0	0	0			
Enclosure	GMP		J											
Material	Stainless steel V2A (SS304)	Version	1											
	Stainless steel V4A (SS316L)	Extra	2											
Mounting option	Mounted on stand	Standard	2											
Indoor installation	0 °C - 45 °C	Standard	7											
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0											
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0											
	Keyboard enclosure stainless steel V4A (SS316L)	Extra	>0											
	Keyboard language: DE, QWERTZ	Extra	1											
	Keyboard language: US, QWERTY	Extra	2											
	Keyboard language: FR, AZERTY	Extra	3											
	(additional languages on request)													
	* Only in combination with keyboard (please add extra charge for keyboard and keyboard enclosure)													
Integrated pointing device	No integrated pointing device		0											
	Trackball 50 mm IP54	Standard	1											
	Touchpad	Extra	4											
	Joystick	Extra	5											
	Mouse module	Extra	6											
Separate pointing device	No separate pointing device		0											
Separate reader	No separate reader		0											
	RFID-CRYPT reader (mounted inside keyboard enclosure)	Extra	7											
	RFID-ASCII reader (mounted inside keyboard enclosure)	Extra	8											
	Preparation for IDM260-100S (wired) 2D barcode reader	Extra	I											
	Preparation for IDM260-100S-BT 2D barcode reader	Extra	M											
	Emergency stop switch	No emergency stop switch		0										
Separate power supply	No separate power supply		0											
Further options 1	No further options 1		0											
Further options 2	No further options 2		0											

A9

Notes on table part 2:

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Technical Data

General

Product Type	Product Series OS GMP IT-577
Product Type	24" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	0 °C ... +45 °C
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Display

Display version	TFT colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Yes
Touch screen technology	projected capacitive (PCAP), multi-touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	674 mm x 664 mm x 356 mm
Ingress protection	IP66
Weight	21 kg
Mechanical data note	The mechanical data apply to an system with display and keyboard. Additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (GMP)
Mounting option	Stand / mobile stand

Built-in components or additional accessories have influence to the technical data at the operator stations (OS).

Accessories and Spare Parts

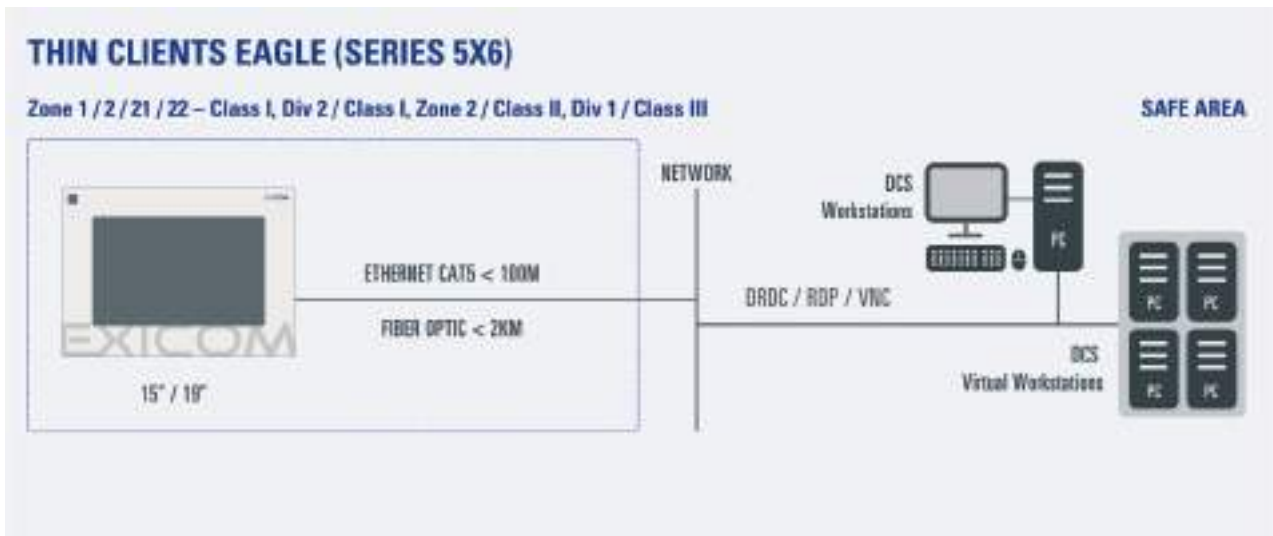
Description	Art. No.	PS	Weight kg
Transmission Unit KVM Box			
KVM-INFINITY-DUAL-2112T Digital KVM over IP transmission unit Remote monitoring and control, no software installation Multi-user (up to 16 users simultaneously) Video resolution up to 2560 x 1600 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	229329	43	1.500
KVM-DIGITAL-IPEPS Digital KVM over IP transmission unit Remote monitoring and control, Peer-to-Peer Video resolution up to 1920 x 1200 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	235686 ▲	43	1.650
Storage Media			
USB-Drive-32GB-Recovery USB stick, 32 GB, with recovery and backup function	258078	43	0.100
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracket with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

A9



The EAGLES are R. STAHL's all-round talents for operating machinery and processes, tankfarms and filling stations. Thanks to their robust design they are certified for world-wide operation in hazardous areas and onboard ships: resistant to corrosive gases (ISA-S71.04 G3), vibration and shock-proof, IP66. As a standard, all models are equipped with touchscreens, available in sizes 10.4", 15" or 19". The flexibly configurable Operator Stations (model types OS) are mounted inside enclosures and are suitable for temperatures ranging from -30 °C to +50 °C, the panel-mount devices (model types PM) can be operated in temperatures ranging from -20 °C to +55 °C.



A9



- Thin Clients as panel-mount device (PM) or Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Thin clients with resistive foil touch screen as a standard.
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) optionally available with enclosure according to GMP requirements, hygiene-compliant design
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow



All EAGLE SERIES 500 HMIs are Thin Clients for hazardous areas; the ET devices have been developed for zone 1, 21 and Division 1, the MT devices for zone 2, 22 and Division 2. The series ET-/MT-5x6 Thin Clients are available with 10.4", 15" or 19" display and with an analogue-resistive touch screen. There are versions available for transmitting data to the PC in the safe area: single Ethernet as 10/100Base-TX via CAT5 for distances up to 100 m, and single Ethernet as 100Base-FX via multimode fibre optic for distances up to 2 km.

The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS304 / SS316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

A9

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in			•			

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•	•	•	•	•

Field Systems

Definition Field Systems	<p>A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows:</p> <p>ET-556-A-TX-730A100000M-0000000000</p> <p>It can be decoded as follows:</p>				
Decoding	ET-556-A-TX	-	730A100000M	-	0000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	<p>For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.</p>				
Order	<p>A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.</p>				

Type Code Field System ET-/MT-5x6-A Device Platform EAGLE (Part 1)

Name	Version	Note	Code	Device design			More detailed device design									
				-	-	-	7	3	0	A	1	0	0	0	M	-
Series	Zone 1, 21		ET													
	Zone 2, 22		MT													
Display size	26 cm / 10,4"		516-A													
	38 cm / 15"		536-A													
	48 cm / 19"		556-A													
Ethernet	1x 10/100Base-TX copper Ethernet	Standard	TX													
	1x 100Base-FX FO Ethernet	Extra	FX													
Processor	ATOM E3845		7													
RAM	4 GB		3													
Display type	Standard TFT		0													
Data memory	64 GB		A													
Touch	Analogue resistive touch		1													
Power supply	24 V DC		0													
	The AC version power supply has to be selected via the option „separate power supply“ at type code part 2.															
Optional interface 1	No optional interface		0													
Optional interface 2 / reader	No optional interface	Standard	0													
	Reader interface Ex i	Extra	1													
Option 3 / Option box	No option 3	Standard	0													
Enclosure design	Polyester on aluminium	Standard	0													
	Stainless steel on aluminium	Extra	1													
Operating system and image	Windows 10 IoT and Remote Firmware V5	Standard	M													

Price calculation

Standard field systems

The standard field systems of the ET-/MT-5x6-A devices, device platform EAGLE, are combinations with the following features:

- 10/100Base-TX interface
- ATOM E3845 processor
- 4 GB RAM
- TFT display
- 64 GB data memory
- Analogue resistive touch
- DC power supply
- No optional interfaces
- Operating system Windows 10 IoT and Remote Firmware V5
- Polyester front plate

The product code for this is:

xT-5x6-A-TX-730A100000M-0000000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Notes on table part 2:

On types and material of enclosures:

Only the following values are permitted as possible product code combinations: 00, 11, 21, 81, 12, 22, 82
When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.
Not possible with BD enclosure.

Type Code Field System ET-/MT-5x6-A Device Platform EAGLE (Part 2)

Name	Version	Note	Code	Enclosures and accessories																		
Enclosure	No enclosure	Standard	0																			
	Stainless steel enclosure cleanroom front door (CFR)	Extra	1																			
	Stainless steel enclosure front door (FR)	Extra	2																			
	Stainless steel enclosure back door (BD)	Extra	8																			
Material	No material (no enclosure)	Standard	0																			
	Stainless steel V2A (SS304)	Version	1																			
	Stainless steel V4A (SS316) for CFR	Extra	2																			
	Stainless steel V4A (SS316) for FR and BD	Extra	2																			
Mounting option	None, panel mounting (no enclosure)	Standard	0																			
	Wall mounting (not BD)	Extra	1																			
	Mounted on stand or wall bracket	Version	2																			
	Ceiling mounting	Version	3																			
Outdoor installation	-20 °C (not with keyboard)	Standard	0																			
	-10 °C (with keyboard)	Standard	1																			
	Outdoor -10 °C (with keyboard, breather)	Extra	2																			
	Outdoor -20 °C (only with enclosure, breather, no keyboard)	Extra	3																			
	Outdoor -30 °C (only with enclosure, heater, breather, no keyboard) (not BD)	Extra	4																			
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0																			
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0																			
	Keyboard enclosure stainless steel V4A (SS316)	Extra	>0																			
	Keyboard language: DE, QWERTZ	Extra	1																			
	Keyboard language: US, QWERTY	Extra	2																			
	Keyboard language: FR, AZERTY	Extra	3																			
Integrated pointing device	No integrated pointing device		0																			
	Trackball 50 mm IP54	Extra	1																			
	Joystick 2	Extra	7																			
	Separate pointing device	No separate pointing device		0																		
Trackball 50 mm IP54		Extra	1																			
Joystick 2		Extra	7																			
Separate reader	No separate reader		0																			
	RFID-Crypt reader, (requires enclosure) mounted in enclosure	Extra	1																			
	RFID-ASC reader, (requires enclosure) mounted in enclosure	Extra	2																			
	RFID-Crypt reader, (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	7																			
	RFID-ASC reader, (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	8																			
	RFID readers require the optional reader interface Ex i / RFID reader max. -30 °C																					
	Preparation for IDM-160-ex-b barcode reader * (max. -20 °C), wired, inc. ReaderBox (requires enclosure) components mounted in enclosure	Extra	4																			
	Preparation for IDM-161-BT-ex barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	5																			
	Preparation for IDM-260-ex barcode reader * (max. -20 °C), wired, inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	K																			
	Preparation for IDM-261-BT-ex barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	L																			
	Emergency stop switch	No emergency stop switch		0																		
		Emergency stop switch 8003, right ESR	Extra	1																		
Emergency stop switch 8003, left ESL		Extra	2																			
Separate power supply	No separate power supply		0																			
	100 ... 230 V AC (requires enclosure), inc. DPSq-120-24-block for Zone 1 and 2 (not for BD enclosure)	Extra	1																			
Further options 1	No further options 1		0																			
Further options 2	No further options 2		0																			

A9

Technical Data

General

Product Type	Product Series PM ET-516
Product Type	10.4" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	ET516AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-516-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-516-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-516-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-516-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-516-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-516-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-516-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-516-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130 000 h at +10 °C 55 000 h at +35 °C 40 000 h at +55 °C

Mechanical Data

Dimensions	372 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.2 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM ET-536
Product Type	15" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	ET536AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-536-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-536-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-536-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-536-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-536-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-536-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-536-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-536-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500000 h at +10 °C 70000 h at +35 °C 50000 h at +55 °C
Mechanical Data	
Dimensions	440 mm x 340 mm 165 mm
Ingress protection	IP66
Weight	18 kg
Mounting / Installation	
Mounting option	Panel-mount

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Technical Data

General

Product Type	Product Series PM ET-556
Product Type	19" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	ET556AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-556-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-556-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-556-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-556-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-556-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-556-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-556-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-556-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m ²
Backlight service life	50000 h at +10 °C

Mechanical Data

Dimensions	535 mm x 425 mm 165 mm
Ingress protection	IP66
Weight	25 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS ET-516
Product Type	10.4" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET516AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-516-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-516-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-516-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-516-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-516-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-516-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-516-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-516-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130000 h at +10 °C 55000 h at +35 °C 40000 h at +55°C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.2 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS or clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS ET-536
Product Type	15" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET536AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-536-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-536-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-536-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-536-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-536-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-536-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-536-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-536-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500 000 h at +10 °C 70 000 h at +35 °C 50 000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	50 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS ET-556
Product Type	19" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	ET556AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-556-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-556-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-556-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-556-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-556-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-556-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-556-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-556-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50 000 h at +10 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	57 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series PM MT-516
Product Type	10.4" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	MT516AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-516-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-516-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-516-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-516-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-516-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-516-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-516-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-516-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130 000 h at +10 °C 55 000 h at +35 °C 40 000 h at +55 °C

Mechanical Data

Dimensions	372 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.2 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM MT-536
Product Type	15" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	MT536AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-536-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-536-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-536-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-536-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-536-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-536-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-536-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-536-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500000 h at +10 °C 70000 h at +35 °C 50000 h at +55 °C
Mechanical Data	
Dimensions	440 mm x 340 mm 165 mm
Ingress protection	IP66
Weight	18 kg
Mounting / Installation	
Mounting option	Panel-mount

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Technical Data

General

Product Type	Product Series PM MT-556
Product Type	19" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Panel-mount device
HMI WebCode	MT556AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-556-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-556-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-556-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-556-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-556-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-556-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-556-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-556-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50000 h at +10 °C

Mechanical Data

Dimensions	535 mm x 425 mm 165 mm
Ingress protection	IP66
Weight	25 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS MT-516
Product Type	10.4" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT516AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-516-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-516-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-516-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-516-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-516-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-516-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-516-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-516-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130000 h at +10 °C 55000 h at +35 °C 40000 h at +55°C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.2 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS or clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

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Technical Data

General

Product Type	Product Series OS MT-536
Product Type	15" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT536AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-536-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-536-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-536-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-536-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-536-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-536-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-536-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-536-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500 000 h at +10 °C 70 000 h at +35 °C 50 000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	50 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS MT-556
Product Type	19" Thin Client
HMI Technology	Remote HMI Thin Client
Type	Operator station
HMI WebCode	MT556AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-556-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-556-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-556-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-556-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-556-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-556-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-556-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-556-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50 000 h at +10 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	57 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSi-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Transmission Unit KVM Box			
KVM-INFINITY-DUAL-2112T Digital KVM over IP transmission unit Remote monitoring and control, no software installation Multi-user (up to 16 users simultaneously) Video resolution up to 2560 x 1600 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	229329	43	1.500
KVM-DIGITAL-IPEPS Digital KVM over IP transmission unit Remote monitoring and control, Peer-to-Peer Video resolution up to 1920 x 1200 pixels Connection to PC via DVI / USB Data transmission via CAT cable up to 100 m	235686 ▲	43	1.650
5x6-KVM-digital Digital KVM-Switch for ET/MT-5x6 KVM ports to computer: 2 x PS/2 connector (keyboard/mouse) 1 x USB-B connector (keyboard/mouse to computer) 1 x USB-B connector(virtual media to computer) 1 x DVI-I connector (monitor, DVI/VGA) 1 x TRS connector (audio) Remote HMI connection: 10Base-T, 100Base-Tx Ethernet	202150 ▲	43	1.000
Accessories KVM-Box			
5x6-KVM-DINrailKit Mounting bracket kit DIN rail for mounting a KVM-Box on a DIN rail	202193	43	1.000
5x6-KVM-RackMountKit-1 Mounting bracket set 19" for mounting of one KVM-Box on 19" rack, 1HE	202191 ▲	43	1.000
5x6-KVM-RackMountKit-2 Mounting bracket kit 19" for mounting of two KVM-Boxes on 19" rack, 1HE	202192 ▲	43	1.000
Power Supply			
DSPq-120-24-block Power supply in aluminium enclosure Installation in zone 1 and 2 Input voltage: 90 – 253 VAC, 50 – 60 Hz Output voltage: 24 VDC	222484	43	3.330
Media Converter			
Media Converter of 10/100 Base-Tx (1 x RJ45 port) to 100 Base-Fx "Ex op is" (1 x FO port SC); Multi mode (up to 4 km range); Webcode: 9721A	220381 ▲	75	0.240
Unmanaged Switch FX op is / TX SC			
Unmanaged Switch FX op is to TX; SC plug connector FO cable 4 multi mode (MM), 2 RJ45, Installation in Zone 2	243427 ▲	75	0.500
Supply and Connection Module			
ReaderBox-054-AC-RS232 Supply and connection module for barcode readers Operating voltage AC: 100 ... 240 VAC Output voltage for readers 5.4 V Ex i	220595	43	3.000

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Supply and Connection Module			
ReaderBox-054-DC-RS232 Supply and connection module for barcode readers Operating voltage DC: 12 ... 30 VDC Output voltage for reader 5.4 V Ex i	220596	43	3.000
Storage Media			
USBi-Drive-32GB USB Stick, intrinsically safe, 32 GB	261529	43	0.500
USBi-Drive-32GB-Recovery USB Stick, intrinsically safe, 32 GB with recovery and backup function	261530	43	0.500
Patch Cable			
VB-TP-CAT5-Exe-RJ45-Patch Patch cable CAT5, open ends <-> RJ45, 4x2xAWG23, length: 3 m	104170 ▲	43	0.200
Field Cable			
VB-TP-CAT5-AWG23 Field cable CAT5, Profinet, open ends <-> open ends, 2x2xAWG23 price per metre	166458	43	0.100
VB-FO-MIL-SC-SC-2m MilTac breakout FO cable, basic length 2 m, with SC connectors at both ends	202201	43	0.500
VB-FO-MIL-xm MilTac breakout FO cable, additional length in metres, price per metre	202202	43	0.140
VB-FO-SC-SC-62V04G-2m Indoor breakout FO cable, basic length 2 m, with SC connectors at both ends	202203	43	0.500
VB-FO-62V04G-xm Indoor breakout FO cable, additional length in metres, price per metre	202204	43	0.050
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracketed with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200
VB-RJ45-PLUG-180 RJ45 connector, metal, for Profinet cables, can be assembled in the field	166459	43	0.100
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <-> SC	229271	43	0.050

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

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Overview

R. STAHL's Panel PCs - an industrial computer and monitor in one device for operation in hazardous and safe areas, tailored to meet the requirements of various industries. The EAGLE series was designed for universal application and machine building, the SHARK series for the oil and gas industry and for extreme ambient conditions, and the MANTA series is ideal for the pharmaceutical, chemical and life-science industries.

R. STAHL provides state-of-the-art PC technology in fanless, modular and industrial design. Because these HMI systems consist of carefully selected components, they fulfil the most challenging requirements - permanent functionality in temperatures ranging from -40 °C to +65 °C, shock, vibration and seawater-proof, sunlight readable displays, multi-touch screen, GMP-compliant fronts and Operator Stations, state-of-the-art dual and quad core processors, Dual Ethernet and many more. These systems can be stand-alone or installed as part of a client-server system. They communicate with automation systems and distributed control systems via Ethernet, WLAN or serial interfaces, and have additional interfaces for peripherals such as keyboards, pointing devices, RFID readers, barcode readers for material inventory or EM-STOP switches.

SHARK

Rugged Design Rigfloor



Rugged Design Operator station

MANTA

Panel-mount device



Operator station

EAGLE

Panel-mount device



Operator station



Operator station MANTA GMP



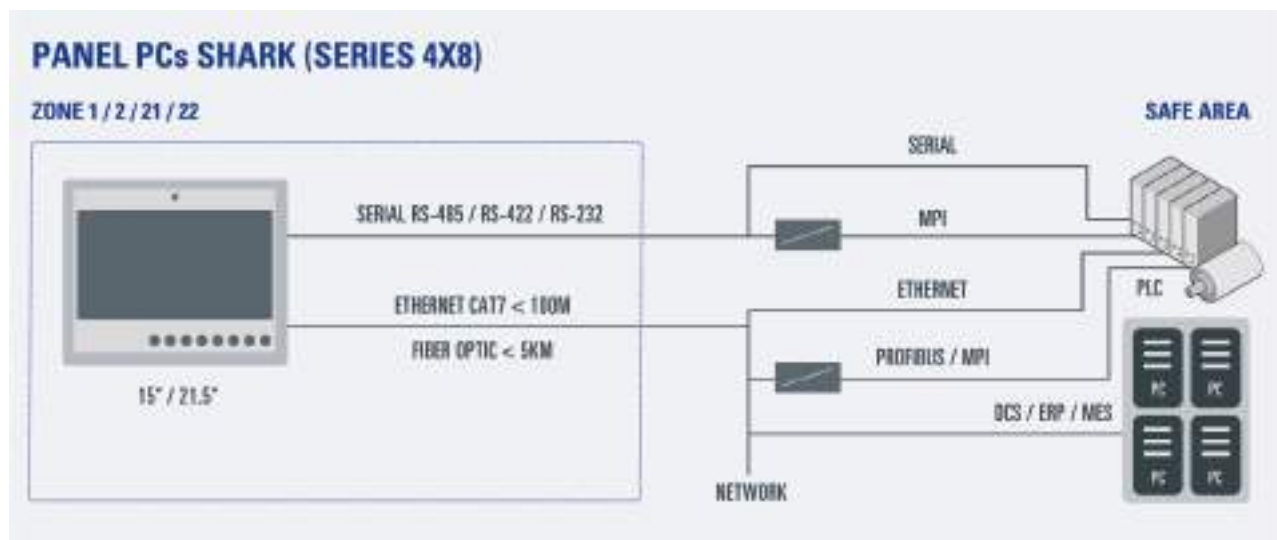
Highlights

- Robust Panel PCs hazardous areas zone 1, 21, 2, 22 and Division 2, as well as for safe areas
- Modern dual and quad core processors up to Core i7
- Comfortable HMIs with modular panel-mount devices and Operator Stations for flexible configuration

Functional Principle

"Rugged" perfectly describes R. STAHL's Panel PCs with device platform SHARK. We have designed these HMI devices to be ideally suited to the most adverse ambient conditions: They are shock, vibration, seawater and salt-spray-proof, have IP66 and function problem-free in temperatures ranging from -40 °C to +65 °C, thanks to the integrated heater and our innovative application of the stack effect. The display and additional function keys are located underneath a chemically hardened, non-glare glass screen. The standard versions use state-of-the-art technology: multi-touch screens, sunlight-readable, dimmable displays and Intel Core i7 or AMD GX processors. The 21.5 inch models have card readers for access control as an option, and further options include Bluetooth, CAN bus and an integrated front camera.

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- Panel PCs with 15 inch or 21.5 inch display
- Rugged design: IP66, shock, vibration and seawater-proof, temperature range -40 °C to +65 °C
- Compact, lightweight HMI design with 15 inch display, ET < 25 kg / 55 lbs, MT < 18 kg / 40 lbs
- Optional sunlight-readable 15" SR display 1200 cd/m²
- Sunlight-readable 21.5" SR display as standard with 1000 cd/m²
- Optional integrated RFID reader for 21.5 inch display



All SHARK SERIES 400 HMIs are Panel PCs for hazardous areas; the ET devices have been developed for zone 1 and 21, the MT devices for zone 2 and 22. Their rugged design makes them shock, vibration and seawater-proof and suitable for temperatures ranging from a minimum of -40 °C to a maximum of +65 °C. They are certified for degree of protection IP66. A chemically hardened, glare-free glass screen protects the display and the function keys, and, as a further option, also a projected-capacitive touch screen with multi-touch function, camera, Bluetooth and WLAN antenna. Configuration options include processors (Intel Core i7, AMD GX), memory sizes and SSDs. Data transmission versions: dual Ethernet as 10/100/1000Base-TX via CAT7 up to 150 m, dual Ethernet as 100Base-FX via multimode fibre optic up to 5 km or a TX interface with optional WLAN (2.4 / 5 GHz).

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	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•	•	•

Field Systems	
Definition Field Systems	<p>A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories.</p> <p>This product code consists of alpha-numerical characters and may look as follows:</p> <p>ET-438-2TX-23050100004-B3010000000</p> <p>It can be decoded as follows:</p>
Decoding	ET-438-2TX - 23050100004 - B3010000000
Meaning	Device version Hyphen Device sub-version Hyphen Enclosure and Accessories
Order	<p>For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.</p> <p>A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.</p>

Type Code Field System ET-/MT-4x8 Device Platform SHARK (Part 1)

Name	Version	Note	Code	Device design				More detailed device design												
				-	-	-	-									0	-			
Series	Zone 1, 21		ET																	
	Zone 2, 22		MT																	
Display size	38 cm / 15		438																	
	55 cm / 21.5"		498																	
Ethernet	1x 1000Base-TX copper Ethernet can be combined with WLAN	Version	1TX																	
	2x 1000Base-TX copper Ethernet cannot be combined with WLAN	Standard	2TX																	
	2x 1000Base-FX copper Ethernet cannot be combined with WLAN	Extra	2FX																	
Processor	AMD GX-217GA	Standard	2																	
	Intel Core i7-3517UE	Extra	3																	
	Intel Core i7-3517UE with TPM	Extra	8																	
	TPM is subject to embargoes and is therefore not available in every country !																			
RAM	4 GB		3																	
	8 GB (only i7 and >=160 GB SSD)		4																	
Display type	Standard TFT (15" only)	Standard	0																	
	Sunlight readable display 15"	Extra	1																	
	Sunlight readable display 21.5"	Standard	1																	
Data memory	60 GB for AMD GX-217GA in combination with WIN 7 Ultimate / WES7	Standard	5																	
	80 GB for Intel Core i7-3517UE in combination with WIN 7 Ultimate / WES7	Extra	6																	
	128 GB for AMD GX-217GA in combination with WES7	Extra	9																	
	240 GB for Intel Core i7-3517UE in combination with WIN 7 Ultimate and 8 GB RAM	Extra	C																	
	480 GB for Intel Core i7-3517UE in combination with WIN 7 Ultimate and 8 GB RAM	Extra	E																	
Touch	No Touch	Standard	0																	
	Capacitive glass touch 15"	Extra	3																	
	Capacitive glass touch 21.5"	Extra	3																	
Power supply	24 V DC	Extra	0																	
	100 ... 240 V AC	Standard	1																	
Optional interface 1	see table section next page																			
Optional interface 2 / reader	No optional interface		0																	
	CAN-Bus interface (open CAN Ex e)	Extra	3																	
	CAN-Bus not possible with WLAN																			
Option 3 / Option box	No option 3		0																	
Enclosure design	VESA 200		0																	
	VESA 200, with ST connector (FO version only)	Extra	2																	
	VESA 200, no camera		3																	
	VESA 200, Top Connect	Extra	5																	
	VESA 200, Top Connect, with ST connector (FO version only)	Extra	6																	
	VESA 200, Top Connect, no camera	Extra	7																	
Operating system and image	No operating system (AMD only)	Deduction	0																	
	Windows 7 Ultimate (for AMD)	Extra	3																	
	Windows Embedded Standard 7 (WES7)		4																	
	Windows Embedded Standard 7 and WINCC flexible (for AMD)	Extra on request	6																	
	Windows 7 Ultimate (for i7)		3																	

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Type Code Field System ET-/MT-4x8 Device Platform SHARK (Part 2)

Name	Version	Note	Code	Enclosures and accessories												
				B	3			0	0	0	0	0	0	0		
Enclosure	Rugged Panel Design (RP)		B													
Material	Aluminium powder-coated, seawater-proof		3													
Mounting option	VESA 200	Standard	0													
	VESA 200, handles and feet (material SS316L)	Extra	4													
Outdoor installation	-10 °C	Standard	1													
	-40 °C	Extra	5													
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device		0													
	Keyboards can be ordered as an option and are listed under Accessories and Spare Parts.															
Integrated pointing device	No integrated pointing device (option not possible)		0													
Separate pointing device	No separate pointing device		0													
Separate reader	No separate reader		0													
Emergency stop switch	No emergency stop switch		0													
Separate power supply	No separate power supply		0													
Further options 1	No further options 1		0													
Further options 2	No further options 2		0													

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Price calculation

Standard field systems

Standard field systems of the ET-/MT-4x8 devices, device platform SHARK, are combinations with the following features:

- 2x 1000Base-TX interface
- AMD GX processor
- 4 GB RAM
- TFT display for 15" or sunlight readable display for 21.5"
- 60 GB data memory
- AC power supply
- No optional interfaces
- Enclosure design, VESA 200 mounting
- Outdoor option -10 °C
- No further mounting or enclosure options

The product code for this is:

xT-4x8-2TX-23050100004-B3010000000

The basic price only applies to these field systems.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the basic price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Optional interface 1

Version	Note	Code
No optional interface	Standard	0
WLAN 2.4 GHz, no Bluetooth, no RFID	Extra	1
WLAN 2.4 GHz and 5 GHz, no Bluetooth, no RFID	Extra	2
No WLAN, Bluetooth, no RFID	Extra	3
WLAN 2.4 GHz, Bluetooth, no RFID	Extra	4
WLAN 2.4 GHz and 5 GHz, Bluetooth, no RFID	Extra	5
No WLAN, no Bluetooth, RFID-C5 (CRYPT) *	Extra	C
WLAN 2.4 GHz, no Bluetooth, RFID-C5 (CRYPT) *	Extra	D
WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID-C5 (CRYPT) *	Extra	E
No WLAN, Bluetooth, RFID-C5 (CRYPT) *	Extra	F
WLAN 2.4 GHz, Bluetooth, RFID-C5 (CRYPT) *	Extra	G
WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID-C5 (CRYPT) *	Extra	H
No WLAN, no Bluetooth, RFID-C6 (ASCII) *	Extra	I
WLAN 2.4 GHz, no Bluetooth, RFID-C6 (ASCII) *	Extra	J
WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID-C6 (ASCII) *	Extra	K
No WLAN, Bluetooth, RFID-C6 (ASCII) *	Extra	L
WLAN 2.4 GHz, Bluetooth, RFID-C6 (ASCII) *	Extra	M
WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID-C6 (ASCII) *	Extra	N

For WLAN option only 1TX Ethernet version possible / * no RFID at 438

Technical Data

General

Product Type	Product Series ET-438
Product Type	15" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET438A

Explosion Protection

Certification IECEx	IECEX BVS 14.0116X
Gas explosion protection IECEx	Ex eb q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb [ia op is Da] IIIC T115°C Db
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 2 (1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2 (1) D Ex tb [ia op is Da] IIIC T115°C Db
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX

Ambient Conditions

Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater

Display

Display version	TFT colour display or sunlight-readable display
Display version 2	16.7 million colours
Display size inch	15
Display size centimetres	38
Display dimensions	4:3
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 450 cd/m ² SR 1200 cd/m ²
Display contrast	TFT 500:1 SR 600:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70000 h at +25 °C

Mechanical Data

Dimensions	380 mm x 394 mm x 137 mm (+52 mm cable entries)
Ingress protection	IP66
Weight	25 kg

Mounting / Installation

Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Technical Data	
General	
Product Type	Product Series ET-498
Product Type	21.5" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET498A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex eb q [Ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb [Ia op is Da] IIIC T115°C Db
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 2 (1) G Ex e q [Ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2 (1) D Ex tb [Ia op is Da] IIIC T115°C Db
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX
Ambient Conditions	
Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater
Display	
Display version	Sunlight readable display
Display version 2	16.7 million colours
Display size inch	21.5
Display size centimetres	55
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	SR 1000 cd/m ²
Display contrast	SR 1100:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C
Mechanical Data	
Dimensions	553 mm x 458 mm x 141 mm (+52 mm for cable entries)
Ingress protection	IP66
Weight	35 kg
Mounting / Installation	
Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Technical Data

General

Product Type	Product Series MT-438
Product Type	15" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT438A

Explosion Protection

Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex ec nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc [ja op is Da] IIIC T115°C Dc
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc [ja op is Da] IIIC T115°C Dc
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX

Ambient Conditions

Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater

Display

Display version	TFT colour display or sunlight-readable display
Display version 2	16.7 million colours
Display size inch	15
Display size centimetres	38
Display dimensions	4:3
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 450 cd/m ² SR 1200 cd/m ²
Display contrast	TFT 500:1 SR 600:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70000 h at +25 °C

Mechanical Data

Dimensions	380 mm x 394 mm x 137 mm (+52 mm cable entries)
Ingress protection	IP66
Weight	25 kg

Mounting / Installation

Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Technical Data	
General	
Product Type	Product Series MT-498
Product Type	21.5" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT498A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0116X
Gas explosion protection IECEx	Ex ec nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc [ja op is Da] IIIC T115°C Dc
Certification ATEX	BVS 14 ATEX E 134 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc [ja op is Da] IIIC T115°C Dc
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEC
Ambient Conditions	
Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater
Display	
Display version	Sunlight readable display
Display version 2	16.7 million colours
Display size inch	21.5
Display size centimetres	55
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	SR 1000 cd/m ²
Display contrast	SR 1100:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C
Mechanical Data	
Dimensions	553 mm x 458 mm x 141 mm (+52 mm for cable entries)
Ingress protection	IP66
Weight	35 kg
Mounting / Installation	
Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Keyboard / Pointing device Ex i			
KBDi-USB-TB50-DE-HSG-xx8-V4A-YM Keyboard with integrated trackball 50 mm USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	250149	43	12.500
KBDi-USB-TB50-US-HSG-xx8-V4A-YM Keyboard with integrated trackball 50 mm USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QZERTY	249706	43	12.500
KBDi-USB-TB50-FR-HSG-xx8-V4A-YM Keyboard with integrated trackball 50 mm USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AZERTY	256791	43	12.500
KBDi-USB-P-DE-HSG-xx8-V4A-YM Keyboard with integrated touchpad USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	256792	43	12.500
KBDi-USB-P-US-HSG-xx8-V4A-YM Keyboard with integrated touchpad USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QWERTY	250223	43	10.000
KBDi-USB-P-FR-HSG-xx8-V4A-YM Keyboard with integrated touchpad USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AWERTY	256793	43	12.500
KBDi-USB-J-DE-HSG-xx8-V4A-YM Keyboard with integrated joystick USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	256794	43	12.500
KBDi-USB-J-US-HSG-xx8-V4A-YM Keyboard with integrated joystick USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QWERTY	254921	43	12.500
KBDi-USB-J-FR-HSG-xx8-V4A-YM Keyboard with integrated joystick USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AZERTY	256795	43	12.500
KBDi-USB-M-DE-HSG-xx8-V4A-YM Keyboard with integrated mouse USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: DE, QWERTZ	253701	43	12.500
KBDi-USB-M-US-HSG-xx8-V4A-YM Keyboard with integrated mouse USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: US, QZERTY	253700	43	12.500
KBDi-USB-M-FR-HSG-xx8-V4A-YM Keyboard with integrated mouse USB interface 3/5 keys, V4A stainless-steel enclosure (SS316L) Keyboard language: FR, AZERTY	256796	43	12.500
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000

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Accessories and Spare Parts			
Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSi-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Media Converter			
Media Converter of 10/100 Base-Tx (1 x RJ45 port) to 100 Base-Fx "Ex op is" (1 x FO port SC); Multi mode (up to 4 km range); Webcode: 9721A	220381 ▲	75	0.240
Unmanaged Switch			
FX op is / TX SC			
Unmanaged Switch FX op is to TX; SC plug connector FO cable 4 multi mode (MM), 2 RJ45, Installation in Zone 2	243427 ▲	75	0.500
Storage Media			
USBi-Drive-32GB USB Stick, intrinsically safe, 32 GB	261529	43	0.500
USBi-Drive-32GB-Recovery USB Stick, intrinsically safe, 32 GB with recovery and backup function	261530	43	0.500
Field Cable			
VB-FO-MIL-SC-SC-2m MilTac breakout FO cable, basic length 2 m, with SC connectors at both ends	202201	43	0.500
VB-FO-MIL-xm MilTac breakout FO cable, additional length in metres, price per metre	202202	43	0.140
VB-FO-SC-SC-62V04G-2m Indoor breakout FO cable, basic length 2 m, with SC connectors at both ends	202203	43	0.500
VB-FO-62V04G-xm Indoor breakout FO cable, additional length in metres, price per metre	202204	43	0.050
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000
Cable and Cable Accessories			
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <--> SC	229271	43	0.050

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

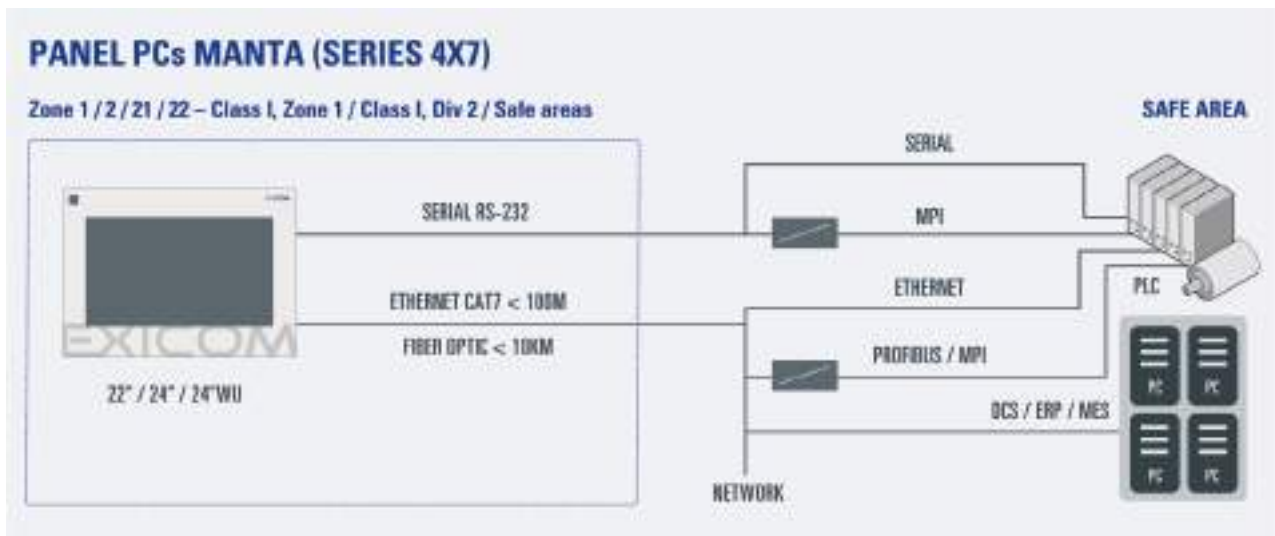
A9

A9



Functional Principle

The Panel PCs from R. STAHL with device platform MANTA are geared towards the requirements of the pharmaceutical, chemical and life science industries. They are cleanroom-suitable, can display complex processes in brilliant image quality on widescreens and have glass touchscreens and the latest quadcore processors. They can be flexibly configured and are available as panel-mount devices (PM) or Operator Stations (OS) inside enclosures. Security is ensured with RFID readers and corresponding software in the automation system, granting access to authorised staff only and thus meeting the requirements according to 21 CFR part 11 and GAMP. Barcode readers connected via cable or Bluetooth can be used to simplify material inventory. Dual Ethernet and WLAN are further options.



A9



- Panel PCs as panel-mount device (PM) or Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Optional resistive glass or foil touch screen
- Display of the 19" (1280 x 1024) resolution true to 5:4 format for the 22" device
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) versatile due to many different types of enclosures
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow



All MANTA SERIES 400 HMIs are Panel PCs for hazardous areas; the ET devices have been developed for zone 1, 21 and Division 2, the MT devices for zone 2 and 22. The series ET-/MT-4x7 Panel PCs are available as 22" or 24" versions, with or without touch screen. The following types of data transmission are available: dual or single Ethernet as 10/100Base-TX via CAT5 for distances up to 100 m, single Ethernet as 1000Base-SX via multimode fibre optic up to 550 m and single Ethernet as 1000Base-LX via single mode fibre optic up to 10 km.

A9

The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS 304 / SS 316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•			

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•				

Field Systems

Definition Field Systems	<p>A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows:</p> <p>ET-467-TX-730A0100024-0000000000</p> <p>It can be decoded as follows:</p>				
Decoding	ET-467-TX	-	730A0100024	-	0000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	<p>For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.</p>				
Order	<p>A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.</p>				

Type Code Field System ET-/MT-4x7 Device Platform MANTA (Part 1)

Name	Version	Note	Code	Device design			More detailed device design								
				-	-	-	7	3	0	0	0	0	-		
Series	Zone 1, 21		ET												
	Zone 2, 22		MT												
Display size	56 cm / 22"		467												
	61 cm / 24"		477												
	61 cm / 24"WU		487												
Ethernet	1x 10/100Base-TX copper Ethernet	Standard	TX												
	2x 10/100Base-TX copper Ethernet	Extra	2TX												
	1x 1000Base-SX FO Ethernet	Extra	SX												
	1x 1000Base-LX FO Ethernet	Extra	LX												
Processor	ATOM E3845		7												
RAM	4 GB		3												
Display type	Standard TFT		0												
Data memory	32 GB SSD		4												
	64 GB SSD	Standard	A												
	128 GB SSD MLC	Extra	9												
Touch	No Touch	Standard	0												
	Analogue resistive touch	Extra	1												
	Analogue resistive glass touch	Extra	2												
Power supply	24 V DC	Extra	0												
	100 ... 240 V AC	Standard	1												
Optional interface 1	No optional interface		0												
Optional interface 2 / reader	No optional interface		0												
Option 3 / Option box	No option 3		0												
Enclosure design	Aluminium front plate	Standard	2												
	Rear mount module		3												
Operating system and image	Windows 7 Ultimate	Extra	3												
	Windows Embedded Standard 7 (WES7)	Extra	4												
	Windows Embedded Standard 7 and WINCC Advanced	Extra	6												

Price calculation

Standard field systems

Standard field systems of the ET-/MT-4x7 devices, device platform MANTA, are combinations with the following features:

- 10/100Base-TX interface
- ATOM E3845 processor
- 4 GB RAM
- TFT display
- 64 GB data memory
- No touch
- AC power supply
- No optional interfaces
- Operating system Windows Embedded Standard 7
- Aluminium front plate

The product code for this is:

xT-4x7-TX-730A0100024-0000000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Notes on table part 2:

On types and material of enclosures:

Only the following values are permitted as possible product code combinations: 00, 11, 21, 81, 12, 22, 82

When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Not possible with BD enclosure

Type Code Field System ET-/MT-4x7 Device Platform MANTA (Part 2)

Name	Version	Note	Code	Enclosures and accessories								
								0		0	0	0
Enclosure	No enclosure	Standard	0									
	Stainless steel enclosure cleanroom front door (CFR)	Extra	1									
	Stainless steel enclosure front door (FR)	Extra	2									
	Stainless steel enclosure back door (BD)	Extra	8									
Material	No material (no enclosure)	Standard	0									
	Stainless steel V2A (SS304)	Version	1									
	Stainless steel V4A (SS316) for CFR	Extra	2									
	Stainless steel V4A (SS316) for FR and BD	Extra	2									
Mounting option	None, panel mounting (no enclosure)	Standard	0									
	Wall mounting (not BD)	Extra	1									
	Mounted on stand or wall bracket	Version	2									
	Ceiling mounting	Version	3									
Outdoor installation	-20 °C	Standard	0									
	Outdoor -20 °C	Extra	3									
	Outdoor -30 °C (only for AC devices)	Extra	4									
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0									
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0									
	Keyboard enclosure stainless steel V4A (SS316)	Extra	>0									
	Keyboard language: DE, QWERTZ	Extra	1									
	Keyboard language: US, QWERTY	Extra	2									
	Keyboard language: FR, AZERTY	Extra	3									
	Keyboard language: CH	Extra	4									
	Keyboard language: ES	Extra	7									
	Keyboard language: SI	Extra	8									
Keyboard language: FR-BE	Extra	9										
Integrated pointing device	No integrated pointing device (option not possible)		0									
	Trackball 50 mm IP54	Standard	1									
	Touchpad	Extra	4									
	Joystick	Extra	5									
	Mouse module	Extra	6									
Separate pointing device	No separate pointing device		0									
Separate reader	No separate reader		0									
	RFID-Crypt reader (max. -30 °C), inc. ReaderBox, (requires enclosure) components mounted in enclosure (not BD)	Extra	1									
	RFID-ASC reader (max. -30 °C), inc. ReaderBox, (requires enclosure) components mounted in enclosure (not BD)	Extra	2									
	RFID-Crypt reader (max. -30 °C), inc. ReaderBox, (requires enclosure) reader mounted in keyboard enclosure KBD (not BD) (no separate pointing device possible)	Extra	7									
	RFID-ASC reader (max. -30 °C), inc. ReaderBox, (requires enclosure) reader mounted in keyboard enclosure KBD (not BD) (no separate pointing device possible)	Extra	8									
	Preparation for IDM-160-ex-b barcode reader * (max. -20 °C), wired, inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	4									
	Preparation for IDM-161-BT-ex barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	5									
	Preparation for IDM-260-ex barcode reader * (max. -20 °C), wired, inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	K									
Preparation for IDM-261-BT-ex barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	L										
Emergency stop switch	No emergency stop switch		0									
	Emergency stop switch 8003, right ESR	Extra	1									
	Emergency stop switch 8003, left ESL	Extra	2									
Separate power supply	No separate power supply		0									
Further options 1	No further options 1		0									
Further options 2	No further options 2		0									

Technical Data

General

Product Type	Product Series PM ET-467
Product Type	22" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET467A

Explosion Protection

Certification IECEx	IECEX TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	32 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series PM ET-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET477A
Explosion Protection	
Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	32 kg
Mounting / Installation	
Mounting option	Panel-mount

Technical Data

General

Product Type	Product Series PM ET-487
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET487A

Explosion Protection

Certification IECEx	IECEX TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ja op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ja op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	32 kg

Mounting / Installation

Mounting option	Panel-mount
-----------------	-------------

Technical Data	
General	
Product Type	Product Series OS ET-467
Product Type	22" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET467A
Explosion Protection	
Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	64.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS ET-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET477A

Explosion Protection

Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	64.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS ET-487
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET487A
Explosion Protection	
Certification IECEx	IECEx TUR 11.0075X
Gas explosion protection IECEx	Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certification ATEX	BVS 11 ATEX E 102 X
Gas explosion protection ATEX	II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
Certifications	ATEX, IECEx, NEC, CEC, EAC, KGS
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP 66
Weight	64.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series PM MT-467
Product Type	22" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT467A

Explosion Protection

Certification IECEx	IECEX BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 option is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	16 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series PM MT-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT477A
Explosion Protection	
Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 option is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	16 kg
Mounting / Installation	
Mounting option	Panel-mount

Technical Data

General

Product Type	Product Series PM MT-487
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT487A

Explosion Protection

Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 option is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	16 kg

Mounting / Installation

Mounting option	Panel-mount
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Technical Data	
General	
Product Type	Product Series OS MT-467
Product Type	22" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT467A
Explosion Protection	
Certification IECEx	IECEX BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 option is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	58.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS MT-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT477A

Explosion Protection

Certification IECEx	IECEx BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 option is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	58.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS MT-487
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT487A
Explosion Protection	
Certification IECEx	IECEX BVS 14.0034X
Gas explosion protection IECEx	Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection IECEx	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certification ATEX	BVS 12 ATEX E 033 X
Gas explosion protection ATEX	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
Dust explosion protection ATEX	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
Certifications	ATEX, IECEx, EAC, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 option is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	58.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSi-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Media Converter / Switch			
SK-DRAG2-GBIC-SX Single Port Fiber Switch from 5x 10/100/1000Base-TX to 1000Base-SX Data transmission: LWL SX: 1000Base-SX, cable length max. 500 m Duplex LC connectors	260410	43	0.500
SK-DRAG2-GBIC-LX Single Port Fiber Switch from 5x 10/100/1000Base-TX to 1000Base-LX Data transmission: LWL LX: 1000Base-LX, cable length max. 10 m Duplex LC connectors	260411	43	0.500
SK-EL1000-2GU-3TX-4SX-opis Quad Port Fiber Switch from 3 x 10/100/1000Base-TX to 4 x 1000Base-SX Data transmission: LWL SX: 1000Base-SX, cable length 500 m Duplex LC connectors	236644	43	0.400
Software License WINCC Advanced			
WINCC-Advanced-V13-Runtime-128 128 Powertags Runtime license	251710	45	0.300
WINCC-Advanced-V13-Runtime-512 512 Powertags Runtime license	252827	45	0.300
WINCC-Advanced-V13-Runtime-2048 2048 Powertags Runtime license	252828	45	0.300
WINCC-Advanced-V13-Runtime-4096 4096 Powertags Runtime license	252829	45	0.300
WINCC-Advanced-V13-Runtime-8192 8192 Powertags Runtime license	252830	45	0.300
Field Cable			
VB-FO-MIL-SC-SC-2m MilTac breakout FO cable, basic length 2 m, with SC connectors at both ends	202201	43	0.500
VB-FO-MIL-xm MilTac breakout FO cable, additional length in metres, price per metre	202202	43	0.140
VB-FO-SC-SC-62V04G-2m Indoor breakout FO cable, basic length 2 m, with SC connectors at both ends	202203	43	0.500
VB-FO-62V04G-xm Indoor breakout FO cable, additional length in metres, price per metre	202204	43	0.050
CAT7 Data Cable			
VB-TP-CAT7-AWG23-50m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 50 m	220597	43	3.500
VB-TP-CAT7-AWG23-75m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 75 m	220598	43	5.000
VB-TP-CAT7-AWG23-100m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 100 m	220599 ▲	43	7.000
VB-TP-CAT7-AWG23-125m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 125 m	220600 ▲	43	8.500
VB-TP-CAT7-AWG23-150m CAT7 data cable 4x2xAWG23, inc. 2x RJ45 connectors, length: 150 m	220601 ▲	43	10.000

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Cable and Cable Accessories			
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <--> SC	229271	43	0.050

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

A9

A9





- Panel PCs as panel-mount device (PM) or Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Optional resistive glass or foil touch screen
- Display of the 19" (1280 x 1024) resolution true to 5:4 format for the 22" device
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) versatile due to many different types of enclosures
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow

The MANTA platform series IT-4x7 Panel PCs are available as 22" or 24" versions and have been designed for installation in safe areas. They are available with or without touch screen. The following types of data transmission are available: dual or single Ethernet as 10/100Base-TX via CAT5 for distances up to 100 m, single Ethernet as 1000Base-SX via multimode fibre optic up to 550 m and single Ethernet as 1000Base-LX via single mode fibre optic up to 10 km.

A9

The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS 304 / SS 316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

Field Systems

Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: IT-467-TX-730A0100024-00000000000				
	It can be decoded as follows:				
Decoding	IT-467-TX	-	730A0100024	-	00000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.				
Order	A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.				

Type Code Field System IT-4x7 Device Platform MANTA (Part 2)

Name	Version	Note	Code	Enclosures and accessories								
								0		0	0	0
Enclosure	No enclosure	Standard	0									
	Stainless steel enclosure cleanroom front door (CFR)	Extra	1									
	Stainless steel enclosure front door (FR)	Extra	2									
	Stainless steel enclosure back door (BD)	Extra	8									
Material	No material (no enclosure)	Standard	0									
	Stainless steel V2A (SS304)	Version	1									
	Stainless steel V4A (SS316) for CFR	Extra	2									
	Stainless steel V4A (SS316) for FR and BD	Extra	2									
Mounting option	None, panel mounting (no enclosure)	Standard	0									
	Wall mounting (not BD)	Extra	1									
	Mounted on stand or wall bracket	Version	2									
	Ceiling mounting	Version	3									
Outdoor installation	-20 °C	Standard	0									
	Outdoor -20 °C	Extra	3									
	Outdoor -30 °C (only for AC devices)	Extra	4									
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0									
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0									
	Keyboard enclosure stainless steel V4A (SS316)	Extra	>0									
	Keyboard language: DE, QWERTZ	Extra	1									
	Keyboard language: US, QWERTY	Extra	2									
	Keyboard language: FR, AZERTY	Extra	3									
	Keyboard language: CH	Extra	4									
	Keyboard language: ES	Extra	7									
	Keyboard language: SI	Extra	8									
	Keyboard language: FR-BE	Extra	9									
Integrated pointing device	No integrated pointing device (option not possible)		0									
	Trackball 50 mm IP54	Standard	1									
	Touchpad	Extra	4									
	Joystick	Extra	5									
	Mouse module	Extra	6									
Separate pointing device	No separate pointing device		0									
Separate reader	No separate reader		0									
	RFID-Crypt reader (max. -30 °C), (requires enclosure) components mounted in enclosure	Extra	1									
	RFID-ASC reader (max. -30 °C), (requires enclosure) components mounted in enclosure	Extra	2									
	RFID-Crypt reader (max. -30 °C), (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	7									
	RFID-ASC reader (max. -30 °C), (requires enclosure) reader mounted in keyboard enclosure KBD (no separate pointing device possible)	Extra	8									
	Preparation for IDM-260-100S barcode reader * (max. -20 °C), wired, (requires enclosure) components mounted in enclosure	Extra	I									
	Preparation for IDM-261-BT-100S barcode reader (max. -20 °C), Bluetooth, inc. barcode reader, base station and cable (requires enclosure) components mounted in enclosure	Extra	M									
Emergency stop switch	No emergency stop switch		0									
	Emergency stop switch 8003, right ESR	Extra	1									
	Emergency stop switch 8003, left ESL	Extra	2									
Separate power supply	No separate power supply		0									
Further options 1	No further options 1		0									
Further options 2	No further options 2		0									

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Technical Data

General

Product Type	Product Series PM IT-467
Product Type	22" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	IT467A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	10 kg

Mounting / Installation

Mounting option	Panel-mount
-----------------	-------------

Technical Data	
General	
Product Type	Product Series PM IT-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	IT477A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	optional, resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	660 mm x 475 mm x 110 mm
Ingress protection	IP66
Weight	10 kg
Mounting / Installation	
Mounting option	Panel-mount

Technical Data

General

Product Type	Product Series PM IT-487
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	IT487A

Explosion Protection

Application range	Non-Ex
-------------------	--------

Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	660 mm x 475 mm x 110 mm [23.62" x 18.70" x 4.33"]
Ingress protection	IP66
Weight	10 kg [22.05 lbs]

Mounting / Installation

Mounting option	Panel mount
-----------------	-------------

Technical Data	
General	
Product Type	Product Series OS IT-467
Product Type	22" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	IT467A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	22
Display dimensions	16:10
Display resolution	WSXGA+
Total pixels	1680 x 1050
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the technical data of the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS IT-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	IT477A

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !

Display

Display version	TFT Colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the technical data of the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS IT-487
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	IT487A
Explosion Protection	
Application range	Non-Ex
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater version O30
Temperature note 1	The O30 version is only available for the AC version devices !
Display	
Display version	TFT Colour display
Display size inch	24
Display dimensions	16:10
Display resolution	WUXGA
Total pixels	1920 x 1200
Display brightness	300 cd/m ²
Display contrast	1000:1
Touch screen	Optional resistive
Touch screen technology	5-wire glass or membrane touch
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	42.5 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional GMP / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the technical data of the Operator Stations (OS).	

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Storage Media			
USB-Drive-32GB-Recovery USB stick, 32 GB, with recovery and backup function	258078	43	0.100
Software License WINCC Advanced			
WINCC-Advanced-V13-Runtime-128 128 Powertags Runtime license	251710	45	0.300
WINCC-Advanced-V13-Runtime-512 512 Powertags Runtime license	252827	45	0.300
WINCC-Advanced-V13-Runtime-2048 2048 Powertags Runtime license	252828	45	0.300
WINCC-Advanced-V13-Runtime-4096 4096 Powertags Runtime license	252829	45	0.300
WINCC-Advanced-V13-Runtime-8192 8192 Powertags Runtime license	252830	45	0.300
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracket with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

A9



- Modular Panel PC Operator Station inside GMP cleanroom enclosure
- Display size 24" (1920 x 1080 pixels)
- Capacitive glass touch screen, multi-touch
- For installation in safe areas and cleanrooms according to EHEDG and EU-GMP directives for cleanliness class C
- Mounted on stand / mobile stand
- Dual monitor solutions
- Optional keyboard with pointer instrument as well as optional accessories such as RFID readers, barcode scanners, etc.

The MANTA GMP series IT-479 Operator Stations have been developed for installation in cleanrooms cleanliness class C according to EU-GMP and according to EHEDG. Data is transmitted via dual Ethernet 10/100/1000Base-TX via CAT7 for distances of up to 100 m.

The Operator Stations have a capacitive projected touch screen and can be mounted on a fixed or mobile stand. Available options include a keyboard with touch pad or trackball as well as other accessories such as RFID readers and barcode scanners.

A9

Field Systems

Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: IT-477-2TX-230531000SM-J12711000000				
	It is decoded as follows:				
Decoding	IT-477-2TX	-	230531000SM	-	J12711000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.				
Order	A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.				

Type Code Field System IT-4x7 Device Platform MANTA GMP (Part 1)

Name	Version	Note	Code	Device design				More detailed device design								
				IT-	477-	2TX	-	2	3	0	3	0	0	0	S	-
Series	None Ex		IT													
Display size	61 cm / 24"		477													
Ethernet	2x 10/100Base-TX copper Ethernet		2TX													
Processor	AMD GX-217GA		2													
RAM	4 GB		3													
Display type	Standard TFT		0													
Data memory	60 GB SSD	Standard	5													
	128 GB SSD MLC	Extra	9													
Touch	Capacitive glass touch		3													
Power supply	24 V DC	Extra	0													
	100 ... 240 VAC	Standard	1													
Optional interface 1	No optional interface		0													
Optional interface 2 / reader	No optional interface		0													
Option 3 / Option box	No option 3		0													
Enclosure design	GMP rear mount module	Standard	S													
Operating system and image	Windows 7 Ultimate (WIN7U)	Extra	3													
	Windows Embedded Standard 7 (WES7)	Extra	4													

Price calculation

Standard field systems

The standard field systems of the IT-477 devices, device platform MANTA GMP, are combinations with the following features:

- 2x 10/100Base-TX interface
- AMD GX-217GA processor
- 4 GB RAM
- TFT display
- 60 GB data memory
- Capacitive glass touch
- AC power supply
- No optional interfaces
- GMP rear mount module
- Operating system Windows Embedded Standard 7
- GMP enclosure
- Stainless steel V2A
- Mounted on stand
- Indoor 0 °C - 45 °C
- No keyboard, no pointing device
- No separate reader

The product code for this is:

IT-477-2TX-230531000S4-J12700000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Note:

By the time this price list went to press the prices for the IT-477 MANTA GMP platform devices had not been finalised, which is why they are not listed. Please contact R. STAHL HMI Systems GmbH for information.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Type Code Field System IT-4x7 Device Platform MANTA GMP (Part 2)

Name	Version	Note	Code	Enclosures and accessories										
				J	2	7		0	0	0	0			
Enclosure	GMP		J											
Material	Stainless steel V2A (SS304)	Version	1											
	Stainless steel V4A (SS316L)	Extra	2											
Mounting option	Mounted on stand	Standard	2											
Indoor installation	0 °C - 45 °C	Standard	7											
Keyboard (design,layout) / keyboard enclosure	No keyboard, no pointing device	Standard	0											
	Keyboard enclosure stainless steel V2A (SS304)	Extra	>0											
	Keyboard enclosure stainless steel V4A (SS316L)	Extra	>0											
	Keyboard language: DE, QWERTZ	Extra	1											
	Keyboard language: US, QWERTY	Extra	2											
	Keyboard language: FR, AZERTY	Extra	3											
	(additional languages on request)													
	* Only in combination with keyboard (please add extra charge for keyboard and keyboard enclosure)													
Integrated pointing device	No integrated pointing device		0											
	Trackball 50 mm IP54	Standard	1											
	Touchpad	Extra	4											
	Joystick	Extra	5											
	Mouse module	Extra	6											
Separate pointing device	No separate pointing device		0											
Separate reader	No separate reader		0											
	RFID-CRYPT reader (mounted inside keyboard enclosure)	Extra	7											
	RFID-ASCII reader (mounted inside keyboard enclosure)	Extra	8											
	Preparation for IDM260-100S (wired) 2D barcode reader	Extra	I											
	Preparation for IDM260-100S-BT 2D barcode reader	Extra	M											
	Emergency stop switch	No emergency stop switch		0										
Separate power supply	No separate power supply		0											
Further options 1	No further options 1		0											
Further options 2	No further options 2		0											

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Notes on table part 2:

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Technical Data

General

Product Type	Product Series OS GMP IT-477
Product Type	24" Panel PC
HMI Technology	Panel PC
Type	Operator station

Explosion Protection

Application range	Non-Ex
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Ambient Conditions

Ambient temperature operation	0 °C ... +45 °C
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Display

Display version	TFT colour display
Display size inch	24
Display dimensions	16:9
Display resolution	Full HD
Total pixels	1920 x 1080
Display brightness	250 cd/m ²
Display contrast	1000:1
Touch screen	Yes
Touch screen technology	projected capacitive (PCAP), multi-touch
Backlight	LED Technology
Backlight service life	50000 h at +20 °C

Mechanical Data

Dimensions	674 mm x 664 mm x 356 mm
Ingress protection	IP66
Weight	21 kg
Mechanical data note	The mechanical data apply to an system with display and keyboard. Additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (GMP)
Mounting option	Stand / mobile stand

Built-in components or additional accessories have influence to the technical data at the Operator Stations (OS).

Accessories and Spare Parts			
Description	Art. No.	PS	Weight kg
Storage Media			
USB-Drive-32GB-Recovery USB stick, 32 GB, with recovery and backup function	258078	43	0.100
Software License WINCC Advanced			
WINCC-Advanced-V13-Runtime-128 128 Powertags Runtime license	251710	45	0.300
WINCC-Advanced-V13-Runtime-512 512 Powertags Runtime license	252827	45	0.300
WINCC-Advanced-V13-Runtime-2048 2048 Powertags Runtime license	252828	45	0.300
WINCC-Advanced-V13-Runtime-4096 4096 Powertags Runtime license	252829	45	0.300
WINCC-Advanced-V13-Runtime-8192 8192 Powertags Runtime license	252830	45	0.300
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracketed with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

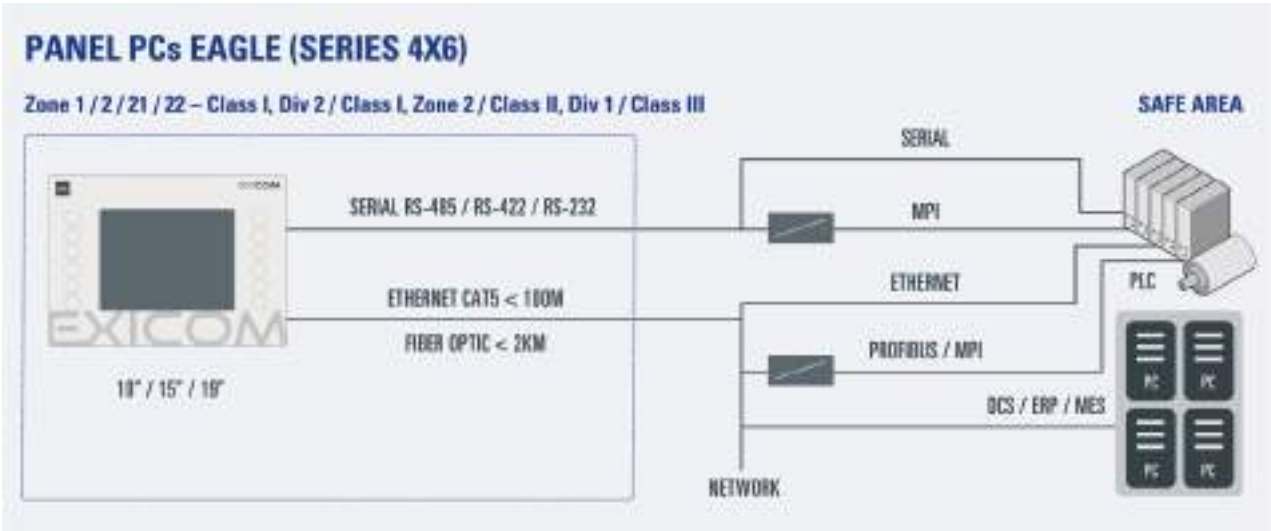
A9

A9



Functional Principle

R. STAHL's Panel PCs with HMI platform EAGLE are all-round talents for the operation of machinery and processes, tankfarms and filling stations. Thanks to their robust design they are certified for world-wide operation in hazardous areas and onboard ships: resistant to corrosive gases (ISA-S71.04 G3), vibration and shock-proof, IP66. All HMI Panel PCs have modern quad core processors and, as a standard, have touchscreens in sizes 10 to 19 inches. The flexibly configurable Operator Stations (model types OS) are mounted inside enclosures and are suitable for temperatures ranging from -30 °C to +50 °C, the panel-mount devices (model types PM) can be operated in temperatures ranging from -20 °C to +55 °C.



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- Panel PCs as panel-mount device (PM) or Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Panel PCs with resistive foil touch screen as a standard.
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) optionally available with enclosure according to GMP requirements, hygiene-compliant design
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow



All EAGLE SERIES 400 HMIs are Panel PCs for hazardous areas; the ET devices have been developed for zone 1, 21 and Division 1, the MT devices for zone 2, 22 and Division 2. The series ET-/MT-4x6-A Panel PCs are available with 10.4", 15" or 19" display and with an analogue-resistive touch screen. Two types of data transmission are available: single Ethernet as 10/100Base-TX via CAT5 for distances up to 100 m and single Ethernet as 100Base-FX via multimode fibre optic up to 2 km.

A9

The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS304 / SS316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in			•			

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•	•	•	•	•

Field systems

Definition Field Systems	A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows: ET-456-A-TX-730A1000004-0000000000 It is decoded as follows:				
Decoding	ET-456-A-TX	-	730A1000004	-	0000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.				
Order	A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.				

Type Code Field System ET-/MT-4x6-A Device Platform EAGLE (Part 1)

Name	Version	Note	Code	Device design			More detailed device design									
				-	-	-	-	7	3	0	1	0	0	0	-	
Series	Zone 1, 21		ET													
	Zone 2, 22		MT													
Display size	26 cm / 10.4"		406-A													
	26 cm / 10.4"		416-A													
	38 cm / 15"		436-A													
	48 cm / 19"		456-A													
Ethernet	1x 10/100Base-TX copper Ethernet	Standard	TX													
	1x 100Base-FX FO Ethernet	Extra	FX													
Processor	ATOM E3845		7													
RAM	4 GB		3													
Display type	Standard TFT	Standard	0													
Data memory	32 GB SSD	Standard	4													
	64 GB SSD	Standard	A													
	128 GB SSD MLC	Extra	9													
Touch	Analogue resistive touch		1													
Power supply	24 V DC		0													
	The AC version power supply has to be selected via the option „separate power supply“ at type code part 2.															
Optional interface 1	No optional interface		0													
Optional interface 2 / reader	No optional interface		0													
	Reader interface Ex i	Extra	1													
	2. serial interface	Extra	2													
Option 3 / Option box	No option 3		0													
Enclosure design	Polyester on aluminium	Standard	0													
	Stainless steel on aluminium (not available for 10.4" devices)	Extra	1													
Operating system and image	Windows 7 Ultimate	Extra	3													
	Windows Embedded Standard 7 (WES7)	Extra	4													
	Windows Embedded Standard 7 and WINCC Advanced	Extra	6													

Price calculation

Standard field systems

Standard field systems of the ET-/MT-4x6-A devices, device platform EAGLE, are combinations with the following features:

- 10/100Base-TX interface
- ATOM E3845 processor
- 4 GB RAM
- TFT display
- 64 GB data memory
- Analogue resistive touch
- DC power supply
- No optional interfaces
- Operating system Windows Embedded Standard 7
- Polyester front plate

The product code for this is:

xT-4x6-A-TX-730A1000004-0000000000

The list price for this field system is the sum of the basic price of the device plus the extra price of the operating system.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Notes on table part 2:

On types and material of enclosures:

Only the following values are permitted as possible product code combinations: 00, 11, 21, 81, 12, 22, 82

When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Not possible with BD enclosure.

Technical Data

General

Product Type	Product Series PM ET-406
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET406AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-406-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-406-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-406-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-406-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-406-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-406-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-406-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-406-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130 000 h at +10 °C 55 000 h at +35 °C 40 000 h at +55 °C

Mechanical Data

Dimensions	400 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.6 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM ET-416
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET416AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-416-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-416-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-416-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-416-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-416-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-416-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-416-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-416-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130000 h at +10 °C 55000 h at +35 °C 40000 h at +55 °C
Mechanical Data	
Dimensions	372 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.2 kg
Mounting / Installation	
Mounting option	Panel mount

Technical Data

General

Product Type	Product Series PM ET-436
Product Type	15" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET436AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-436-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-436-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-436-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-436-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-436-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-436-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-436-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-436-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500 000 h at +10 °C 70 000 h at +35 °C 50 000 h at +55 °C

Mechanical Data

Dimensions	440 mm x 340 mm 165 mm
Ingress protection	IP66
Weight	18 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM ET-456
Product Type	19" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	ET456AA
Explosion Protection	
Certification IECEx	IECEX TUR 11.0006X
Gas explosion protection IECEx	ET-456-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-456-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-456-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-456-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-456-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-456-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-456-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-456-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50 000 h at +10 °C
Mechanical Data	
Dimensions	535 mm x 425 mm 165 mm
Ingress protection	IP66
Weight	25 kg
Mounting / Installation	
Mounting option	Panel mount

Technical Data

General

Product Type	Product Series OS ET-406
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET406AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-406-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-406-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-406-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-406-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-406-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-406-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-406-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-406-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130 000 h at +10 °C 55 000 h at +35 °C 40 000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.6 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS ET-416
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET416AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-416-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-416-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-416-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-416-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-416-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-416-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-416-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-416-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130000 h at +10 °C 55000 h at +35 °C 40000 h at +55 °C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.2 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS ET-436
Product Type	15" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET436AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-436-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-436-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-436-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-436-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-436-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-436-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-436-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-436-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500 000 h at +10 °C 70 000 h at +35 °C 50 000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	50 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS ET-456
Product Type	19" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET456AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-456-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-456-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-456-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-456-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-456-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-456-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-456-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-456-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50 000 h at +10 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	57 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series PM MT-406
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT406AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-406-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-406-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-406-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-406-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66

Certification ATEX

Gas explosion protection ATEX	MT-406-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-406-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-406-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-406-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66

Certifications

Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
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Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130 000 h at +10 °C 55 000 h at +35 °C 40 000 h at +55 °C

Mechanical Data

Dimensions	400 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.6 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM MT-416
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT416AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-416-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-416-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-416-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-416-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-416-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-416-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-416-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-416-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130000 h at +10 °C 55000 h at +35 °C 40000 h at +55 °C
Mechanical Data	
Dimensions	372 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.2 kg
Mounting / Installation	
Mounting option	Panel mount

Technical Data

General

Product Type	Product Series PM MT-436
Product Type	15" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT436AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-436-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-436-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-436-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-436-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66

Certification ATEX	TÜV 11 ATEX 7103 X
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Gas explosion protection ATEX	MT-436-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-436-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
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Dust explosion protection ATEX	MT-436-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-436-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
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Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
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Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500 000 h at +10 °C 70 000 h at +35 °C 50 000 h at +55 °C

Mechanical Data

Dimensions	440 mm x 340 mm 165 mm
Ingress protection	IP66
Weight	18 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM MT-456
Product Type	19" Panel PC
HMI Technology	Panel PC
Type	Panel-mount device
HMI WebCode	MT456AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-456-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-456-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-456-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-456-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-456-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-456-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-456-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-456-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50 000 h at +10 °C
Mechanical Data	
Dimensions	535 mm x 425 mm 165 mm
Ingress protection	IP66
Weight	25 kg
Mounting / Installation	
Mounting option	Panel mount

Technical Data

General

Product Type	Product Series OS MT-406
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT406AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-406-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-406-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-406-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-406-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-406-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-406-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-406-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-406-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130 000 h at +10 °C 55 000 h at +35 °C 40 000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.6 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS MT-416
Product Type	10.4" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT416AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-416-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-416-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-416-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-416-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-416-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-416-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-416-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-416-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	38
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	130000 h at +10 °C 55000 h at +35 °C 40000 h at +55 °C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.2 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Technical Data

General

Product Type	Product Series OS MT-436
Product Type	15" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT436AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-436-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-436-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-436-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-436-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-436-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-436-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-436-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-436-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ² SR 1000 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	500 000 h at +10 °C 70 000 h at +35 °C 50 000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	50 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS / clean room (CFR)
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data	
General	
Product Type	Product Series OS MT-456
Product Type	19" Panel PC
HMI Technology	Panel PC
Type	Operator station
HMI WebCode	MT456AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-456-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-456-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-456-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-456-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-456-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-456-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-456-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-456-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	19
Display size centimetres	48
Display resolution	SXGA
Total pixels	1280 x 1024
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	50 000 h at +10 °C
Mechanical Data	
Dimensions	740 mm x 872 mm x 400 mm
Ingress protection	IP66
Weight	57 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).	

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSi-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Power Supply			
DSPq-120-24-block Power supply in aluminium enclosure Installation in zone 1 and 2 Input voltage: 90 – 253 VAC, 50 – 60 Hz Output voltage: 24 VDC	222484	43	3.330
Media Converter			
Media Converter of 10/100 Base-Tx (1 x RJ45 port) to 100 Base-Fx "Ex op is" (1 x FO port SC); Multi mode (up to 4 km range); Webcode: 9721A	220381 ▲	75	0.240
Unmanaged Switch FX op is / TX SC			
Unmanaged Switch FX op is to TX; SC plug connector FO cable 4 multi mode (MM), 2 RJ45, Installation in Zone 2	243427 ▲	75	0.500
Ethernet Interface Module			
SK-LAN1xTX-USBe 8265 Ex-d enclosure with Single Ethernet 10/100BaseTX Interface 8 feeder clamp in flanged 8146 1 x cable gland CAT5e USB 2.0 1 x cable gland supply cable 24VDC	171237	43	8.000
SK-LAN2xTX-USBe 8265 Ex d enclosure with Dual Ethernet 10/100BaseTX Interface 8 feeder clamp in flanged 8146 1x cable gland CAT5e USB 2.0 1x cable gland supply cable 24VDC	171238	43	8.000
Supply and Connection Module			
ReaderBox-054-AC-RS232 Supply and connection module for barcode readers Operating voltage AC: 100 ... 240 VAC Output voltage for readers 5.4 V Ex i	220595	43	3.000
ReaderBox-054-DC-RS232 Supply and connection module for barcode readers Operating voltage DC: 12 ... 30 VDC Output voltage for reader 5.4 V Ex i	220596	43	3.000
Storage Media			
USBi-Drive-32GB USB Stick, intrinsically safe, 32 GB	261529	43	0.500
USBi-Drive-32GB-Recovery USB Stick, intrinsically safe, 32 GB with recovery and backup function	261530	43	0.500
USB-Drive-32GB-Recovery USB stick, 32 GB, with recovery and backup function	258078	43	0.100
Software License WINCC Advanced			
WINCC-Advanced-V13-Runtime-128 128 Powertags Runtime license	251710	45	0.300
WINCC-Advanced-V13-Runtime-512 512 Powertags Runtime license	252827	45	0.300
WINCC-Advanced-V13-Runtime-2048 2048 Powertags Runtime license	252828	45	0.300
WINCC-Advanced-V13-Runtime-4096 4096 Powertags Runtime license	252829	45	0.300

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Software License WINCC Advanced			
WINCC-Advanced-V13-Runtime-8192 8192 Powertags Runtime license	252830	45	0.300
Patch Cable			
VB-TP-CAT5-Exe-RJ45-Patch Patch cable CAT5, open ends <-> RJ45, 4x2xAWG23, length: 3 m	104170 ▲	43	0.200
Field Cable			
VB-TP-CAT5-AWG23 Field cable CAT5, Profinet, open ends <-> open ends, 2x2xAWG23 price per metre	166458	43	0.100
VB-FO-MIL-SC-SC-2m MilTac breakout FO cable, basic length 2 m, with SC connectors at both ends	202201	43	0.500
VB-FO-MIL-xm MilTac breakout FO cable, additional length in metres, price per metre	202202	43	0.140
VB-FO-SC-SC-62V04G-2m Indoor breakout FO cable, basic length 2 m, with SC connectors at both ends	202203	43	0.500
VB-FO-62V04G-xm Indoor breakout FO cable, additional length in metres, price per metre	202204	43	0.050
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracketed with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200
VB-RJ45-PLUG-180 RJ45 connector, metal, for Profinet cables, can be assembled in the field	166459	43	0.100
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <-> SC	229271	43	0.050

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

A9

Overview

R. STAHL's Operator Interfaces or Operator Panels are HMI devices with integrated software for visualising and operating machinery and for logistics and tankfarm automation." The EAGLE platform devices can be used universally as well as in machine operation, and the RAPTOR platform devices are suitable for extreme ambient conditions, such as in the oil and gas industries or in the pharmaceutical, chemical and life science industries.

Because R. STAHL's Operator Interfaces with EAGLE and RAPTOR device platforms consist of carefully selected and validated components and make use of state-of-the-art technology, they fulfil the highest requirements - permanent functionality in temperatures ranging from -40 °C to +65 °C, shock, vibration and seawater-proof, and, of course, explosion-protected. We provide these compact HMI systems with GMP-compliant fronts and operator stations, as well as with various displays ranging from 7" widescreen to 15" XGA, optionally sunlight-readable. Serial interfaces and TCP/IP Ethernet interfaces are provided to connect all major automation devices. Thus, an ideal solution is provided for all applications.

EAGLE

Panel-mount device



Operator station



RAPTOR

Panel-mount device



Operator station



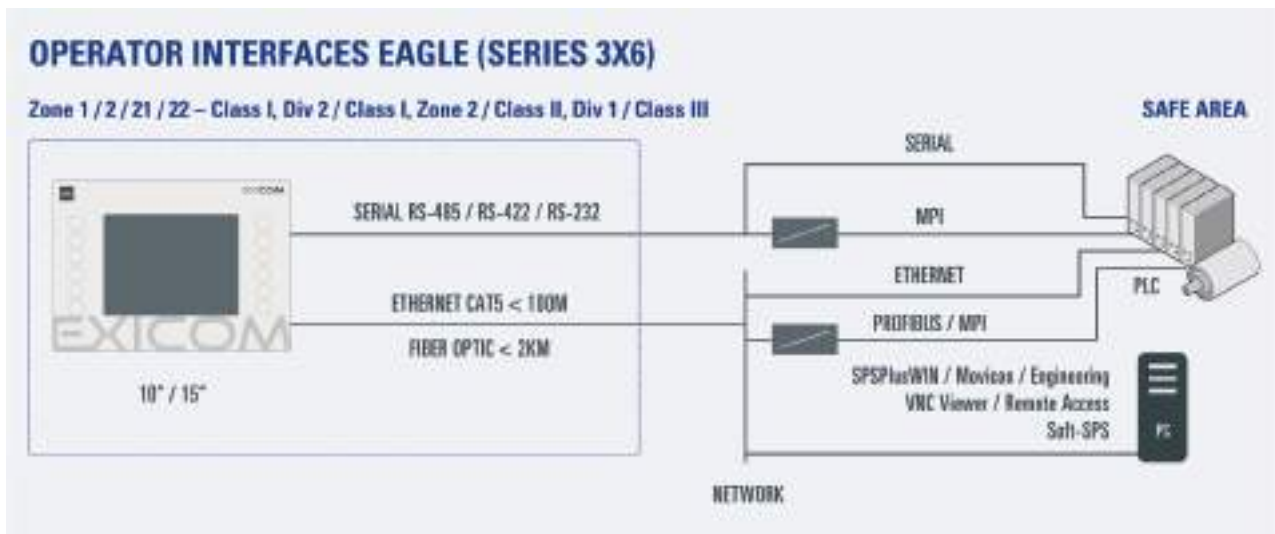
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Highlights

- Robust Operator Interfaces for hazardous zones 1, 2, 21 and 22 and Division 2
- HMI-SERIES 200 and 300: visualisation systems under Windows Embedded Compact 7, MOVICON 11 CE or SPSPplus RT
- Modular panel mount devices and operator stations for flexible configuration

Functional Principle

These extremely robust Operator Interfaces with HMI platform EAGLE are suitable for the operation of machinery and processes, tankfarms and filling stations and are certified for world-wide operation in hazardous areas and onboard ships: resistant to corrosive gases (ISA-S71.04 G3), vibration and shock-proof, IP66. All HMI devices are equipped with 10" to 15" touchscreens, and the 15" version is optionally available with a sunlight-readable display. Movicon CE or SPSPPlus RT is available as powerful visualisation software. The flexibly configurable operator stations (model types OS) are mounted inside enclosures and are suitable for temperatures ranging from -30 °C to +50 °C, the panel-mount devices (model types PM) can be operated in temperatures ranging from -20 °C to +55 °C.



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- Operator Interface as panel-mount device (PM) / Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Operator Interfaces with resistive foil touch screen as a standard.
- Practical accessories available to extend functionality for the Operator Station (OS)
- Operator Station (OS) optionally available with enclosure according to GMP requirements, hygiene-compliant design
- Operator Station (OS) mounting versions include wall mounting, pedestal mounting or mounting on or hanging from elbow



All EAGLE SERIES 300 HMIs are Operator Interfaces for hazardous areas; the ET devices have been developed for zone 1, 21 and Division 1, the MT devices for zone 2, 22 and Division 2. The series ET-/MT-3x6 Operator Interfaces are available with 10.4" or 15" display and with an analogue-resistive touch screen. For visualisation you can choose either Movicon CE or SPSPlus RT from our software portfolio, and for data transmission you can choose from single Ethernet as 10/100Base-TX via CAT5 for distances up to 100 m and single Ethernet as 100Base-FX via multimode fibre optic for distances up to 2 km.

The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. Stainless-steel enclosures (SS304 / SS316L) with front openings or as cleanroom versions are available in addition to various mounting versions, country-specific keyboards and pointer instruments, RFID and barcode readers as well as other accessories to enhance functionality.

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	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in			•			

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•	•	•	•	•

Field Systems

Definition Field Systems	<p>A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows:</p> <p>ET-336-A-TX-7231000003-0000000000</p> <p>It is decoded as follows:</p>				
Decoding	ET-336-A-TX	-	7231000003	-	0000000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	<p>For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.</p>				
Order	<p>A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.</p>				

Type Code Field System ET-/MT-3x6-A Device Platform EAGLE (Part 1)

Name	Version	Note	Code	Device design			More detailed device design						
				-	-	-	0	1	0	0	0	0	-
Series	Zone 1, 21		ET				0	1	0	0	0	0	-
	Zone 2, 22		MT										
Display size	26 cm / 10.4"		306-A										
	26 cm / 10.4"		316-A										
	38 cm / 15"		336-A										
Ethernet	1x 10/100Base-TX copper Ethernet	Standard	TX										
	1x 100Base-FX FO Ethernet	Extra	FX										
Processor	Geode LX (available until Q4/2017)		5										
	ATOM E3815		7										
RAM	512 MB (Geode LX only)	Standard	0										
	2 GB (ATOM E3815 only)	Standard	2										
Display type	Standard TFT		0										
Data memory	1 GB SSD (Geode LX only)	Standard	0										
	16 GB (ATOM E3815 only)	Standard	3										
Touch	Analogue resistive touch		1										
Power supply	24 V DC		0										
	The AC version power supply has to be selected via the option „separate power supply“ at type code part 2.												
Optional interface 1	No optional interface		0										
Optional interface 2	No optional interface		0										
/ reader	Reader interface Ex i	Extra	1										
Option 3 / Option box	No option 3	Standard	0										
Enclosure design	Polyester on aluminium		0										
Operating system and image	RT-Target and SPSPPlus Runtime (Geode LX only)	Standard	0										
	Windows Embedded Compact 7 (WEC7) and SPSPPlus Runtime (ATOM E3815 only)	Extra	3										
	Windows Embedded Compact 7 (WEC7) and Movicon CE 4096 I/O (ATOM E3815 only)	Extra	4										

Price calculation

Standard field systems

The standard field systems of the ET-/MT-3x6-A devices, device platform EAGLE, are combinations with the following features:

- 10/100Base-TX interface
- ATOM E3815 processor
- 2 GB RAM
- TFT display
- 16 GB data memory
- Analogue resistive touch
- DC power supply
- No optional interfaces
- Operating system Windows Embedded Compact 7 (WEC7) and SPSPPlus Runtime
- Polyester front plate

The product code for this is:

xT-3x6-A-TX-7231000003-0000000000

The price for the above standard field system is the total of basic price plus extra charge for the Windows Embedded Compact 7 (WEC7) and SPSPPlus Runtime operating system.

Field systems options

For all field systems other than the standard you need to add the extra charge of each required option to the list price of the standard field system in question. Please note that not all options can be combined with one another (see notes on features).

Notes on table part 2:

Only the following values are permitted as possible product code combinations: 00, 11, 21, A1, 12, 22, 82
When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

On keyboards:

The material (stainless steel) of the keyboard enclosure is always the same as the material of the field enclosure. Thus, the extra charge for the material of the keyboard enclosure must be added depending on the material of the field enclosure.

* On barcode reader IDM:

The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.
Not possible with FRS or BD enclosure.

Technical Data

General

Product Type	Product Series PM ET-306
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	ET306AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-306-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-306-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-306-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-306-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	640 x 480
Display brightness	TFT 450 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70000 h at +25 °C 35000 h at +55 °C

Mechanical Data

Dimensions	400 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.6 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM ET-316
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	ET316AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-316-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-316-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-316-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-316-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-316-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-316-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-316-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-316-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C
Mechanical Data	
Dimensions	372 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.2 kg
Mounting / Installation	
Mounting option	Panel mount

Technical Data

General

Product Type	Product Series PM ET-336
Product Type	15" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	ET336AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-336-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-336-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-336-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-336-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-336-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-336-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-336-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-336-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70000 h at +25 °C 35000 h at +55 °C

Mechanical Data

Dimensions	440 mm x 340 mm 165 mm
Ingress protection	IP66
Weight	18 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series OS ET-306
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	ET306AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-306-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-306-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-306-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-306-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	640 x 480
Display brightness	TFT 450 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.6 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator stations (OS).

Technical Data

General

Product Type	Product Series OS ET-316
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	ET316AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-316-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-316-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-316-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-316-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-316-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-316-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-316-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-316-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70000 h at +25 °C 35000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.2 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator stations (OS).

Technical Data	
General	
Product Type	Product Series OS ET-336
Product Type	15" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	ET336AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0006X
Gas explosion protection IECEx	ET-336-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-336-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection IECEx	ET-336-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-336-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certification ATEX	TÜV 11 ATEX 7041 X
Gas explosion protection ATEX	ET-336-A-TX II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb ET-336-A-FX II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
Dust explosion protection ATEX	ET-336-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-336-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	50 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS
Mounting option	Wall, elbow, stand

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Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator stations (OS).

Technical Data

General

Product Type	Product Series PM MT-306
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	MT306AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-306-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-306-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-306-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-306-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-306-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-306-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-306-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-306-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	640 x 480
Display brightness	TFT 450 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70000 h at +25 °C 35000 h at +55 °C

Mechanical Data

Dimensions	400 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.6 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series PM MT-316
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	MT316AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-316-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-316-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-316-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-316-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-316-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-316-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-316-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-316-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Ambient Conditions	
Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C
Mechanical Data	
Dimensions	372 mm x 270 mm 150 mm
Ingress protection	IP66
Weight	13.2 kg
Mounting / Installation	
Mounting option	Panel mount

Technical Data

General

Product Type	Product Series PM MT-336
Product Type	15" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	MT336AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-336-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-336-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc

Dust explosion protection IECEx	MT-336-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-336-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
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Certification ATEX	TÜV 11 ATEX 7103 X
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Gas explosion protection ATEX	MT-336-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-336-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
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Dust explosion protection ATEX	MT-336-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-336-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
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Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
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Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater

Display

Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C

Mechanical Data

Dimensions	440 mm x 340 mm 165 mm
Ingress protection	IP66
Weight	18 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series OS MT-306
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	MT306AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-306-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-306-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-306-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-306-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-306-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-306-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-306-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-306-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	640 x 480
Display brightness	TFT 450 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.6 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator Stations (OS).

Technical Data

General

Product Type	Product Series OS MT-316
Product Type	10.4" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	MT316AA

Explosion Protection

Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-316-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-316-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-316-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-316-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-316-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-316-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-316-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-316-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater

Display

Display version	TFT Colour display
Display size inch	10.4
Display size centimetres	26
Display resolution	SVGA
Total pixels	800 x 600
Display brightness	TFT 400 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70000 h at +25 °C 35000 h at +55 °C

Mechanical Data

Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	45.2 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.

Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional FRS
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator stations (OS).

Technical Data	
General	
Product Type	Product Series OS MT-336
Product Type	15" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	MT336AA
Explosion Protection	
Certification IECEx	IECEx TUR 11.0015X
Gas explosion protection IECEx	MT-336-A-TX Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-336-A-FX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection IECEx	MT-336-A-TX Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-336-A-FX Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certification ATEX	TÜV 11 ATEX 7103 X
Gas explosion protection ATEX	MT-336-A-TX II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc MT-336-A-FX II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
Dust explosion protection ATEX	MT-336-A-TX II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 MT-336-A-FX II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Display	
Display version	TFT Colour display
Display size inch	15
Display size centimetres	38
Display resolution	XGA
Total pixels	1024 x 768
Display brightness	TFT 350 cd/m ²
Touch screen	analogue resistive
Backlight	LED Technology
Backlight service life	70 000 h at +25 °C 35 000 h at +55 °C
Mechanical Data	
Dimensions	720 mm x 820 mm x 400 mm
Ingress protection	IP66
Weight	50 kg
Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure (FR) optional FRS
Mounting option	Wall, elbow, stand

Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator stations (OS).

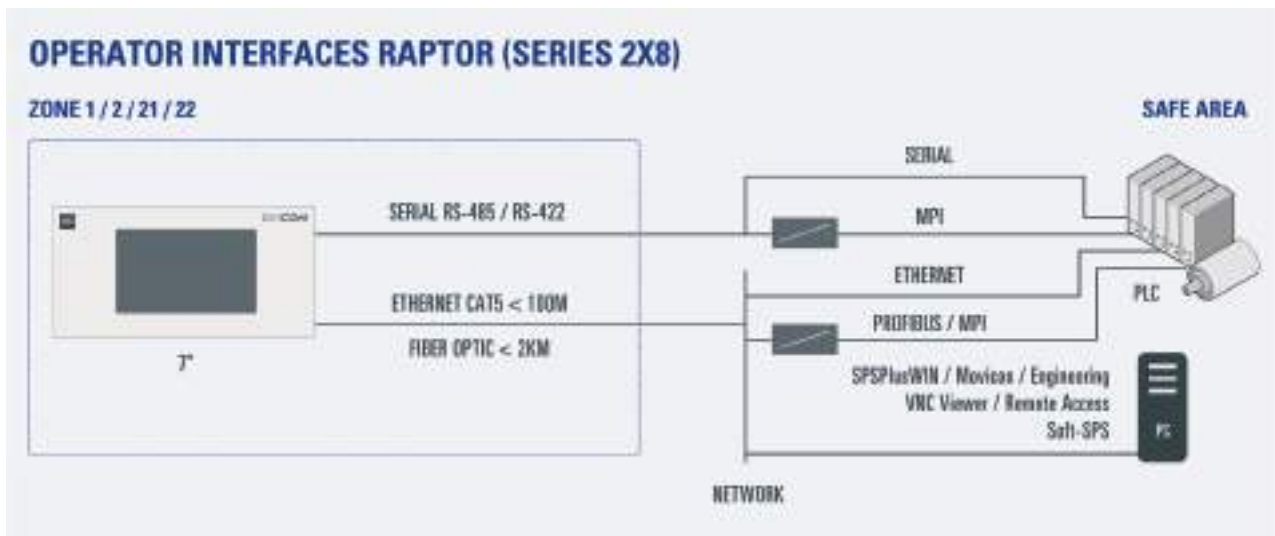
Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Desktop Keyboard Ex i			
KBDi-DS102W-USB-DE Language: DE, QWERTZ, 102 keys, USB interface	229304	43	2.000
KBDi-DS102W-USB-US Language: US, QWERTY, 102 keys, USB interface	222254 ▲	43	2.000
KBDi-DS102W-USB-NO Language: NO, QWERTY, 102 keys, USB interface	229303	43	2.000
Desktop Mouse Ex i			
MSi-JM0100-USB Optical desktop mouse, USB interface	222255 ▲	43	0.200
Power Supply			
DSPq-120-24-block Power supply in aluminium enclosure Installation in zone 1 and 2 Input voltage: 90 – 253 VAC, 50 – 60 Hz Output voltage: 24 VDC	222484	43	3.330
Media Converter			
Media Converter of 10/100 Base-Tx (1 x RJ45 port) to 100 Base-Fx "Ex op is" (1 x FO port SC); Multi mode (up to 4 km range); Webcode: 9721A	220381 ▲	75	0.240
Unmanaged Switch FX op is / TX SC			
Unmanaged Switch FX op is to TX; SC plug connector FO cable 4 multi mode (MM), 2 RJ45, Installation in Zone 2	243427 ▲	75	0.500
Supply and Connection Module			
ReaderBox-054-AC-RS232 Supply and connection module for barcode readers Operating voltage AC: 100 ... 240 VAC Output voltage for readers 5.4 V Ex i	220595	43	3.000
ReaderBox-054-DC-RS232 Supply and connection module for barcode readers Operating voltage DC: 12 ... 30 VDC Output voltage for reader 5.4 V Ex i	220596	43	3.000
Storage Media			
USBi-Drive-32GB USB Stick, intrinsically safe, 32 GB	261529	43	0.500
Cable and Cable Accessories			
VB-USB-Plug USB extension and mounting bracketed with USB connector for front IP65 or mounting inside field enclosure	104166	43	0.200
VB-SC-SC-jack FO adapter for DIN rail mounting, connector version SC <-> SC	229271	43	0.050
Software			
SPSPlusWin 6.xx Project engineering software for all Operator Interfaces	263160	43	0.100
SPSPlusWin Update 6.xx Update to current version	263181	43	0.100
Movicon11-Dongle Project engineering software Progea Movicon11 (for devices with Progea Movicon Runtime)	241090	43	0.500

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

Functional Principle

R. STAHL's RAPTOR HMI platform provides robust and versatile Operator Interfaces, for example for drilling rigs, tankfarm automation or the pharmaceutical and life science industries. They can withstand temperatures ranging from -40 °C to +65 °C, are impact resistant with IP69 - and can be as comfortably operated as a smartphone. The sunlight-readable 7" wide screen display with capacitive touchscreen shows processes with great contrast and in brilliant colours. Options include RFID readers for access control and the Movicon software (compliant with 21 CFR part 11 and GAMP). For material entry, barcode readers connected via cable or Bluetooth can be used in hazardous areas. The Operator Interfaces are available as panel mount devices or as Operator Stations with enclosure.



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- Operator Interface as panel-mount device (PM) / Operator Station (OS)
- Panel-mount device (PM) can be installed in hazardous areas without additional enclosure
- Operator Interface with projected-capacitive glass touch screen in widescreen format as standard
- Robust HMI systems with degree of protection IP69 at the front
- Flexible enclosure configuration possible with up to 32 individual buttons for Operator Station (OS)



All RAPTOR SERIES 200 HMIs are Operator Interfaces for hazardous areas; the ET devices have been developed for zone 1 and 21, the MT devices for zone 2 and 22. Their brilliant 7" widescreen displays with a resolution of 800 x 480 pixels (format 15:9) have a projected-capacitive touch screen. The Operator Interfaces run with Windows Embedded Compact 7 (WEC 7), and for visualisation you can choose either Movicon CE or SPSPlus RT. For data transmission, the systems are equipped with single Ethernet as 10/100Base-TX via CAT5 up to 100 m and two serial interfaces.

The term "PM" covers all panel-mount devices that are provided without enclosure and are integrated, for example, in control panels in the pharmaceutical industry. The term "OS" covers all Operator Stations that are integrated into an enclosure as field devices and that can be customised with other equipment. RFID readers and barcode scanners are practical accessories to extend functionality.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Field Systems

Definition Field Systems	<p>A field system consists of at least one HMI unit and the integrated software. If the HMI unit is mounted inside an enclosure, this enclosure as well as all other accessories mounted inside it are part of the field system. To facilitate the order process for a field system, a product code has been developed that can reproduce all possible combinations of device, software, enclosure and accessories. This product code consists of alpha-numerical characters and may look as follows:</p> <p>ET-208-TX-40103000002-00050000000</p> <p>It is decoded as follows:</p>				
Decoding	ET-208-TX	-	40103000002	-	00050000000
Meaning	Device version	Hyphen	Device sub-version	Hyphen	Enclosure and Accessories
	<p>For an exact definition of each individual character please refer to the type code for field systems on the following pages. Due to the length of the type code for field systems, the product characteristics and the product code are listed opposite of each other on a double page spread.</p>				
Order	<p>A field system can only be ordered with a valid and plausible product code. For this, all digits of the product code must be filled with a valid character. Please also note that for technical reasons not all theoretically possible product codes and thus field systems can actually be realised. Should you have any questions in this regard, please contact R. STAHL HMI Systems GmbH.</p>				

Type Code Field System ET-208 Device Platform RAPTOR (Part 2)

Name	Version	Note	Code	Enclosures and accessories															
Enclosure	No enclosure	Standard	0				0	0	0										
	Stainless steel enclosure front door (FR)	Extra	2																
Material	No material (no enclosure)	Standard	0																
	Stainless steel V2A (SS304)	Version	1																
	Stainless steel V4A (SS316)	Extra	2																
Mounting option	None, panel mounting (no enclosure)	Standard	0																
	Wall mounting	Extra	1																
	Mounted on stand or wall on below	Version	2																
	Mounted on stand or wall on above	Version	3																
Outdoor installation	Outdoor -20 °C (for enclosures with barcode scanner)	Version	3																
	Outdoor -30 °C (for enclosures with card reader)	Version	4																
	Outdoor -40 °C	Standard	5																
Keyboard (design, layout) / keyboard enclosure	No keyboard, no pointing device		0																
	Integrated pointing device	No integrated pointing device																	
Separate pointing device	No separate pointing device		0																
Separate reader	No separate reader		0																
	RFID-Crypt reader (max. -30 °C), inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	1																
	RFID-ASC reader (max. -30 °C), inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	2																
	Preparation for IDM-160-ex-b barcode reader * (max. -20 °C), wired, inc. ReaderBox, (requires enclosure) components mounted in enclosure	Extra	4																
	Preparation for IDM-161-BT-ex * barcode reader * (max. -20 °C) Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	5																
	Preparation for IDM-261-BT-ex barcode reader * (max. -20 °C), Bluetooth, inc. ReaderBox, base station and cable (requires enclosure) components mounted in enclosure	Extra	L																
Emergency stop switch	No emergency stop switch		0																
	Emergency stop switch 8003, right ESR	Extra	1																
	Emergency stop switch 8003, left ESL	Extra	2																
	Emergency stop switch 8003, in the centre of the front door ESM	Extra	4																
Separate power supply	No separate power supply		0																
Further options 1	No further options 1		0																
Further options 2	No further options 2		0																

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Notes on table part 2:

On types and material of enclosures:
 Only the following values are permitted as possible product code combinations: 00, A1, 21, 22
 When choosing an enclosure you must also state a mounting option (Version: code 1, 2 or 3).

* On barcode reader IDM:
 The barcode reader itself and any optional accessories are NOT part of the field system and must be ordered separately.

Technical Data

General

Product Type	Product Series PM ET-208
Product Type	7" Operator Interface
HMI Technology	Operator Interface
Type	Panel-mount device
HMI WebCode	ET208A

Explosion Protection

Certification IECEx	IECEX BVS 15.0039X
Gas explosion protection IECEx	Ex e ib q [ib] IIC T4 Gb
Dust explosion protection IECEx	Ex tb ib [ib] IIIA T115°C Db
Certification ATEX	BVS 15 ATEX E 042 X
Gas explosion protection ATEX	II 2 G Ex e ib q [ib] IIC T4 Gb
Dust explosion protection ATEX	II 2 D Ex tb ib [ib] IIIA T115°C Db
Certifications	ATEX, IECEx, EAC, PESO

Ambient Conditions

Ambient temperature operation	-40 °C ... +70 °C
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Display

Display version	TFT Colour display (Sunlight viewable)
Display size inch	7
Display size centimetres	18
Display resolution	WVGA
Total pixels	800 x 480
Display brightness	TFT 500 cd/m ²
Display contrast	TFT 600:1
Touch screen	projected capacitive (PCAP)
Backlight	LED Technology
Backlight service life	50000 h at +25 °C

Mechanical Data

Dimensions	290 mm x 146 mm 83 mm
Weight	5 kg

Mounting / Installation

Mounting option	Panel mount
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Technical Data	
General	
Product Type	Product Series OS ET-208
Product Type	7" Operator Interface
HMI Technology	Operator Interface
Type	Operator station
HMI WebCode	ET208A
Explosion Protection	
Certification IECEx	IECEX BVS 15.0039X
Gas explosion protection IECEx	Ex e ib q [ib] IIC T4 Gb
Dust explosion protection IECEx	Ex tb ib [ib] IIIA T115°C Db
Certification ATEX	BVS 15 ATEX E 042 X
Gas explosion protection ATEX	II 2 G Ex e ib q [ib] IIC T4 Gb
Dust explosion protection ATEX	II 2 D Ex tb ib [ib] IIIA T115°C Db
Certifications	ATEX, IECEx, EAC, PESO
Certification note	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
Ambient Conditions	
Ambient temperature operation	-40 °C ... +65 °C
Display	
Display version	TFT Colour display (Sunlight viewable)
Display size inch	7
Display size centimetres	18
Display resolution	WVGA
Total pixels	800 x 480
Display brightness	TFT 500 cd/m ²
Display contrast	TFT 600:1
Touch screen	projected capacitive (PCAP)
Backlight	LED Technology
Backlight service life	50 000 h at +25°C
Mechanical Data	
Dimensions	400 mm x 400 mm 180 mm
Ingress protection	IP69 / IP66
Weight	25 kg
Mechanical data note	The mechanical data apply to an FR enclosure with built-in display. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
Mounting / Installation	
Enclosure type	Stainless steel enclosure
Mounting option	Wall
Built-in components and other accessories may change the scope of application of the certifications, the explosion protection marking and the technical data for the Operator stations (OS).	

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Interface Modules			
MPI-Box-SSW7-RK512-RS-422 S7 MPI Bus adapter with RS-422 interface, DIN-rail mounting, no handling block required	104195 ▲	42	0.100
Software			
SPSPlusWin 6.xx Project engineering software for all Operator Interfaces	263160	43	0.100
SPSPlusWin Update 6.xx Update to current version	263181	43	0.100
Movicon11-Dongle Project engineering software Progea Movicon11 (for devices with Progea Movicon Runtime)	241090	43	0.500
Mounting Frame			
HSG-208-V2A-125-Frame Mounting frame for ET-/MT-208 (necessary when replacing an ET-/MT-125 with an ET-/MT-208)	236860	47	10.000

Barcode scanners and RFID readers as well as enclosure accessories are listed in section A9 under Peripheral devices and SERIES HSG Enclosures.

Overview

R. STAHL's barcode scanners and RFID readers capture data in hazardous areas and transmit these to explosion-protected HMIs or PCs and automation equipment in safe areas. The barcode scanners are robust industrial hand-held scanners for accurate data capture; the RFID readers can be used as panel-mount devices for access control.

In hazardous areas barcodes have become the standard method of registering material and its uses, as well as recording access to operating stations. For both applications R. STAHL provides professional solutions which can also be operated separately from our Human Machine Interfaces (HMIs). The IDM barcode readers are available as a fixed-cable version and as a Bluetooth scanner for 1D and 2D barcodes. Our RFID readers for access control to HMIs, machinery and premises use the Mifare protocol. The corresponding chips with individual access data are available in the form of cards or key fobs.

Barcode scanner



RFID reader



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Highlights

- Barcode scanners and RFID readers for installation in hazardous zones 1, 2, 21 and 22
- Robust, industrial HMI devices for connection to EXICOM operating devices, PCs or automation devices
- Comfortable and safe material inventory, access control, etc.

Type and Connection Overview

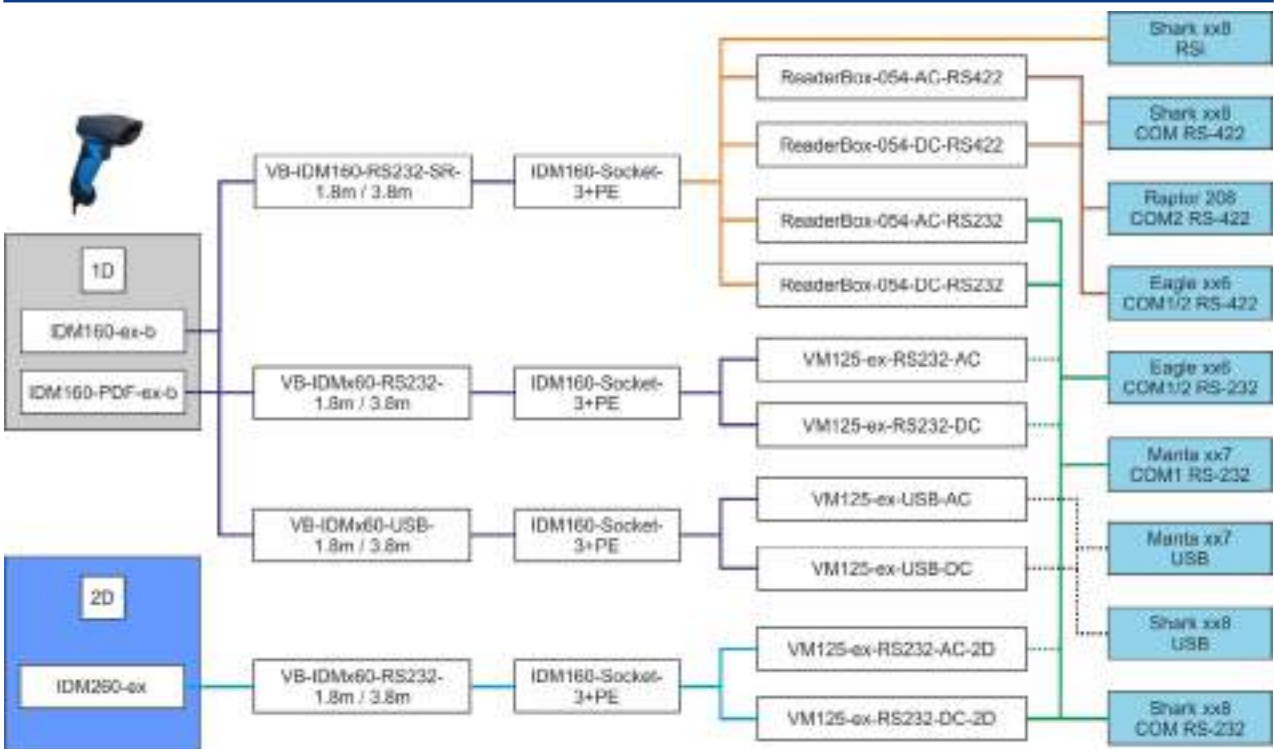
Barcode scanners are used in industry for many different tasks – R. STAHL's IDM device series enables you to use this convenient method of data capture in hazardous areas too. Our scanners process 1-D barcodes (IDM 160 series), 2-D barcodes (IDM 260 series) and stacked codes and can be connected with a cable or wirelessly via Bluetooth. Supply modules for power supply and data communication are available suitable to all of our HMI platforms and with different interfaces. Below is a detailed overview of scanner types and base loading stations.

Scanner type	wired	Bluetooth	1D	PDF	2D
IDM160-ex-b	✓		✓		
IDM160-PDF-ex-b	✓		✓	✓	
IDM260-ex	✓		✓	✓	✓
IDM161-BT-ex		✓	✓		
IDM161-BT-PDF-ex		✓	✓	✓	
IDM261-BT-ex		✓	✓	✓	✓

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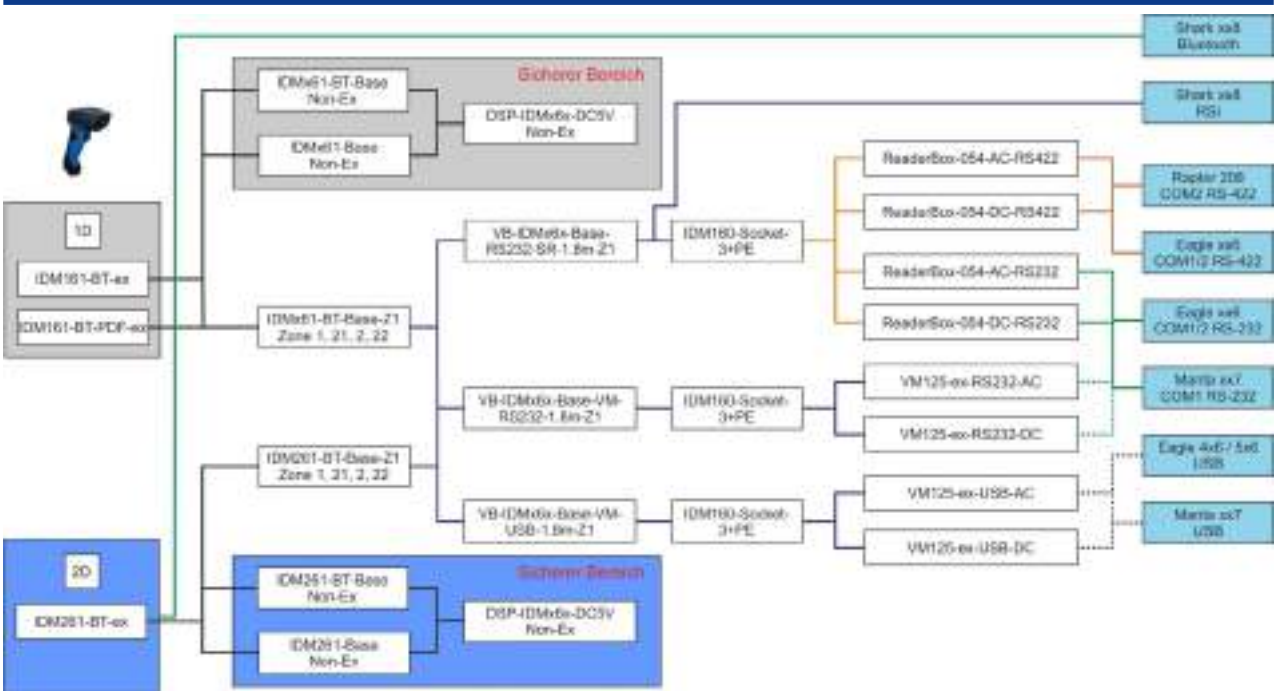
Base loading station	without cable	Bluetooth	Ex Zone 1	Non-Ex	IDM161	IDM261
IDMx61-BT-Base-Z1	✓	✓	✓		✓	
IDM261-BT-Base-Z1	✓	✓	✓			✓
IDMx61-BT-Base	✓	✓		✓	✓	
IDM261-BT-Base	✓	✓		✓		✓
IDMx61-Base	✓			✓	✓	
IDM261-Base	✓			✓		✓

Connection overview wired handheld scanner



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Connection overview bluetooth scanner





- Certified acc. to ATEX and IECEx for hazardous zones 1, 2, 21, 22
- Wired or wireless Bluetooth scanners
- 1D / 2D barcodes, stacked codes
- Scanner compatible with R. STAHL's SHARK, MANTA, EAGLE and RAPTOR HMI device platforms

WebCode **IDMEXA**



R. STAHL's IDM barcode scanners are ATEX and IECEx certified for hazardous zones 1, 2, 21 and 22. Depending on the scanner, all common 1D / 2D barcodes and stacked codes can be read. The reading process is confirmed acoustically with a beep, visually with LED and with vibration. The explosion-protected HMI devices are all-round designed to meet industrial requirements: their compact enclosure with IP65 is extremely robust - it can withstand up to 50 drops onto concrete from a height of 2 m. The wired scanners support all common cable interfaces, and, when required, the cables can be replaced without the need for any tools. The wireless Bluetooth scanners transmit all data via Bluetooth.

Selection Table

Version: Bluetooth wireless scanner						
Product Type	Design	Barcode types	Base loading station	Art. No.	PS	Weight kg
IDM161-BT-ex	Linear imager scanner	one-dimensional 1D (barcode)	IDMx61-BT-Base-Z1 IDMx61-BT-Base IDMx61-Base	249910	41	0.260
IDM161-BT-PDF-ex	Linear imager scanner	one-dimensional 1D (barcode and stacked code) (PDF417)	IDMx61-BT-Base-Z1 IDMx61-BT-Base IDMx61-Base	249941	41	0.260
IDM261-BT-ex	two-dimensional imager scanner	one- and two-dimensional 1D and 2D (barcode and stacked code) (PDF417)	IDM261-BT-Base-Z1 IDM261-BT-Base IDM261-Base	249940	41	0.260
Version: wired handheld scanner						
Product Type	Design	Barcode types	Base loading station	Art. No.	PS	Weight kg
IDM160-ex-b	Linear imager scanner	one-dimensional 1D (barcode)	-	249908	41	0.200
IDM160-PDF-ex-b	Linear imager scanner	one-dimensional 1D (barcode and stacked code) (PDF417)	-	249909	41	0.200
IDM260-ex	two-dimensional imager scanner	one- and two-dimensional 1D and 2D (barcode and stacked code) (PDF417)	-	249986	41	0.200

Technical Data

Explosion Protection	
Certification IECEx	IECEx IBE 16.0002
Gas explosion protection IECEx	Ex ib IIC T4 Gb
Dust explosion protection IECEx	Ex ib IIIC T135°C Db
Certification ATEX	IBExU16ATEX1002
Gas explosion protection ATEX	II 2 G Ex ib IIC T4 Gb

Technical Data	
Explosion Protection	
Dust explosion protection ATEX	II 2 D Ex ib IIIC T135°C Db
Certifications	ATEX, IECEx
Electrical Data	
Light source	Visible red light, 630nm
Scan frequency	500 Hz
Reader distance	20 ... 850 mm
Code resolution	approx. ≥ 0.076 mm (depending on code)
Interfaces	Interface support (via supply module): RS-232 / RS-422 / USB
Status LED	optical: 2x LED (operating status / read confirmation) acoustic: beeper / buzzer (can be switched off) vibration
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Shock resistance	50 drops from a height of 2 m onto a concrete surface
Mechanical Data	
Dimensions	104 mm x 185 mm x 76 mm
Ingress protection	IP65
Weight	0.2 kg

The Technical Data only apply to the IDMx6x scanner versions. All data for the IDM26x scanner versions and the supplementary data for the wireless scanners can be found on our website (www.r-stahl.com) or in the data sheets.

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Base Stations Scanner			
IDMx61-BT-Base-Z1 Base station for handheld scanner IDM161-BT, Bluetooth, zone 1, wireless access and loading station, Bluetooth, loading in zone 1	249925	41	-
IDMx61-BT-Base Base station for handheld scanner IDM161-BT, Bluetooth, Non-Ex, wireless access and loading station, Bluetooth, loading in safe area	249926	41	-
IDMx61-Base Base station for handheld scanner IDM161-BT, no Bluetooth, Non-Ex, wireless loading station, loading in safe area	249927	41	-
IDM261-BT-Base-Z1 Base station for handheld scanner IDM261-BT, Bluetooth, zone 1, wireless access and loading station, Bluetooth, loading in zone 1	249981	41	-
IDM261-BT-Base Base station for handheld scanner IDM-261-BT, Bluetooth, Non-Ex, wireless access and loading station, Bluetooth, loading in safe area	249982	41	-
IDM261-Base Base station for handheld scanner IDM261-BT, no Bluetooth, Non-Ex, wireless loading station, loading in safe area	249983	41	-
Connection Cable			
VB-IDM160-RS232-SR-1.8m Connection cable for IDM160, connection to ReaderBox or SHARK xx8-RSi, interface RS-232, Ex i 5.6 V cable length 1.8 m, straight, Binder plug	224085	43	0.200
VB-IDM160-RS232-SR-3.8m Connection cable for IDM160, connection to ReaderBox or SHARK xx8-RSi, interface RS-232, Ex i 5.6 V cable length 3.8 m, coiled, Binder plug	224086	43	0.300
VB-IDMx60-RS232-1.8m Connection cable for IDM160 / IDM260, connection to VM125-ex-*, interface RS-232, Ex i 5.6 V, cable length 1.8 m, straight, Binder plug	224081	43	0.200
VB-IDMx60-RS232-3.8m Connection cable for IDM160 / IDM260, connection to VM125-ex-*, interface RS-232, Ex i 5.6 V, cable length 3.8 m, coiled, Binder plug	224082	43	0.300
VB-IDMx60-USB-1.8m Connection cable for IDM160, connection to VM125-ex-*, interface USB, Ex i 5.6 V, cable length 1.8 m, straight, Binder plug	224083	43	0.200
VB-IDMx60-USB-3.8m Connection cable for IDM160, connection to VM125-ex-*, interface USB, Ex i 5.6 V, cable length 3.8 m, coiled, Binder plug	224084	43	0.300
VB-IDMx6x-Base-RS232-SR-1.8m-Z1 Connection cable for base loading station IDM*-Z1, connection to ReaderBox or SHARK xx8-RSi, interface RS-232, Ex i 5.6 V, cable length 1.8 m, straight, Binder plug	224102	43	0.200
VB-IDMx6x-Base-RS232-SR-3.8m-Z1 Connection cable for base loading station IDM*-Z1, connection to ReaderBox or SHARK xx8-RSi, interface RS-232, Ex i 5.6 V, cable length 3.8 m, coiled, Binder plug	224103	43	0.300
VB-IDMx6x-Base-VM-RS232-1.8m-Z1 Connection cable for base loading station IDM*-Z1, connection to VM125-ex-*, interface RS-232, Ex i 5.6 V, cable length 1.8 m, straight, Binder plug	224100	43	0.200
VB-IDMx6x-Base-VM-RS232-3.8m-Z1 Connection cable for base loading station IDM*-Z1, connection to VM125-ex-*, interface RS-232, Ex i 5.6 V, cable length 3.8 m, coiled, Binder plug	224101	43	0.300
VB-IDMx6x-Base-VM-USB-1.8m-Z1 Connection cable for base loading station IDM*-Z1, connection to VM125-ex-*, interface USB, Ex i 5.6 V, cable length 1.8 m, straight, Binder plug	224104	43	0.200
VB-IDMx6x-Base-VM-USB-3.8m-Z1 Connection cable for base loading station IDM*-Z1, connection to VM125-ex-*, interface USB, Ex i 5.6 V, cable length 3.8 m, coiled, Binder plug	224105	43	0.300
Connection Cable Extension			
VB-IDMx6x-EXT-4.5m-Z1 Extension cable for IDMx6x zone 1, cable length 4.5m, coiled	224109	43	0.400
VB-IDMx6x-EXT-6m-Z1 Extension cable for IDMx6x zone 1, cable length: 6 m, straight	224108	43	0.500
Adapter Cable			
VB-IDMx6x-SOCKET-RS232-0.5m Adapter cable for IDMx6x scanner, display xx8 <-> IDMx6x connection cable, open ends to binder coupling for interface RSi-232 (xx8), cable length: 0.5 m straight	254452	43	0.200
Tripod			
IDMx6x-tripod Tripod for IDMx6x, material: ABS (acrylonitrile-butadiene-styrene)	224106	41	-
Deskholder			
IDMx6x-Deskholder Deskholder for IDMx6x, material: ABS (acrylonitrile-butadiene-styrene)	224107	41	0.200

Accessories and Spare Parts			
Description	Art. No.	PS	Weight kg
Power supply			
DSP-IDMx6x-DC5V Power supply for non-ex base loading station	224095	41	-
Battery			
IDMx6x-BT-ex-Lion Replacement battery (Li ions) for IDMx6x-BT-ex	224091	41	-



- Barcode scanner for safe areas (non-Ex)
- Wired or wireless Bluetooth scanners
- 1D / 2D barcodes, stacked codes
- Compatible with R. STAHL's MANTA HMI device platform

WebCode IDMA

R. STAHL's IDM260-100S and IDM260-100S-BT barcode scanners have been developed for safe production areas. Depending on the scanner, all common 1D / 2D barcodes and stacked codes can be read. The reading process is confirmed acoustically with a beep, visually with LED and with vibration. These HMI devices have been designed to fully meet industrial requirements: their compact enclosure with IP65 is extremely robust – it can withstand up to 50 drops onto concrete from a height of 2 m. The wired scanners support all common cable interfaces, and, when required, the cables can be replaced without the need for any tools. The wireless Bluetooth scanners transmit all data via Bluetooth.

Selection Table

Version: Bluetooth wireless scanner						
Product Type	Design	Barcode types	Base loading station	Art. No.	PS	Weight kg
IDM261-100S-BT	two-dimensional imager scanner	one- and two-dimensional 1D and 2D (barcode and stacked code) (PDF417)	IDM261-BT-Base IDM261-Base	251093	41	0.200
Version: wired handheld scanner						
Product Type	Design	Barcode types	Base loading station	Art. No.	PS	Weight kg
IDM260-100S	two-dimensional imager scanner	one- and two-dimensional 1D and 2D (barcode and stacked code) (PDF417)	-	249308	45	0.200

Technical Data

Electrical Data	
Light source	Visible red light, 630nm
Scan frequency	60 Hz
Reader distance	30 ... 380 mm
Code resolution	ca. ≥ 0.18 mm (depending on code)
Interfaces	Interface support: RS-232
Status LED	optical: 2x LED (operating status / read confirmation) acoustic: beeper / buzzer (can be switched off) vibration
Ambient Conditions	
Ambient temperature operation	-20 °C ... +50 °C
Storage temperature	-40 °C ... +70 °C
Shock resistance	50 drops from a height of 2 m onto a concrete surface

Technical Data

Mechanical Data

Dimensions	104 mm x 185 mm x 76 mm
Ingress protection	IP65
Weight	0.2 kg

Additional data for the wireless IDM260-100S-BT scanner can be found on our website at www.r-stahl.com or on the data sheets.

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Base Stations Scanner			
IDM261-BT-Base Base station for handheld scanner IDM-261-BT, Bluetooth, Non-Ex, wireless access and loading station, Bluetooth, loading in safe area	249982	41	-
IDM261-Base Base station for handheld scanner IDM261-BT, no Bluetooth, Non-Ex, wireless loading station, loading in safe area	249983	41	-
Tripod			
IDMx6x-tripod Tripod for IDMx6x, material: ABS (acrylonitrile-butadiene-styrene)	224106	41	-
Deskholder			
IDMx6x-Deskholder Deskholder for IDMx6x, material: ABS (acrylonitrile-butadiene-styrene)	224107	41	0.200
Power supply			
DSP-IDMx6x-DC5V Power supply for non-ex base loading station	224095	41	-

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Overview

R. STAHL's RFID readers are used as proximity readers in hazardous areas for reading and transmitting data without contact. Be it ID cards, key fobs or other media, the areas of application for this HMI technology are diverse; all that's needed is a MIFARE transponder (ISO 7816 or 14443A). The explosion-protected versions of our readers (RFIDi) are ATEX, IECEx and KGS certified for zones 1, 2, 21, 22 and can be directly connected to operating devices with RSi interface or via the ReaderBox. The versions for safe areas are directly connected to serial or USB interfaces. You can transmit data extremely securely with CRYPT encryption, optionally also openly with the ASCII protocol.

RFID reader devices





- RFID reader for panel mounting in hazardous zones 1, 2, 21 and 22
- Reads MIFARE transponder media (ISO 7816 or ISO 14443A)
- Data transmission via RS-232 interface with ASCII or CRYPT protocol (driver required)
- Compatible with R. STAHL's SHARK, MANTA, EAGLE and RAPTOR HMI device platforms

WebCode **RFIDIA**



R. STAHL's RFID readers have been developed for hazardous areas and are designed for panel mounting. They can read various types of MIFARE transponders. The data is transmitted via the RS-232 interface either actively and open as ASCII code or via CRYPT protocol encrypted in response to a poll request. The RFID readers are compatible with the SHARK, MANTA, EAGLE and RAPTOR HMI device platforms. The devices with CRYPT protocol can be directly connected to Operator Interfaces (SERIES 200 and 300) with SPSPPlus WIN, for the other SERIES the CRYPT protocol must be installed or programmed as a driver. The devices with ASCII protocol can be used with Operator Interfaces with Movicon. When operated with Panel PCs or PCs via Thin Clients or KVM systems, the PC's software has to process the data.

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Selection Table						
Card reader type: Proximity card reader						
Product Type	Chip card technology	Protocol reader	Card holder	Art. No.	PS	Weight kg
RFIDI-RDR-2-MIF-ASC	Mifare	ASCII Protocol	–	224596 ▲	43	1.000
RFIDI-RDR-2-MIF-CRYPT	Mifare	PHG Crypt Protocol	–	224595	43	1.000
RFIDI-RDR-2-MIF-CRYPT-KF01	Mifare	PHG Crypt Protocol	Slot	225764	43	1.000

Technical Data	
Explosion Protection	
Certification IECEx	IECEx TUR 09.0005X
Gas explosion protection IECEx	Ex ib IIC T4 Gb
Dust explosion protection IECEx	Ex ib IIIC T90°C Db
Certification ATEX	TÜV 09 ATEX 7533 X
Gas explosion protection ATEX	II 2 G Ex ib IIC T4 Gb
Dust explosion protection ATEX	II 2 D Ex ib IIIC T90°C Db
Certifications	ATEX IECEx
Electrical Data	
Rated operational voltage DC	Supply via operating device
Interface serial	RS-232 or RSi
Status LED	LED for power, OK, error
Ambient Conditions	
Ambient temperature operation	-30 °C ... +60 °C

Technical Data

Mechanical Data

Dimensions	90 mm x 185 mm 50 mm
Ingress protection	IP66
Weight	1 kg

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Mifare Cards for RFID readers			
Mifare-1K-S50-ISO14443-S-10 10 MIFARE proximity access cards 1K S50 - ISO 14443 front (front packaging): vinyl, glossy white R. STAHL logo on back, inkjet site code and card number coding: Client number 16 bit 0 site / facility code 16 bit 1 and serial card number from 001 ... 010 Cards externally printed with site code and card number 00001 – 00001 ... 00010	207747 ▲	43	0.100
Mifare-1K-S50-ISO14443-S-100 100 MIFARE cards, as before, but card number 1 – 100	207749 ▲	43	1.000
Supply and Connection Module			
ReaderBox-104-AC-RS-232 Version for ET- and MT-xx7 device platform MANTA Operating voltage AC: 100 – 250 VAC Output voltage 10,4 V Ex i Interface: RS-232 Dimensions: 235 x 120 x 68 mm (WxHxD)	220593	43	3.000
ReaderBox-104-DC-RS-232 Version for ET- and MT-xx7 device platform MANTA Operating voltage DC: 10 – 30 VDC Output voltage 10,4 V Ex i Interface: RS-232 Dimensions: 235 x 120 x 68 mm (WxHxD)	220594	43	3.000

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- RFID readers for panel mounting or as tabletop device for safe industrial areas
- Reads MIFARE transponder media (ISO 7816 or ISO 14443A)
- Data transmission via RS-232 or USB interface with ASCII or CRYPT protocol (driver required)
- Compatible with R. STAHL's SHARK, MANTA, EAGLE and RAPTOR HMI device platforms

WebCode RFIDA

R. STAHL's RFID readers type RFID were developed for safe industrial areas and are designed for panel mounting (version RDR) or as a tabletop device (version ADMITTO). They can read various types of MIFARE transponders. The data is transmitted via the RS-232 or USB interface either actively and open as ASCII code or via CRYPT protocol encrypted in response to a poll request. The RFID readers are compatible with the SHARK, MANTA, EAGLE and RAPTOR HMI device platforms. The devices with CRYPT protocol can be directly connected to Operator Interfaces (SERIES 200 and 300) with SPSPlus WIN, for the other SERIES the CRYPT protocol must be installed or programmed as a driver. The devices with ASCII protocol can be used with Operator Interfaces with Movicon. When operated with Panel PCs or PCs via Thin Clients or KVM systems, the PC's software has to process the data.

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Selection Table							
Card reader type:		Proximity card reader					
Product Type	Chip card technology	Protocol reader	Interface serial	Interface USB	Art. No.	PS	Weight kg
RFID-RDR-2-MIF-ASC	Mifare	ASCII Protokoll	RS-232	–	224594	43	1.000
RFID-RDR-2-MIF-CRYPT	Mifare	PHG Crypt Protokoll	RS-232	–	224593	43	1.000
Card reader type:		Proximity desktop card reader					
Product Type	Chip card technology	Protocol reader	Interface serial	Interface USB	Art. No.	PS	Weight kg
RFID-ADMITTO-USB-MIF-ASC	Mifare	ASCII Protocol	–	yes	229283	43	0.500
RFID-ADMITTO-USB-MIF-CRYPT	Mifare	PHG Crypt Protokoll	–	yes	229282	43	0.700

Technical data

Design		RFID-RDR-2-MIF-ASC and RFID-RDR-2-MIF-CRYPT
Electrical data		
Rated operational voltage DC		12 V
Power consumption DC		200 mA
Data cable length		max. 2.5 m
Ambient conditions		
Ambient temperature operation		-30 °C ... +60 °C
Mechanical data		
Dimensions (WxHxD)		90 mm x 185 mm x 50 mm
IP enclosure front		IP66
IP enclosure back		IP20
Weight		1 kg
Design		RFID-ADMITTO-USB-MIF-ASC and RFID-ADMITTO-USB-MIF-CRYPT
Electrical data		
Rated operational voltage DC		Supply via USB
Ambient conditions		
Ambient temperature operation		+10 °C ... +40 °C
Mechanical data		
Dimensions (WxHxD)		54 mm x 112 mm x 27 mm
IP enclosure front		IP20
IP enclosure back		IP20
Weight		0.5 kg

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Mifare Cards for RFID readers			
Mifare-1K-S50-ISO14443-S-10 10 MIFARE proximity access cards 1K S50 - ISO 14443 front (front packaging): vinyl, glossy white R. STAHL logo on back, inkjet site code and card number coding: Client number 16 bit 0 site / facility code 16 bit 1 and serial card number from 001 ... 010 Cards externally printed with site code and card number 00001 – 00001 ... 00010	207747 ▲	43	0.100
Mifare-1K-S50-ISO14443-S-100 100 MIFARE cards, as before, but card number 1 – 100	207749 ▲	43	1.000
Supply and Connection Module			
ReaderBox-104-AC-RS-232 Version for ET- and MT-xx7 device platform MANTA Operating voltage AC: 100 – 250 VAC Output voltage 10,4 V Ex i Interface: RS-232 Dimensions: 235 x 120 x 68 mm (WxHxD)	220593	43	3.000
ReaderBox-104-DC-RS-232 Version for ET- and MT-xx7 device platform MANTA Operating voltage DC: 10 – 30 VDC Output voltage 10.4 V Ex i Interface: RS-232 Dimensions: 235 x 120 x 68 mm (WxHxD)	220594	43	3.000

Overview

Stainless-steel enclosures are ideal for the process industry as well as the oil and gas industries. They are extremely sturdy, robust and can withstand high temperatures as well as extreme fluctuations in temperature. They are also suitable for hygiene areas and cleanrooms; their smooth surface prevents any material adhesion and makes them easy to clean. All enclosures from R.STAHL HMI have ingress protection IP66.

For specific requirements we also offer special surface treatments (V4A / electropolishing) and customised enclosures.



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Highlights

- Standard enclosures for a great variety of applications
- Customer-specific enclosures on request
- Special enclosure treatments available



- Robust yet sleek industrial enclosures for our HMI devices of all series
- Brushed stainless steel, surface roughness 0.3 ... 0.6 mm, material V2A (SS304), optional V4A (SS316L), seawater-proof
- IP66 degree of protection
- A variety of mounting and installation options
- All CFR enclosures are also suitable for clean room installation according to GMP
- Special MANTA GMP device version available for installation in safe areas and cleanrooms according to EHEDG and EU-GMP directives for cleanliness class C



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	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Enclosure Overview

Enclosures for Field Systems

Definition All enclosures for the HMI devices are part of the corresponding field system and must therefore be ordered with the corresponding product code for the field system of the HMI device in question. For the product code please refer to the pages of the individual HMI series.

Enclosure tables The enclosure tables contain an overview and an allocation of the enclosure versions to HMI devices. Not every version of enclosure is available for every HMI device.

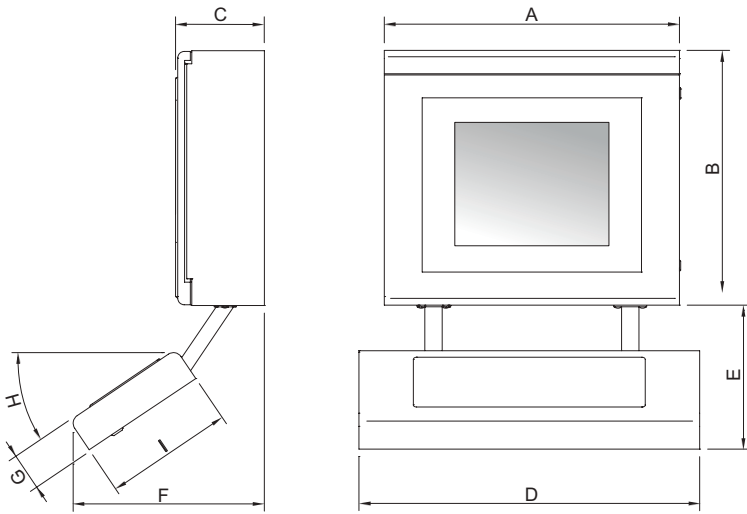
Enclosures

Versions	Definition	Description
FR	Front door	Stainless steel enclosure in V2A or V4A, with cover cut-out for HMI device, front door opening
FRS	Front door small	Stainless steel enclosure in V2A or V4A, with cover cut-out for HMI device, front door opening, enclosure version small (for xx6 devices 10" and 15")
CFR	Cleanroom front door	Stainless steel enclosure in V2A or V4A, with cover cut-out for HMI device, front door opening, cleanroom version
BD	Backdoor	Stainless steel enclosure in V2A or V4A, with cover cut-out for HMI device, backdoor opening
RP	Rugged Panel Design	Aluminium enclosure, seawater-proof, powder-coated
GMP	MANTA GMP	GMP stainless steel enclosure in V2A according to EHEDG- and EU-GMP-directives for cleanliness class C with built-in HMI device (Non-Ex)

Mounting Option / Keyboard

Versions	Description
W	Direct wall-mounting
F	Mounting on stand
C	Ceiling mounting
T	Keyboard enclosure

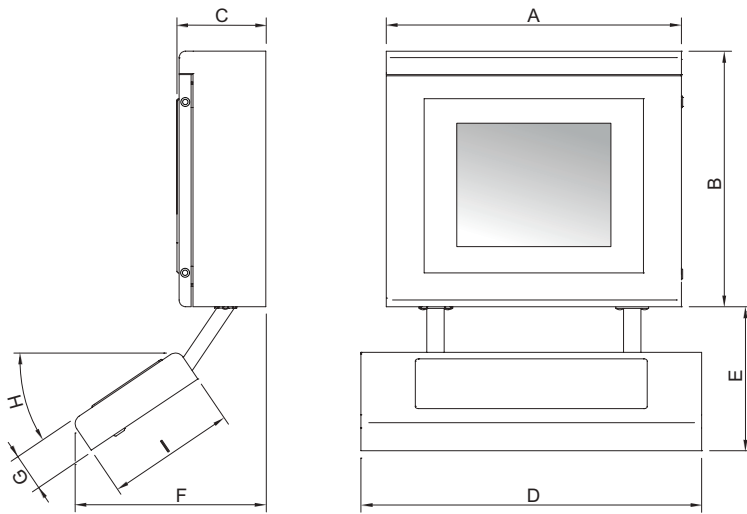
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Enclosure Type FR									
Device	A	B	C	D	E	F	G	H	I
ET-306, MT-306	25	516	190	720	304	400	78	34°	270
ET-316, MT-316									
ET-336, MT-336									
ET-406, MT-406									
ET-416, MT-416									
ET-436, MT-436									
ET-516, MT-516									
ET-536, MT-536									
ET-456, MT-456	40	568	190	720	304	400	78	34°	270
ET-556, MT-556									
ET-467, MT-467, IT-467	40	568	190	720	304	400	78	34°	270
ET-567, MT-567, IT-567									
ET-667, MT-667, IT-667									
ET-477, MT-477, IT-477									
ET-577, MT-577, IT-577									
ET-677, MT-677, IT-677									
ET-487, MT-487, IT-487									
ET-587, MT-587, IT-587									
ET-687, MT-687, IT-687									

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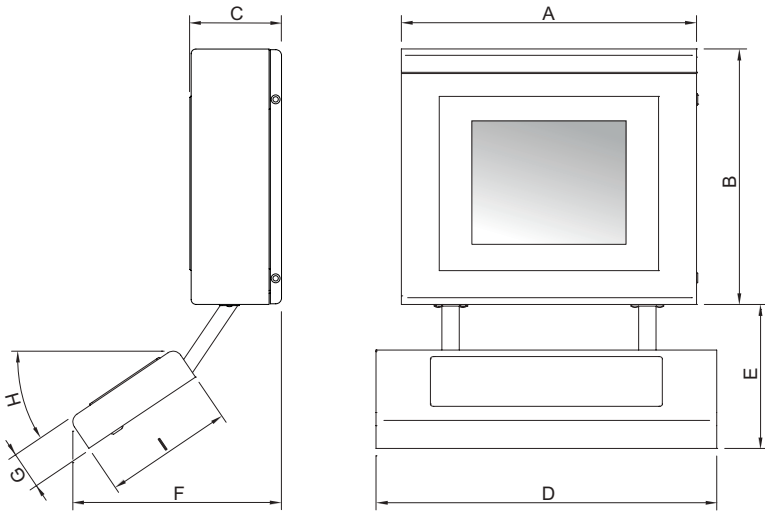
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



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Enclosure Type CFR									
Device	A	B	C	D	E	F	G	H	I
ET-306, MT-306	25	542	190	720	304	406	78	34°	270
ET-316, MT-316									
ET-336, MT-336									
ET-406, MT-406									
ET-416, MT-416									
ET-436, MT-436									
ET-516, MT-516									
ET-536, MT-536									
ET-456, MT-456	20	627	190	720	304	406	78	34°	270
ET-556, MT-556									
ET-467, MT-467, IT-467	20	627	190	720	304	406	78	34°	270
ET-567, MT-567, IT-567									
ET-667, MT-667, IT-667									
ET-477, MT-477, IT-477									
ET-577, MT-577, IT-577									
ET-677, MT-677, IT-677									
ET-487, MT-487, IT-487									
ET-587, MT-587, IT-587									
ET-687, MT-687, IT-687									

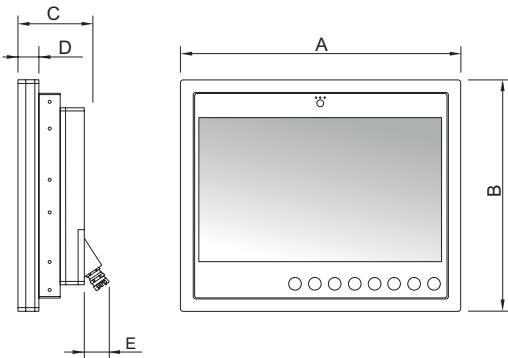
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Enclosure Type BD									
Device	A	B	C	D	E	F	G	H	I
ET-306, MT-306	25	542	195	720	304	442	78	34°	270
ET-316, MT-316									
ET-336, MT-336									
ET-406, MT-406									
ET-416, MT-416									
ET-436, MT-436									
ET-516, MT-516									
ET-536, MT-536									
ET-456, MT-456	40	568	195	720	304	442	78	34°	270
ET-556, MT-556									
ET-467, MT-467, IT-467	40	568	195	720	304	442	78	34°	270
ET-567, MT-567, IT-567									
ET-667, MT-667, IT-667									
ET-477, MT-477, IT-477									
ET-577, MT-577, IT-577									
ET-677, MT-677, IT-677									
ET-487, MT-487, IT-487									
ET-587, MT-587, IT-587									
ET-687, MT-687, IT-687									

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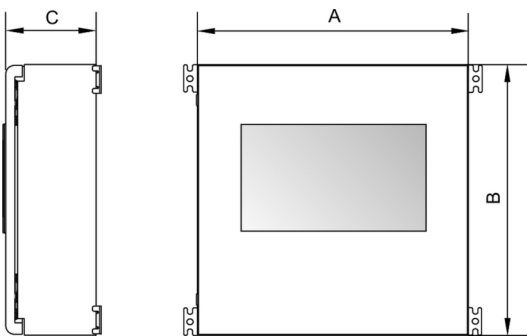
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Enclosure Type RP					
Device	A	B	C	D	E
ET-438, MT-438 ET-538, MT-538 ET-638, MT-638	80	394	137	40	52
ET-498, MT-498 ET-598, MT-598 ET-698, MT-698	53	458	141	44	52

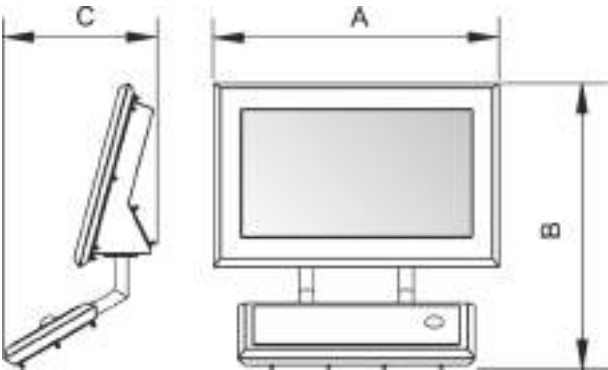
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Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Enclosure Type FR (for 208 devices) and FRS (for xx6 devices 10" and 15")			
Device	A	B	C
ET-208, MT-208	400	400	180
ET-306, MT-306 ET-406, MT-406 ET-316, MT-316 ET-416, MT-416 ET-336, MT-336 ET-436, MT-436	60	435	190

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Enclosure Type MANTA GMP

Device	A	B	C
OS-GMP-IT-477, OS-GMP-IT-577	674	664	356

Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Enclosure Accessories for ET-/MT-xx8 Enclosure Type RP			
HSG-xx8-V4A-YMB Yoke Mount for mounting on stand or wall bracket yoke mount for xx8 series, V4A (SS316L) 1.4404, brushed 240, 2x M20, 1x M25	249569	47	6.000
HSG-xx8-V4A-YMT Yoke Mount for mounting on wall bracket or suspended from ceiling yoke mount for xx8 series, V4A (SS316L) 1.4404, brushed 240, 2x M20, 1x M25	254238	47	-
HSG-xx8-V4A-MPW-450mm-2M25-1M20 Wall bracket with coupling for xx8 series, mounted to HSG-xx8-V4A-YMB V4A (SS316L) 1.4404, brushed 240 Length: 450 mm, diameter: 60.3 mm (pipe), height: 185 mm 2x M25, 1x M20 cable glands, 300 degree rotating coupling	252960	47	7.000
HSG-xx8-V4A-MPFL-1178mm-2M25-1M20 Stand with coupling and gusset plates for xx8 series, mounting to HSG-xx8-V4A-YMB V4A (SS316L), 1.4404, brushed 240 Length: 1178 mm, Diameter: 88.9 mm (pipe) 2x M25, 1x M20 cable glands; 300degree rotating coupling	252951	47	-
HSG-xx8-V4A-MPFXL-1178mm-2M25-1M20 Stand with coupling for xx8 series, mounting to HSG-xx8-V4A-YMB V4A (SS316L), 1.4404, brushed 240 Length: 1178 mm, Diameter: 114 mm (pipe) 2x M25, 1x M20 cable glands; 300degree rotating coupling	252954	47	-
HSG-xx8-V4A-MPFknb-1178mm-2M25-1M20 Stand with coupling and gusset plates for xx8 series, mounting to HSG-xx8-V4A-YM V4A (SS316L), 1.4404, brushed 240 Length: 1178 mm, Diameter: 60,3 mm (pipe) 2x M25, 1x M20 cable glands; 300degree rotating coupling	252957	47	-
HSG-xx8-V4A-KB-Mount-Set Set of mounting brackets (2 pcs.) for mounting one xx8 keyboard on the device V4A (SS316L) 1.4404, brushed 240, including screws	252414	47	1.000
HSG-x38-V4A-HND+FEET Handle and feet Accessories for x38 field system Material: V4A (SS316L)	243276	47	1.700
HSG-x38-V4A-SR Canopy with mounting bracket for x38 series V4A (SS316L) 1.4404, brushed 240	243864	47	-
HSG-x38-V4A-Wall-Mount-Set Set of mounting brackets (2 pcs) for wall mounting of one x38 device V4A (SS316L) 1.4404, brushed 240, including screws	252036	47	5.000
HSG-x98-V4A-HND+FEET Handle and feet Accessories for x98 field system Material: V4A (SS316L)	243863	47	3.600
HSG-x98-V4A-SR Canopy with mounting bracket for x98 series V4A (SS316L) 1.4404, brushed 240	243865	47	-
HSG-x98-V4A-Wall-Mount-Set Set of mounting brackets (2 pcs) for wall mounting of one x98 device V4A (SS316L) 1.4404, brushed 240, including screws	252037	47	5.000

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Accessories and Spare Parts

Description	Art. No.	PS	Weight kg
Enclosure Accessories for ET-/MT-xx7 and ET-/MT-xx6 Enclosure Types FR / CFR / BD			
HSG-xx7-V2A-MPW-450mm-1M25-2M20 Wall bracket with coupling, V2A (SS304) 1.4301, brushed 240 Length 450 mm, 1x M25 2x M20	220663	47	7.000
HSG-xxx-V2A-MPF-1240mm-1M25-2M20 Stand with coupling, V2A (SS304) 1.4301, brushed 240 Length 1240 mm, 1x M25 2x M20	223140	47	10.000
HSG-xxx-V2A-MPFknb-1240mm-2M25-1M20 Stand with coupling and gusset plates V2A (SS304) 1.4301, brushed 240 Length 1240 mm, diameter: 60.3 mm (pipe), 2 x M25 1 x M20	252955	47	11.000
HSG-xxx-V2A-MPFL-1240mm-2M25-1M20 Stand with coupling V2A (SS304) 1.4301, brushed 240 Length 1240 mm, diameter: 88.9 mm (pipe), 2 x M25 1 x M20	252949	47	10.000
HSG-xxx-V2A-MPFXL-1240mm-2M25-1M20 Stand with coupling V2A (SS304) 1.4301, brushed 240 Length 1240 mm, diameter: 114 mm (pipe), 2 x M25 1 x M20	252952	47	10.000
HSG-xxx-V4A-MPFknb-1240mm-2M25-1M20 Stand with coupling and gusset plates V4A (SS316L) 1.4404, brushed 240 Length 1240 mm, diameter: 60.3 mm (pipe), 2 x M25 1 x M20	252956	47	-
HSG-xxx-V4A-MPFL-1240mm-2M25-1M20 Stand with coupling V4A (SS316L) 1.4404, brushed 240 Length 1240 mm, diameter: 88.9 mm (pipe), 2 x M25 1 x M20	252950	47	10.000
HSG-xxx-V4A-MPFXL-1240mm-2M25-1M20 Stand with coupling V4A (SS316L) 1.4404, brushed 240 Length 1240 mm, diameter: 114 mm (pipe), 2 x M25 1 x M20	252953	47	-
HSG-xxx-V4A-MPW-450mm-2M25-1M20 Wall bracket with coupling, V4A (SS316L) 1.4404, brushed 240 Length 450 mm, diameter: 60.3 mm (pipe), 1x M25 2x M20	252959	47	7.000

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CAMERA AND VIDEO SYSTEMS



Product	Installation in Zone						Series	Page	WebCode
	0	1	2	20	21	22			
Analogue Colour Camera									
Analogue Dome Camera		•	•		•	•	EC-750	494	EC750AA
Analogue Pan-Tilt-Zoom Camera		•	•		•	•	EC-940-PTZ	489	EC940PTZAA
Analogue Zoom Camera		•	•		•	•	EC-940S-AFZ	483	EC940SAFZAA
Compact Camera		•	•		•	•	EC-710	473	EC710A
Analogue Thermal Imaging Camera									
Analogue Thermal Imaging Camera		•	•		•	•	EC-840S-TIC	500	EC840STICAA
IP Colour camera									
IP Dome Camera		•	•		•	•	EC-750	492	EC750IA
Pan-Tilt-Zoom Camera Full HD IP		•	•		•	•	EC-940-PTZ	486	EC940PTZIA
Zoom Camera Full HD-IP		•	•		•	•	EC-940S-AFZ	480	EC940SAFZIA
Zoom Camera Full-HD IP		•	•		•	•	EC-940-AFZ	477	EC940AFZA
IP Thermal Imaging Camera									
IP Thermal Imaging Camera		•	•		•	•	EC-840S-TIC	497	EC840STICIA
Video Software									
ISview Video Software								503	ISviewA
Video Software SeeTec								504	CayugaA

For additional products and information please refer to r-stahl.com

Trust but verify

Increased safety

Camera systems play an increasingly important role for the safety onboard ships, drill rigs or in production plants - they are used to monitor work areas and processes and to ensure general safety. Our "automated surveillance", combining camera systems with powerful software, guarantees that every part of the plant, even the hazardous areas, can be monitored. Areas not easily accessible can be monitored by the smallest explosion proof camera in the world; video surveillance is a job for the state-of-the-art Dome camera, and we offer a great variety of PTZ cameras for zoom and pan/tilt functions. The cameras from R. STAHL Camera Systems GmbH enable security staff to react quickly to any potential safety problems and thus prevent emergencies. If an emergency occurs after all, the cameras provide a comprehensive overview of the situation, thus enabling staff to make the necessary decisions preventing the situation from escalating.

Greater efficiency

In their every-day work system operators profit from the advantages of a camera surveillance system. An improved overview of their workplace and its surroundings gives them control of the situation and enables them to work more efficiently and accurately. It is also possible to issue pro-active warnings to anyone entering hazardous areas.

Damage limitation

Despite everyone's best efforts it is not always possible to prevent accidents. Operating large machinery in tight spaces with many blind spots carries risks for life and machinery. A camera system from R. STAHL Camera Systems provides an extra pair of eyes - regardless of which machinery is used in which environment. Injuries or breakdowns can thus be prevented.

Improved ergonomics and user-friendliness

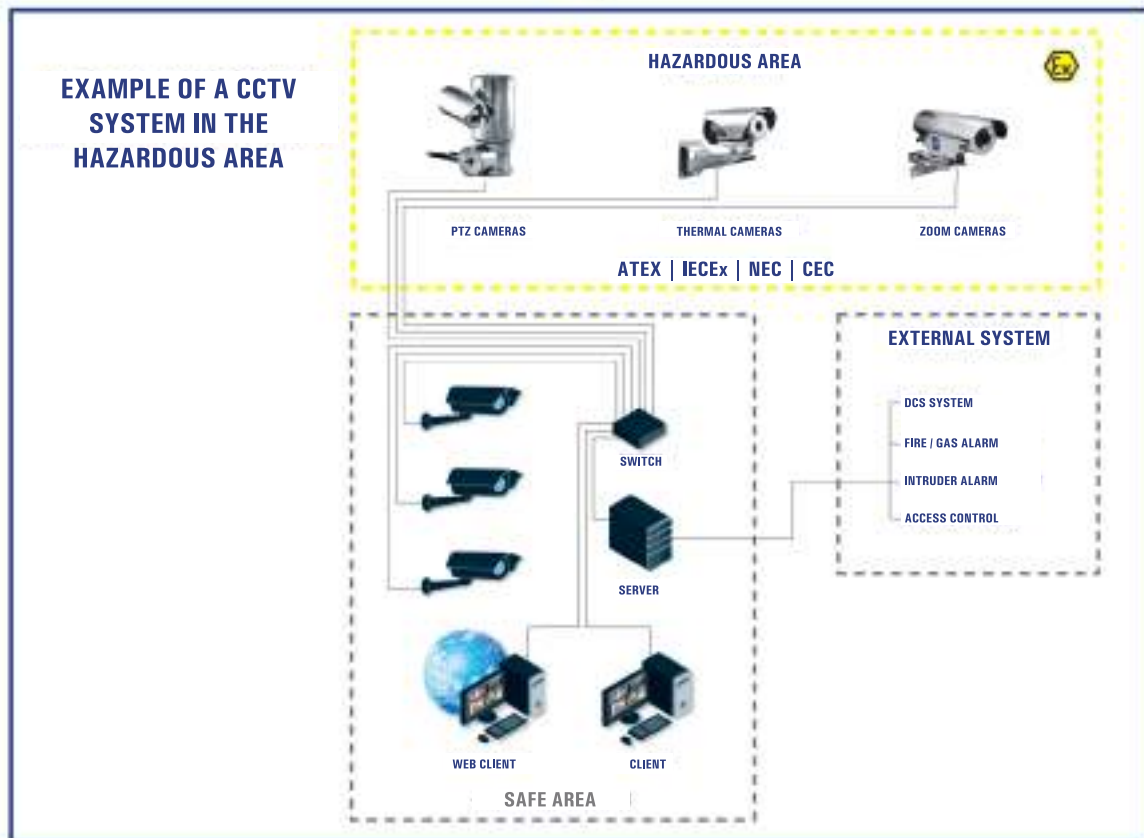
In most cases, cameras contribute towards improved ergonomics and user-friendliness. Fewer people need to be present in dangerous or hazardous areas. It is possible to distribute video images via a network, thus enabling several workers with different areas of responsibility to monitor the situation simultaneously and in real time. With the aid of visual feedback decisions can be made from remote positions.

From the Compact camera to the Dome camera**From the component to the complete system**

Various camera types and appropriate video systems ensure optimal monitoring of installation conditions in hazardous and non-hazardous areas, and thus the highest degree of system safety. The smallest explosion proof camera in the world monitors very narrow rooms; the dome camera has been developed for video surveillance, while our PTZ and zoom camera has additional vertical pan and zoom functions. The explosion-proof thermal image cameras by R. STAHL Camera Systems ensure optimum monitoring day and night, for example on oil-rigs. All cameras have been designed for hazardous areas and for installation in extreme ambient temperatures. Basically, there are two functional principles for camera systems that have decisive advantages depending on the existing application and requirements.



A10





- Analogue compact camera with fixed focus
- Certified acc. to ATEX, IECEx, NEC, CEC and TR EAC for almost worldwide operation in hazardous areas
- The world's smallest explosion proof camera: only 55 mm
- Extremely robust: seawater-proof and resistant to shock and vibration, degree of protection IP69K, suitable for extreme temperature ranges

WebCode **EC710A**



The analogue fixed camera EC-710 from R. STAHL is an uncomplicated surveillance camera for many types of application. Seven versions with different viewing angles are available. The stainless-steel camera enclosure (316L) has degree of protection IP69K and can be cleaned easily and quickly with a pressure washer. The camera is also resistant to shock and vibration and suitable for extreme temperatures ranging from -40 °C to +75 °C, making it ideal for surveillance systems in rough ambient conditions. The low power consumption saves energy, and since the camera is also low-maintenance, it is ideal for independent surveillance. Certified for installation in hazardous zones 1 / 2 / 21 / 22 according to ATEX, IECEx, NEC, CEC and TR-EAC, the camera can be installed world-wide.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•	•	•	•	•

Selection Table						
Version:		Fixed lens viewing				
Ambient temperature:		-40 °C ... +75 °C				
Product Type	Viewing angle	TV system	Art. No.	PS	Weight kg	
EC-710-012P	12° fix	PAL	212979 ▲	A1	0.700	
EC-710-023P	23° fix	PAL	212980 ▲	A1	0.700	
EC-710-033P	33° fix	PAL	202208 ▲	A1	0.700	
EC-710-044P	44° fix	PAL	212981 ▲	A1	0.700	
EC-710-052P	52° fix	PAL	212982 ▲	A1	0.700	
EC-710-070P	70° fix	PAL	202207 ▲	A1	0.700	
EC-710-081P	81° fix	PAL	202206 ▲	A1	0.700	

Technical Data

Explosion Protection

Certificate IECEX Gas	KEM 09.0039X
Certificate IECEX Dust	KEM 09.0039X
Certificate ATEX Gas	09 ATEX 0102X
Certificate ATEX Dust	09 ATEX 0102X
Gas explosion protection IECEX	Ex mb IIC T4 Gb
Dust explosion protection IECEX	Ex mb IIIC T125 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex mb IIC T4 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex mb IIIC T125 °C Db
Certifications	IECEX, ATEX, EAC, NEC, CEC

Electrical Data

Rated operational voltage DC	12 – 12 V
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Camera Data

Sensor	1/4 CCD
Resolution	470 TVL
Minimum illumination color (ICR-OFF)	1.5 F1.2
S/N Ratio	52 dB (Min) / 60 dB (Type)
White balance	Auto, AWC, Fix (zero color rolling) AWB, AWT (3200-10.000K) Fix (3200K)
Focus	Fix focus
Minimum working distance	1500 mm
Lens	Chemical hardend float glass 5-7 stronger than ordi. glass

Ambient Conditions

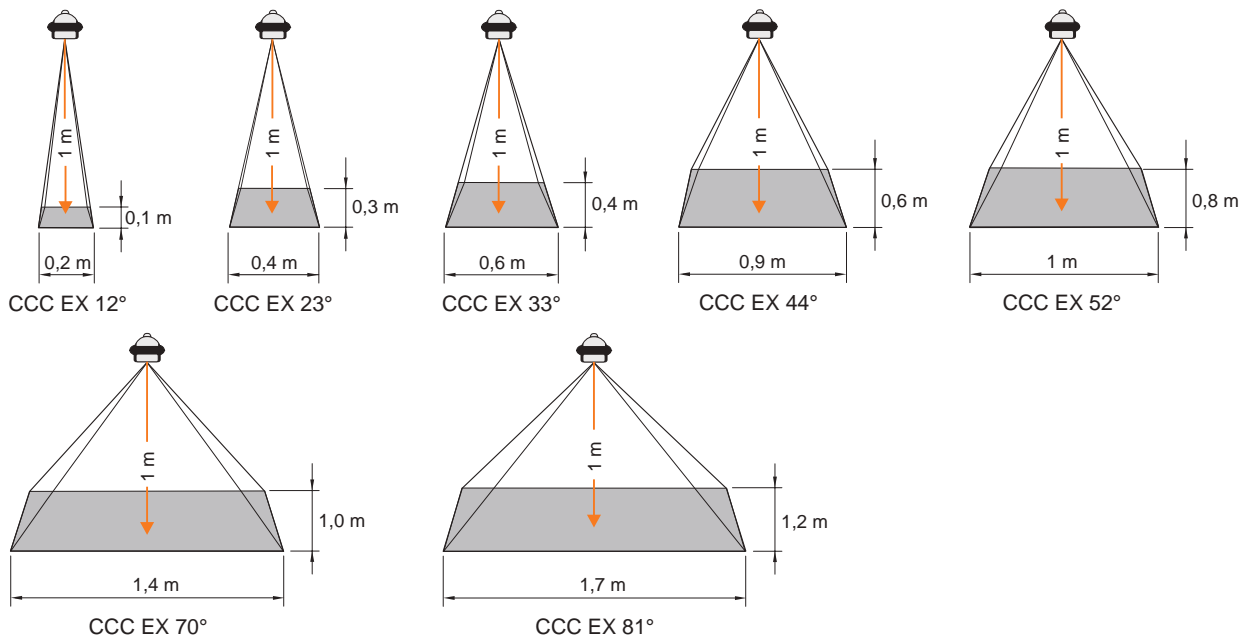
Max. ambient temperature	+75 °C
Min. ambient temperature	-40 °C

Mechanical Data

Enclosure material	Stainless steel 1.4404
Type of protection (IP)	IP68, 69K
Cable length	5 m
Feature	GRP camera bracket incl.

A10




Horizontal View



A10

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Ex-e terminal box				
	JCT-8118-122-14p-02 - II 2 G EEx e II T6/T5 - II 2 D IP66 T80°C, T95°C - 14 UK3N terminals - 2 USLKG PE terminals - 4 cable connectors - Degree of protection IP66, water-proof - Polyester material, black	230600 ▲	A4	1.000
	JCT-8118-122-14p-02-ARM - ATEX-certification zone 1, 2, 21 & 22 - II 2 G Ex em II T6/T5/T4 - II 2 D Ex tD A21 IP66 T80°C, T95°C, T130°C - Degree of protection IP66 - Polyester material, black - 14 UT-2.5 terminals - 2 UT-2.5 PE terminals - HxWxD: 115 x 115 x 64 mm	230603 ▲	A4	1.000
Camera multi-cable standard				
	VB-CAM-MULTI-11-UNI 1 x coaxial cable 2 x power supplies 1 x data cable -40°C ... +85 °C Suitable for EC-710 and EC-750 (analogue only) Price per metre	230585 ▲	A4	0.050
Camera multi-cable armoured				
	VB-CAM-MULTI-01-ARM 1 x coaxial cable 2 x power supplies 3 x data cables -40°C ... +85 °C Mud and oil-resistant Suitable for EC-710 and EC-750 (analogue only) Price per meter	167535 ▲	A4	0.120

Accessories and Spare Parts				
Figure	Description	Art. No.	PS	Weight kg
Inspection window mount				
	Inspection glass holder for EC-710-Series For EC-710-0xx cameras Stainless steel 316 Mounting position can be ordered individually	230675	A4	1.900
Wall mount				
	Wall bracket for EC-710 Suitable for EC-710-0xx cameras V2A stainless steel Approx. 236 mm long Without camera	230669 ▲	A4	0.200
Video Encoder				
	VS-AXIS-Q7424-R-MKII - H.264 and MJPEG video compression - H.264 and MJPEG streams - Alarm input and output - Power over Ethernet - SFP Slot - Voltage 8 ... 28 V DC - Temp. -40 ... +75 °C	245722	A7	0.800

A10



- Standard Ethernet, FO or Power over Ethernet
- Ex e connection box for easy installation
- Modern IP cameras with ONVIF protocol (Profile S) and Full HD
- Certified acc. to ATEX and IECEx

WebCode **EC940AFZA**



R. STAHL's EC-940-AFZ zoom cameras have an Ex e connection box, making installation in hazardous areas especially easy. At the same time, they can also operate with PoE (Power over Ethernet), Poe++ with extender, fibre optics (Ex opis) or standard Ethernet cables. They are also available as 24 VDC or 230 VAC versions (not for PoE++). They provide clear images even in difficult light - this is ensured by the 32x optical zoom, the WDR image optimisation and the de-fog function, which sharpens contrast in light fog. The cameras are integrated into the surveillance system via the ONVIF protocol (Profile S). These robust surveillance cameras in an electropolished stainless steel enclosure (316L) are suitable for temperatures ranging from -55 °C to +65 °C and certified acc. to ATEX and IECEx for hazardous areas.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table							
Focus:	Automatic focus						
Zoom:	32x optical						
Resolution:	Full-HD to 320x180p in 12steps						
Version:	Moveable viewing angle						
Viewing angle:	62,8° (wide), 2,23° (tele)						
Network Protocol:	ONVIF Profile S						
Product Type	Interfaces	Rated operational voltage AC	Rated operational voltage DC	Ambient temperature	Art. No.	PS	Weight kg
EC-940-AFZ-HDF-04I	FX MM (Ex opis)	230 – 230 V	–	-25 °C ... +55 °C	249091	A1	16.000
EC-940-AFZ-HDF-05I	FX MM (Ex opis)	–	24 – 24 V	-25 °C ... +55 °C	253456	A1	16.000
EC-940-AFZ-HDI-04H	TX	230 – 230 V	–	-40 °C ... +60 °C	249080	A1	16.000
EC-940-AFZ-HDI-05H	TX	–	24 – 24 V	-55 °C ... +65 °C	249079	A1	16.000
EC-940-AFZ-HDI-06H	PoE++	–	–	-55 °C ... +65 °C	249360	A1	16.000

Technical Data

Explosion Protection

Certificate IECEX Gas	PTB 16.0032X
Certificate IECEX Dust	PTB 16.0032X
Certificate ATEX Gas	16 ATEX 1019X
Certificate ATEX Dust	16 ATEX 1019X
Gas explosion protection IECEX	Ex db eb IIC T4 Gb
Dust explosion protection IECEX	Ex tb eb IIIC T135 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex db eb IIC T4 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb eb IIIC T135 °C Db

Electrical Data

Rated operation. current at AC	0.15 – 0.15 A
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Camera Data

Sensor	1/2.8 CMOS
Pixel	approx. 2,38 megapixel
Lens	f =4,44 (w) to 142,6mm (t), from F1,6 to F4,4
Viewing angle	62,8° (wide), 2,23° (tele)
Minimum working distance	1500 mm (wide and tele)
Minimum illumination color (ICR-OFF)	0.3 F1.6, 1/30S, 50 IRE
Min. illumin. B/W (ICR-ON)	0.03 lx, F1.6, 1/30s, 50 IRE
S/N Ratio	50 dB
Wide Dynamik Range	On / Off
WDR (dynamic range)	120 dB
De-Fog	Off / Auto / Manual
Frame rate (fps)	H.264 max 60, MJPEG 15 or 30
Compression	H.264, MJPEG
Number of streams	Multi stream-Up to 10 profiles

Mechanical Data

Enclosure material	Stainless steel 1.4404
Surface treatment	electropolished
Type of protection (IP)	IP66
Feature	Ex e chamber
Size / dimensions	175 X 485 X 235,8 MM

Software

Streaming	Unicast / Multicast
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Accessories and Spare Parts				
Figure	Description	Art. No.	PS	Weight kg
Camera multi-cable armoured				
	VB-CAM-MULTI-Ethernet-ARM 1 x Ethernet cable 3 x power supplies 2.5 mm ² 7 x data cable 0.34 mm ² -60°C ... +80°C 19.2 ±0.5 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-HDI, EC-940-AFZ-HDI-O4H and -O5H, EC-940SAFZ-Hxx, EC-840-TIC-19I Price per metre	252571 ▲	A4	0.472
Wall mount				
	Wall Bracket EC-940-AFZ Suitable for EC-940-AFZ Material: 316L stainless steel, electropolished Weight: ca. 8 kg Load bearing capacity: max. 40 kg WxH: 200 x 160 x 330 mm	257043	A4	8.000
Pole adapter module				
	Pole adapter module EC-940-AFZ Suitable for EC-940-AFZ Material: 316L stainless steel, electropolished Weight: ca. 4.7 kg Load bearing capacity: max. 40 kg WxH: 214 x 194 mm For pole diameter 88 ... 150 mm May only be used together with wall bracket EC-940-AFZ type 257043	257047	A4	4.700
Corner adapter				
	Corner adapter EC-940-AFZ Suitable for EC-940-AFZ series Material: 316L SST, electropolished Load bearing capacity: max. 40 kg WxHxD: 355 x 150 x 211 mm Weight: ca. 3.2 kg May only be used together with wall bracket EC-940-AFZ type 257043	257048	A4	3.200
Ceiling holder				
	Parapet mounting EC-940-AFZ Suitable for EC-940-AFZ Material: 316L stainless steel, electropolished Weight: ca. 4.5 kg Load bearing capacity: max. 40 kg WxHxD: 200 x 450.5 x 330 mm	257049	A4	4.500
PoE++ Extender				
	PoE++ Extender EC-940-HDI-O6H Cable type: ideally, CAT5e or better Supports Jumbo Frames up to a max. of 9 kB Input voltage: 52 ... 57 V DC Energy consumption: max. 80 W -20 ... +75 °C LxBxH: 126 x 95.3 x 30 mm	256800	A4	0.290

A10



- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX, IECEx, NEC, CEC
- IP Camera with Full HD for optimum image quality
- Delivery with armoured cable or cable set (NEC/CEC)

WebCode **EC940SAFZIA**



R. STAHL's EC-940S-AFZ zoom cameras are all-round talents for surveillance in hazardous areas because in addition to an excellent panoramic view they also produce very good detailed images. This is the result of the IP camera's high resolution (full HD with 1920 x 1080), the optical 10x or 30x zoom and the brilliant image quality - the WDR function (130 dB) optimises the lighting of very bright or dark areas even in difficult lighting conditions. The built-in wiper and the defog function also ensure a clear view. The IP models are amongst the most modern cameras for hazardous areas and can be integrated into VMS systems worldwide via the ONVIF protocol (Profile S). This surveillance camera is also available as an analogue model that transmits images in real time.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•


	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•		








Selection Table							
Focus:		Automatic focus					
Network Protocol:		ONVIF Profile S					
Rated operational voltage AC:		24 – 24 V					
Rated operational voltage DC:		12 – 24 V					
Type of protection (IP):		IP66, 68,					
Note for type of protection:		IP69 enclosure only					
Product Type	Viewing angle	Resolution	Zoom	Certifications	Art. No.	PS	Weight kg
EC-940S-AFZ-HDI-W2F-55	67° (wide), 7,6° (tele)	Full-HD to 352x249p in 18steps	10x optical	ATEX, IECEx	252708	A3	8.000
EC-940S-AFZ-HDI-W24-56	67° (wide), 7,6° (tele)	Full-HD to 352x249p in 18steps	10x optical	ATEX, IECEx, NEC, CEC	251302	A3	8.000
EC-940S-AFZ-HEI-W2F-55	63,7° (wide), 2,3° (tele)	Full-HD to 352x249p in 18steps	30x optical	ATEX, IECEx	256594	A3	8.000
EC-940S-AFZ-HEI-W24-56	63,7° (wide), 2,3° (tele)	Full-HD to 352x249p in 18steps	30x optical	ATEX, IECEx, NEC, CEC	256593	A3	8.000

Technical Data	
Explosion Protection	
Certificate IECEX Gas	ITS 16.0026X
Certificate IECEX Dust	ITS 16.0026X
Certificate ATEX Gas	16 ATEX 18446X
Certificate ATEX Dust	16 ATEX 18446X
Gas explosion protection IECEx	Ex d IIC T5 Gb
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T5 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T100 °C Db
Electrical Data	
Rated operation. current at AC	2.2 – 2.2 A
Connection	Ethernet port LAN 10/100 T
I/O Alarm	1x Alarm input
I/O Relay	1x Relay output
Camera Data	
Sensor	1/2.8 CMOS
Minimum working distance	10 mm (wide), 800 mm (tele)
Minimum illumination color (ICR-OFF)	0.05 F1.6 AGC ON, 1/3S
Min. illumin. B/W (ICR-ON)	0.002 lx, F1.6 AGC on, 1/3s
S/N Ratio	> 50 dB
Wide Dynamik Range	On/Off/Visibility enhancer, Light level, brightness compensation selection, compensation level
WDR (dynamic range)	130 dB
De-Fog	On / Off
Frame rate (fps)	1 to 60 images per second
Number of streams	2 independent video stream Full HD or 4 video stream depending on the configuration
Ambient Conditions	
Max. ambient temperature	+65 °C
Min. ambient temperature	-50 °C
Cold start	-40 °C
Mechanical Data	
Enclosure material	Stainless steel 1.4404
Surface treatment	electropolished and silicon micro shot peened
Cable length	4 m
Type of protection (IP)	IP66, 68,
Note for type of protection	IP69 enclosure only
Size / dimensions	264 X 155 X 114,5 MM

A10

Accessories and Spare Parts			
Figure	Description	Art. No.	PS Weight kg
Camera multi-cable armoured			
	VB-CAM-MULTI-Ethernet-ARM 1 x Ethernet cable 3 x power supplies 2.5 mm ² 7 x data cable 0.34 mm ² -60°C ... +80°C 19.2 ±0.5 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-HDI, EC-940-AFZ-HDI-O4H and -O5H, EC-940SAFZ-Hxx, EC-840-TIC-19I Price per metre	252571 ▲	A4 0.472

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Ex-e terminal box				
	JCT-x40x-01-ARM Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ex tb IIIA, IIB, IIC T80°C, T95°C, T130°C, Db IP66 Ⓜ II 2 G Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ⓜ II 2 D Ex tb IIIA, IIB, IIC T80°C, T95°C, T130°C Db IP66 Ethernet terminal 3 power supplies 2.5 mm ² 7 data cables 0.34 mm ² Degree of protection IP 66 waterproof Polyester material, black Stainless-steel enclosure available on request HxWxD: 152 x 227 x 91 mm	252856	A4	0.400
Wall bracket				
	Wall Bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 40 kg Length: 420 mm	251387	A4	2.000
Pole adapter module				
	Pole adapter module EC-x40S Suitable for EC-x40S For pole diameter 110 ... 150 mm (4.3 – 5.9 in) Material: 316L stainless steel, electropolished Capacity: max. 50kg Weight: 3.3kg Only together with wall bracket EC-x40S type 251387	251380	A4	3.300
Corner adapter module				
	Corner adapter module EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 50 kg Only together with wall bracket EC-x40S type 251387	251381	A4	2.000
Parapet mounting bracket				
	Parapet mounting bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 70 kg Height: 124 mm Only together with ball joint adapter EC-x40S type 251388	251386	A4	0.900
Ball joint				
	Ball joint x40S 316L stainless steel, electropolished Capacity: max. 40 kg Diameter: 101.6 mm	251388	A4	2.000
Water tank				
	Water tank 10-PV-A 316L stainless-steel enclosure, electropolished Capacity 10 litres Pressure generation by manual pumping or with compressed air Pressure: max 4 bar 24V AC/DC, max 20W Temp. range -40°C to +60°C (depending on freezing point of liquid used) ATEX certified Zone 1, 2 Suitable for EC-940-PTZ and EC-940S-AFZ	251366	A4	18.000

A10



- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX, IECEx, NEC, CEC
- Analogue camera for real-time transmission.
- Delivery with armoured cable or cable set (NEC/CEC)

WebCode **EC940SAFZAA**



R. STAHL's EC-940S-AFZ zoom cameras are all-round talents for surveillance in hazardous areas because in addition to an excellent panoramic view they also produce very good detailed images. This is guaranteed by the high image definition (550 TVL) and the optical 36x zoom of the analogue camera. The camera functions are controlled via RS-485 and PELCO D or Panasonic. The built-in wiper and the optional water tank also ensure a clear view. This analogue surveillance camera series transmits images in real-time, providing users with a non-stop overview in time-critical applications.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•		

Selection Table						
Zoom:	36x optical					
Focus:	Automatic focus					
Interfaces:	RS-485 half-duplex					
Viewing angle:	57,8° (wide), 1,7° (tele)					
Resolution:	550 TVL					
Serial Communication Protocol:	Panasonic 850, Pelco D, Macro					
Rated operational voltage AC:	24 – 24 V					
Rated operational voltage DC:	12 – 24 V					
Type of protection (IP):	IP66, 68,					
Note for type of protection:	IP69 enclosure only					
Product Type	TV system	Certifications	Art. No.	PS	Weight kg	
EC-940S-AFZ-3NA-W2F-55	NTSC	ATEX, IECEx	257725	A3	8.000	
EC-940S-AFZ-3NA-W24-56	NTSC	ATEX, IECEx, NEC, CEC	257724	A3	8.000	
EC-940S-AFZ-3PA-W2F-55	PAL	ATEX, IECEx	257723	A3	8.000	
EC-940S-AFZ-3PA-W24-56	PAL	ATEX, IECEx, NEC, CEC	257722	A3	8.000	

Technical Data	
Explosion Protection	
Certificate IECEx Gas	ITS 16.0026X
Certificate IECEx Dust	ITS 16.0026X

Technical Data

Explosion Protection	
Certificate ATEX Gas	16 ATEX 18446X
Certificate ATEX Dust	16 ATEX 18446X
Gas explosion protection IECEx	Ex d IIC T5 Gb
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T5 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T100 °C Db
Electrical Data	
Rated operation. current at AC	2.2 – 2.2 A
I/O Alarm	1x Alarm input
I/O Relay	1x Relay output
Camera Data	
Sensor	1/4 EXView HAD CCD
Viewing angle	57,8° (wide), 1,7° (tele)
Minimum working distance	10 mm (wide), 1500 mm (tele)
Minimum illumination color (ICR-OFF)	0.1 1/4S
Min. illumin. B/W (ICR-ON)	0.01 lx, 1/4s
S/N Ratio	> 50 dB
Ambient Conditions	
Max. ambient temperature	+65 °C
Min. ambient temperature	-50 °C
Cold start	-40 °C
Mechanical Data	
Enclosure material	Stainless steel 1.4404
Surface treatment	electropolished and silicon micro shot peened
Cable length	4 m
Type of protection (IP)	IP66, 68,
Note for type of protection	IP69 enclosure only
Size / dimensions	264 X 155 X 114,5 MM

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Camera multi-cable armoured				
	VB-CAM-MULTI-Analog-ARM 1 x coaxial cable 3 x power supply 2.5mm ² 7 x data cable 0.34mm ² -60°C ... +80°C 16.5 ±0.3 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-Axx, EC-940S-3xA, EC-840-19A	252572	A4	0.550
Ex-e terminal box				
	JCT-x40x-01-ARM Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ex tb IIIA, IIIB, IIC T80°C, T95°C, T130°C, Db IP66 Ⓜ II 2 G Ex d e ia/ib [ja Ga] mb IIA, IIB, IICT6/T5/T4 Gb Ⓜ II 2 D Ex tb IIIA, IIIB, IIC T80°C, T95°C, T130°C Db IP66 Ethernet terminal 3 power supplies 2.5 mm ² 7 data cables 0.34 mm ² Degree of protection IP 66 waterproof Polyester material, black Stainless-steel enclosure available on request HxWxD: 152 x 227 x 91 mm	252856	A4	0.400

Accessories and Spare Parts				
Figure	Description	Art. No.	PS	Weight kg
Wall bracket				
	Wall Bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 40 kg Length: 420 mm	251387	A4	2.000
Pole adapter module				
	Pole adapter module EC-x40S Suitable for EC-x40S For pole diameter 110 ... 150 mm (4.3 – 5.9 in) Material: 316L stainless steel, electropolished Capacity: max. 50kg Weight: 3.3kg Only together with wall bracket EC-x40S type 251387	251380	A4	3.300
Corner adapter module				
	Corner adapter module EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 50 kg Only together with wall bracket EC-x40S type 251387	251381	A4	2.000
Parapet mounting bracket				
	Parapet mounting bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 70 kg Height: 124 mm Only together with ball joint adapter EC-x40S type 251388	251386	A4	0.900
Ball joint				
	Ball joint x40S 316L stainless steel, electropolished Capacity: max. 40 kg Diameter: 101.6 mm	251388	A4	2.000
Water tank				
	Water tank 10-PV-A 316L stainless-steel enclosure, electropolished Capacity 10 litres Pressure generation by manual pumping or with compressed air Pressure: max 4 bar 24V AC/DC, max 20W Temp. range -40°C to +60°C (depending on freezing point of liquid used) ATEX certified Zone 1, 2 Suitable for EC-940-PTZ and EC-940S-AFZ	251366	A4	18.000

A10



- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX, IECEx, NEC, CEC
- Enclosure made from electropolished stainless steel (316L), ideal for clean rooms as well as the oil and gas industries
- Extremely precise pan-tilt surveillance camera with full HD resolution (1920 x 1080)
- Focus on any one point in under 2 seconds Up to 100°/s
- Extremely exact positioning 0.02°

WebCode **EC940PTZIA**



Use R. STAHL's EC-940-PTZ camera to keep all monitored areas in perfect view and to pan from one object to the next in no time at all - after all, it is the fastest pan-tilt camera for hazardous areas. Its full HD resolution provides detailed images, and a wiper ensures free view at all times, making this surveillance camera ideal for all-round and detailed surveillance. It can be incorporated into state-of-the-art video systems worldwide, using the ONVIF protocol (Profile S). In addition, it is seawater-proof and degree of protection IP66 means it can be operated in temperatures ranging from -40 °C to +65 °C, for example on drilling rigs, refineries or tankfarms, as well as for monitoring processes in the chemical and pharmaceutical production and in clean rooms.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•		

Selection Table

Resolution:	Full-HD to 352x249p in 18steps
Viewing angle:	63,7° (wide), 2,3° (tele)
Horizontal speed (variable):	0,1°/s ... 100°/s
Tilt speed (variable):	0,1°/s ... 100°/s
Accuracy preset position:	0.02°
Focus:	Automatic focus
Network Protocol:	ONVIF Profile S
Type of protection (IP):	IP66







Product Type	Rated operational voltage AC	Rated operation. current at AC	Certifications	Art. No.	PS	Weight kg
EC-940-PTZ-HDI-W1	230 – 230 V	0.5 – 0.5 A	ATEX, IECEx	251231	A3	27.000
EC-940-PTZ-HDI-W2	24 – 24 V	5 – 5 A	ATEX, IECEx, NEC, CEC	251291	A3	27.000

Technical Data

Explosion Protection	
Certificate IECEx Gas	ULD 16.0005X
Certificate IECEx Dust	ULD 16.0005X
Certificate ATEX Gas	16 ATEX 1674X
Certificate ATEX Dust	16 ATEX 1674X

Technical Data	
Explosion Protection	
Gas explosion protection IECEx	Ex d IIC T6 Gb
Dust explosion protection IECEx	Ex tb IIIC T85 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T6 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T85 °C Db
Electrical Data	
I/O Alarm	1x Alarm input
I/O Relay	1x Relay output
Connection	Ethernet port LAN 10/100 T
Camera Data	
Sensor	1/2.8 CMOS
Zoom	30x optical
Lens	f = 4,3 (w) to 129 mm (t), from F1,6 to F4,7
Viewing angle	63,7° (wide), 2,3° (tele)
Minimum working distance	10 mm (wide), 1200 mm (tele)
Minimum illumination color (ICR-OFF)	0.05 F1.6 AGC ON, 1/3S
Min. illumin. B/W (ICR-ON)	0.002 lx, F1.6 AGC on, 1/3s
S/N Ratio	> 50 dB
Wide Dynamik Range	On/Off/Visibility enhancer, Light level, brightness compensation selection, compensation level
WDR (dynamic range)	130 dB
De-Fog	On / Off
Frame rate (fps)	1 to 60 images per second
Number of streams	2 independent video stream Full HD or 4 video stream depending on the configuration
Compression	H.264, MJPEG
Ambient Conditions	
Max. ambient temperature	+60 °C
Min. ambient temperature	-40 °C
Mechanical Data	
Panning range	360°
Tilt range	-90° ... 90°
Enclosure material	Stainless steel 1.4404
Surface treatment	passivated and electropolished
Type of protection (IP)	IP66
Cable Gland hole	1 3/4" NPT
Feature	Dynamic posit. control system
Size / dimensions	336 X 398 X 232 MM

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Camera multi-cable armoured				
	VB-CAM-MULTI-Ethernet-ARM 1 x Ethernet cable 3 x power supplies 2.5 mm ² 7 x data cable 0.34 mm ² -60°C ... +80°C 19.2 ±0.5 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-HDI, EC-940-AFZ-HDI-O4H and -O5H, EC-940SAFZ-Hxx, EC-840-TIC-19I Price per metre	252571 ▲	A4	0.472
Wall bracket				
	Wall bracket EC-940-PTZ 316L stainless steel, electropolished Capacity: max. 40 kg Length: 400 mm	251364	A4	1.000
Pole mounting				
	Pole adapter module EC-940-PTZ Material: 316L stainless steel, electropolished For pole diameter 110 ... 150mm Capacity: max. 50kg Only together with wall bracket EC-940-PTZ type 251364	251362	A4	5.000
Corner adapter module				
	Corner adapter module EC-940-PTZ Material: 316L stainless steel, electropolished Capacity: max. 50 kg WxH: 335x186 mm Only together with wall bracket for EC-940-PTZ type 251364	251363	A4	2.000
Parapet mounting bracket				
	Parapet mounting bracket EC-940-PTZ Material: 316L stainless steel, electropolished Capacity: max. 70 kg Diameter: 238 mm	251365	A4	1.000
Water tank				
	Water tank 10-PV-A 316L stainless-steel enclosure, electropolished Capacity 10 litres Pressure generation by manual pumping or with compressed air Pressure: max 4 bar 24V AC/DC, max 20W Temp. range -40°C to +60°C (depending on freezing point of liquid used) ATEX certified Zone 1, 2 Suitable for EC-940-PTZ and EC-940S-AFZ	251366	A4	18.000

A10



- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX, IECEx, NEC, CEC
- Enclosure made from electropolished stainless steel (316L), ideal for clean rooms as well as the oil and gas industries
- Precise, analogue pan-tilt surveillance camera
- Focus on any one point in under 2 seconds Up to 100°/s
- Extremely exact positioning 0.02°

WebCode **EC940PTZAA**



Use R. STAHL's EC-940-PTZ camera to keep all monitored areas in perfect view and to pan from one object to the next in no time at all - after all, it is the fastest pan-tilt camera for hazardous areas. Its high resolution (550 TVL) and 36x zoom provides detailed images, and a wiper ensures free view at all times, making this surveillance camera ideal for all-round and detailed surveillance. The camera functions are controlled via RS-485 and PELCO D, Panasonic, etc. This analogue surveillance camera series transmits images in real-time, providing users with a non-stop overview in time-critical applications. In addition, it is seawater-proof and degree of protection IP66 means it can be operated in temperatures ranging from -40 °C to +65 °C, for example on drilling rigs, refineries or tankfarms, as well as for monitoring processes in the chemical and pharmaceutical production and in clean rooms.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•		

Selection Table							
Resolution:	550 TVL						
Viewing angle:	57,8° (wide), 1,7° (tele)						
Horizontal speed (variable):	0,1°/s ... 100°/s						
Tilt speed (variable):	0,1°/s ... 100°/s						
Accuracy preset position:	0.02 °						
Focus:	Automatic focus						
Interfaces:	RS-485 half-duplex						
Serial Communication Protocol:	American Dynamics, Ernitec, Panasonic, Pelco D						
Type of protection (IP):	IP66						
Product Type	TV system	Rated operational voltage AC	Rated operation. current at AC	Certifications	Art. No.	PS	Weight kg
EC-940-PTZ-A3N-W20	NTSC	24 – 24 V	5 – 5 A	ATEX, IECEx, NEC, CEC	257726	A3	27.000
EC-940-PTZ-A3P-W10	PAL	230 – 230 V	0.5 – 0.5 A	ATEX, IECEx	257727	A3	27.000
EC-940-PTZ-A3P-W20	PAL	24 – 24 V	5 – 5 A	ATEX, IECEx, NEC, CEC	257728	A3	27.000

Technical Data

Explosion Protection

Certificate IECEX Gas	ULD 16.0005X
Certificate IECEX Dust	ULD 16.0005X
Certificate ATEX Gas	16 ATEX 1674X
Certificate ATEX Dust	16 ATEX 1674X
Gas explosion protection IECEX	Ex d IIC T6 Gb
Dust explosion protection IECEX	Ex tb IIIC T85 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T6 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T85 °C Db

Electrical Data

I/O Alarm	2x Alarm input
I/O Relay	1x Relay output

Camera Data

Sensor	1/4 EXView HAD CCD
Zoom	36x optical
Lens	f =3,4 (w) to 122,4mm (t), from F1,6 to F4,5
Viewing angle	57,8° (wide), 1,7° (tele)
Minimum working distance	320 mm (wide), 1500 mm (tele)
Minimum illumination color (ICR-OFF)	0.1 1/4S
Min. illumin. B/W (ICR-ON)	0.01 lx, 1/4s
S/N Ratio	> 50 dB
Wide Dynamik Range	Fix / Auto







Ambient Conditions

Max. ambient temperature	+60 °C
Min. ambient temperature	-40 °C

Mechanical Data

Tilt range	-90° ... 90°
Panning range	360°
Enclosure material	Stainless steel 1.4404
Surface treatment	passivated and electropolished
Type of protection (IP)	IP66
Cable Gland hole	1 3/4" NPT
Feature	Dynamic posit. control system
Size / dimensions	336 X 398 X 232 MM

A10

Accessories and Spare Parts				
Figure	Description	Art. No.	PS	Weight kg
Camera multi-cable armoured				
	VB-CAM-MULTI-Analog-ARM 1 x coaxial cable 3 x power supply 2.5mm ² 7 x data cable 0.34mm ² -60°C ... +80°C 16.5 ±0.3 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-Axx, EC-940S-3xA, EC-840-19A	252572	A4	0.550
Wall bracket				
	Wall bracket EC-940-PTZ 316L stainless steel, electropolished Capacity: max. 40 kg Length: 400 mm	251364	A4	1.000
Pole mounting				
	Pole adapter module EC-940-PTZ Material: 316L stainless steel, electropolished For pole diameter 110 ... 150mm Capacity: max. 50kg Only together with wall bracket EC-940-PTZ type 251364	251362	A4	5.000
Corner adapter module				
	Corner adapter module EC-940-PTZ Material: 316L stainless steel, electropolished Capacity: max. 50 kg WxH: 335x186 mm Only together with wall bracket for EC-940-PTZ type 251364	251363	A4	2.000
Parapet mounting bracket				
	Parapet mounting bracket EC-940-PTZ Material: 316L stainless steel, electropolished Capacity: max. 70 kg Diameter: 238 mm	251365	A4	1.000
Water tank				
	Water tank 10-PV-A 316L stainless-steel enclosure, electropolished Capacity 10 litres Pressure generation by manual pumping or with compressed air Pressure: max 4 bar 24V AC/DC, max 20W Temp. range -40°C to +60°C (depending on freezing point of liquid used) ATEX certified Zone 1, 2 Suitable for EC-940-PTZ and EC-940S-AFZ	251366	A4	18.000

A10



- IP Dome camera with 360° pan function
- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX and IECEx
- Surveillance camera enclosure made of stainless steel (316L), IP68, with hood

WebCode **EC750IA**



With its pan-tilt head, R. STAHL's EC-750 dome camera keeps hazardous areas in full view over 360° from above. The powerful zoom provides clear images for reliable security surveillance, including close-ups, of complete plant sections. The stainless steel enclosure (316L) with degree of protection IP68 is dustproof, submersible and suitable for installation in rough ambient conditions, and its hood, included in the delivery, makes the camera even seawater-proof. Two zoom versions are available for the Dome IP camera: 18x and 40x optical zoom. From this range a suitable dome camera can be found for every surveillance system.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table						
Network Protocol:	ONVIF Profile S					
Panning range:	360°					
Horizontal speed (variable):	0°/s ... 42°/s					
Tilt speed (variable):	0°/s ... 42°/s					
Rated operational voltage DC:	24 – 24 V					
Type of protection (IP):	IP68, 5bar					
Product Type	Connection	Viewing angle	Zoom	Art. No.	PS	Weight kg
EC-750-PA-IP-PE	Ethernet port LAN 10/100 T	48° (wide), 2,8° (tele)	18x optical	168168 ▲	A3	8.000
EC-750-PA-IP-PE-40	Ethernet port LAN 10/100 T	60° (wide), 1,6° (tele)	40x optical	241491	A3	8.000

Technical Data	
Explosion Protection	
Certificate ATEX Gas	08 ATEX 6023X / 01
Certificate ATEX Dust	08 ATEX 6023X / 01
Gas explosion protection IECEx	Ex d IIC T5 Gb
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Gas explosion protection ATEX	⊕ II 2 G Ex d IIC T5 Gb
Dust explosion protection ATEX	⊕ II 2 D Ex tb IIIC T100 °C Db
Certifications	ATEX, IECEx

Technical Data	
Camera Data	
Compression	H.264, MJPEG
Sensor	1/4 Super-HAD CCD II
Pixel	570000
Resolution	D1 720x576p
Minimum illumination color (ICR-OFF)	0.03 1/3S
S/N Ratio	> 50 dB
White balance	AWB, ATW, Indoor, Outdoor (Fix, Auto), Sodium vapor lamp auto), One-Push WB, Manual WB
Focus	Automatic focus
Minimum working distance	10 mm (wide), 800 mm (tele)
Lens	f = 4,1 (w) to 73,8 mm (t), from F1,4 to 3,0
Ambient Conditions	
Max. ambient temperature	+60 °C
Min. ambient temperature	-20 °C
Mechanical Data	
Panning range	360°
Tilt range	-90° ... 90°
Cable length	5 m
Feature	White sun roof incl.
Enclosure material	stainless steel 1.4401
Type of protection (IP)	IP68, 5bar
Size / dimensions	D 209 X 261 MM

A10



- Analogue Dome camera with 360° pan function
- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX and IECEx
- Surveillance camera enclosure made of stainless steel (316L), IP68, with hood

WebCode **EC750AA**



With its pan-tilt head, R. STAHL's EC-750 dome camera keeps hazardous areas in full view over 360° from above. The powerful zoom provides clear images for reliable security surveillance, including close-ups, of complete plant sections. The stainless steel enclosure (316L) with degree of protection IP68 is dustproof, submersible and suitable for installation in rough ambient conditions, and its hood, included in the delivery, makes the camera even seawater-proof. The analogue camera model transmits the video data in real time in PAL or NTSC format. The EC-750 Dome camera is also available as an IP version.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table						
Serial Communication Protocol:	Pelco D					
Zoom:	18x optical					
Panning range:	360°					
Horizontal speed (variable):	0°/s ... 42°/s					
Tilt speed (variable):	0°/s ... 42°/s					
Rated operational voltage DC:	24 – 24 V					
Type of protection (IP):	IP68, 5bar					
Product Type	TV system	Total pixels	Pixel	Art. No.	PS	Weight kg
EC-750-NT-VI-PE	NTSC	752 (H) x 582 (V)	380000	249537	A3	8.000
EC-750-PA-VI-PE	PAL	752 (H) x 582 (V)	440000	168166 ▲	A3	8.000

Technical Data	
Explosion Protection	
Certificate ATEX Gas	08 ATEX 6023X / 01
Certificate ATEX Dust	08 ATEX 6023X / 01
Gas explosion protection IECEx	Ex d IIC T5 Gb
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T5 Gb

Technical Data	
Explosion Protection	
Dust explosion protection ATEX	Ⓔ II 2 D Ex tb IIIC T100 °C Db
Certifications	ATEX, IECEx
Camera Data	
Sensor	1/4 Super-HAD CCD II
Minimum illumination color (ICR-OFF)	0.03 1/4S
Zoom	18x optical
S/N Ratio	> 50 dB
Viewing angle	48° (wide), 2,8° (tele)
White balance	AWB, ATW, Indoor, Outdoor (Fix, Auto), Sodium vapor lamp auto), One-Push WB, Manual WB
Focus	Automatic focus
Minimum working distance	10 mm (wide), 800 mm (tele)
Lens	f = 4,1 (w) to 73,8 mm (t), from F1,4 to 3,0
Ambient Conditions	
Max. ambient temperature	+60 °C
Min. ambient temperature	-20 °C
Mechanical Data	
Panning range	360°
Tilt range	-90° ... 90°
Cable length	5 m
Feature	White sun roof incl.
Enclosure material	stainless steel 1.4401
Type of protection (IP)	IP68, 5bar
Size / dimensions	D 209 X 261 MM

A10

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Ex-e terminal box				
	JCT-8118-122-14p-02 - II 2 G EEx e II T6/T5 - II 2 D IP66 T80°C, T95°C - 14 UK3N terminals - 2 USLKG PE terminals - 4 cable connectors - Degree of protection IP66, water-proof - Polyester material, black	230600 ▲	A4	1.000
	JCT-8118-122-14p-02-ARM - ATEX-certification zone 1, 2, 21 & 22 - II 2 G Ex em II T6/T5/T4 - II 2 D Ex tD A21 IP66 T80°C, T95°C, T130°C - Degree of protection IP66 - Polyester material, black - 14 UT-2.5 terminals - 2 UT-2.5 PE terminals - HxWxD: 115 x 115 x 64 mm	230603 ▲	A4	1.000
Camera multi-cable standard				
	VB-CAM-MULTI-15-UNI 1 x coaxial cable 2 x power supply 3 x data cable -40°...+85°C Suitable for EC-750 (analogue version only)	230586 ▲	A4	0.060
Camera multi-cable armoured				
	VB-CAM-MULTI-01-ARM 1 x coaxial cable 2 x power supplies 3 x data cables -40°C ... +85 °C Mud and oil-resistant Suitable for EC-710 and EC-750 (analogue only) Price per meter	167535 ▲	A4	0.120
Mounting versions				
	wall bracket for EC-750 Wall bracket (without camera) For EC-750 series Material: V2A stainless steel HxWxD: 115x100x103 mm	230638	A4	1.000
	Pole bracket EC-750 Pole bracket (without camera) Suitable for EC-750 series Material: V2A stainless steel HxWxD: 204x120x432 mm Diameter 108 mm	230670	A4	2.000

A10



- High-resolution IP thermal imaging camera
- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX, IECEx, NEC, CEC
- Enclosure made from electropolished stainless steel (316L), ideal for clean rooms as well as the oil and gas industries
- Delivery with armoured cable or cable set (NEC/CEC)

WebCode **EC840STICIA**



R. STAHL's EC-840S-TIC-19I IP thermal imaging camera is one of the most modern explosion-protected cameras currently on the market. Its integrated thermography function ensures clear and safe recognition of changes in temperature by colour coding specific temperature zones - according to your settings, precisely tailored to the process under surveillance. This range of versions includes a suitable model for every surveillance system: The IP cameras support the ONVIF protocol (profile S) for network integration worldwide. All models are available with either high or medium resolution. These surveillance cameras are certified acc. to ATEX, IECEx, NEC and CEC for hazardous zones 1, 2, 21 and 22 and are therefore suitable for installation in many regions.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•		

Selection Table							
Resolution:	< 50 mK bis f/1.0						
Network Protocol:	ONVIF Profile S						
Rated operational voltage AC:	24 – 24 V						
Rated operational voltage DC:	12 – 24 V						
Type of protection (IP):	IP66, 68,						
Note for type of protection:	IP69 enclosure only						
Product Type	Viewing angle	Person (detect/recog/ident)	Total pixels	Certifications	Art. No.	PS	Weight kg
EC-840S-TIC-19I-642-456	32° fix	570 m / 144 m / 72 m	640 (H) x 512 (V)	ATEX, IECEx, NEC, CEC	251330	A3	8.000
EC-840S-TIC-19I-642-F55	32° fix	570 m / 144 m / 72 m	640 (H) x 512 (V)	ATEX, IECEx, NEC, CEC	252762	A3	8.000
EC-840S-TIC-19I-332-456	17° fix	640 m / 180 m / 80 m	336 (H) x 256 (V)	ATEX, IECEx, NEC, CEC	251328	A3	8.000
EC-840S-TIC-19I-332-F55	17° fix	640 m / 180 m / 80 m	336 (H) x 256 (V)	ATEX, IECEx, NEC, CEC	252761	A3	8.000

Technical Data	
Explosion Protection	
Certificate IECEx Gas	ITS 16.0026X
Certificate IECEx Dust	ITS 16.0026X

Technical Data

Explosion Protection

Certificate ATEX Gas	16 ATEX 18446X
Certificate ATEX Dust	16 ATEX 18446X
Gas explosion protection IECEx	Ex d IIC T5 Gb
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T5 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T100 °C Db

Electrical Data

Connection	Ethernet port LAN 10/100 T
I/O Alarm	1x Alarm input
I/O Relay	1x Relay output
Rated operation. current at AC	2.2 – 2.2 A

Camera Data

Sensor	Uncooled Vox microbolometer
Pixel	17 µm pixel dimension
Lens	f = 19 mm fix , F 1,25
Frame rate (fps)	8.3 PAL, 7.5 NTSC
Number of streams	2 independent video stream
Colour display	Palette-LUT








Ambient Conditions

Max. ambient temperature	+65 °C
Min. ambient temperature	-50 °C
Cold start	-40 °C

Mechanical Data

Enclosure material	Stainless steel 1.4404
Surface treatment	electropolished and silicon micro shot peened
Cable length	4 m
Type of protection (IP)	IP66, 68,
Note for type of protection	IP69 enclosure only
Feature	Germanium window with DLC
Size / dimensions	264 X 155 X 114,5 MM

A10

Accessories and Spare Parts				
Figure	Description	Art. No.	PS	Weight kg
Camera multi-cable armoured				
	VB-CAM-MULTI-Ethernet-ARM 1 x Ethernet cable 3 x power supplies 2.5 mm ² 7 x data cable 0.34 mm ² -60°C ... +80°C 19.2 ±0.5 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-HDI, EC-940-AFZ-HDI-O4H and -O5H, EC-940SAFZ-Hxx, EC-840-TIC-19I Price per metre	252571 ▲	A4	0.472
Ex-e terminal box				
	JCT-x40x-01-ARM Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ex tb IIIA, IIIB, IIC T80°C, T95°C, T130°C, Db IP66 Ⓢ II 2 G Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ⓢ II 2 D Ex tb IIIA, IIIB, IIC T80°C, T95°C, T130°C Db IP66 Ethernet terminal 3 power supplies 2.5 mm ² 7 data cables 0.34 mm ² Degree of protection IP 66 waterproof Polyester material, black Stainless-steel enclosure available on request HxWxD: 152 x 227 x 91 mm	252856	A4	0.400
Wall bracket				
	Wall Bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 40 kg Length: 420 mm	251387	A4	2.000
Pole adapter module				
	Pole adapter module EC-x40S Suitable for EC-x40S For pole diameter 110 ... 150 mm (4.3 – 5.9 in) Material: 316L stainless steel, electropolished Capacity: max. 50kg Weight: 3.3kg Only together with wall bracket EC-x40S type 251387	251380	A4	3.300
Corner adapter module				
	Corner adapter module EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 50 kg Only together with wall bracket EC-x40S type 251387	251381	A4	2.000
Parapet mounting bracket				
	Parapet mounting bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 70 kg Height: 124 mm Only together with ball joint adapter EC-x40S type 251388	251386	A4	0.900
Ball joint				
	Ball joint x40S 316L stainless steel, electropolished Capacity: max. 40 kg Diameter: 101.6 mm	251388	A4	2.000

A10



- High-resolution analogue thermal imaging camera
- Certified for hazardous zones 1, 2, 21, 22 acc. to ATEX, IECEx, NEC, CEC
- Enclosure made from electropolished stainless steel (316L), ideal for clean rooms as well as the oil and gas industries
- Delivery with armoured cable or cable set (NEC/CEC)

WebCode **EC840STICAA**



R. STAHL's EC-840S-TIC-19A analogue thermal imaging camera is one of the most modern explosion-protected cameras currently on the market. Its integrated thermography function ensures clear and safe recognition of changes in temperature by colour coding specific temperature zones - according to your settings, precisely tailored to the process under surveillance. The analogue camera functions are controlled via RS-485 with Pelco D or Panasonic protocol. All models are available with high or medium resolution. These surveillance cameras are certified acc. to ATEX, IECEx, NEC and CEC for hazardous zones 1, 2, 21 and 22 and are therefore suitable for installation in many regions.

A10

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 505			NEC 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•		•		

Selection Table

Interfaces:	RS-485 half-duplex
Resolution:	< 50 mK bis f/1.0
Serial Communication Protocol:	Panasonic, Pelco D, Macro
Frame rate (fps):	8.3 PAL, 7.5 NTSC
Rated operational voltage AC:	24 – 24 V
Rated operational voltage DC:	12 – 24 V
Type of protection (IP):	IP66, 68,
Note for type of protection:	IP69 enclosure only

Product Type	Viewing angle	Total pixels	Person (detect/recog/ident)	Certifications	Art. No.	PS	Weight kg
EC-840S-TIC-19A-642-456	32° fix	640 (H) x 512 (V)	570 m / 144 m / 72 m	ATEX, IECEx, NEC, CEC	251329	A3	8.000
EC-840S-TIC-19A-642-F55	32° fix	640 (H) x 512 (V)	570 m / 144 m / 72 m	ATEX, IECEx, NEC, CEC	252710	A3	8.000
EC-840S-TIC-19A-332-456	17° fix	336 (H) x 256 (V)	640 m / 180 m / 80 m	ATEX, IECEx, NEC, CEC	251327	A3	8.000
EC-840S-TIC-19A-332-F55	17° fix	336 (H) x 256 (V)	640 m / 180 m / 80 m	ATEX, IECEx, NEC, CEC	252709	A3	8.000








Technical Data

Explosion Protection	
Certificate IECEx Gas	ITS 16.0026X
Certificate IECEx Dust	ITS 16.0026X

Technical Data	
Explosion Protection	
Certificate ATEX Gas	16 ATEX 18446X
Certificate ATEX Dust	16 ATEX 18446X
Gas explosion protection IECEx	Ex d IIC T5 Gb
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Gas explosion protection ATEX	Ⓜ II 2 G Ex d IIC T5 Gb
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T100 °C Db
Electrical Data	
I/O Alarm	1x Alarm input
I/O Relay	1x Relay output
Rated operation. current at AC	2.2 – 2.2 A
Camera Data	
Sensor	Uncooled Vox microbolometer
Pixel	17 µm pixel dimension
Lens	f = 19 mm fix , F 1,25
TV system	PAL or NTSC
Frame rate (fps)	8.3 PAL, 7.5 NTSC
Colour display	Palette-LUT
Ambient Conditions	
Max. ambient temperature	+65 °C
Min. ambient temperature	-50 °C
Cold start	-40 °C
Mechanical Data	
Enclosure material	Stainless steel 1.4404
Surface treatment	electropolished and silicon micro shot peened
Cable length	4 m
Type of protection (IP)	IP66, 68,
Note for type of protection	IP69 enclosure only
Feature	Germanium window with DLC
Size / dimensions	264 X 155 X 114,5MM

A10

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Camera multi-cable armoured				
	VB-CAM-MULTI-Analog-ARM 1 x coaxial cable 3 x power supply 2.5mm ² 7 x data cable 0.34mm ² -60°C ... +80°C 16.5 ±0.3 mm outer diameter IEC 60332-1 flame-resistant IEC 60754-2 halogen-free DIN 60811-404 oil-resistant NEK 606 mud-resistant Suitable for EC-940-PTZ-Axx, EC-940S-3xA, EC-840-19A	252572	A4	0.550
Ex-e terminal box				
	JCT-x40x-01-ARM Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ex tb IIA, IIB, IIC T80°C, T95°C, T130°C, Db IP66 Ⓢ II 2 G Ex d e ia/ib [ja Ga] mb IIA, IIB, IIC T6/T5/T4 Gb Ⓢ II 2 D Ex tb IIA, IIB, IIC T80°C, T95°C, T130°C Db IP66 Ethernet terminal 3 power supplies 2.5 mm ² 7 data cables 0.34 mm ² Degree of protection IP 66 waterproof Polyester material, black Stainless-steel enclosure available on request HxWxD: 152 x 227 x 91 mm	252856	A4	0.400
Wall bracket				
	Wall Bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 40 kg Length: 420 mm	251387	A4	2.000
Pole adapter module				
	Pole adapter module EC-x40S Suitable for EC-x40S For pole diameter 110 ... 150 mm (4.3 – 5.9 in) Material: 316L stainless steel, electropolished Capacity: max. 50kg Weight: 3.3kg Only together with wall bracket EC-x40S type 251387	251380	A4	3.300
Corner adapter module				
	Corner adapter module EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 50 kg Only together with wall bracket EC-x40S type 251387	251381	A4	2.000
Parapet mounting bracket				
	Parapet mounting bracket EC-x40S Suitable for EC-x40S series Material: 316L stainless steel, electropolished Capacity: max. 70 kg Height: 124 mm Only together with ball joint adapter EC-x40S type 251388	251386	A4	0.900
Ball joint				
	Ball joint x40S 316L stainless steel, electropolished Capacity: max. 40 kg Diameter: 101.6 mm	251388	A4	2.000

A10



- Camera operation in zone 1 by means of ISview / HMI installation
- Installation on oil and gas rigs (inland, onshore and offshore)
- Ideal for camera systems involving up to 12 cameras
- Simple operation, no extra training required
- Very short timeouts
- Optimised for Open HMI touch screen operation
- Large touch buttons for operation with work gloves

WebCode ISviewA

Video software for the display of video streams supplied by IP cameras with video servers with VAPIX protocol.

Selection Table

Version:	Video software		
Description	Art. No.	PS	Weight kg
Installation USB stick without license, one license for each camera necessary	213019	A1	0.100

A10

Technical Data

Software	
Video and PTZ protocols	VAPIX Axis
Software handling	Via mouse, trackball, joystick and touch screen (touch buttons)
Direct PTZ control	Yes
Preset function	Yes
Display view	Full screen or window mode, single or quadruple view
Videosource	Maximum of 12 IP cameras, Motion JPEG or H.264
Frame rate software	15 ... 25 images/s (fps)
Operating system	Windows embedded, Windows 7
Hardware	At least Pentium M 600 MHz, 1 GB RAM, 2 GB Flash or HD memory, minimum resolution 800 x 600
Recording	none
Software note	Not suitable for full HD IP cameras

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
	Videolicense for ISview			
	ISview-1.xx-L Videosoftware license ISview version 1.xx License for one camera with direct presentation at PC systems Delivery of license lable at CD/DVD cover	213018	A1	0.100



- Up to 50 cameras (S50X version)
- 1 server (S50X version)
- Live / archive mode
- Mobile Client
- Site plans
- Additional packets available: S100 and Infinity

WebCode CayugaA

SeeTec Cayuga is available as three basic packages, S50X, S100 and Infinity - meeting the different requirements of different project sizes. All products are based on the same technical platform. Upgrades are therefore easily achieved by importing a new license key. The camera channels are licensed separately.

A10

Selection Table

Version:	Video software		
Description	Art. No.	PS	Weight kg
SeeTec Cayuga S50X video management software	239083	A7	0.100

Technical Data

Software	
Video and PTZ protocols	Support of all major camera types, ONVIF Profile S
Software handling	Via keyboard, mouse, trackball, joystick
Videosource	Depending on project, up to 50 cameras
Operating system	Windows 7, 8, 8.1 and 10, server 2008 R2, server 2012, server 2012 R2
Hardware	
System: 64 Bit (recommended) main memory: min. 4 GB RAM (8 GB recommended) CPU: min. dual core 2.4 GHz or more hard disk: min. 100 GB network: Gigabit (recommended) graphics card: dedicated, without shared memory screen: min. 1280 x 768 pixels	

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Video license for SeeTec				
	SeeTec Cayuga S50 X Camera Channel SeeTec Cayuga S50X camera license, required for each camera	239084	A7	0.100



A10

LIGHTING



Product	Installation in Zone						Series	Page	WebCode
	0	1	2	20	21	22			
Emergency Luminaire for Fluorescent Lamps									
Emergency Luminaire for Fluorescent Lamps EXLUX		•	•		•	•	6009/5	534	6009A
Emergency Luminaire for Fluorescent Lamps EXLUX			•		•	•	6409/5	536	6409A
Emergency Luminaire for Fluorescent Lamps for Central Battery Units EXLUX		•	•		•	•	6006	531	6006A
Emergency Luminaire with LED EXLUX									
Emergency Luminaire with LED EXLUX			•		•	•	6409/1	522	6409B
Emergency Luminaire with LED EXLUX Version IIB+H2		•	•		•	•	6009/1	518	6009B
Emergency Luminaire with LED EXLUX Version IIC		•	•		•	•	6009/1	520	6009C
Floodlights									
Floodlight LED Made of Stainless Steel or Sheet Steel		•	•		•	•	6125	593	6125A
Floodlight LED Made of Stainless Steel or Sheet Steel			•		•	•	6525	603	6525A
Floodlight made of Cast Aluminium		•	•		•	•	6121/1	599	6121B
Floodlight made of Stainless Steel, Design Size 1 and 2			•		•	•	6521/4	609	6521B
Floodlight made of Stainless Steel, Design Size 3			•		•	•	6521/5	612	6521C
Hand Lamps for Mains Connection									
Inspection Light LED		•	•		•	•	6149	617	6149B
Hand Lamps with Batteries									
Hand Lamp LED	•	•	•	•	•	•	6140	625	6140A
Hand Lamp LED		•	•				6141/61	627	6141B
Hand Lamp LED		•	•		•	•	6141/62	629	6141C

Product	Installation in Zone						Series	Page	WebCode
	0	1	2	20	21	22			
Linear Luminaire for Fluorescent Lamps									
Linear Luminaire for Fluorescent Lamps EXLUX		•	•		•	•	6001	525	6001A
Linear Luminaire for Fluorescent Lamps EXLUX			•		•	•	6401	528	6401A
Linear Luminaire for Fluorescent Lamps Made of Sheet Steel or Stainless Steel		•	•		•	•	6012/1	550	6012A
Linear Luminaire for Fluorescent Lamps Made of Sheet Steel or Stainless Steel		•	•		•	•	6014/1	555	6014B
Linear Luminaire for Fluorescent Lamps Made of Sheet Steel or Stainless Steel			•		•	•	6412/1	552	6412B
Linear Luminaire for Fluorescent Lamps Made of Sheet Steel or Stainless Steel			•		•	•	6414/1	557	6414B
Linear Luminaire for Fluorescent Lamps Made of Stainless Steel or Sheet Steel ECOLUX METAL		•	•		•	•	6010/1	562	6010A
Linear Luminaire for Fluorescent Lamps Made of Stainless Steel or Sheet Steel ECOLUX METAL			•		•	•	6610/11	564	6610A
Linear Luminaire for Fluorescent Lamps Made of Stainless Steel or Sheet Steel ECOLUX METAL							L610/1	566	L610A
Linear Luminaire with LED									
Linear Luminaire with LED EXLUX			•		•	•	6402/2	514	6402B
Linear Luminaire with LED EXLUX NEW							L402/2	516	L402A
Linear Luminaire with LED EXLUX Version IIB+H2		•	•		•	•	6002/1	509	6002B
Linear Luminaire with LED EXLUX Version IIC		•	•		•	•	6002/2	511	6002C
Linear Luminaire with LED Made of Sheet Steel or Stainless Steel		•	•		•	•	6012/5	542	6012C
Linear Luminaire with LED Made of Sheet Steel or Stainless Steel NEW			•		•	•	6412/5	544	6412C
Pendant Light Fittings									
Pendant Light Fitting		•	•		•	•	6050/1, 6050/3	579	6050A
Pendant Light Fitting IEC			•		•	•	6470/2	587	6470C
Pendant Light Fitting LED		•	•		•	•	6050/5	577	6050B
Pendant Light Fitting LED			•		•	•	6470/5	584	6470B
Portable Lamps									
Portable Lamps LED		•	•		•	•	6148	620	6148A
Portable Lamps LED Industrial Design							L148	622	L148A
Tubular Light Fittings									
Tubular Light Fitting with LED		•	•		•	•	6036	570	6036A
Accessories and Spare Parts									
Floodlight Series 6521/4, 6521/5 Accessories and Spare Parts								615	
Linear Luminaire for Fluorescent Lamps EXLUX Series 6001, 6002, 6006, 6009, 6401, 6402, L402, 6409								539	
Linear Luminaire for Fluorescent Lamps Series 6010, 6610, L610 ECOLUX METAL, Accessories and Spare Parts								568	
Linear Luminaire for Fluorescent Lamps Series 6012, 6014, 6412, 6414 Accessories and Spare Parts								560	
Pendant Light Fitting Series 6050/1, 6050/3, 6050/5 Accessories and Spare Parts								583	
Portable Lamps LED Series 6148 / L148 Accessories and Spare Parts								623	
Dimensional Drawings									
Emergency Luminaire for Fluorescent Lamps EXLUX Series 6009, 6409 Dimensional Drawings								524	
Floodlight Series 6521/4, 6521/5 Dimensional Drawings								613	
Linear Luminaire for Fluorescent Lamps EXLUX Series 6001, 6002, 6006, 6009, 6401, 6402, L402, 6409 Mounting								541	
Linear Luminaire for Fluorescent Lamps Series 6010, 6610, L610 ECOLUX METAL, Dimensional Drawings								569	
Linear Luminaire for Fluorescent Lamps Series 6012/1, 6412/1 Made of Sheet Steel or Stainless Steel								554	
Linear Luminaire for Fluorescent Lamps Series 6014/1, 6414/1 Made of Sheet Steel or Stainless Steel								559	
Linear Luminaire with LED EXLUX Series 6402, L402, Dimensional Drawings								517	
Linear Luminaire with LED Series 6012/5, 6412/5, Dimensional Drawings								546	



For additional products and information please refer to r-stahl.com

E2



- Can be used in Ex Zones 1, 2, 21 and 22
- Explosion-protected linear luminaire with long-life, efficient LED technology (up to 115 lm/W)
- Lightweight yet extremely robust, with an impact strength rating of IK10

WebCode 6002B



The EXLUX 6002 luminaire can be fitted to the ceiling, a pole, or alternatively, it can be suspended. It is suited to general indoor and outdoor lighting applications. It is the perfect replacement for luminaires that use fluorescent lamps, since efficient LED technology with high luminous efficacy delivers the same brightness for less energy. The central lock is available with an optional switching element that disconnects the power supply at all poles when the plastic enclosure is opened.

E2

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table						
Design size:	2					
Lamp wattage:	28 W					
Luminous flux:	2350 lm					
Luminaire efficiency:	84 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6002/1182-5400-5232-0	251310	64	4.300
3 x M25	polyamide black	4 mm ²	6002/1182-5400-5131-0	251309	64	4.300
Design size:	4					
Lamp wattage:	52 W					
Luminous flux:	4700 lm					
Luminaire efficiency:	90 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6002/1284-5400-5232-0	251312	64	6.600
3 x M25	polyamide black	4 mm ²	6002/1284-5400-5131-0	251311	64	6.600

Art. nos 251309 and 251311:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required). Thread plate (2x Plastic) included.

Art. nos 251310 and 251312:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data

Explosion Protection

Certificate IECEX Gas	IECEX IBE 14.0035
Certificate ATEX Gas	IBExU 14ATEX1088
Certificate IECEX Dust	IECEX IBE 14.0035
Certificate ATEX Dust	IBExU 14ATEX1088
Gas explosion protection IECEX	Ex db eb op is IIB+H2 T4 Gb
Gas explosion protection ATEX	Ⓢ II 2 G Ex db eb op is IIB+H2 T4 Gb
Dust explosion protection IECEX	Ex tb op is IIIC T100 °C Db
Dust explosion protection ATEX	Ⓢ II 2 D Ex tb op is IIIC T100 °C Db
Ambient temperature °C	-40 ... +50 °C
Certificates	ATEX (IBE), EAC (Sertium), IECEX (IBE), India (PESO)

Electrical Data

Rated operational voltage AC	110 – 240 V
Rated operational voltage DC	110 – 250 V
Frequency range	50 – 60 Hz

Lighting Data

Lamps	LED
CCT	neutral white
Light distribution	120°x120° with diffusion disc
Colour temperature	5000 K
Colour Rendering	≥ 80
Notes	Colour temperature 5700 K, colour rendering Ra ≥ 70 Further colour temperatures available on request

Mechanical Data

Type of protection (IP)	IP66
Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Diffusor	with Diffusor
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Lighting lock	central lock for socket wrench
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Type of connection line	solid stranded finely-stranded
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)

Components

Electronic balast	6045/111-110-10
Through wiring	with 5 conductors 2.5 mm ²
Notes	Through wiring: at -40 ... +60 °C: max. 3x10 A at -40 ... +50 °C: max. 3x16 A

Accessories and spare parts see page 539

Dimensional drawings see page N/A
Dimensional drawings for assembly parts and accessories see page 541



- Can be used in Ex Zones 1, 2, 21 and 22
- Explosion-protected linear luminaire with long-life, efficient LED technology (up to 115 lm/W)
- Lightweight yet extremely robust, with an impact strength rating of IK10

WebCode 6002C



The EXLUX 6002 luminaire can be fitted to the ceiling, a pole, or alternatively, it can be suspended. It is suited to general indoor and outdoor lighting applications. It is the perfect replacement for luminaires that use fluorescent lamps, since efficient LED technology with high luminous efficacy delivers the same brightness for less energy. The central lock is available with an optional switching element that disconnects the power supply at all poles when the plastic enclosure is opened.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

E2

Selection Table						
Design size:	2					
Lamp wattage:	28 W					
Luminous flux:	2350 lm					
Luminaire efficiency:	84 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6002/2182-5400-5232-0	249485	64	4.300
	–	6 mm ²	6002/2182-5400-8232-0	253645	64	4.300
3 x M25	polyamide black	4 mm ²	6002/2182-5400-5131-0	249484	64	4.300
Design size:	4					
Lamp wattage:	52 W					
Luminous flux:	4700 lm					
Luminaire efficiency:	90 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6002/2284-5400-5232-0	249487	64	6.600
	–	6 mm ²	6002/2284-5400-8232-0	253646	64	6.600
3 x M25	polyamide black	4 mm ²	6002/2284-5400-5131-0	249486	64	6.600

Art. nos 249484 and 249486:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required). Thread plate (2x Plastic) included.

Art. nos 249485, 253645, 249487 and 253646:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data

Explosion Protection

Certificate IECEX Gas	IECEX IBE 14.0035
Certificate ATEX Gas	IBExU 14ATEX1088
Certificate IECEX Dust	IECEX IBE 14.0035
Certificate ATEX Dust	IBExU 14ATEX1088
Gas explosion protection IECEX	Ex db eb op is IIC T4 Gb
Gas explosion protection ATEX	Ⓜ II 2 G Ex db eb op is IIC T4 Gb
Dust explosion protection IECEX	Ex tb op is IIIC T100 °C Db
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb op is IIIC T100 °C Db
Ambient temperature °C	-40 ... +50 °C
Certificates	ATEX (IBE), EAC (Sertium), IECEX (IBE), Taiwan (ISTI)

Electrical Data

Rated operational voltage AC	110 – 240 V
Rated operational voltage DC	110 – 250 V
Frequency range	50 – 60 Hz

Lighting Data

Lamps	LED
CCT	neutral white
Light distribution	120°x120° with diffusion disc
Colour temperature	5000 K
Colour Rendering	≥ 80
Notes	Colour temperature 5700 K, colour rendering Ra ≥ 70 Further colour temperatures available on request

Mechanical Data

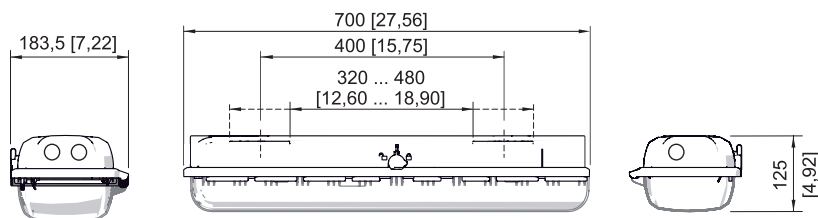
Type of protection (IP)	IP66
Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Diffusor	with Diffusor
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Lighting lock	central lock for socket wrench
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Type of connection line	solid finely-stranded stranded
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)

Components

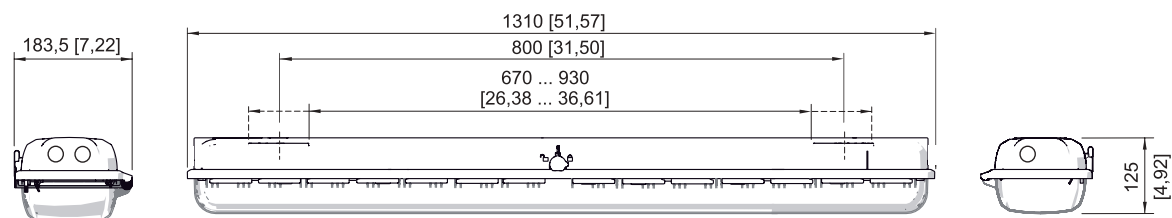
Electronic balast	6045/111-110-10
Through wiring	with 5 conductors 2.5 mm ²
Notes	Through wiring: at -40 ... +60 °C: max. 3x10 A at -40 ... +50 °C: max. 3x16 A

Accessories and spare parts see page 539
 For dimensional drawings for assembly parts and accessories, see page 541

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Size 2



Size 4

E2



- Can be used in Ex Zones 2, 21 and 22
- Gas type of protection: nA (non-sparking)
- Explosion-protected linear luminaire with long-life, efficient LED technology (up to 115 lm/W)
- Lightweight yet extremely robust, with an impact strength rating of IK10

WebCode 6402B



The EXLUX 6402/2 luminaire can be fitted to the ceiling, a pole, or alternatively, it can be suspended. It is suited to general lighting applications in harsh environments. A bright light for not much energy is what you get with this efficient LED technology, which offers the added benefit of increased service life – this can be as much as 100,000 hours. The central lock is available with an optional switching element that disconnects the power supply at all poles when the plastic enclosure is opened.

E2

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in			•		•	•

Selection Table

Design size:	2					
Lamp wattage:	28 W					
Luminous flux:	2550 lm					
Luminaire efficiency:	91 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6402/2182-5500-150	244217	64	4.300
3 x M25	polyamide black	4 mm ²	6402/2182-5500-250	244216	64	4.300
Design size:	4					
Lamp wattage:	52 W					
Luminous flux:	5100 lm					
Luminaire efficiency:	98 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6402/2284-5500-150	244219	64	6.300
3 x M25	polyamide black	4 mm ²	6402/2284-5500-250	244218	64	6.000

Art. nos 244216 and 244218:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required). Thread plate (2x Plastic) included.

Art. nos 244217 and 244219:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data

Explosion Protection

Certificate IECEX Gas	IECEX IBE 14.0080X
Certificate ATEX Gas	IBEx U 14 ATEX B020 X
Certificate IECEX Dust	IECEX IBE 14.0080X
Certificate ATEX Dust	IBEx U 14 ATEX 1292
Ambient temperature °C	-30 ... +55 °C
Gas explosion protection IECEx	Ex nA op is IIC T4 Gc
Gas explosion protection ATEX	Ⓜ II 3 G Ex nA op is IIC T4 Gc
Dust explosion protection IECEx	Ex tb IIIC T100 °C Db
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb IIIC T100 °C Db
Certificates	ATEX (IBE), China (CQST), EAC (Sertium), IECEx (IBE), India (PESO)

Electrical Data

Rated operational voltage AC	220 – 240 V
Rated operational voltage DC	200 – 250 V

Lighting Data

Lamps	LED
CCT	neutral white
Light distribution	120°x120° with diffusion disc
Colour temperature	5000 K
Colour Rendering	≥ 80

Mechanical Data

Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Diffuser	with Diffusor
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Type of connection line	finely-stranded solid stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole available)

Components

Electronic ballast	VG Luxtronic 80W 350mA
Through wiring	with 5 conductors 2.5 mm ²

Accessories and spare parts see page 539

Dimensional drawings see page 517
Dimensional drawings for assembly parts and accessories see page 541

E2



- Highly resistant industrial design
- Linear luminaire with long-life, efficient LED technology (up to 115 lm/W)
- Lightweight yet extremely robust, with an impact strength rating of IK10

WebCode L402A

The EXLUX L402/2 luminaire is designed for industrial use and can be fitted to the ceiling, a pole, or alternatively, it can be suspended. A bright light for not much energy is what you get with this efficient LED technology, which offers the added benefit of increased service life – this can be as much as 100,000 hours. The plastic enclosure is easily to open by a central lock.

Selection Table

Design size:	2
Lamp wattage:	28 W
Luminous flux:	2550 lm
Luminaire efficiency:	91 lm/W

Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	L402/2182-5500-150	263150	64	4.300
3 x M25	polyamide black	4 mm ²	L402/2182-5500-250	263149	64	4.300

Design size:	4
Lamp wattage:	52 W
Luminous flux:	5100 lm
Luminaire efficiency:	98 lm/W

Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	L402/2284-5500-150	263148	64	6.000
3 x M25	polyamide black	4 mm ²	L402/2284-5500-250	263147	64	6.000

Art. nos 263149 and 263147:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required).

Thread plate (2x Plastic) included.

Art. nos 263150 and 263148:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data

Electrical Data

Rated operational voltage AC 220 – 240 V

Rated operational voltage DC 200 – 250 V

Ambient Conditions

Ambient temperature -30 °C ... +55 °C

Technical Data

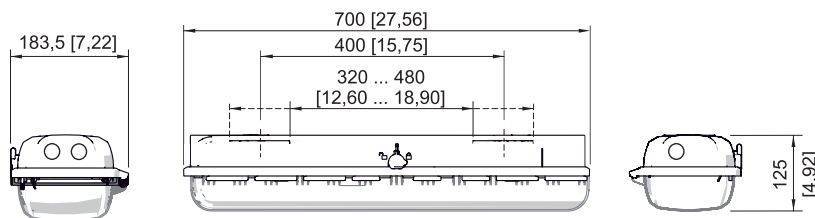
Lighting Data	
Lamps	LED
CCT	neutral white
Light distribution	120°x120° with diffusion disc
Colour temperature	5000 K
Colour Rendering	≥ 80
Mechanical Data	
Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Diffuser	with Diffusor
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Type of connection line	finely-stranded solid stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole available)
Components	
Through wiring	with 5 conductors 2.5 mm ²

Accessories and spare parts see page 539

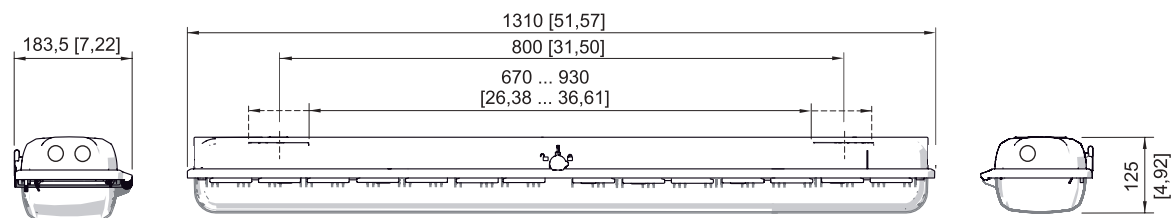
For dimensional drawings for assembly parts and accessories, see 541

E2

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Size 2



Size 4



- For use in hazardous areas with gas group IIB+H2
- Emergency luminaire for wall, ceiling, pendant or pole installation
- Latest LED technology with a high luminous efficacy and a long service life
- Central locking system
- Weekly functional test
- Annually rated operating time test

WebCode 6009B



The luminaires of the series EXLUX 6009 LED can be used for safety lighting.

E2

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table						
Design size:	2					
Lamp wattage:	28 W					
Luminous flux:	2350 lm					
Luminaire efficiency:	84 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6009/1281-171-7601-232-00	254265	64	6.750
3 x M25	polyamide black	4 mm ²	6009/1281-171-7601-131-00	254264	64	6.700
Design size:	4					
Lamp wattage:	52 W					
Luminous flux:	4700 lm					
Luminaire efficiency:	90 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6009/1481-171-7601-232-00	254257	64	9.400
3 x M25	polyamide black	4 mm ²	6009/1481-171-7601-131-00	254258	64	9.350

Art. Nr. 254264 and 254258:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required).

Thread plate (2x Plastic) included.

Art. Nr. 254265 and 254257:

Cable entry and stopping plugs must be ordered as accessories (see page 990).

Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data	
Explosion Protection	
Certificate IECEX Gas	IECEX IBE 16.0038
Certificate ATEX Gas	IBExU 16 ATEX 1199
Certificate IECEX Dust	IECEX IBE 16.0038
Certificate ATEX Dust	IBExU 16 ATEX 1199
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEx	Ex db eb mb op is IIB+H2 T4 Gb
Gas explosion protection ATEX	Ⓔ II 2 G Ex db eb mb op is IIB+H2 T4 Gb
Dust explosion protection IECEx	Ex tb op is IIIC T100 °C Db
Dust explosion protection ATEX	Ⓔ II 2 D Ex tb op is IIIC T100 °C Db
Certificates	ATEX (IBE), EAC (Sertium), IECEx (IBE)
Electrical Data	
Rated operational voltage AC	110 – 240 V
Frequency range	50 – 60 Hz
Battery operating voltage	6 V
Battery capacity	7 Ah
Self-test function	with (Standard)
Lighting Data	
Lamps	LED
CCT	neutral white
Light distribution	120°x120° with diffusion disc
Operating time	1,5 / 3h emergency light
Emergency light mode	Continuous light or stand-by light
Colour temperature	5000 K
Colour Rendering	≥ 80
Mechanical Data	
Type of protec. IP (IEC 60598)	IP66 / IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Diffuser	with Diffusor
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3 + L´
Type of connection line	solid finely-stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)
Components	
Electronic ballast	6046/111-111-020 LED NLE 60W
Through wiring	with 6 conductors 2.5 mm²
Battery-Version	NiCd-battery, gas-tight
Accessories see page 539	
Dimensional drawing see page 524 Dimensional drawings for assembly parts and accessories see page 541	



- For use in hazardous areas with gas group IIC
- Emergency luminaire for wall, ceiling, pendant or pole installation
- Latest LED technology with a high luminous efficacy and a long service life
- Central locking system
- Weekly functional test
- Annually rated operating time test

WebCode **6009C**



The luminaires of the series EXLUX 6009 LED can be used for safety lighting.

E2

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table						
Design size:	2					
Lamp wattage:	28 W					
Luminous flux:	2350 lm					
Luminaire efficiency:	84 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6009/1282-171-7611-232-00	256280	64	6.830
3 x M25	polyamide black	4 mm ²	6009/1282-171-7611-131-00	256334	64	6.780
Design size:	4					
Lamp wattage:	52 W					
Luminous flux:	4700 lm					
Luminaire efficiency:	90 lm/W					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6009/1482-171-7611-232-00	256278	64	9.350
3 x M25	polyamide black	4 mm ²	6009/1482-171-7611-131-00	256332	64	9.350

Art. nos 256334 und 256332:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required).

Thread plate (2x Plastic) included.

Art. nos 256380 und 256378:

Cable entry and stopping plugs must be ordered as accessories (see page 990).

Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data	
Explosion Protection	
Certificate IECEX Gas	IECEX IBE 16.0038
Certificate ATEX Gas	IBExU 16 ATEX 1199
Certificate IECEX Dust	IECEX IBE 16.0038
Certificate ATEX Dust	IBExU 16 ATEX 1199
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEx	Ex db eb mb op is IIC T4 Gb
Gas explosion protection ATEX	Ⓜ II 2 G Ex db eb mb op is IIC T4 Gb
Dust explosion protection IECEx	Ex tb op is IIIC T100 °C Db
Dust explosion protection ATEX	Ⓜ II 2 D Ex tb op is IIIC T100 °C Db
Certificates	ATEX (IBE), EAC (Sertium), IECEx (IBE)
Electrical Data	
Rated operational voltage AC	110 – 240 V
Frequency range	50 – 60 Hz
Battery operating voltage	6 V
Battery capacity	7 Ah
Self-test function	with (Standard)
Lighting Data	
Lamps	LED
Light distribution	120°x120° with diffusion disc
CCT	neutral white
Operating time	1,5 / 3h emergency light
Emergency light mode	Continuous light or stand-by light
Colour temperature	5000 K
Colour Rendering	≥ 80
Mechanical Data	
Type of protec. IP (IEC 60598)	IP66 / IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Diffuser	with Diffusor
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3 + L´
Type of connection line	solid finely-stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)
Components	
Through wiring	with 6 conductors 2.5 mm²
Battery-Version	NiCd-battery, gas-tight
Accessories see page 539	
Dimensional drawings see page 524 Dimensional drawings for assembly parts and accessories see page 541	



- Emergency luminaire for wall, ceiling, pendant or pole installation
- Latest LED technology with a high luminous efficacy and a long service life
- Central locking system
- Weekly functional test
- Annually rated operating time test

WebCode 6409B



The lights of the Series EXLUX 6409 can be used as emergency lighting.

E2

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in			•		•	•

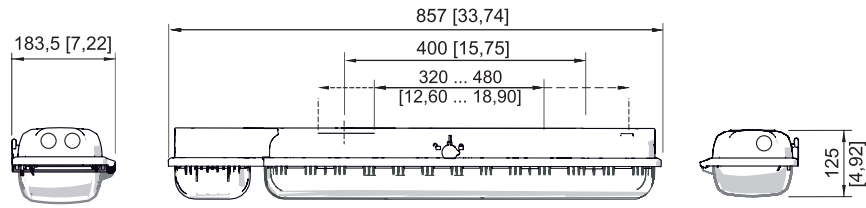
Selection Table						
Design size:	2					
Lamp wattage:	28 W					
Luminaire efficiency:	91 lm/W					
Luminous flux:	2550 lm					
Drilled hole:	3 x M25					
Material of cable entry:	polyamide black					
Operating time	Electronic balast	Product Type	Art. No.	PS	Weight kg	
1,5 h emergency light	LED NLE 80W 110-240V/7Ah/1,5h/	6409/1282-771-7611-131-00	260592	64	6.500	
3h emergency light	LED NLE 80W 110-240V/7Ah/3,0h/	6409/1282-871-7611-131-00	260594	64	6.500	
Design size:	4					
Lamp wattage:	52 W					
Luminaire efficiency:	98 lm/W					
Luminous flux:	5100 lm					
Drilled hole:	3 x M25					
Material of cable entry:	polyamide black					
Operating time	Electronic balast	Product Type	Art. No.	PS	Weight kg	
1,5 h emergency light	LED NLE 80W 110-240V/7Ah/1,5h/	6409/1482-771-7611-131-00	260593	64	9.200	
3h emergency light	LED NLE 80W 110-240V/7Ah/3,0h/	6409/1482-871-7611-131-00	260591	64	9.200	

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required).
Thread plate (2x Plastic) included.

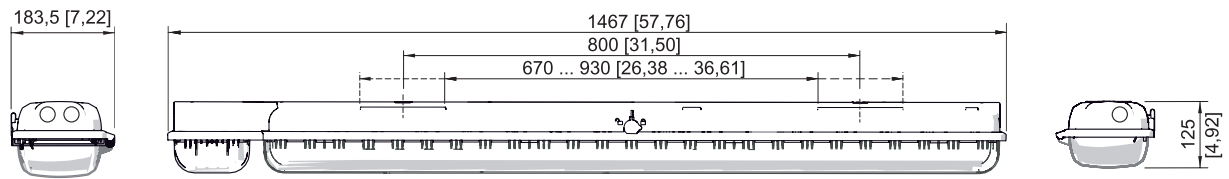
The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data	
Explosion Protection	
Certificate IECEX Gas	IECEX IBE 16.0047
Certificate ATEX Gas	IBExU 16 ATEX 1233
Certificate IECEX Dust	IECEX IBE 16.0047
Certificate ATEX Dust	IBExU 16 ATEX 1233
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEX	Ex dc ec IIC T4 Gc
Gas explosion protection ATEX	Ⓔ II 3 G Ex dc ec IIC T4 Gc
Dust explosion protection IECEX	Ex tc IIIC T100 °C Dc
Dust explosion protection ATEX	Ⓔ II 3 D Ex tc IIIC T100 °C Dc
Electrical Data	
Rated operational voltage AC	110 – 240 V
Frequency range	50 – 60 Hz
Battery operating voltage	6 V
Battery capacity	7 Ah
Self-test function	with (Standard)
Lighting Data	
Lamps	LED
CCT	neutral white
Emergency light mode	Continuous light or stand-by light
Colour temperature	5000 K
Colour Rendering	≥ 80
Mechanical Data	
Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Diffuser	with Diffusor
Enclosure material	Polyester resin, glass fibre-reinforced
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3 + L'
Connection terminals solid max.	4 mm ²
Type of connection line	solid finely-stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)
Components	
Through wiring	with 6 conductors 2.5 mm ²
Battery-Version	NiCd-battery, gas-tight
Accessories see page 539	
Dimensional drawings for assembly parts and accessories page 541	

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Size 2



Size 4



- Can be used in Ex Zones 1, 2, 21 and 22
- Explosion-protected linear luminaire with two fluorescent lamps: 18 W, 36 W and 58 W
- Extremely robust: Impact strength rating of IK10

WebCode **6001A**



The 6001 EXLUX luminaire is suited to normal lighting applications in almost any facility. In no time at all and with very little effort, using the accessories it can be fitted to the wall, ceiling or a pole, or alternatively, it can be suspended. The practical central lock has a safety switch that disconnects the power supply at all poles when the plastic enclosure is opened. Lightweight yet strong: The high-quality workmanship makes this luminaire robust and minimises maintenance requirements.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

E2

Selection Table						
Design size:	2					
Lamp wattage:	18 W					
Number of Lamps:	2					
Electronic ballast:	6042/243-21					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6001/522-9510-15-232	238144	30	4.500
	–	6 mm ²	6001/522-9510-25-232	257609	30	4.400
3 x M25	polyamide black	4 mm ²	6001/522-9510-15-131	220897 ▲	30	4.500
	polyamide black	6 mm ²	6001/522-9510-25-131	220901	30	4.350
Design size:	4					
Lamp wattage:	36 W					
Number of Lamps:	2					
Electronic ballast:	6042/243-21					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6001/542-9510-15-232	238145	30	6.800
	–	6 mm ²	6001/542-9510-25-232	257608	30	6.800
3 x M25	polyamide black	4 mm ²	6001/542-9510-15-131	220903 ▲	30	6.750
	polyamide black	6 mm ²	6001/542-9510-25-131	220905	30	6.750

Selection Table

Design size:	6					
Lamp wattage:	58 W					
Number of Lamps:	2					
Electronic ballast:	6042/963-21					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6001/562-9510-15-232	238146	30	7.900
	–	6 mm ²	6001/562-9510-25-232	239094	30	7.900
3 x M25	polyamide black	4 mm ²	6001/562-9510-15-131	220910 ▲	30	7.900
	polyamide black	6 mm ²	6001/562-9510-25-131	221737	30	7.900

Art. nos 220897, 220901, 220903, 220905, 220910 and 221737:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required).

Thread plate (2x Plastic) included.

Art. nos 238144, 257609, 238145, 257608, 238146 and 239094:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

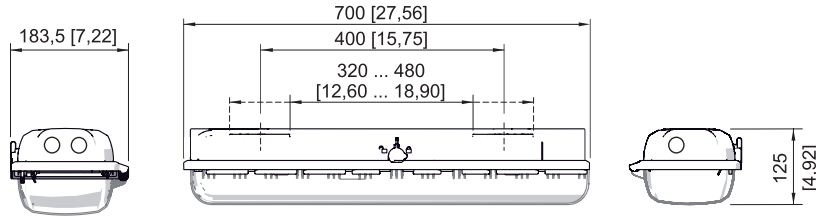
The light fittings are supplied without fluorescent lamps or mounting material. These parts must be ordered as accessories (see page 539).

Technical Data

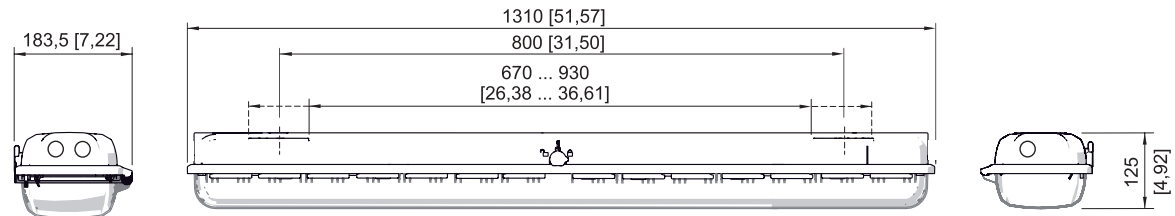
Explosion Protection	
Certificate IECEX Gas	IECEX PTB 13.0003
Certificate ATEX Gas	PTB 13 ATEX 2004
Certificate IECEX Dust	IECEX PTB 13.0003
Certificate ATEX Dust	PTB 13 ATEX 2004
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEX	Ex db eb IIC T4 Gb
Gas explosion protection ATEX	⊕ II 2 G Ex db eb IIC T4 Gb
Dust explosion protection IECEX	Ex tb IIIC T80 °C Db
Dust explosion protection ATEX	⊕ II 2 D Ex tb IIIC T80 °C Db
Certificates	ATEX (PTB), Brazil (ULB), China (CQST), EAC (STV), IECEX (PTB), India (PESO), Polen (CNBOP), Taiwan (ITRI)
Ship approval	BVIS, DNVGL
Electrical Data	
Rated operational voltage AC	220 – 240 V
Rated operational voltage DC	220 – 240 V
Frequency range	50 – 60 Hz
Lighting Data	
Lamps	Lamp base G13
Mechanical Data	
Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Lighting lock	central lock for socket wrench
Type of connection line	solid finely-stranded stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)
Components	
Through wiring	with 5 conductors 2.5 mm ²

Accessories see page 539
 For dimensional drawings for assembly parts and accessories, see 541

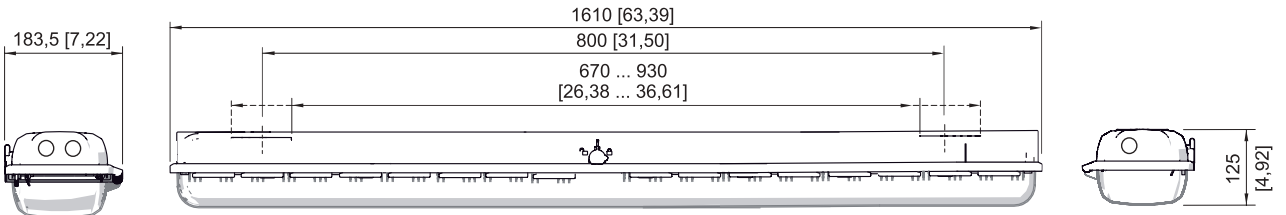
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



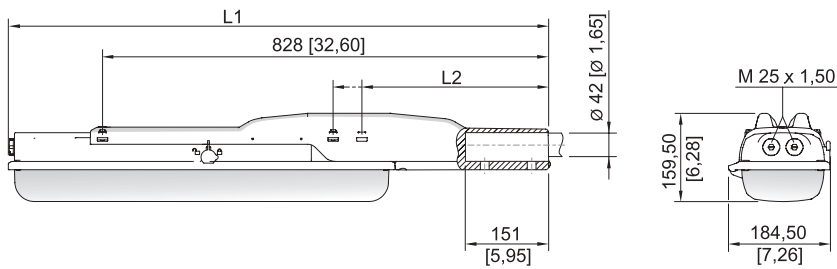
Size 2



Size 4



Size 6



Size 2: L1 = 978 mm; L2 = 390 mm
 Size 4: L1 = 1587 mm; L2 = 338 mm
 EXLUX 6001 with pole mounting sleeve

E2



- Can be used in Ex Zones 2, 21 and 22
- Explosion-protected linear luminaire with two fluorescent lamps: 18 W, 36 W and 58 W
- Extremely robust: Impact strength rating of IK10

WebCode 6401A



The 6401 EXLUX luminaire is suited to normal indoor and outdoor lighting applications. In no time at all and with very little effort, using the accessories it can be fitted to the wall, ceiling or a pole, or alternatively, it can be suspended. The practical central lock is available with an optional switching element that disconnects the power supply at all poles when the plastic enclosure is opened. Lightweight yet strong: The high-quality workmanship makes this luminaire robust and minimises maintenance requirements.

E2

Zone	ATEX / IECEx					
	0	1	2	20	21	22
Installation in			•		•	•

Selection Table

Design size:	2					
Lamp wattage:	18 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6401/522-8508-15-232	239555	30	3.200
	–	6 mm ²	6401/522-8508-25-232	239561	30	3.200
3 x M25	polyamide black	4 mm ²	6401/522-8508-15-131	239552	30	3.200
	polyamide black	6 mm ²	6401/522-8508-25-131	239558	30	3.200
Design size:	4					
Lamp wattage:	36 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6401/542-8508-15-232	239556	30	5.500
	–	6 mm ²	6401/542-8508-25-232	239562	30	5.500
3 x M25	polyamide black	4 mm ²	6401/542-8508-15-131	239553	30	5.500
	polyamide black	6 mm ²	6401/542-8508-25-131	239559	30	5.500

Selection Table

Design size:	6					
Lamp wattage:	58 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6401/562-8508-15-232	239557	30	7.900
	–	6 mm ²	6401/562-8508-25-232	239563	30	7.900
3 x M25	polyamide black	4 mm ²	6401/562-8508-15-131	239554	30	7.900
	polyamide black	6 mm ²	6401/562-8508-25-131	239560	30	7.900

Art. nos 239552, 239558, 239553, 239559, 239554 and 239560:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required). Thread plate (2x Plastic) included.

Art. nos 239555, 239561, 239556, 239562, 239557 and 239563:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without fluorescent lamps or mounting material. These parts must be ordered as accessories (see page 539).

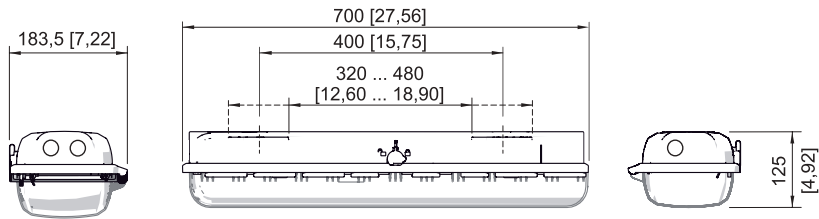
Technical Data

Explosion Protection	
Certificate IECEX Gas	IECEX PTB 14.0035
Certificate ATEX Gas	PTB 14 ATEX 2017
Certificate IECEX Dust	IECEX PTB 14.0035
Certificate ATEX Dust	PTB 14 ATEX 2016
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEX	Ex nA IIC T4 Gc
Gas explosion protection ATEX	⊕ II 3 G Ex nA IIC T4 Gc
Dust explosion protection IECEX	Ex tb IIIC T80 °C Db
Dust explosion protection ATEX	⊕ II 2 D Ex tb IIIC T80 °C Db
Certificates	ATEX (PTB), IECEX (PTB)
Ship approval	DNVGL
Electrical Data	
Rated operational voltage AC	220 – 240 V
Rated operational voltage DC	220 – 240 V
Frequency range	50 – 60 Hz
Lighting Data	
Lamps	Lamp base G13
Mechanical Data	
Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)
Components	
Through wiring	with 5 conductors 2.5 mm ²

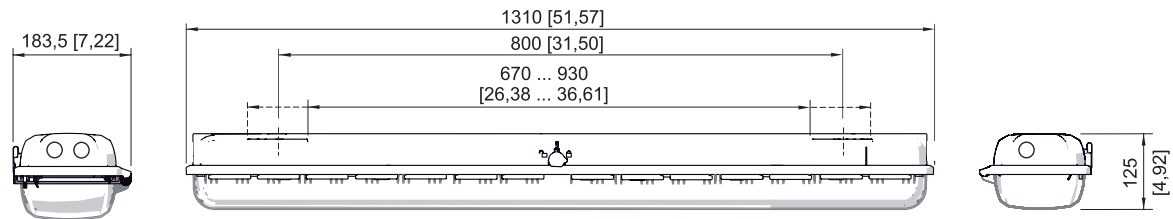
Accessories see page 539

For dimensional drawings for assembly parts and accessories, see page 541

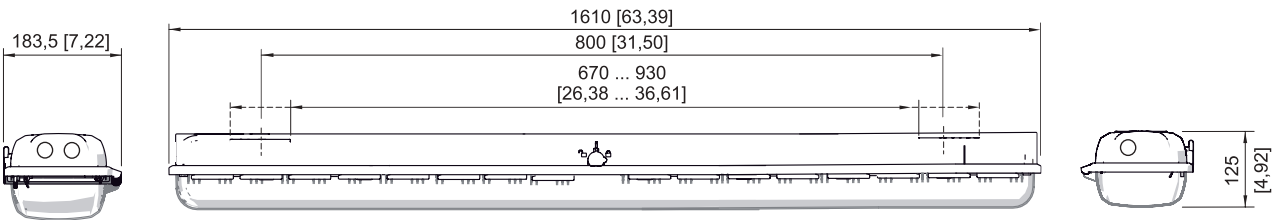
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Size 2



Size 4



Size 6

E2

Emergency Luminaire for Fluorescent Lamps

Series 6006 for Central Battery Units EXLUX

STAHL



- Can be used in Ex Zones 1, 2, 21 and 22
- Central lock for opening and closing plastic enclosure, featuring safety switch that disconnects power supply at all poles when plastic enclosure opened

WebCode 6006A



6006 series EXLUX linear emergency luminaires are connected to a central battery unit of R. STAHL. They can be used as emergency lighting and for lighting escape routes and emergency exits. In the event of a power failure, they switch from two lamps to one. An address module allows the luminaires to be controlled and monitored. These luminaires are robust and lightweight, and offer a variety of installation options.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in		•	•		•	•

E2

Selection Table							
Connection terminals solid max.:		4 mm ²					
Number of Lamps:		2					
Design size	Lamp wattage	Drilled hole	Material of cable entry	Product Type	Art. No.	PS	Weight kg
2	18 W	3 x M25	polyamide black	6006/522-9510-11511	227680	30	5.300
		3 x M20	–	6006/522-9510-11522	241217	30	5.500
4	36 W	3 x M25	polyamide black	6006/542-9510-11511	227871	30	7.690
6	58 W	3 x M25	polyamide black	6006/562-9510-11511	227872	30	8.840

Art. nos 227680, 227871 and 227872:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required). Thread plate (2x Plastic) included.

Art. no. 241217:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel SS430) included.

The light fittings are supplied without mounting material. For mounting material, see page 539.

Technical Data	
Explosion Protection	
Certificate IECEx Gas	IECEX PTB13.0033
Certificate ATEX Gas	PTB 13 ATEX 2005
Certificate IECEx Dust	IECEX PTB13.0033

Technical Data

Explosion Protection

Certificate ATEX Dust	PTB 13 ATEX 2005
Ambient temperature °C	-20 ... +50 °C
Gas explosion protection IECEx	Ex de IIC T4 Gb
Gas explosion protection ATEX	⊕ II 2 G Ex de IIC T4 Gb
Dust explosion protection IECEx	Ex tb IIIC T80 °C Db
Dust explosion protection ATEX	⊕ II 2 D Ex tb IIIC T80 °C Db

Electrical Data

Rated operational voltage AC	220 – 240 V
Rated operational voltage DC	220 – 240 V
Frequency range	50 – 60 Hz

Notes

Disconnection of the light:
When opening the luminaire
 Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected; contacts of the switching element are NC contacts, they can only be switched on again when the translucent cover and the central locking system are closed.
In case of a lamp failure, the electronic ballast disconnects the defective lamp from the power supply.

Lighting Data

Lamps	Lamp base G13
-------	---------------

Mechanical Data

Type of protec. IP (IEC 60598)	IP66/IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3
Type of connection line	stranded solid finely-stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)

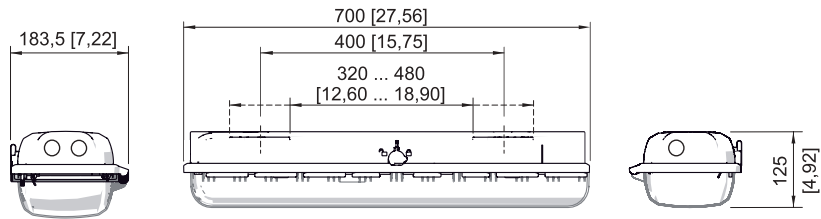
Components

Through wiring	with 5 conductors 2.5 mm ²
Address module	address code Stahl
Notes	The address module is used for the monitoring of individual luminaires and for the control of network and safety lights.

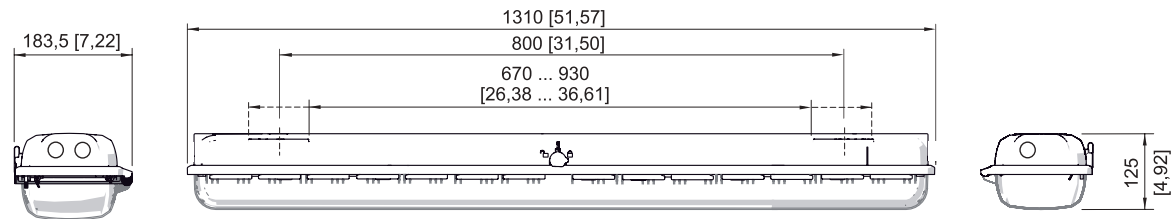
Accessories see page 539

For dimensional drawings for assembly parts and accessories, see 541

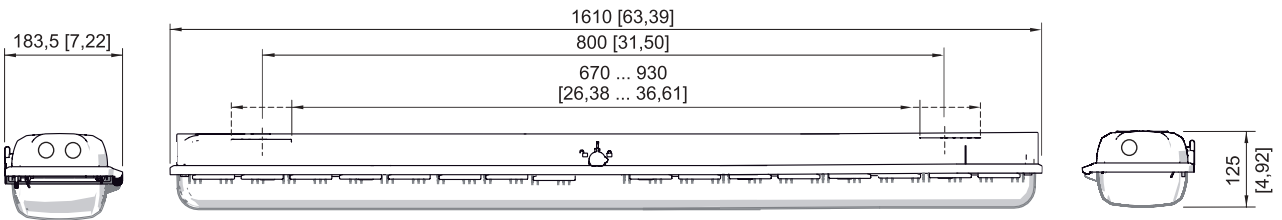
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Size 2



Size 4



Size 6

E2



- Can be used in Ex Zones 1, 2, 21 and 22
- Two fluorescent lamps: 18 W and 36 W
- Weekly function test and annual emergency light duration test

WebCode 6009A



The 6009 series EXLUX emergency luminaire is suitable for use as safety lighting. It is lightweight and requires minimal maintenance. The battery is housed in the external enclosure and powers the emergency lighting for 1.5 or 3 hours. If one lamp is faulty, the luminaire switches to the working lamp. When the central lock is opened, the luminaire is always disconnected from the power supply at all poles.

E2

Zone	ATEX / IECEx					
	0	1	2	20	21	22
Installation in		•	•		•	•

Selection Table						
Design size:	2					
Lamp wattage:	18 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6009/522-9617-1622-71	238147	30	7.600
	–	6 mm ²	6009/522-9617-2622-71	239095	30	7.600
3 x M25	polyamide black	4 mm ²	6009/522-9617-1611-71	225723 ▲	30	7.600
	polyamide black	6 mm ²	6009/522-9617-2611-71	239270	30	7.600
Design size:	4					
Lamp wattage:	36 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6009/542-9617-1622-71	238148	30	9.600
	–	6 mm ²	6009/542-9617-2622-71	239096	30	9.600
3 x M25	polyamide black	4 mm ²	6009/542-9617-1611-71	225725 ▲	30	9.650
	polyamide black	6 mm ²	6009/542-9617-2611-71	239301	30	9.600

Art. nos 225723, 239270, 225725 und 239301:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required). Thread plate (2x Plastic) included.

Art. nos 238147, 239095, 238148 and 239096:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel) included.

The light fittings are supplied without fluorescent lamps or mounting material. These parts must be ordered as accessories (see page 539).

Technical Data

Explosion Protection

Certificate IECEX Gas	IECEX PTB 13.0059
Certificate ATEX Gas	PTB 13 ATEX 2015
Certificate IECEX Dust	IECEX PTB 13.0059
Certificate ATEX Dust	PTB 13 ATEX 2015
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEX	Ex de mb IIC T4 Gb
Gas explosion protection ATEX	⊕ II 2 G Ex de mb IIC T4 Gb
Dust explosion protection IECEX	Ex tb IIIC T80 °C Db
Dust explosion protection ATEX	⊕ II 2 D Ex tb IIIC T80 °C Db
Certificates	ATEX (PTB), Brazil (ULB), China (CQST), EAC (STV), IECEX (PTB), Polen (CNBOP)
Ship approval	BVIS, DNVGL

Electrical Data

Rated operational voltage AC	220 – 240 V
Frequency range	50 – 60 Hz
Battery operating voltage	6 V
Battery capacity	7 Ah
Self-test function	with (Standard)

Notes

Disconnection of the light:
When opening the light
 Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected; contacts of the switching element are NC contacts, they can only be switched on again when the lamp cover and the central locking system are closed.
In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply.

Lighting Data

Emergency light mode	Continuous light or stand-by light
Operating time	1,5 / 3h emergency light
Lamps	Lamp base G13

Mechanical Data

Type of protec. IP (IEC 60598)	IP66 / IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Gasket material	Silicone
Lamp cover material	Polycarbonate
Lighting lock	central lock for socket wrench
Installed terminal strip	PE + N + L1 + L2 + L3 + L'
Type of connection line	finely-stranded solid
Enclosure colour	light grey (RAL 7035)
Impact strength (IK code)	IK10 (IEC 62262)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)

Components

Electronic balast	6043-792-201
Through wiring	with 6 conductors 2.5 mm ²
Battery-Version	NiCd-battery, gas-tight

Accessories see page 539, dimensional drawing see page 524, for dimensional drawings for assembly parts and accessories, see page 541



- Can be used in Ex Zones 2, 21 and 22
- Weekly function test and annual emergency light duration test

WebCode 6409A



The 6409 Series EXLUX emergency luminaire is suitable for use as safety lighting. It is lightweight and requires minimal maintenance. The external battery powers the emergency lighting for 1.5 or 3 hours. If one lamp is faulty, the luminaire switches to the working lamp. When the luminaire or battery case is opened, the battery circuit is disconnected. The robust plastic enclosure of the luminaire is easy to open thanks to the practical central lock.

E2

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Installation in			•		•	•

Selection Table

Design size:	2					
Lamp wattage:	18 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6409/522-9607-1622-7	240874	30	7.400
	–	6 mm ²	6409/522-9607-2622-7	240877	30	7.400
3 x M25	polyamide black	4 mm ²	6409/522-9607-1611-7	240873	30	7.300
	polyamide black	6 mm ²	6409/522-9607-2611-7	240876	30	7.300
Design size:	4					
Lamp wattage:	36 W					
Number of Lamps:	2					
Drilled hole	Material of cable entry	Connection terminals solid max.	Product Type	Art. No.	PS	Weight kg
3 x M20	–	4 mm ²	6409/542-9607-1622-7	240895	30	9.630
	–	6 mm ²	6409/542-9607-2622-7	240897	30	9.800
3 x M25	polyamide black	4 mm ²	6409/542-9607-1611-7	240894	30	9.700
	polyamide black	6 mm ²	6409/542-9607-2611-7	240896	30	9.700

Art. nos 240873, 240876, 240894 and 240896:

Cable entry (2 x M25 Ø 7 – 17 mm) and stopping plugs (2 x M25 x 1,5) made from moulded material are included loose with the product (installation required).
Thread plate (2x Plastic) included.

Art. nos 240874, 240877, 240895 and 240897:

Cable entry and stopping plugs must be ordered as accessories (see page 990). Thread plate (2x Stainless steel) included.

The light fittings are supplied without fluorescent lamps or mounting material. These parts must be ordered as accessories (see page 539).

Technical Data

Explosion Protection

Certificate IECEX Gas	IECEX PTB 14.0043
Certificate ATEX Gas	PTB 14 ATEX 2022
Certificate IECEX Dust	IECEX PTB 14.0043
Certificate ATEX Dust	PTB 14 ATEX 2022
Ambient temperature °C	-30 ... +50 °C
Gas explosion protection IECEX	Ex nA d mb IIC T4 Gc
Gas explosion protection ATEX	⊕ II 3 G Ex nA d mb IIC T4 Gc
Dust explosion protection IECEX	Ex tc IIIC T80 °C Dc
Dust explosion protection ATEX	⊕ II 3 D Ex tc IIIC T80 °C Dc
Dust explosion protection IECEX 2	Ex tb IIIC Db
Dust Explosion Protection ATEX 2	⊕ II 2 D Ex tb IIIC Db
Certificates	ATEX (PTB), IECEX (PTB)

Electrical Data

Rated operational voltage AC	220 – 240 V
Frequency range	50 – 60 Hz
Battery operating voltage	6 V
Battery capacity	7 Ah
Self-test function	with (Standard)

Notes

Disconnection of the light:
When opening the light
Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected; contacts of the switching element are NC contacts, they can only be switched on again when the lamp cover and the central locking system are closed.
In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply.

Lighting Data

Lamps	Lamp base G13
Operating time	1,5 / 3h emergency light
Emergency light mode	Continuous light or stand-by light

Mechanical Data

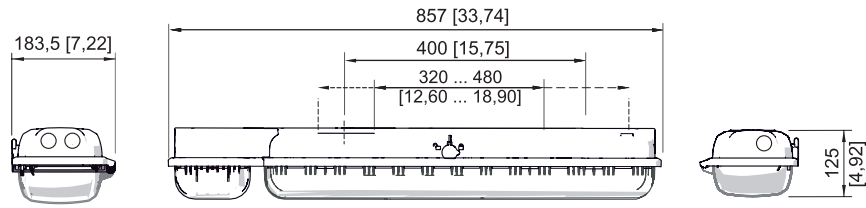
Type of protec. IP (IEC 60598)	IP66 / IP67
Protection class	I (internal PE connection)
Enclosure material	Polyester resin, glass fibre-reinforced
Gasket material	Silicone
Lamp cover material	Polycarbonate
Installed terminal strip	PE + N + L1 + L2 + L3 + L'
Type of connection line	solid finely-stranded
Impact strength (IK code)	IK10 (IEC 62262)
Enclosure colour	light grey (RAL 7035)
Notes	Connection terminals: Spring clamp terminal (2 free clamping units per pole)

Components

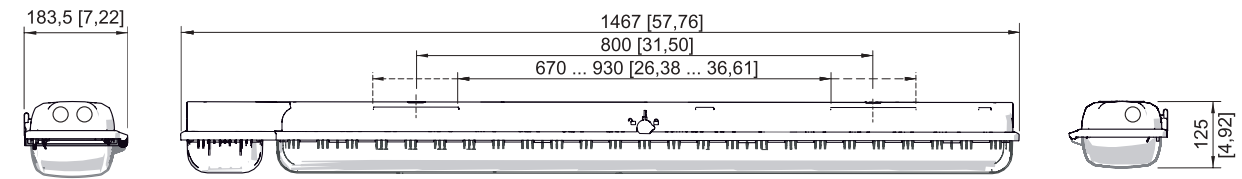
Through wiring	with 6 conductors 2.5 mm ²
Battery-Version	NiCd-battery, gas-tight
Electronic ballast	6043/792-201

Accessories see page 539, for dimensional drawings for assembly parts and accessories, see page 541

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Size 2


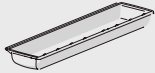
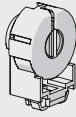
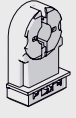
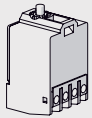
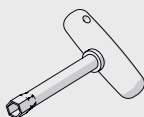
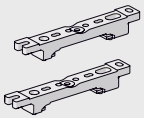
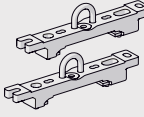



Size 4

Linear Luminaire for Fluorescent Lamps EXLUX

Series 6001, 6002, 6006, 6009, 6401, 6402, L402, 6409

STAHL

Accessories and Spare Parts					
Figure	Description	Art. No.	PS	Weight kg	
Fluorescent lamp					
	18 W, 1350 lm	108952 ▲	37	0.100	
	36 W, 3350 lm	108951 ▲	37	0.200	
	58 W, 5200 lm	108950 ▲	37	0.220	
Cover					
	for luminaire size 2	222427	37	0.639	
	for luminaire size 2 (resistant to aromatic substances)	256534	37	0.679	
	for luminaire size 4	222428	37	1.149	
	for luminaire size 4 (resistant to aromatic substances)	256535	37	1.167	
	for luminaire size 6	222429	37	1.450	
	for luminaire size 6 (resistant to aromatic substances)	256536	37	1.473	
Lamp holder					
	G13 Ex e lamp holder for light fittings with T8 fluorescent lamps for use in Zone 1	117252 ▲	37	0.036	
	G13 lamp holder for light fittings with T8 fluorescent lamps for use in Zone 2 and for industrial applications (x 100 units)	107275	37	0.008	
Contact Element					
	8080/1-3-L 2 NC contact element	132527 ▲	37	0.026	
Socket Key					
	M8 / wrench size 13; to open/close the central locking	222430 ▲	36	0.210	
Mounting rail					
	for a variable mounting distance; 1 pair	222826 ▲	36	0.350	
Mounting bracket					
	mounting clamp mounted on a mounting rail for a variable mounting distance; 1 pair	222456 ▲	36	0.400	
Pole mounting sleeve					
	for the subsequent mounting on lights 18 W and 36 W, completely with assembly parts	227512	36	3.200	

E2

Accessories and Spare Parts

Figure	Description	Art. No.	PS	Weight kg
Pipe clamp				
	R 1 1/2"; with mounting rail for a variable mounting distance; Material: stainless steel; 1 pair	222459 ▲	36	1.200
	R 1 1/4"; with mounting rail for a variable mounting distance; Material: stainless steel; 1 pair	222458 ▲	36	0.900
	R 2"; with mounting rail for a variable mounting distance; Material: stainless steel; 1 pair	222460 ▲	36	0.750
Ring bolt				
	M8, direct mounting in insert nuts; 1 pair	115736 ▲	36	0.115
Breather				
	Thread: M25 x 1.5; 1 pc; for installation in lights; in moulded material; without counter nut	138573 ▲	15	0.010
	Thread: M25 x 1.5; 20 pc; for installation in lights; in moulded material; without counter nut	138576 ▲	15	0.200
	M25 x 1.5 in order to avoid condensate formation	115738 ▲	36	0.017
Ceiling and wall mounting bracket				
	mounted on a mounting rail for a variable mounting distance; Material: stainless steel; Lamp can be swiveled in steps of 15°; 1 pair	222827 ▲	36	1.200
Bracket for wall mounting with tube				
	for side entry lamp; with tube, length 400 mm, d 42 mm	108947 ▲	36	2.480
Battery set				
	Battery cover with built-in battery. Gas-tight NiCd battery; 7 Ah / 6 V	223532	37	1.195

E2