

ARUSH SWITCHGEARS

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Numerous Brands
One Supplier

ARUSH



At *Arush Switchgears*, it is our always our constant endeavour to help our esteemed customers get the best on most competitive market prices.

Our strong alliance with the broad-list of brands helps us to always offer an extensive range of items, new product introductions from latest technologies as soon as they are available in the market. There are new products that are introduced on regular basis, from over a ocean of brands.

We'd really appreciate if you can share your product requirements for following brands & categories to get the best quotes from us.

Our Range

Automation & Control Gears	Lighting
Batteries	Pneumatics
Cables & Wires	Power Supplies
Connectors	Relays
Displays & Optoelectronics	ESD Control & Clean Room
Electricals	Sockets & Circuit Breakers
Enclosure & Storage	Switches
Fuses	Test & Measurement
HVAC, Fan & Thermal Management	Tools

Our Top Brands





- Encoders
- Bearingless Encoders
- Motor Feedback Systems
- Linear Measuring Technology
- Shaft Copying Systems
- Inclinometers
- Slip Rings
- Signal Converters
- Displays, Counters, Process Devices
- Safe Speed Monitors

Kübler worldwide

The Kübler Group is a worldwide leading and strongly growing family-run company with four production sites, eleven subsidiaries and strong agents in more than 50 countries.

Kübler always focuses on understanding the application of the customer. This results in suitable products and solutions. So trust in a technically well-founded advice and benefit from a lasting application support. Over 480 persons are working all over the world for Kübler and pursue one goal: inspire their customers!



Europe

Austria
Belarus
Belgium
Bulgaria
Croatia
Czech Republic
Denmark
Estonia
Finland
France
Germany
Great Britain
Greece
Hungary
Iceland
Ireland

Lithuania
Italy
Netherlands
Norway
Poland
Portugal
Russia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Turkey
Ukraine

Africa

Egypt
Morocco
South Africa
Tunisia

North and South America

Argentina
Brazil
Canada
Mexico
Peru
U.S.A.

Oceania

Australia
New Zealand

Asia

China
Hong Kong
India
Indonesia
Israel
Lebanon
Malaysia
Philippines
Singapore
South Korea
Taiwan, R.O.C
Thailand
United Arab Emirates
Vietnam

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Our Pulses for Innovations



The Kübler Group belongs today to the leading specialists worldwide in the fields of position and motion sensors, functional safety, counting and process technology and transmission technology.

Founded in the year 1960 by Fritz Kübler, the family business is now led by the next generation of Gebhard and Lothar Kübler.

Eleven international group members and distributors in more than 50 countries offer local product know-how, service and advice throughout the world.

Innovative product and sector solutions, as well as solutions for functional safety and a high level of service, are the reasons behind our global success.

The strict focus on quality ensures the highest levels of reliability and a long service life for our products in the field.

Over 480 dedicated people worldwide make this success possible and ensure that customers can continue to place their trust in our company.



Our Product Portfolio



Position and Motion Sensors

- Incremental and absolute encoders
- Motor Feedback Systems
- Bearingless encoders
- Shaft copying systems
- Linear magnetic measuring systems
- Draw-wire encoders
- Inclinometers
- Connection technology

Transmission Technology

- Slip rings, modular system
- Slip rings, bearingless modular system
- Slip rings, contactless transmission
- Slip rings, compact and low-maintenance
- Slip rings, Ethernet transmission
- Slip rings, High Current
- Optical fiber signal transmission modules, signal converters
- Cables, connectors and pre-assembled cordsets

Functional Safety

- Certified incremental and absolute encoders
- Certified explosion-protected encoders ATEX / IECEx
- Safe speed monitors
- Safe shaft copying systems
- Services
- Connection technology

Counters and Process Devices

- Pulse counters and preset counters
- Hour meters and timers
- Frequency meters and tachometers
- Combination time and energy meters
- Position displays
- Process displays and controllers for temperature, analog signals and strain-gauge
- Setpoint adjuster

We offer Solutions for the following Industries:



The high performance level and reliability of the Kübler products are based on our long experience in these demanding application sectors. Learn more about our application-specific solutions under:

www.kuebler.com/industries



Position and Motion Sensors

Already back in 1997 Kübler introduced the first absolute multiturn encoder with hollow shaft and an installation depth of only 42 mm – a world first. Constant innovations such as the Safety-Lock™ Design or the first optical electronic multiturn stage were to follow this tradition and made new applications and customer solutions possible.



Incremental and absolute singleturn, multiturn and fieldbus encoders

Whether with interference-free positioning or controlling in real-time, as a result of their ingenious safety concept, their extremely rugged technology and their compact construction, Kübler encoders make a significant contribution to the reliability of plant and machinery.



Incremental and absolute bearingless encoders

Thanks to their technology, the magnetic bearingless encoders are almost wear-free and at the same time very robust. With their reduced mounting depth of only 10 mm bearingless encoders are particularly compact and can be mounted quickly and easily on shaft diameters up to 390 mm.



Linear measuring technology

Kübler offers a wide range of solutions and technologies for measuring linear positions and motions:

- Shaft copying system
- Draw-wire encoders
- Magnetic measuring system
- Length measuring kits



Inclinometers

Kübler inclinometers are naturally suited to use in harsh industrial environments, whether in railway technology, solar installations, commercial vehicles or cranes and hoists. They boast a compact, rugged construction, excellent shock resistance and a high protection rating.

new

Motor Feedback Systems for Servo Motors

Sendix S36

• Compact and robust

Suitable for installation on standard servomotors with an unchanged size of 36 mm only. Mechanical robustness thanks to latest mechanical gear technology, robust bearing structure, reliable connector technology, torque-proof stator coupling and wide temperature range.

• High signal quality

Resolution ≤ 2048 ppr SinCos or ≤ 24 bits fully digital thanks to Phased Array Sensor Technology.

• All interfaces

An encoder platform with all classical and all open source interfaces for the Single Cable Solution.

• Functional safety

Certified Motor Feedback System, from the sensors, through the mechanics, up to the electrical interface.

i Functional Safety













Safety is – not least since the EU Machinery Directive 2006/42/EC – an “integral part of the construction of drives”.

Systems and components for Functional Safety

- Approved SIL2/PLd and SIL3/PLe encoders - absolute and incremental
- Safety modules for safe speed monitoring
- Safe shaft copying systems


























Incremental encoders

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ± 1°)	Optical (Accuracy ≤ ±0.015°)	Resolution max. in ppr	Push-pull	RS422	SinCos	Open collector	Ø Hollow shaft max. in mm [inch]	Speed max. in min ⁻¹ (shaft/hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant	Approvals
	Miniature, optical 2400 (shaft) 2420 (hollow shaft)	24 [0.94]	-	•	1.024	•	-	-	-	6 [0.24]	12.000	-20 ... +85 [-4 ... +185]	IP64	cable	5 ... 24 8 ... 30	160	•	UL US
	Miniature, magnetic 2430 (shaft) 2440 (hollow shaft)	24 [0.94]	•	-	256	-	•	-	-	6 [0.24]	12.000	-20 ... +85 [-4 ... +185]	IP67	cable	5	300	•	-
	Compact, optical Sendix Base KIS40 (shaft) Sendix Base KIH40 (hollow s.)	40 [1.57]	-	•	2.500	•	•	-	•	8 [0.31]	4.500	-20 ... +70 [-4 ... +158]	IP64	cable	5 10 ... 30	250	•	UL US
	Compact, optical 3610 (shaft) 3620 (hollow shaft)	36 [1.43]	-	•	2.500	•	•	-	-	8 [0.31]	12.000	-20 ... +85 [-4 ... +185]	IP64	cable M12	5 5 ... 18 8 ... 30	300	•	UL US
	Compact, optical plastic housing 3700 (shaft) 3720 (hollow shaft)	37 [1.46]	-	•	1.024	•	•	-	-	8 [0.31]	6.000	-20 ... +70 [-4 ... +158]	IP65	cable	5 5 ... 30 10 ... 30	250	•	UL US
	Standard, optical Sendix 5000 (shaft) Sendix 5020 (hollow shaft) 24one ¹⁾	58 [2.28]	-	•	5.000	•	•	-	•	15 [0.59] 15.87 [5/8"]	12.000	-40 ... +85 [-40 ... +185]	IP67	cable M12 M23 MIL Sub-D	5 5 ... 30 10 ... 30	300	•	UL US Ex 2/22
	Standard, optical Sendix Base KIS50 (shaft) Sendix Base KIH50 (hollow s.)	58 [2.28]	-	•	5.000	•	•	-	•	15 [0.59]	6.000	-20 ... +70 [-4 ... +158]	IP65	cable M12 M23	5 5 ... 30 10 ... 30	300	•	CE Ex 2/22
	Standard, optical high temperature 5803 (shaft) 5823 (hollow shaft)	58 [2.28]	-	•	5.000	•	•	-	-	12 [0.47]	12.000	-20 ... +110 [-4 ... +230]	IP65	cable M23 MIL	5 10 ... 30	300	•	UL US
	Standard, optical sine wave output, with zero pulse 5804 (shaft) 5824 (hollow shaft)	58 [2.28]	-	•	5.000	-	-	•	-	12 [0.47]	12.000	-20 ... +85 [-4 ... +185]	IP65	cable M23	5 10 ... 30	180	•	UL US
	Standard, optical sine wave output, highly interpolable Sendix 5814 (shaft) Sendix 5834 (hollow shaft)	58 [2.28]	-	•	1.024 and 2.048	-	-	•	-	15 [0.59]	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12	5 10 ... 30	400	•	UL US Ex 2/22
	Standard, optical Motor-Line Sendix 5834 (tapered shaft)	58	-	•	1.024 and 2.048	-	-	•	-	10 [0.39] tap. shaft	12.000	-40 ... +90 [-40 ... +194]	IP67	cable PCB connector	5 10 ... 30	400	•	UL US
	Standard, optical sine wave output, SIL2/ PLd Sendix SIL 5814FS2 (shaft) Sendix SIL 5834FS2 (hollow s.)	58 [2.28]	-	•	1.024 and 2.048	-	-	•	-	14 [0.55]	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M12 M23	5 10 ... 30	400	•	UL US Ex 2/22 SIL2 PLd












1) We offer for all encoders configured with the underlined preferential options our free of charge 24one delivery promise. Orders placed on working days before 9AM CET are manufactured and ready for dispatch the same day. The 24one delivery promise is limited to 20 pieces per delivery.

Incremental encoders





		Ø Dimensions in mm [inch]	Magnetic (Accuracy ± 1°)	Optical (Accuracy ≤ ± 0.015°)	Resolution max. in ppr	Push-pull	RS422	SinCos	Open collector	Ø Hollow shaft max. in mm [inch]	Speed max. in min ⁻¹ (shaft/hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant	Approvals
	Standard, optical sine wave output, SIL3 / PLe Sendix SIL 5814FS3 (shaft) Sendix SIL 5834FS3 (hollow s.)	58 [2.28]	-	•	1.024 and 2.048	-	-	•	-	14 [0.55]	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M12 M23	5 10 ... 30	400	•	
	Standard, optical high resolution 5805 (shaft) 5825 (hollow shaft)	58 [2.28]	-	•	36.000	•	•	-	-	12 [0.47]	12.000	-20 ... +105 [-4 ... +221]	IP65	cable M23	5 10 ... 30	800	•	
	Standard, optical stainless-steel Sendix 5006 (shaft) Sendix 5026 (hollow shaft)	58 [2.28]	-	•	5.000	•	•	-	-	15 [0.59]	6.000	-40 ... +85 [-40 ... +185]	IP67	cable M12	5 10 ... 30	300	•	
	Standard, optical ATEX / IECEx – zone 1/21 7000 (shaft) 7020 (hollow shaft)	70 [2.76]	-	•	5.000	•	•	-	-	-	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 5 ... 30 10 ... 30	300	•	
	Standard, optical ATEX / IECEx – zone 1/21 SIL2 / PLd Sendix SIL 7014FS2 (shaft)	70 [2.76]	-	•	1.024 and 2.048	-	-	•	-	-	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 10 ... 30	400	•	
	Standard, optical ATEX / IECEx – zone 1/21 SIL3 / PLe Sendix SIL 7014FS3 (shaft)	70 [2.76]	-	•	1.024 and 2.048	-	-	•	-	-	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 10 ... 30	400	•	
	Standard, optical ATEX / IECEx – mining 7100 (shaft) 7120 (hollow shaft)	70 [2.76]	-	•	5.000	•	•	-	-	-	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 5 ... 30 10 ... 30	300	•	
	Standard, optical large hollow shaft 5821 (hollow shaft)	58 [2.28]	-	•	5.000	•	•	-	-	28 [1.10]	2.500	-20 ... +70 [-4 ... +158]	IP64	cable M12	5 8 ... 30	300	•	-
	Large hollow shaft, optical A020 (hollow shaft)	100 [3.94]	-	•	5.000	•	•	•	-	42 [1.65]	3.000	-40 ... +70 [-40 ... +140]	IP65	cable M12 M23	5 5 ... 30 10 ... 30	300	•	
	Large hollow shaft, optical robust A02H (hollow shaft)	100 [3.94]	-	•	5.000	•	•	•	-	42 [1.65]	6.000	-40 ... +80 [-40 ... +176]	IP65	cable M12 M23 MIL	5 5 ... 30 10 ... 30	300	•	
	Heavy Duty, optical Sendix H100 (shaft)	115 [4.53]	-	•	3.600	•	•	-	-	-	6.000	-40 ... +100 [-40 ... +212]	IP66	cable ¹⁾	5 5 ... 30 10 ... 30	300	•	
	Heavy Duty, optical Sendix H120 (hollow shaft)	100 [3.94]	-	•	5.000	•	•	-	-	28 [1.10]	6.000	-40 ... +100 [-40 ... +212]	IP67	cable ¹⁾ M12 M23 opt. fiber	5 10 ... 30	300	•	

1) With terminal box













Absolute encoders
Singleturn

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit	SSI interface	BiSS interface	Analog/RS485 interface	Parallel interface	Additional incremental track	Speed max. in min ⁻¹ (shaft/ hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Miniature, magnetic 2450 (shaft) 2470 (hollow shaft)	24 [0.94]	•	–	12	•	–	–	–	–	12.000	-20 ... +85 [-4 ... +185]	IP67	cable	5	•	–
	Compact, magnetic analog Sendix 3651 (shaft) Sendix 3671 (hollow shaft)	36 [1.43]	•	–	12	–	–	4 ... 20 mA 0 ... 10 V	–	–	6.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	10 ... 30 15 ... 30	•	e1 Ex _{2/22}
	Compact, optical Sendix F3653 (shaft) Sendix F3673 (hollow shaft)	36 [1.43]	–	•	17	•	•	–	–	Sin Cos RS422	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12	5 10 ... 30	•	UL _{US}
	Standard, optical parallel, highspeed 5852 (shaft) 5872 (hollow shaft)	58 [2.28]	–	•	14	–	–	–	•	–	12.000/ 6.000	-20 ... +85 [-4 ... +185]	IP66	cable M23	5 10 ... 30	•	UL _{US}
	Standard, optical Sendix 5853 (shaft) Sendix 5873 (hollow shaft)	58 [2.28]	–	•	21	•	•	–	–	Sin Cos RS422	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP67	cable M12 M23	5 10 ... 30	•	UL _{US} Ex _{2/22}
	Standard, optical Motor-Line Sendix 5873 (tapered shaft)	58 [2.28]	–	•	21	•	•	–	–	SinCos RS422	12.000	-40 ... +90 [-40 ... +194]	IP65	cable PCB connector	5 4.5 ... 5.5	•	UL _{US}
	Standard, optical SIL2/ PLd Sendix SIL 5853FS2 (shaft) Sendix SIL 5873FS2 (hollow s.)	58 [2.28]	–	•	17	•	•	–	–	Sin Cos	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	UL _{US} Ex _{2/22} SIL2 PLd
	Standard, optical SIL3/ PLe Sendix SIL 5853FS3 (shaft) Sendix SIL 5873FS3 (hollow s.)	58 [2.28]	–	•	17	•	•	–	–	Sin Cos	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	UL _{US} Ex _{2/22} SIL3 PLe
	Standard, optical stainless-steel SSI/ parallel 5876 (hollow shaft)	58 [2.28]	–	•	14	•	–	–	•	–	6.000	-20 ... +80 [-4 ... +176]	IP67	cable M12	5 10 ... 30	•	UL _{US} Ex _{2/22}
	Standard, optical ATEX/IECEX – zone 1/21 Sendix 7053 (shaft) Sendix 7073 (hollow shaft)	70 [2.76]	–	•	17	•	•	–	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	Ex IECEX
	Standard, optical ATEX/IECEX – Zone 1/21 SIL2/ PLd Sendix SIL 7053FS2 (shaft)	70 [2.76]	–	•	17	•	•	–	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	Ex IECEX SIL2 PLd


Absolute encoders Singleturn

	Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ≤ ±0.015°)	Resolution max. in bit	SSI interface	BiSS interface	Analog/RS485 interface	Parallel interface	Additional incremental track	Speed max. in min ⁻¹ (shaft/hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
 Standard, optical ATEX/IECEx – zone 1/21 SIL3/ PLe Sendix SIL 7053FS3 (shaft)	70 [2.76]	-	•	17	•	•	-	-	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
 Standard, optical ATEX/IECEx – mining Sendix 7153 (shaft) Sendix 7173 (hollow shaft)	70 [2.76]	-	•	17	•	•	-	-	-	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	














Absolute encoders Singleturn Fieldbus

	Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ≤ ±0.015°)	CANopen	SAE J1939	PROFIBUS DP	EtherCAT	PROFINET IO	EtherNet/IP	Resolution max. in bit	Speed max. in min ⁻¹ (shaft/hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
 Compact, magnetic Sendix M3658 (shaft) Sendix M3678 (hollow shaft)	36 [1.43]	•	-	•	•	-	-	-	-	14	6.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	8 ... 30	•	
 Compact, optical Sendix F3658 (shaft) Sendix F3678 (hollow shaft)	36 [1.43]	-	•	•	-	-	-	-	-	16	12.000	-40 ... +85 [-40 ... +185]	IP67	cable	10 ... 30	•	
 Standard, optical Sendix 5858 (shaft) Sendix 5878 (hollow shaft)	58 [2.28]	-	•	•	-	•	•	•	-	16	9.000	-40 ... +80 [-40 ... +176]	IP67	cable M12 M23	10 ... 30	•	
 Standard, optical electronic singleturn Sendix F5858 (shaft) Sendix F5878 (hollow shaft)	58 [2.28]	-	•	-	-	-	-	-	•	16	8.000	-40 ... +80 [-40 ... +176]	IP65	M12	10 ... 30	•	
 Standard, optical ATEX/IECEx – zone 1/21 Sendix 7058 (shaft) Sendix 7078 (hollow shaft)	70 [2.76]	-	•	•	-	•	-	-	-	16	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
 Standard, optical ATEX/IECEx – mining Sendix 7158 (shaft) Sendix 7178 (hollow shaft)	70 [2.76]	-	•	•	-	•	-	-	-	16	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	

Absolute encoders
Multiturn










	Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit S+T+MT	SSI interface	BiSS interface	Analog/RS485 interface	Additional incremental track	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	36 [1.42]	•	–	12 + 16	–	–	4 ... 20 mA 0 ... 10 V 0 ... 5 V	–	6.000	-40 ... +85 [-40 ... +185]	IP67	cable M12	10 ... 30 15 ... 30	•	e1 pending cUL US Ex 2/22
Compact, magnetic electronic multiturn Sendix M3661 (shaft) Sendix M3681 (hollow shaft)															
	36 [1.42]	•	–	14 + 24	•	–	–	–	6.000	-40 ... +85 [-40 ... +185]	IP67	cable M12	10 ... 30	•	e1 pending cUL US Ex 2/22
Compact, magnetic electronic multiturn Sendix M3663 (shaft) Sendix M3683 (hollow shaft)															
	36 [1.42]	•	–	12 + 16	–	–	4 ... 20 mA 0 ... 10 V 0 ... 5 V	–	4.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	10 ... 30 15 ... 30	•	e1 pending cUL US Ex 2/22 pending
Compact, magnetic robust, electronic multiturn Sendix M3661R (shaft)															
	36 [1.42]	•	–	14 + 24	•	–	–	–	4.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	10 ... 30	•	e1 pending cUL US Ex 2/22 pending
Compact, magnetic robust, electronic multiturn Sendix M3663R (shaft)															
	36 [1.42]	–	•	17 + 24	•	•	–	SinCos RS422	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12	5 10 ... 30	•	cUL US
Compact, optical electronic multiturn Sendix F3663 (shaft) Sendix F3683 (hollow shaft)															
	58 [2.28]	•	–	12 + 16	–	–	4 ... 20 mA 0 ... 10 V 0 ... 5 V	–	4.000	-40 ... +85 [-40 ... +185]	IP65	cable M12	10 ... 30 15 ... 30	•	cUL US Ex 2/22
Standard, magnetic electronic multiturn Sendix M5861 (shaft)															
	58 [2.28]	•	–	14 + 24	•	–	–	–	4.000	-40 ... +85 [-40 ... +185]	IP65	cable M12	10 ... 30	•	cUL US Ex 2/22
Standard, magnetic electronic multiturn Sendix M5863 (shaft)															
	58 [2.28]	–	•	17 + 24	•	•	–	SinCos RS422	12.000	-40 ... +85 [-40 ... +185]	IP67	cable M12 M23	5 10 ... 30	•	cUL US Ex 2/22
Standard, optical electronic multiturn Sendix F5863 (shaft) Sendix F5883 (hollow shaft)															
	58 [2.28]	–	•	17 + 24	•	–	–	SinCos RS422	9.000	-40 ... +85 [-40 ... +185]	IP65	cable	5 10 ... 30	•	cUL US
Standard, optical Motor-Line electronic multiturn Sendix F5883M (hollow shaft)															
	58 [2.28]	–	•	17 + 12	•	•	–	SinCos RS422	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12 M23	5 10 ... 30	•	cUL US Ex 2/22
Standard, optical mechanical multiturn Sendix 5863 (shaft) Sendix 5883 (hollow shaft)															

Absolute encoders Multiturn





		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit ST+MT	SSI interface	BiSS interface	Analog/RS485 interface	Additional incremental track	Speed max. in min ⁻¹ (shaft/ hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Standard, optical mechanical multiturn SIL2/ PLd Sendix SIL 5863FS2 (shaft) Sendix SIL 5883FS2 (hollow s.)	58 [2.28]	–	•	17+12	•	•	–	SinCos	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	
	Standard, optical mechanical multiturn SIL3/ PLe Sendix SIL 5863FS3 (shaft) Sendix SIL 5883FS3 (hollow s.)	58 [2.28]	–	•	17+12	•	•	–	SinCos	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 Sendix 7063 (shaft) Sendix 7083 (hollow shaft)	70 [2.76]		•	17+12	•	•	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 SIL2/ PLd Sendix SIL 7063FS2 (shaft)	70 [2.76]		•	17+12	•	•	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 SIL3/ PLe Sendix SIL 7063FS3 (shaft)	70 [2.76]		•	17+12	•	•	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – mining Sendix 7163 (shaft) Sendix 7183 (hollow shaft)	70 [2.76]		•	17+12	•	•	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Large hollow shaft AX	–	• ¹⁾	• ¹⁾	17+24	• ¹⁾	• ¹⁾	• ¹⁾	• ¹⁾	4.500	–	IP64	• ¹⁾	• ¹⁾	•	–

1) Depends on the encoder used.

Absolute encoders
Multiturn
Fieldbus

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ≤ ±0.015°)	Resolution max. in bit S+T+MT	CANopen	CANopenlift	SAE J1939 – new	PROFIBUS DP	DeviceNet	MODBUS RTU	EtherCAT	PROFINET IO	EtherNet/IP	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Compact, magnetic electronic multiturn Sendix M3668 (shaft) Sendix M3688 (hollow shaft)	36 [1.42]	•	–	14 +24	•	–	•	–	–	–	–	–	–	6.000	-40 ... +85 [-40...+185]	IP67	cable M12	10 ... 30	•	e1 pending cUL US Ex 2/22
	Compact, magnetic robust, electronic multiturn Sendix M3668R (shaft)	36 [1.42]	•	–	14 +24	•	–	•	–	–	–	–	–	–	4.000	-40 ... +85 [-40...+185]	IP69k	cable M12	10 ... 30	•	e1 pending cUL US Ex 2/22
	Compact, optical electronic multiturn Sendix F3668 (shaft) Sendix F3688 (hollow shaft)	36 [1.42]	–	•	14 +24	•	–	–	–	–	–	–	–	–	12.000	-40 ... +85 [-40...+185]	IP67	cable	10 ... 30	•	Ex 2/22
	Standard, magnetic electronic multiturn Sendix M5868 (shaft)	58 [2.28]	•	–	14 + 24	•	–	•	–	–	–	–	–	–	4.000	-40 ... +85 [-40...+185]	IP65	cable M12	10 ... 30	•	Ex 2/22
	Standard, optical electronic multiturn Sendix F5868 (shaft) Sendix F5888 (hollow shaft)	58 [2.28]	–	•	16 +16	•	–	–	–	•	–	–	–	•	12.000	-40 ... +80 [-40...+176]	IP67	cable M12	10 ... 30	•	cUL US Ex 2/22
	Standard, optical Motor-Line electronic multiturn Sendix F5888M (hollow shaft)	58 [2.28]	–	•	16 +16	•	–	–	–	–	–	–	–	–	9.000	-40 ... +85 [-40...+185]	IP65	cable	10 ... 30	•	cUL US
	Standard, optical mechanical multiturn Sendix 5868 (shaft) Sendix 5888 (hollow shaft)	58 [2.28]	–	•	16 +12	•	•	–	•	–	–	•	•	–	9.000	-40 ... +85 [-40...+185]	IP67	cable M12 Sub-D	10 ... 30	•	cUL US Ex 2/22
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 Sendix 7068 (shaft) Sendix 7088 (hollow shaft)	70 [2.76]	–	•	16 +12	•	–	–	•	–	–	–	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	Ex IECEX
	Standard, optical mechanical multiturn ATEX/IECEX – minig Sendix 7168 (shaft) Sendix 7188 (hollow shaft)	70 [2.76]	–	•	16 +12	•	–	–	•	–	–	–	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	Ex IECEX

Motor Feedback Systems

	Ø Dimensions in mm [inch]	Optical (Accuracy $\leq \pm 0.015^\circ$)	Resolution max. in bit	RS485 interface ¹⁾	BiSS interface	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Approvals	RoHS compliant
  <p>Singleturn Motor-Line compact, optical / magnetic Sendix S3674 (hub shaft/tapered shaft)</p>	36	•	19 ST	•	•	12.000	-30 ... +120	IP40	PCB connector, radial	5 ²⁾ 7 ... 30	SIL2 ²⁾ PLd	•
  <p>Multiturn Motor-Line compact, optical / magnetic Sendix S3684 (hub shaft/tapered shaft)</p>	36	•	19 ST + 12 MT	•	•	12.000	-30 ... +120	IP40	PCB connector, radial	5 ²⁾ 7 ... 30	SIL2 ²⁾ PLd	•

1) Hiperface® kompatibel.
Hiperface® is a registered trademark of Sick Stegmann GmbH.
2) On request.

Bearingless encoders
Incremental





	Hollow shaft max. in mm ["]	Magnetic (Accuracy ±1°)	With zero pulse	Resolution max. in ppr	Push-pull	RS422	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant
new	30 [1.18]	•	–	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
new	35 [1.38]	•	•	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	30 [1.18]	•	–	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	35 [1.38]	•	•	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
new	390 [15.35]	•	–	16.000	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
new	350 [13.78]	•	•	6.400	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•

Bearingless encoders
Absolute

	Hollow shaft max. in mm ["]	Magnetic (Accuracy ±1°)	With zero pulse	Resolution max. in ppr	SSI	CANopen	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant
new	30 [1.18]	•	–	16.000	•	•	1.000	-10 ... +70 [+14 ... +158]	IP40	M12	10 ... 30	–	•






Linear measuring technology

Magnetic measurement system









	Measuring max. in m	Accuracy max.	Resolution max. in μm	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Incremental SinCos	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Traverse speed max. in m/s	Temperature range in $^{\circ}\text{C}$ [$^{\circ}\text{F}$]	Protection max.	Type of connection	RoHS compliant
	50	dep. on meas. length 0.08 mm for 1m	10	10x25x40 [0.39 x 0.98 x 1.57]	•	–	–	–	–	25	-20 ... +80 [-4 ... +176]	IP69k	cable	•
	50	dep. on meas. length 0.1 mm for 1m	5	10x25x40 [0.39 x 0.98 x 1.57]	•	–	–	–	–	16	-20 ... +80 [-4 ... +176]	IP69k	cable	•
	8	dep. on meas. length 0.03 mm for 1m	1	16x30x70 [0.63 x 1.18 x 2.76]	–	•	–	•	•	10	-10 ... +70 [+14 ... +158]	IP64	M12	•
	20	dep. on meas. length 0.17 mm for 1m	10	24x26x75 [0.94 x 1.02 x 2.95]	–	–	–	•	•	4	-10 ... +70 [+14 ... +158]	IP40	cable	•

Linear measuring technology

Draw-wire encoders






	Measuring range max. in m	Accuracy max.	Resolution max. [mm]	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Traverse speed max. in m/s	Temperature range max. in $^{\circ}\text{C}$ [$^{\circ}\text{F}$]	Protection max.	Type of connection	RoHS compliant
	0.6	$\pm 0.1\%$ of measuring range	0.15	32.45 x 40.7 x 28.6 [1.28 x 1.60 x 1.13]	–	4 ... 20 mA 0 ... 10 V DC 10 k Ω	–	–	0.8	-10 ... +80 [+14 ... +176]	IP50	cable	•
	1	$\pm 0.1\%$ of measuring range	0.1	40x40 x max. 72 [1.57 x 1.57 x 3.90]	–	4 ... 20 mA 0 ... 10 V 10 k Ω	–	–	0.8	-20 ... +90 [-4 ... +194]	IP50 IP65	cable	•
	1.25	$\pm 0.02\%$ of measuring range	0.05	50x50 x max. 99 [1.97 x 1.97 x 3.90]	•	4 ... 20 mA 0 ... 10 V 1 k Ω	•	•	10	-40 ... +120 [-40 ... +248]	IP67	cable M12	•
	2	$\pm 0.1\%$ of measuring range	0.15	32.45 x 40.7 x 28.6 [1.28 x 1.60 x 1.13]	•	4 ... 20 mA 0 ... 10 V DC 10 k Ω	–	–	0.8	-10 ... +80 [+14 ... +176]	IP45	cable	•
	2	$\pm 0.1\%$ of measuring range	0.1	40x40 x max. 72 [1.57 x 1.57 x 2.83]	•	4 ... 20 mA 0 ... 10 V 10 k Ω	–	–	0.8	-20 ... +90 [-4 ... +194]	IP50 IP65	cable	•

Linear measuring technology
Draw-wire encoders

		Measuring range max. in m	Accuracy max.	Resolution max. [mm]	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Integrated inclinometer	Redundant sensor	Traverse speed max. in m/s	Temperature range max. in °C [°F]	Protection max.	Type of connection	RoHS compliant
	Draw-wire encoder A41 with absolute encoder	2	±0.35 % of measuring range	0.15	41x41x max. 96.3 [1.61 x 1.61 x 3.79]	–	4 ... 20 mA 0 ... 10 V 10 kΩ	•	•	–	–	1	-10 ... +80 [+14 ... +176]	IP50	cable	•
	Draw-wire encoder B75 with encoder or analog sensor	3	±0.35 % of measuring range	0.15	75x75x max. 127.4 [2.95 x 2.95 x 5.02]	–	4 ... 20 mA 0 ... 10 V 10 kΩ	•	•	–	–	0.8	-40 ... +80 [-40 ... +176]	IP65	cable	•
	Draw-wire encoder B80 with encoder or analog sensor	3	±0.02 % of measuring range	0.05	80x80x max. 144 [3.15 x 3.15 x 5.67]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	•	•	–	–	10	-40 ... +120 [-40 ... +248]	IP67	cable M12 M23	•
	Draw-wire encoder C60 with analog sensor	4	±0.1 % of measuring range	0.1	60x60 x max. 125 [2.36 x 2.36 x 4.92]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	–	•	–	•	3	-40 ... +85 [-40 ... +185]	IP69k	cable M12	•
	Draw-wire encoder C100 with redundant sensors, integrated inclinometer	5	±0.1 % of measuring range	0.3	98x108 x 68.4 [3.86 x 4.25 x 2.69]	•	0 ... 10 V 0.5 ... 4.5 V	–	•	•	•	1	-40 ... +85 [-40 ... +185]	IP67	M12 cable	•
	Draw-wire encoder C105 with encoder	6	±0.1 % of measuring range	0.1	105x85x max. 163 [4.13 x 3.35 x 6.42]	•	4 ... 20 mA 0 ... 10 V	•	•	–	–	3	-20 ... +80 [-4 ... +176]	–	cable	•
	Draw-wire encoder C120 with encoder or analog sensor	6	±0.02 % of measuring range	0.08	120x120x max. 136 [4.72 x 4.72 x 5.35]	–	4 ... 20 mA 0 ... 10 V 1 kΩ	–	•	–	–	10	-40 ... +85 [-40 ... +185]	IP67	cable M12 M23	•
	Draw-wire encoder D120 for outdoor applications	10	±0.05 % of measuring range	0.1	120x120 x max. 381.5 [4.72 x 4.72 x 15.02]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	–	•	–	•	3	-40 ... +85 [-40 ... +185]	IP69k	cable M12	•
	Draw-wire encoder D125 with redundant sensors, integrated inclinometer	10	±0.5 % of measuring range	0.6	124x124 x 94 [4.88 x 4.88 x 3.70]	•	0 ... 10 V 0.5 ... 4.5 V	–	•	•	•	1	-40 ... +85 [-40 ... +185]	IP67	M12	•
	Draw-wire encoder D135 with encoder or analog sensor	42.5	±0.02 % of measuring range	0.08	135x135 x max. 318 [5.32 x 5.32 x 12.52]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	•	•	–	–	10	-40 ... +120 [-40 ... +248]	IP67	cable M12 M23	•





Linear measuring technology

Length measuring kit

	Measuring range max. in m	Accuracy max.	Resolution min. in mm	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Incremental SinCos	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Traverse speed max.	Temperature range in °C [°F]	Protection max.	Type of connection	RoHS compliant
	53	±0.5 mm	0.1	dep. on type	•	•	–	•	•	6 m/s	-20 ... +85 [-4 ... +185]	IP67	cable M12 M23 MIL	•
	∞	±0.015°	0.1	–	•	•	•	•	•	5 m/s	-25 ... +80 [-13 ... +176]	IP67	cable M12 M23 MIL	•
	∞	±0.015°	0.1	74 x 50 x 52 [2.91 x 1.97 x 2.05]	•	•	–	–	–	2.000 min ⁻¹	-20 ... +80 [-4 ... +176]	IP64	cable	•
	∞	0.5 mm	0.1	dep. on rack	•	•	–	•	•	0.5 m/s	-20 ... +80 [-4 ... +176]	IP67	cable M12 M23 MIL	•
	∞	±0.015°	0.1	dep. on the measuring wheel	•	•	–	•	–	2.000 min ⁻¹	-25 ... +80 [-13 ... +176]	IP67	cable M12 M23 MIL	•

Linear measuring technology

Shaft copying systems

	Measuring length max. in mm	Traverse speed in m/s	SIL3	EN 81-20/21/50	Incremental	Absolute	Resolution min. in mm	Dimensions in mm [inch]	CANopen Lift (DS417)	CANopen (DS406)	CAN	SSI	RS485	Type of connection	RoHS compliant
 new	392	5 (larger on request)	–	(•)	–	•	1	135x45x33 [5.31x1.77x1.30]	•	•	•	•	•	cable 5 m	•
 new	392	5 (larger on request)	•	•	–	•	1	135x45x33 [5.31x1.77x1.30]	–	–	•	–	•	cable 5 m	•
 new	–	5 (larger on request)	•	•	–	•	1	120x95x30 [4.72x3.74x1.18] (for top-hat rail mounting)	•	–	•	•	–	PicoMax (Push-In)	•
	53	1.6	–	(•)	•	•	0.1	dep. on the type	•	•	•	•	–	cable, M12, M23, MIL	•

Inclinometers

		Measuring angle max.	Accuracy max.	Resolution max.	Dimensions in mm [inch]	Absolute analog	CANopen	SAE J1939 – new	Modbus	Reaction time in s	Temperature range in °C [°F]	Protection max.	Type of connection connector	RoHS compliant	Approvals
	Inclinometer MEMS, capacitive analog IN81, 1- and 2-dimensional	±85° 360°	±0.2°	12 bit	80 x 60 x 23 [3.15 x 2.36 x 0.91]	4 ... 20 mA 0.1 ... 4.9 V 0.5 ... 4.5 V 0 ... 5 V 0 ... 10 V	-	-	-	0.1	-40 ... +85 [-40 ... +185]	IP69k	M12	•	 
	Inclinometer MEMS, capacitive CANopen or SAE J1939 IN88, 1- and 2-dimensional	±85° 360°	±0.4°	0.01°	80 x 60 x 23 [3.15 x 2.36 x 0.91]	-	•	•	-	0.1	-40 ... +85 [-40 ... +185]	IP69k	M12	•	 
	Inclinometer MEMS, capacitive Modbus IN88, 1- and 2-dimensional	±85° 360°	±0.4°	0.01°	80 x 60 x 23 [3.15 x 2.36 x 0.91]	-	-	-	•	0.1	-40 ... +85 [-40 ... +185]	IP69k	M12	•	
	Inclinometer MEMS, capacitive analog IS40, 1-dimensional	360°	±0.5°	0.15°	60 x 30 x 20 [2.36 x 1.18 x 0.79]	4 ... 20 mA 0.1 ... 4.9 V	-	-	-	0.1	-30 ... +70 [-24 ... +158]	IP69k	M12	•	-
	Inclinometer MEMS, capacitive analog IS40, 2-dimensional	±60°	±0.5°	0.15°	60 x 30 x 20 [2.36 x 1.18 x 0.79]	4 ... 20 mA 0.1 ... 4.9 V 2 % ... 98 %	-	-	-	0.1	-30 ... +70 [-24 ... +158]	IP69k	M12	•	-
	Inclinometer MEMS, capacitive CANopen IS60, 1-dimensional	360°	±0.5°	0.1°	68 x 42.5 x 42.5 [2.68 x 1.67 x 1.67]	-	•	-	-	0.1	-40 ... +80 [-40 ... +176]	IP69k	M12	•	-
	Inclinometer MEMS, capacitive CANopen IS60, 2-dimensional	±60°	±0.5°	0.1°	68 x 42.5 x 42.5 [2.68 x 1.67 x 1.67]	-	•	-	-	0.1	-40 ... +80 [-40 ... +176]	IP69k	M12	•	-

f Accessories for Position and Motion Sensors

Kübler original accessories are individually adapted to match each particular model. They meet our high quality demands.



Connectors



Cable



Measuring wheels



Couplings



Flange adapters



Bearing units



Spring encoder arm



Displays



Draw-wire accessories

f Isolation / adapter inserts for hollow shaft encoders

Thermal and electrical isolation of the encoders.

These isolation inserts prevent currents from passing through the encoder bearings. These can occur when using inverter controlled three-phase or AC vector motors and considerably shorten the service life of the encoder bearings. In addition the encoder is thermally isolated as the plastic does not transfer the heat to the encoder.

Tip:

By using these adapter inserts you can achieve six different hollow shaft diameters, all on the basis of one encoder.





Functional Safety

Kübler's extensive product portfolio of rotary and linear position and motion sensors, with the matching safe encoder evaluation devices, provides the basis for safe application-specific drive solutions. However, safe single components alone do not ensure a safe global application. Legally compliant safety already begins when planning the machine, and this is why the Kübler Service technicians and engineers offer a wide range of supports both for the plant manufacturer and for the operator.



Safe encoders

The matter Functional Safety Technology is simplified by the certified encoders of the Sendix SIL family, which includes both incremental, absolute and ATEX / IECEx encoders.

Functional Safety has become an integral part of mechanical engineering.

With a view to machinery Directive 2006/42/EC, Kübler also provides MTTF values for its standard encoders. This allows the user to perform his own calculations in compliance with standard EN ISO 13849-1.



Safe speed monitors

The compact base module of the Safety-M compact series is a complete speed monitor in the smallest possible space (50 mm wide). The detachable operating and diagnostic display (OLED) stands for simple parameterization. The safe inputs/outputs and integrated signal splitter allow integration into existing safety circuits and upgrade of old machines.



Safe shaft copying systems

Absolute shaft copying system Ants LES01 with evaluation unit PSU01.

1 Safe encoders

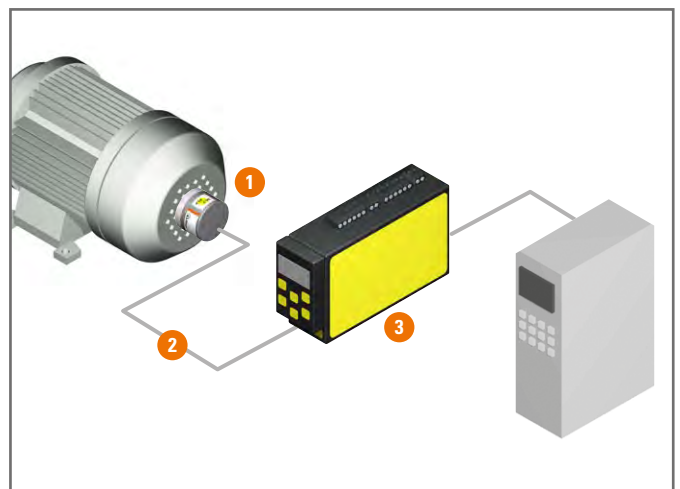
- Incremental and absolute encoders
- Encoders with ATEX / IECEx approval

2 Connection technology









- M12, M23, RJ45 connectors
- Pre-assembled cordsets
- Adapter cable

3 Safety modules




- Safety-M compact: with integrated signal splitting, with internal signal conversion into RS422 or analog signals



















Incremental encoders

	Ø Dimensions in mm [inch]	Optical (Accuracy ≤ ±0.015°)	Resolution max. in ppr	SinCos interface	Power supply in V DC	Ø Hollow shaft max. in mm [inch]	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Pulse frequency max. in kHz	RoHS compliant	Approvals
 <p>Standard, optical sine wave output, SIL2 / PLd Sendix SIL 5814FS2 (shaft) Sendix SIL 5834FS2 (hollow s.)</p>	58 [2.28]	•	1.024 and 2.048	•	5 10...30	14 [0.55]	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M12 M23	400	•	
 <p>Standard, optical sine wave output, SIL3 / PLe Sendix SIL 5814FS3 (shaft) Sendix SIL 5834FS3 (hollow s.)</p>	58 [2.28]	•	1.024 and 2.048	•	5 10...30	14 [0.55]	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M12 M23	400	•	
 <p>Standard, optical ATEX/IECEX – zone 1/21 SIL2 / PLd Sendix SIL 7014FS2 (shaft)</p>	70 [2.76]	•	1.024 and 2.048	•	5 10...30	–	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	400	•	
 <p>Standard, optical ATEX/IECEX – zone 1/21 SIL3 / PLe Sendix SIL 7014FS3 (shaft)</p>	70 [2.76]	•	1.024 and 2.048	•	5 10...30	–	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	400	•	

Absolute encoders Singleturn

	Ø Dimensions in mm [inch]	Optical (Accuracy $\leq \pm 0.015^\circ$)	Resolution max. in bit	SSI interface	BiSS interface	Additional incremental track	Power supply in V DC	Speed max. in min^{-1} (shaft / hollow shaft)	Temperature range in $^\circ\text{C}$ [$^\circ\text{F}$]	Protection max.	Type of connection	RoHS compliant	Approvals
	58 [2.28]	•	17	•	•	Sin Cos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	cUL ^{us} Ex ^{2/22} SIL2 PLd
	58 [2.28]	•	17	•	•	Sin Cos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	cUL ^{us} Ex ^{2/22} SIL3 PLe
	70 [2.76]	•	17	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	Ex IECEx SIL2 PLd
	70 [2.76]	•	17	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	Ex IECEx SIL3 PLe





Absolute encoders
Multiturn

	Ø Dimensions in mm [inch]	Optical (Accuracy ≤ ±0.015°)	Resolution max. in bit ST+MT	SSI interface	BiSS interface	Additional incremental track	Power supply in V DC	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	RoHS compliant	Approvals
 <p>Standard, optical mechanical multiturn SIL2 / PLd Sendix SIL 5863FS2 (shaft) Sendix SIL 5883FS2 (hollow s.)</p>	58 [2.28]	•	17 + 12	•	•	SinCos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	  
 <p>Standard, optical mechanical multiturn SIL3 / PLe Sendix SIL 5863FS3 (shaft) Sendix SIL 5883FS3 (hollow s.)</p>	58 [2.28]	•	17 + 12	•	•	SinCos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	  
 <p>Standard, optical mechanical multiturn ATEX / IECEx – zone 1 / 21 SIL2 / PLd Sendix SIL 7063FS2 (shaft)</p>	70 [2.76]	•	17 + 12	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	  
 <p>Standard, optical mechanical multiturn ATEX / IECEx – zone 1 / 21 SIL3 / PLe Sendix SIL 7063FS3 (shaft)</p>	70 [2.76]	•	17 + 12	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	  

Safety modules

Safety-M compact

Basic modules

	Monitoring - number of axes	Encoder systems	Safe digital input lines	Analog input lines	Relay output lines	Digitale output lines	Analog output lines	Encoder interface	Power supply in V DC	Module width in mm [inch]	RoHS compliant	Approvals
	Speed monitoring 1 axis / 1 encoder system SMC1.1	1	1	4/2	–	1	4	1 opt.	SinCos	24	50 [1.97]	• SIL3 PL _e
	Speed monitoring 1 axis / 2 encoder systems SMC2.2	1	2	4/2	–	1	4	1 opt.	HTL/TTL/ SinCos	24	50 [1.97]	• SIL3 PL _e
	Speed monitoring 1 axis / 1 encoder system SMC1.3	1	1	8/4	–	2	4	1 opt.	HTL/TTL	24	50 [1.97]	• SIL2 PL _d
	Speed monitoring 1 axis / 2 encoder systems SMC2.4	1	2	8/4	–	2	4	1 opt.	HTL/TTL	24	50 [1.97]	• SIL3 PL _e

Linear measuring technology
Safe shaft copying systems



	Measuring length max. in mm	Traverse speed in m/s	SIL3	EN 81-20/21/50	Incremental	Absolute	Resolution min. in mm	Dimensions in mm [inch]	CANopen Lift (DS417)	CANopen (DS406)	CAN	SSI	RS485	Type of connection	RoHS compliant
Absolute measuring system for shaft copying Ants LES01	392	5 (larger on request)	•	•	–	•	1	135x45x33 [5.31x1.77x1.30]	–	–	•	–	•	cable 5 m	•
Ants LES01 with evaluation unit for the realization of elevator and safety functions in compliance with EN81-20/21/50 PSU01	–	5 (larger on request)	•	•	–	•	1	120x95x30 [4.72x3.74x1.18] (for top-hat rail mounting)	•	–	•	•	–	PicoMax (Push-In)	•

Accessories for Functional Safety

Kübler original accessories are individually adapted to match each particular model. They meet our high quality demands.



Connection technology



Fixing components



Bellows couplings



Software

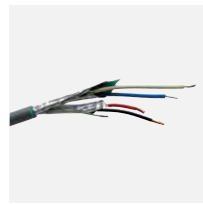
Services**Support, Application / Service**

	Contents
PreSales	<ul style="list-style-type: none"> • Kübler Hotline • Web Service • Application Engineering • Tailor-made Solutions – Kübler Design System (KDS) OEM Products and Systems (OPS) • Prototyping • Training
AfterSales	<ul style="list-style-type: none"> • Kübler Hotline • On-Site Service • Commissioning Support • Repair Service • 48 h Express Service • Service Sites • Service Centers / Technical Hotline



Transmission Technology

Quality down to the last detail. Our activities are orientated with the focus always on the customer – from the creation of the product right through to final delivery. This high quality extends to every detail, from the connectors to the optical fiber modules.



Slip rings

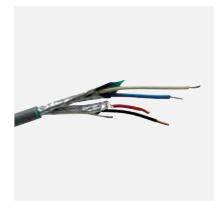
Innovation meets tried and tested product quality and compact dimensions: the new Kübler slip ring generation brings together a number of performance features under one umbrella. The areas of application are many and diverse: from packaging machines, via cranes through to rotary tables, slip rings are able to transmit power, signals or data from a stationary to a rotating platform. Versions for field bus signals such as Profibus or CANopen®, as well as for Ethernet transmission, are available.

Optical fiber transmitter modules

Kübler optical fiber modules solve transmission problems simply, reliably and yet at the same time economically. They reliably convert electrical signals into optical signals – and back again. This technology finds its use wherever electrical signals do not suffice to guarantee a safe transmission of the signals. Or where interference, too large distances or shielding prevent good communication. Even when subjected to extremely strong electro-magnetic fields, Kübler optical fiber modules can transmit signals over distances of up to 2000 metres. With perfect safety.

Signal converter

The signal converter portfolio includes various devices (frequency divider, level converter, signal converters and signal splitters), which adapt signals to most diverse applications.



i M12 cordsets with integrated control LEDs

The 8-pin M12 cordset for incremental encoders ensures fast, simple connections under difficult outdoor conditions. The transparent right-angle housing contains three LEDs for displaying channels A, B and Z.








- Monitors all important encoder functions
- Easy troubleshooting
- Installation help for zero point detection





Connectors and cables

The comprehensive choice of cables, connectors and cordsets from Kübler ensures error-free connections and highly accurate transmission. A perfect match for our encoders and counters.

Slip rings

		Power / Current (Load)	Signal (Data)	Pneumatics	Hydraulics	N° of channels	Ø Hollow shaft max. in mm [inch]	Current max. in A	Protection max.	Speed max. in min ⁻¹	Temperature range max. in °C [°F]
	Modular, construction system SR085	•	•	•	•	max. 20	30	25	IP64	800	-35 ... +85 [-31 ... +185]
	Modular, construction system, bearingless SR085B	•	•	–	–	max. 10	34	16	IP40	200	0 ... +75 [+32 ... +167]
	Modular, contactless signal transmission SRI085	•	•	–	–	max. 9	30	16	IP64	800	-30 ... +85 [-22 ... +185]
	Compact, low-maintenance SR060E	•	•	–	–	max. 5	25	20	IP64	500	0 ... +75 [+32 ... +167]
	Three chamber system, Ethernet transmission SR120	•	•	•	•	on request	–	25	IP65	300	-35 ... +85 [-31 ... +185]
	Modular, robust SR160	•	•	•	•	on request	–	25	IP65	150	-35 ... +85 [-31 ... +185]
	Modular, robust, high current SR250H	•	•	•	•	on request	–	80 ¹⁾	IP65	150	-35 ... +85 [-31 ... +185]

Optical fiber modules (LWL)






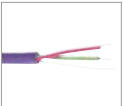
	Interface	Transmission distance in m	Input frequency in kHz	Temperature range in °C [°F]	Power / Current in VDC	Power consumption in W
	RS422 HTL	2000	400	-10 ... +60 [-14 ... +140]	5 10 ... 30	2
	SSI	2000	1000	-10 ... +70 [-14 ... +158]	5 10 ... 30	1

1) > 80 A on request.

Signal converters

		Input signals	Output signals	Control inputs	Power supply in V DC	Encoder supply in V DC	Types of connection	Protection max.	Working temperature max. in °C [°F]
 	Level converter PW 1D-1D	incremental RS422	incremental HTL, TTL	–	5 ... 30	5 ... 30	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal splitter SP 1SC-2SC2D	SinCos	SinCos/ incremental HTL, TTL/ RS422	–	17 ... 30	5.2 5 ... 30	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal splitter SP 2D-2D	incremental HTL, TTL/ RS422	incremental HTL, TTL/ RS422	2	12 ... 30	5.2 10 ... 28	screw terminals	IP20	-20 ... +60 [-4 ... +140]
 	Signal converter SK 1A-1S1D2RS	analog	incremental HTL, TTL/ RS232, RS485, SSI	4	12 ... 30	–	screw terminals, Sub-D, USB	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1D-1A2RS	incremental HTL, TTL/ RS422	analog	1	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1S-1A2RS	SSI	analog	1	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1SC-1D	SinCos	incremental HTL, TTL	–	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1S-1P	SSI	parallel	–	18 ... 36 5 12	–	screw terminals, Sub-D	IP20	0 ... +50 [+32 ... +122]
 	Frequency divider FT 1D-1D	incremental HTL, TTL	incremental HTL, TTL	–	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]

Connection technology
Cable, unprepared, cut to length

	PVC cable	PUR cable	TPE cable	Cross section in mm ²	Cable diameter in mm	For incremental encoders	For absolute encoders	For safety modules	For ATEX zone 2/22	RoHS compliant
 5 core + shield	•	•	–	5 x 0.14 [AWG25] 5 x 0.75 [AWG18]	approx. 4.7 approx. 7.5	•	–	–	–	•
 8 core + shield	–	•	–	8 x 0.14 [AWG25] 3 x 2 x 0.14 [AWG25] + 2 x 0.5 [AWG20]	approx. 5.5 approx. 7.4	–	•	•	–	•
 10 core + shield	–	•	–	4 x 2 x 0.25 [AWG23] + 2 x 1 [AWG17]	approx. 7.9	•	•	•	–	•
 12 core + shield	•	•	•	10 x 0.14 [AWG25] + 2 x 0.5 [AWG20] 12 x 0.14 [AWG25] 6 x 2 x 0.14 [AWG25] 5 x 2 x 0.14 [AWG25] + 2 x 0.5 [AWG20] 6 x 2 x 0.14 [AWG25]	approx. 6.9 approx. 6.7 approx. 7.5 approx. 8.5 approx. 7.3	•	•	–	•	•
 18 core + shield	•	–	–	18 x 0.14 [AWG25]	approx. 7.8	–	•	–	–	•
 PROFIBUS DP DeviceNet CANopen EtherCAT, PROFINET IO, EtherNet/IP	•	•	–	2 x 0.34 [AWG25] 2 x 0.52 [AWG20] + 2 x 1.04 [AWG17] 3 x 2 x 0.25 [AWG23] 2 x 2 x 0.34 [AWG22]	approx. 7.6 approx. 8.4 approx. 6.2 approx. 4.8	•	•	•	–	•







Connection technology

Connectors, self-assembly

		N° of pins	Housing	Connection technology	Cable diameter Ø in mm	Straight connector	Right angle connector	Wall/panel lead-through	For fieldbus	For ATEX zone 2/22
	M12	4/5/8/12	Metal, Plastic	Screw terminals	6 - 8	•	•	•	•	•
	M23	12/17	Metal	Solder pins	5.5 - 10.5	•	–	•	–	–
	MIL	7/10	Metal	Solder pins	5 - 8	•	–	–	–	–
	RJ45	8	Plastic	Crimp connection	4.5 - 8	•	–	–	•	–
	Sub-D	9	ABS metallized	Solder pins	3.5 - 8.6	–	•	–	–	–

Connection technology

Cordsets, pre-assembled

	PVC cable	PUR cable	TPE cable	Optical fiber	Straight connector	Right angle connector	For incremental encoders	For absolute SSI / BiSS encoders	For fieldbus	For analog interfaces
	•	•	–	–	•	•	•	•	•	•
	•	•	•	–	•	–	•	•	–	•
	•	–	–	–	–	–	•	•	–	–
	–	–	–	•	•	–	•	•	–	–
	–	•	–	•	–	–	–	•	–	–
	•	•	–	–	–	•	•	•	•	–



Counters and Process Devices

Successful innovation? A question of corporate culture. In 1960 company founder Fritz Kübler developed the first short time meter with permanent time display. In 2007 Kübler introduced its unique combination meter HW 66, the first in the world to measure both time and energy in one device.



Electromechanical counters

The indestructible all-rounders – from microcounters to standard hour meters. The mature technology platform of the robust counters with electromagnetic drive and mechanical counting drum system is still as up-to-date today as it always was. Due to their low power consumption these counters are ideal for battery operation. Their significant features include – as always – their excellent shock, impact and magnetic-field resistance.

Electronic counters

Have everything that counts. Kübler offers a wide range of counters for pulses, frequency, position and time – all with proven quality. Electronic counters from the house of Kübler boast very high protection levels and require only minimal installation depths. The possibilities when it comes to their areas of application are therefore virtually limitless.

Process devices

Control is better. Kübler process devices reliably display and control their process values such as temperature, analog signals (0/4 ... 20 mA, 0/2 ... 10 V) or pressure – with linearization functions with up to 16 control points. Here the Codix name guarantees the concept of simple, unified operation. The Kübler process technology portfolio includes process and temperature displays, process, temperature and strain-gauge control devices and setpoint generators.

i Kübler Codix



The Kübler Codix brand name stands for universal usability and standard dimensions, as well as for the philosophy of simple menu-driven programming of our latest counter generation. At the centre of the sophisticated technology lie the large, easy-to-read LED or LCD displays and the intuitive operation, which we also offer with text menu programming. The high quality plug-in screw terminals make a significant contribution to the fast, user-friendly start-up.

- Very bright LED display
- High contrast LCD display
- Robust housing
- High IP protection
- Simple, unified programming
- Fast count and frequency inputs

i Kübler Codix

With Codix:






















**The fastest way to get started ...
no need for a manual**





















CODIX sets new standards when it comes to user-friendliness.

- Help text as running text
- Easy-to-read 14-segment LED 6-digit display
- Simple programming via 4 keys on the front
- One front key as well as 2 additional inputs can be programmed for specific applications
- Practical quick-start guide for setting the parameters and operating the device. The guide can be affixed directly to the front of the unit and can be removed and re-applied as required.

Pulse counters
electronic

		Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD pulse counters																					
	Codix 130 adding or subtracting, AC/DC	•	–	–	–	–	–	–	•	•	–	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10...+60 [+14...+140]	IP65	Batt.	•	
	Codix 131 count direction or difference counter, AC/DC	•	–	–	–	–	–	–	•	•	–	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10...+60 [+14...+140]	IP65	Batt.	•	
	Codix 132 count direction, AC	•	–	–	–	–	–	–	•	•	–	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10...+60 [+14...+140]	IP65	Batt.	•	
	Codix 140 adding 0...9999999	•	–	–	–	–	–	–	•	•	–	LCD	7	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-20...+65 [-4...+149]	IP65	DC	•	–
LCD service counter																					
	Codix 142 service counter 0...9999999	•	–	–	–	–	1 o	–	•	•	–	LCD	7	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-20...+65 [-4...+149]	IP65	DC	•	–
LED pulse counters																					
	Codix 520 adding	•	–	–	–	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	
	Codix 521 6 count modes	•	–	–	–	–	1 o	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	
	Codix 524 multifunctional	•	•	•	•	–	1 o	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	
	Codix 52U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	
	Codix 52P + Frequency 6 count modes	•	–	•	•	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	
	Codix 52T / 52C 2 totalizers with separate scaling; 52C with separate inputs	•	–	–	–	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	
	Codix 540 adding	•	–	–	–	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	
	Codix 541 6 count modes	•	–	–	–	•	1 o	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	
	Codix 544 multifunctional	•	•	•	•	–	1 o	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	
	Codix 54U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	
	Codix 54P + Frequency 6 count modes	•	–	•	•	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	
LCD modules																					
	190 PCB mounting	•	–	–	–	–	–	–	•	–	–	LCD	7	32x18 [1.26 x 0.71]	–	5 [0.2]	-40...+80 [-40...+176]	–	DC	•	–
	192 PCB mounting	•	–	–	–	–	–	–	•	–	–	LCD	6	32x18 [1.26 x 0.71]	–	5 [0.2]	-40...+85 [-40...+185]	–	DC	•	–
LCD touch counter																					
	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI FB	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–

Pulse counters electromechanical


		Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
Micro counters																	
	K 46 / K 47 high shock resistance	•	–	–	•	•	–	–	–	6 / 7	30 x 20 [1.18 x 0.79] panel mount	27 x 14 [1.06 x 0.55]	-10...+60 [+14...+140]	IP65	DC	•	–
	K 66 / K 67 high shock resistance, magnetic field resistant	•	–	–	•	•	–	–	–	6 / 7	30 x 20 [1.18 x 0.79] panel mount	27 x 14 [1.06 x 0.55]	-10...+60 [+14...+140]	IP65	DC	•	–
	K 04 / K 05 high shock resistance	•	–	–	•	•	–	–	–	4 / 5	26 x 15 [1.02 x 0.59] panel mount	24 x 13 [0.94 x 0.51]	-10...+60 [+14...+140]	IP65	AC/DC	•	c 
	K 06 / K 07 / AK 07 high shock resistance	•	–	–	•	•	•	–	–	6 / 7	32 x 15 [1.26 x 0.59] panel mount	30 x 13 [1.18 x 0.51]	-10...+60 [+14...+140]	IP65	AC/DC	•	c 
	SK 07 high shock resistance, for DIN rail	•	–	–	–	–	•	•	–	7	30 x 65 [1.18 x 2.56]	–	-10...+60 [+14...+140]	IP50	AC/DC	•	c 
Mini counters																	
	W 15 also in DIN format 48x24 mm [1.89 x 0.94"]	•	–	–	•	–	–	–	manual	5	from 34 x 23 [1.34 x 0.91]	from 31 x 20 [1.22 x 0.79]	-10...+50 [+14...+122]	IP40	AC/DC	•	–
	W 16 / W 17 also in DIN format 48x24 mm [1.89 x 0.94"]	•	–	–	•	•	–	–	–	6 / 7	from 34 x 23 [1.34 x 0.91]	from 31 x 20 [1.22 x 0.79]	-10...+50 [+14...+122]	IP41	AC/DC	•	–
Standard counters																	
	Bk 14 Very long service life	•	–	–	•	–	–	–	manual	4	from 37 x 28 [1.46 x 1.10]	from 33.3 x 25 [1.31 x 0.98]	-10...+60 [+14...+140]	IP40 IP41	AC/DC	•	–
	B 16 / B 18 Very long service life	•	–	–	•	–	–	• ¹⁾	manual (only B16)	6 / 8	from 50 x 25 [1.97 x 0.98]	50 x 25 [1.97 x 0.98]	-10...+60 [+14...+140]	IP40 IP41	AC/DC	•	–
	Mk 14 / Mk 16 Very long service life	•	–	–	•	–	–	–	manual electrical	4 / 6	from 37 x 26 [1.46 x 1.02]	from 33.3 x 22 [1.31 x 0.87]	-10...+45 [+14...+113]	IP40 IP41	AC/DC	•	–
Dual function counters																	
	HC 77 combination hour meter and totalizer	•	•	–	•	–	–	–	–	2 x 7	from 48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 2.78] ø 50.5 [1.99]	-15...+50 [+5...+122]	IP65	AC/DC	•	c 
	SHC 77 combination hour meter and totalizer	•	•	–	–	–	•	–	–	2 x 7	48.5 x 61.5 [1.91 x 2.42]	–	-15...+50 [+5...+122]	IP52	AC/DC	•	c 
	HW 66 / HW 66 M combination hour meter and energy meter	–	•	•	•	–	–	• ¹⁾	–	2 x 6	from 48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 2.78] ø 50 [1.97]	-20...+55 [-4...+131]	IP65	AC	•	MID

1) With mounting frame

Pulse counters
pneumatic

Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Panel cut-out in mm [inch] (for front panel version)	Signal	Protection max.	Count frequency max. in Hz	RoHS compliant
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Standard counters

	PMk 14 / PMk 16 / PMk 18 Totalizer	•	-	-	-	manual (PMk 14, PMk 16)	4/6/8	33.3x22 [1.31 x 0.87] 48x24 [1.89 x 0.94]	L signal = 1.5 ... 8 bar O signal ≤ 0.15 bar	IP41	17 / 50	•
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Preset counters
electronic

Pulse	Time	Frequency	Tachometer	Position	Serial interface (SI) / Fieldbus (FB)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
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LCD preset counters

	901 1 preset – pulse, time (battery)	•	•	-	-	-	1 r	•	•	•	LCD 2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	63.2 [2.49]	-20 ... +65 [-4 ... +149]	IP65	batt.	•	CE, RoHS, UL
	Codix 907 / 908 multicolor display (optional), decade keyboard count frequency 5 kHz	•	•	-	-	•	1 r 2 r	•	•	•	LCD/ LED Look 2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10 ... +50 [+14 ... +122]	IP65	AC/DC	•	-
	Codix 923 / 924 multicolor display (optional), decade keyboard count frequency 65 kHz	•	•	•	•	•	up to 4 r 6 o	•	•	•	LCD/ LED Look 2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, RoHS, UL




LCD touch preset counter

	570T SSI absolute encoder display, analog output, serial interface	-	-	-	-	•	SI	4 o 2 r	•	•	•	LCD touch 8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	-
	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch 8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	-

LED preset counters

	Codix 560 LED multifunction preset counters, 14 segment LED, automatic help texts, opt. serial interface	•	•	•	•	•	SI FB	2 r	•	•	•	LED 6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, RoHS, UL
	572 dual preset counters with 4 outputs and analog output, serial interface	•	-	-	-	•	SI	4 o	•	•	•	LED 6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0 ... +45 [+32 ... +113]	IP65	AC/DC	•	-
	575 SSI o. incremental inputs / 4 outputs with analog output	•	-	-	-	•	SI	4 o	•	•	•	LED 6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0 ... +45 [+32 ... +113]	IP65	AC/DC	•	-







Preset counters electromechanical

	Pulse	Time	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Preset	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	
Standard counters																
	BVa 15 adding with preset constantly visible	•	–	•	–	–	• ¹⁾²⁾	1	manual	2 x 5	from 50 x 50 [1.97 x 1.97]	50 x 50 [1.97 x 1.97]	-10... +60 [+14 ... +140]	IP40	AC/DC	•
	MVs 13 subtracting	•	–	•	–	–	–	1	manual electrical	2/3	from 39 x 55 [1.54 x 2.17]	33.3 x 50 [1.31 x 1.97]	-10... +45 [+14 ... +113]	IP40	AC/DC	•
	MVs 16 subtracting	•	–	•	–	–	• ¹⁾	1	manual electrical	6	from 50 x 50 [1.97 x 1.97]	50 x 50 [1.97 x 1.97]	-10... +45 [+14 ... +113]	IP40	AC/DC	•

1) With mounting frame G300003.

2) With DIN rail mount G300002.

Hour meters
Timers
electronic









		Pulse	Time	Frequency	Tachometer	Position	Serial interface (SI) / Fieldbus (FB)	Presets: o = optocoupler, r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD hour meters																					
	Codix 134 99999h59m or 99999.99h	-	•	-	-	-	-	-	•	•	-	LCD	7	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-10 ... +60 [+14 ... +140]	IP65	Batt.	•	CE, UL, US
	Codix 135 9999h59m59s or 9999999.9h	-	•	-	-	-	-	-	•	•	-	LCD	8	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-10 ... +60 [+14 ... +140]	IP65	Batt.	•	CE, UL, US
	Codix 141 99999.99h	-	•	-	-	-	-	-	-	•	•	-	LCD	7	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-20 ... +65 [-4 ... +149]	IP65	DC	•
LCD service timers																					
	Codix 143 service timer 99999.99h	-	•	-	-	-	1 o	•	•	•	-	LCD	7	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-20 ... +65 [-4 ... +149]	IP65	DC	•	-
LED timers																					
	Codix 523 h, min, sec or hh.mm.ss	-	•	-	-	-	1 o	•	•	•	-	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	CE, UL, US
	Codix 524 multifunction	•	•	•	•	•	-	1 o	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	CE, UL, US
	Codix 52U with dual functions in 4 combinations	•	•	•	•	-	-	-	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	CE, UL, US
	Codix 543 h, min, sec or hh.mm.ss	-	•	-	-	-	1 o	•	•	•	-	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, UL, US
	Codix 544 multifunction	•	•	•	•	•	-	1 o	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, UL, US
	Codix 54U with dual functions in 4 combinations	•	•	•	•	-	-	-	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, UL, US
LCD time modules																					
	194 PCB mounting	-	•	-	-	-	-	-	•	-	-	LCD	6	32 x 18 [1.26 x 0.71]	-	5 [0.20]	-40 ... +80 [-40 ... +176]	-	DC	•	-
	198 PCB mounting	-	•	-	-	-	-	-	•	-	-	LCD	6	32 x 18 [1.26 x 0.71]	-	5 [0.20]	-40 ... +85 [-40 ... +185]	-	DC	•	-
LCD touch timer																					
	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch	8	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	-

Hour meters Timers electromechanical


		Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Standard temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals	
Micro timers																		
	HK 47 high shock resistance	-	•	-	•	•	-	-	-	7	30x20 [1.18 x 0.79] panel mount	27x14 [1.06 x 0.55]	-10...+60 [+14...+140]	IP66	DC	•	-	
	HK 07 / AHK 07 high shock and impact resistance	-	•	-	•	•	•	-	-	7	32x15 [1.26 x 0.59] panel mount	30x13 [1.18 x 0.51]	-10...+60 [+14...+140]	IP65	DC	•	-	
Timers with DIN dimensions																		
	HK 17 small dimensions	-	•	-	•	-	-	-	-	7/8	from 37x26 [1.46 x 1.02]	33x22 [1.30 x 0.87]	-15...+50 [+5...+122]	IP65	AC/DC	•	c  us	
	H 37 also in DIN format 48x24 mm [1.89 x 0.94"]	-	•	-	•	-	-	• ¹⁾	-	7/8	from 48x24 [1.89 x 0.94]	from 45x22 [1.77 x 0.87]	-15...+50 [+5...+122]	IP65	AC/DC	•	c  us	
	H 57 DIN format 48x48 mm [1.89 x 1.89"]	-	•	-	•	-	-	-	-	7/8	from 48x24 [1.89 x 0.94]	45x45 [1.77 x 1.77] ø60 [2.36]	-15...+50 [+5...+122]	IP65	AC/DC	•	c  us	
Timers for DIN rail mounting																		
	AH 57 DIN format 48x48 mm [1.89 x 1.89"]	-	•	-	-	-	-	•	-	7/8	48.5x61.5 [1.91 x 2.40]	-	-15...+50 [+5...+122]	IP65	AC/DC	•	c  us	
	SHK 07.1 high shock resistance	-	•	-	-	-	-	•	-	7	30x65 [1.18 x 2.56]	-	-10...+60 [+14...+140]	IP52	AC/DC	•	-	
	SH 17 36 mm wide	-	•	-	-	-	-	•	-	7	36x90 [1.42 x 3.54]	-	-10...+70 [+14...+158]	IP65	AC/DC	•	-	
Timers, round design																		
	HR 47 opt. run indicator	-	•	-	•	-	-	-	-	7	ø58 [2.28]	ø50 [1.97]	-25...+80 [+13...+176]	IP65	AC/DC	•	-	
	HR 76 high shock resistance	-	•	-	•	-	-	-	-	6	from ø58.7 [2.31]	ø50.8 [2.00]	-30...+65 [-22...+149]	IP65	AC/DC	•	c  us	
Standard timers																		
	HB 26 plug-in version, long service life	-	•	-	•	-	-	• ¹⁾	manual	6	from 50x25 [1.97 x 0.98]	50x25 [1.97 x 0.98]	-15...+50 [+5...+122]	IP41	AC/DC	•	-	
	HB 27 long service life	-	•	-	•	-	-	• ¹⁾	-	7	from 50x25 [1.97 x 0.98]	50x25 [1.97 x 0.98]	-15...+50 [+5...+122]	IP51	AC/DC	•	-	
Dual function counters																		
	HC 77 combination hour meter and totalizer	•	•	-	•	-	-	-	-	2x7	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 2.78] ø50.5 [1.99]	-15...+50 [+5...+122]	IP65	AC/DC	•	c  us	
	SHC 77 combination hour meter and totalizer	•	•	-	-	-	-	•	-	2x7	48.5x61.5 [1.91 x 2.40]	-	-15...+50 [+5...+122]	IP52	AC/DC	•	c  us	
	HW 66 / HW 66 M combination hour meter and energy meter	-	•	•	•	-	-	• ¹⁾	-	2x6	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 2.78] ø50 [1.97]	-20...+55 [-4...+131]	IP65	AC	•	MID	

1) With mounting frame

Time preset counters electronic














		Pulse	Time	Frequency	Tachometer	Position	Serial interface (SI) / Fieldbus (FB)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD time preset counters																					
	901 1 preset – pulse, time (battery)	•	•	–	–	–	–	1 r	•	•	•	LCD	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	63.2 [2.49]	-20...+65 [-4...+149]	IP65	Batt.	•	c 
	Codix 907 / 908 multicolor display (optional), decade keyboard, count frequency 5 kHz	•	•	–	–	•	–	1 r 2 r	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10...+50 [-14...+122]	IP65	AC/DC	•	–
	Codix 923 / 924 multicolor display (optional), decade keyboard, count frequency 65 kHz	•	•	•	•	•	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	c 
LED time preset counter																					
	Codix 560 LED multifunction preset counters, 14 segment LED, automatic help texts, opt. serial interface	•	•	•	•	•	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	c 
LCD touch time preset counter																					
	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI FB	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–

Time preset counters electromechanical





		Pulse	Time	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Presets	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Standard temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant
Standard preset counter																
	HVa 15 adding	–	•	•	–	–	• ¹⁾	1	manual	2 x 5	from 50 x 50 [1.97 x 1.97]	50 x 50 [1.97 x 1.97]	-15...+50 [+5...+122]	IP42	AC/DC	•

1) With mounting frame G300003 or DIN rail mount G300002.






Frequency displays Tachometers

		Pulse	Time	Frequency	Tachometer	Position	Serial interface (SI) / Fieldbus (FB)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD frequency display																					
	Codix 136 in Hz	-	-	•	•	-	-	-	-	-	-	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7	-10 ... +60 [-14 ... +149]	IP65	Batt.	•	
LED frequency displays																					
	Codix 522 1/sec or 1/min	-	-	•	•	-	1 o	•	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 524 multifunctional	•	•	•	•	-	1 o	•	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 52U with dual functions in 4 combinations	•	•	•	•	-	-	•	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 52P + Frequency 6 count modes	•	-	•	•	-	-	•	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 542 1/sec or 1/min	-	-	•	•	-	1 o	•	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
	Codix 544 multifunctional	•	•	•	•	-	1 o	•	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
	Codix 54U with dual functions in 4 combinations	•	•	•	•	-	-	•	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
	Codix 54P + Frequency 6 count modes	•	-	•	•	-	-	•	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
LCD touch frequency displays																					
	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI FB	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	-








Frequency displays Tachometers with limits

	Pulse	Time	Frequency	Tachometer	Position	Serial interface (S)/ Fieldbus (FB)	Presets: o = optocoupler, r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD tachometer (with multicolor, LED look)																				
							up to 4 r 6 o				LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC		CE UL us
LED tachometers with limits																				
						SI FB	2 r				LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC		CE UL us
						SI	4 o				LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0...+45 [+32...+113]	IP65	AC/DC		
LCD touch tachometer with limits																				
						SI	4 o 2 r				LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC		

























Position displays

	Pulse	Time	Frequency	Tachometer	Position (incremental = i; SSI = s)	Serial interface (SI) / Fieldbus (FB)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD position display																				
					i			•	•		LCD	8	48x24 [1.89x0.94]	45x22.2 [1.77x0.87]	47.7 [1.88]	-10...+60 [-14...+140]	IP65	Batt.	•	CE, UL, US
LED position displays																				
	•				i		1 o	•	•	•	LED	6	48x24 [1.89x0.94]	45x22.2 [1.77x0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	CE, UL, US
	•	•	•	•	i		1 o	•	•	•	LED	6	48x24 [1.89x0.94]	45x22.2 [1.77x0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	CE, UL, US
	•		•	•	i			•	•	•	LED	6	48x24 [1.89x0.94]	45x22.2 [1.77x0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	CE, UL, US
	•				i		1 o	•	•	•	LED	6	96x48 [3.78x1.89]	92x45 [3.62x1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL, US
	•	•	•	•	i		1 o	•	•	•	LED	6	96x48 [3.78x1.89]	92x45 [3.62x1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL, US
	•		•	•	i			•	•	•	LED	6	96x48 [3.78x1.89]	92x45 [3.62x1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL, US
LCD touch position display																				
					SI		4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78x1.89]	92x45 [3.62x1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	
	•	•	•	•	SI		4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78x1.89]	92x45 [3.62x1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	

Position displays with limits

	Pulse	Time	Frequency	Tachometer	Position (incremental = i, SSI = s)	Serial interface (SI) / Fieldbus (FB)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD position preset counters (optional with multicolor, LED look)																				
					i	-	1 r 2 r	•	•	•	LCD/LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10...+50 [+14...+122]	IP65	AC/DC	•	-
					i	-	up to 4 r 6 o	•	•	•	LCD/LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
LED position preset counters																				
					i	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
					i	SI	4 o	•	•	•	LED	6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0...+45 [+32...+113]	IP65	AC/DC	•	-
					s	SI	4 o	•	•	•	LED	6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0...+45 [+32...+113]	IP65	AC/DC	•	-
LCD touch position preset counters																				
					s	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	-
					i	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	-

Multifunction devices electronic






	Pulse	Time	Frequency	Tachometer	Position	Serial interface (SI) / Fieldbus (FB)	Presets: o = opto coupler, r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LED multifunction displays																				
	•	•	•	•	•	–	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	C 
	•	•	•	•	•	–	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	C 
LCD multifunction preset counters																				
	•	•	–	–	–	–	1 r	•	•	•	LCD	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	63.2 [2.49]	-20...+65 [-4...+149]	IP65	Batt.	•	C 
	•	•	–	–	•	–	1 r 2 r	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10...+50 [+14...+122]	IP65	AC/DC	•	–
	•	•	•	•	•	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	C 
LED multifunction preset counters																				
	•	•	•	•	•	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	C 
LCD touch multifunction preset counter																				
	•	•	•	•	•	SI FB	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–
LED dual function displays																				
	•	•	•	•	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	C 
	•	–	•	•	•	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	C 
	•	–	–	–	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	C 
	•	–	–	–	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	C 
	•	•	•	•	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	C 
	•	–	•	•	•	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	C 

Multifunction devices

Dual function counters


Electromechanical

Dual function counters

		Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
	HC 77 combination hour meter and totalizer	•	•	–	•	–	–	–	–	2x7	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77] ø50.5 [1.99]	-15...+50 [+5...+122]	IP65	AC/DC	•	
	SHC 77 combination hour meter and totalizer	•	•	–	–	–	–	•	–	2x7	48.5x61.5 [1.91 x 2.42]	–	-15...+50 [+5...+122]	IP52	AC/DC	•	
	HW 66 / HW 66 M combination hour meter and energy meter	–	•	•	•	–	–	• ¹⁾	–	2x6	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77] ø50 [1.97]	-20...+55 [-4...+131]	IP65	AC	•	MID



1) With mounting frame

Energy meters


	Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
	—	•	•	•	—	—	• 1)	—	2x6	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77] ø 50 [1.97]	-20...+55 [-4...+131]	IP65	AC	•	MID

Process displays
Process controllers
Setpoint adjusters


LED process displays

	Standard signal 0...20; 4...20 mA	Standard signal 0...10; 2...10V	Standard signal ± 10V	Serial interface (S) / Fieldbus (FB)	Input characteristic curve	Presets/Limit values	Analog output	Display	Number of digits	Dimensions front in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
	•	•	—	—	linear	—	—	LED	5	48x24 [1.89 x 0.94]	59 [2.32]	-10...+50 [+14...+122]	IP65	DC	•	CE, UL
	•	•	•	—	12 S	2 r	•	LED	6	96x48 [3.78 x 1.89]	90.5 [3.56]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL


LED process controller

	•	•	•	—	12 S	2 r	•	LED	6	96x48 [3.78 x 1.89]	90.5 [3.56]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL
---	---	---	---	---	------	-----	---	-----	---	------------------------	----------------	--------------------------	------	-------	---	--------

LCD touch process controller





	•	•	•	SI FB	24 S	4 o 2 r	•	LCD touch	8	96x48 [3.78 x 1.89]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	—
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LED setpoint adjuster


	—	—	—	—	—	—	—	LED	4	48x24 [1.89 x 0.94]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	CE, UL
---	---	---	---	---	---	---	---	-----	---	------------------------	--------------	--------------------------	------	----	---	--------

1) With mounting frame

Temperature displays
Temperature controllers

	Analog input 0...20; 4...20 mA	Analog input 0...10; 2...10 V	Analog input ±10 V	Temperature Thermocouples	Temperature Resistance thermometers (RTDs)	mV/V sensors / strain gauge input	Input characteristic curve S = control points	Presets / Limit values o = optocoupler; r = relay	Analog output	Display	Number of digits	Dimensions front in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LED temperature displays																		
					Pt100 Ni100					LED	5	48x24 [1.89...0.94]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	CE, UL
				J; K; N						LED	5	48x24 [1.89...0.94]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	CE, UL
				B; E; J; K; N; R; S; T	Pt100 0...500 Ω	±100 mV	12 S	2r	•	LED	6	96x48 [3.78...1.89]	90.5 [3.56]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL
LED temperature controllers																		
				B; E; J; K; N; R; S; T	Pt100 0...500 Ω	±100 mV	12 S	2r	•	LED	6	96x48 [3.78...1.89]	90.5 [3.56]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL

Strain-Gauge controllers

	Analog input 0...20; 4...20 mA	Analog input 0...10; 2...10 V	Analog input ±10 V	Temperature Thermocouples	Temperature Resistance thermometers (RTDs)	mV/V sensors / strain gauge input	Input characteristic curve S = control points	Presets / Limit values o = optocoupler; r = relay	Analog output	Display	Number of digits	Dimensions front in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LED strain-gauge controllers																		
						1.0 1.5 2.0 3.0 3.3 mV/V	12 S	2 r	•	LED	6	96 x 48 [3.78 x 1.89]	90.5 [3.56]	-20...+65 [-4...+149]	IP65	AC/DC	•	CE, UL

i Accessories for counters and process devices

Although little remains to be added – within the comprehensive range of accessories you can still find many more ideas to adapt Kübler counters and process displays exactly to your requirements.



DIN-rail adapters



Bezel adapters



Sealing covers



Socket boxes



Mounting fixtures and supports



Software



Blind enclosures



Sealing gaskets

i Codix with analog output

The Codix devices with analog output can scale the measured values accordingly and convert them into a different analog standard signal (0 ... 10 VDC; 2 ... 10 VDC; 0 ... 20 mA; 4 ... 20 mA) to transmit them to a higher-level controller or send them to a curve tracer or large display. It is possible to transmit the current measured value in addition to the minimum or maximum values as well as the total value.

Together with the 2 output relays simple local control tasks can be undertaken – quite simply, without the need for programming knowledge, with direct display for user-friendly control on site.

i Codix with serial interface

The Codix devices with serial interfaces enable uncomplicated read-out or write of all important values in the device for monitoring and control purposes. Connection of large displays and printers can also be executed simply and without problem.

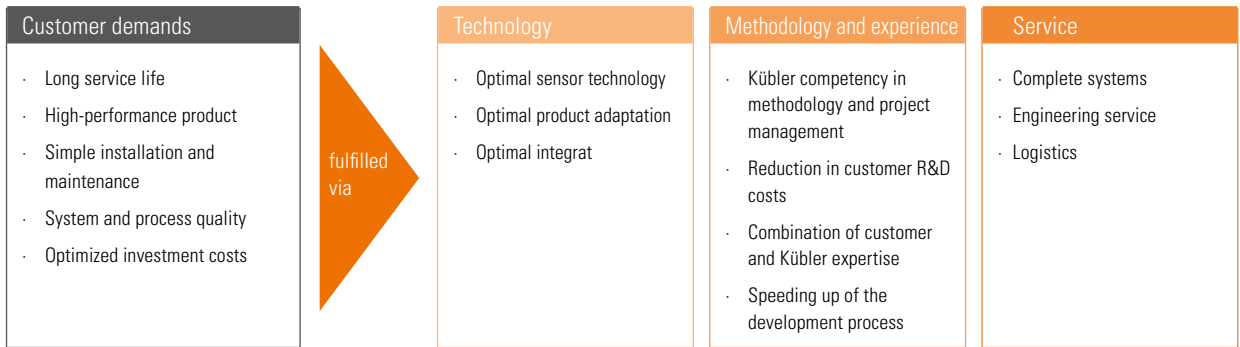
Furthermore, the interface permits parameter and other settings of the display to be stored or transmitted quickly and easily to a number of devices. Several devices with various measuring tasks can be networked together in order to monitor complete operating or process tasks. The Codix devices offer the standard RS232 and RS485 interfaces – the standard Modbus and CR/LF protocols have already been implemented for the Codix 560.

Tailor-made solutions – Kübler Design System

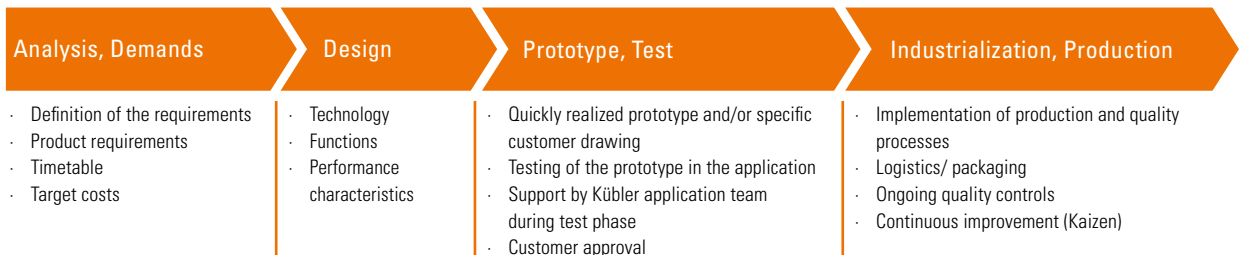
With the KDS method our customers receive a lasting solution to lowering costs, reducing the number of models available or eliminating quality deficiencies. With KDS we develop product and engineering solutions together. The method stands out because of its structured process; this delivers innovation through experience and cooperation with the customer.

Gebhard and Lothar Kübler, Managing Directors Fritz Kübler GmbH

The Kübler Design System – satisfying customer demands



The 4 phases of the Kübler Design System



PRESALES

- Selection tool
- Kübler website: Product Finder

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- 48 h Express and Repair Service

Sample Service – Fast delivery of customized versions



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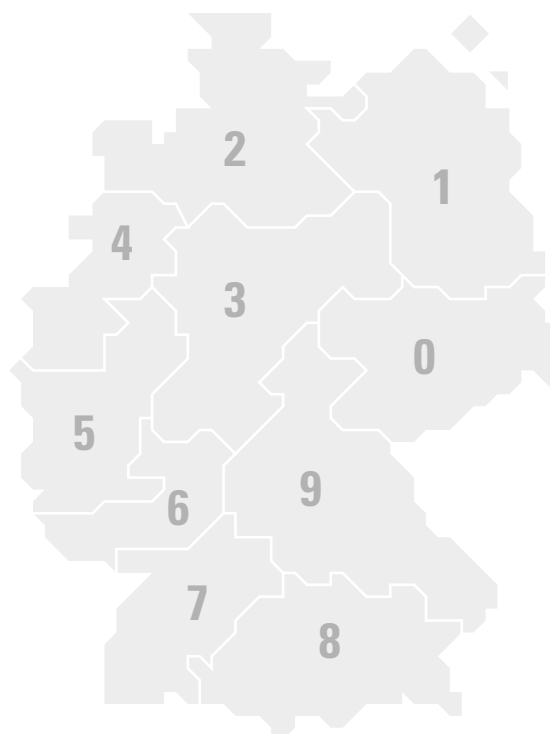
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The logo for Kübler, featuring a stylized orange 'K' with a circular element above it, followed by the word 'Kübler' in a bold, orange, sans-serif font.

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