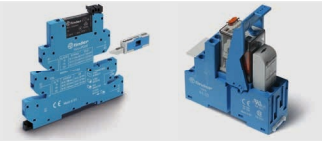
CATALOGUE

finder®

SWITCH TO THE FUTURE

- Automation
- Industrial applications
- Residential and Commercial

	Series
 Industrial and PCB relays (EMR/SSR)	30, 32, 34, 36, 40, 41, 43, 45, 46, 55, 56, 60, 62, 65, 66, 67, RB, RR, 99
 Relay interface modules (EMR/SSR)	38, 39, 48, 4C, 58
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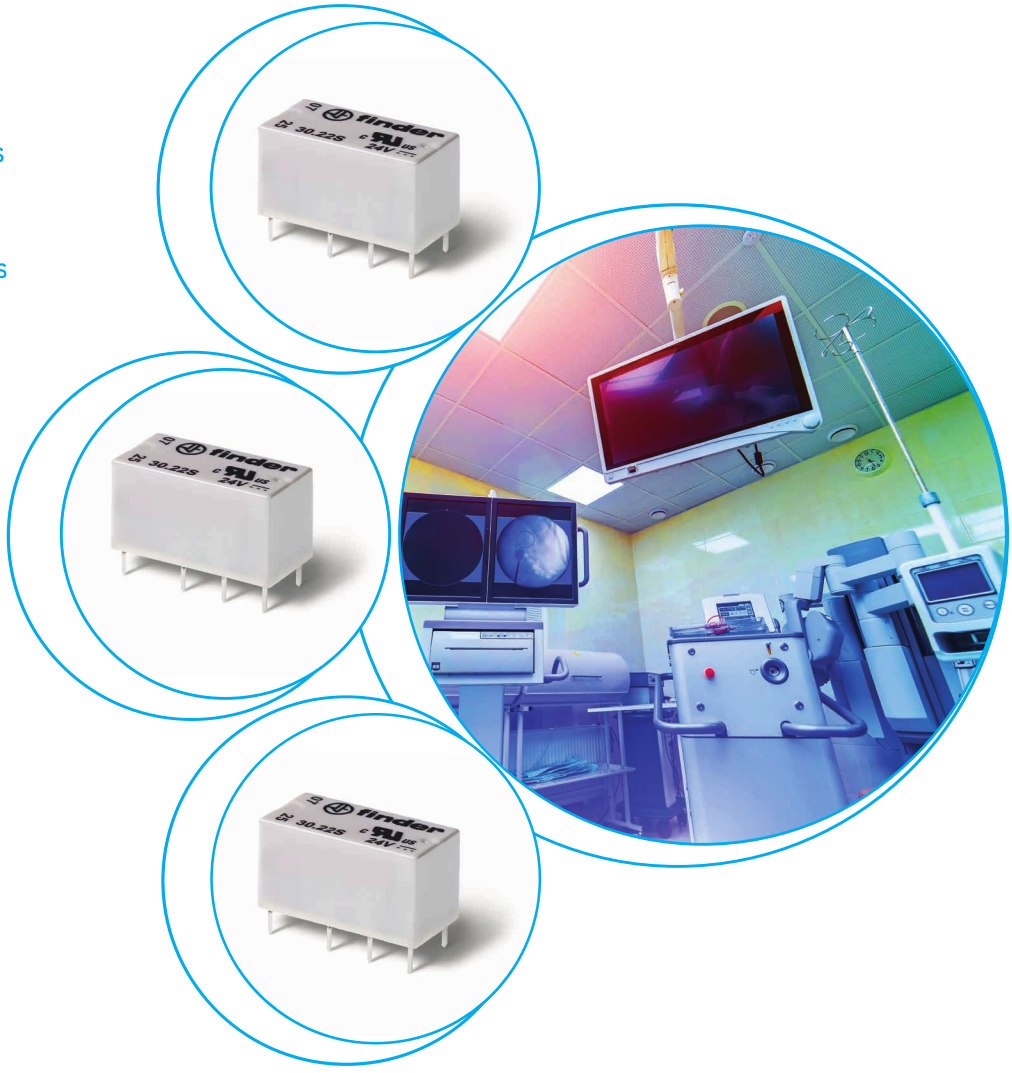
SWITCH TO THE FUTURE

30
SERIES

Subminiature DIL relays 2 A

- Electronic circuit boards
- Hi-Fi systems
- Printers
- Toys
- Medical and dentistry
- Hoists and cranes
- Door and gate openers

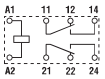


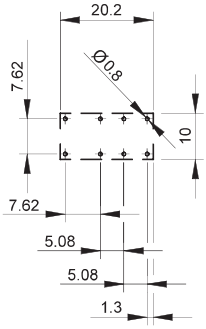
Printed circuit mount
2 A signal relay

- 2 Pole changeover contacts Low level switching capability
- Subminiature - industry standard DIL package
- Sensitive DC coil - 200 mW
- Wash tight: RT III
- Cadmium Free contact material

30.22

- Low coil power
- Au clad contacts
- PCB mount





For outline drawing see page 5

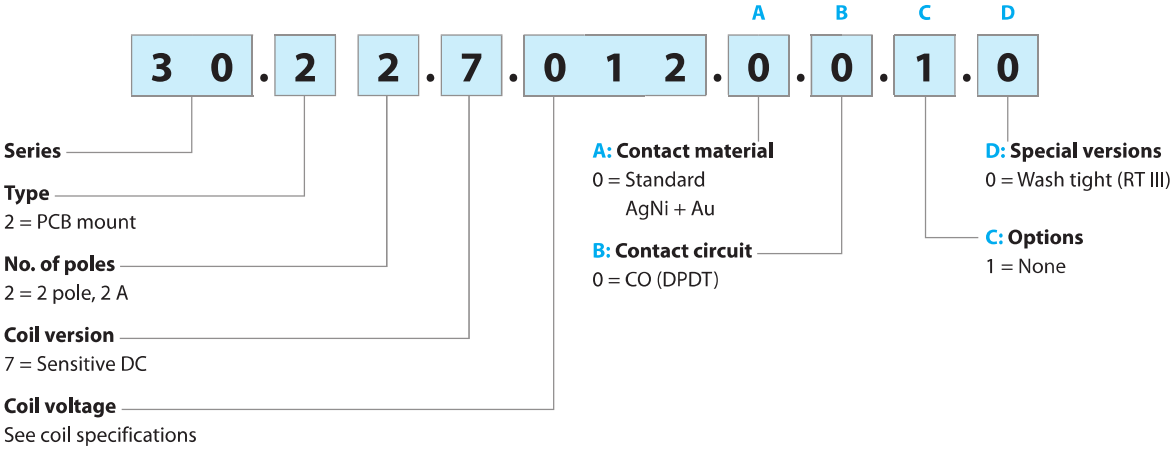
Copper side view

Contact specification		
Contact configuration		2 CO (DPDT)
Rated current/Maximum peak current	A	2/3
Rated voltage/ Maximum switching voltage	V AC	125/250
Rated load AC1	VA	125
Rated load AC15 (230 V AC)	VA	25
Single phase motor rating (230 V AC)	kW	—
Breaking capacity DC1: 30/110/220 V	A	2/0.3/—
Minimum switching load	mW (V/mA)	10 (0.1/1)
Standard contact material		AgNi + Au
Coil specification		
Nominal voltage (U_N)	V AC (50/60 Hz)	—
	V DC	5 - 6 - 9 - 12 - 24 - 48
Rated power AC/DC	VA (50 Hz)/W	—/0.2
Operating range	AC	—
	DC	See table page 5
Holding voltage	AC/DC	—/0.35 U_N
Must drop-out voltage	AC/DC	—/0.05 U_N
Technical data		
Mechanical life AC/DC	cycles	—/10 · 10^6
Electrical life at rated load AC1	cycles	100 · 10^3
Operate/release time	ms	6/2
Insulation between coil and contacts (1.2/50 µs)	kV	1.5
Dielectric strength between open contacts	V AC	750
Ambient temperature range	°C	–40…+85
Environmental protection		RT III
Approvals (according to type)		

A

Ordering information

Example: 30 series PCB relay, 2 CO (DPDT) - 2 A contacts, 12 V sensitive DC coil.

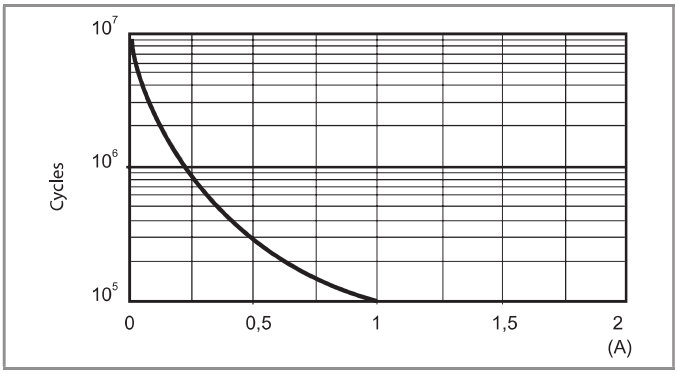


Technical data

Insulation according to EN 61810-1			
Nominal voltage of supply system	V AC	230/400	120…240 single phase
Rated insulation voltage	V AC	250	125
Pollution degrees		1	2
Insulation between coil and contact set			
Type of insulation		Basic	Basic
Overvoltage category		I	II
Rated impulse voltage	kV (1.2/50 µs)	1.5	1.5
Dielectric strength	V AC	1000	1000
Insulation between adjacent contacts			
Type of insulation		Basic	Basic
Overvoltage category		I	II
Rated impulse voltage	kV (1.2/50 µs)	1.5	1.5
Dielectric strength	V AC	1500	1500
Insulation between open contacts			
Type of disconnection		Micro-disconnection	Micro-disconnection
Dielectric strength	V AC/kV (1.2/50 µs)	750/1	750/1
Other data			
Bounce time: NO/NC	ms	1/3	
Vibration resistance (5…55)Hz: NO/NC	g	15/15	
Shock resistance	g	16	
Power lost to the environment	without contact current W	0.2	
	with rated current W	0.4	
Recommended distance between relays mounted on PCB	mm	≥ 5	

Contact specification

F 30 - Electrical life (AC1) v contact current (125 V)



Note:
The rated current of 2 A corresponds to the limiting continuous current.

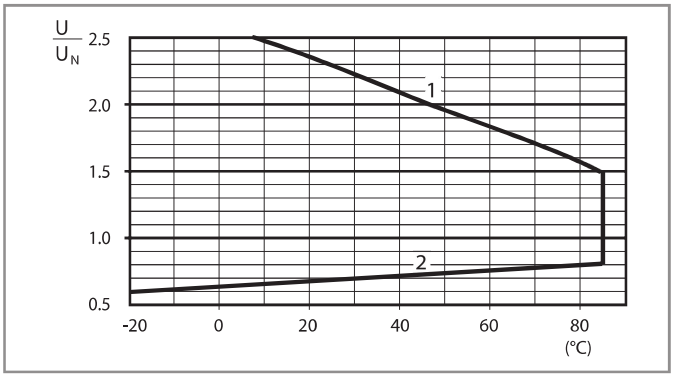
Coil specifications

DC coil data - 0.2 W sensitive

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
5	**7**.005	3.7	7.5	125	40
6	**7**.006	4.5	9	180	33
9	**7**.009	6.7	13.5	405	22
12	**7**.012	8.4	18	720	16
24	**7**.024	16.8	36	2880	8.3
48*	**7**.048	36	72	10000	4.8

* Rated power: 0.23 W

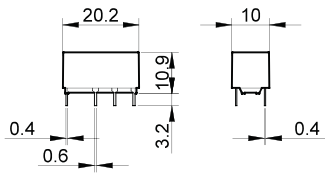
R 30 - DC coil operating range v ambient temperature



1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Outline drawing

Type 30.22

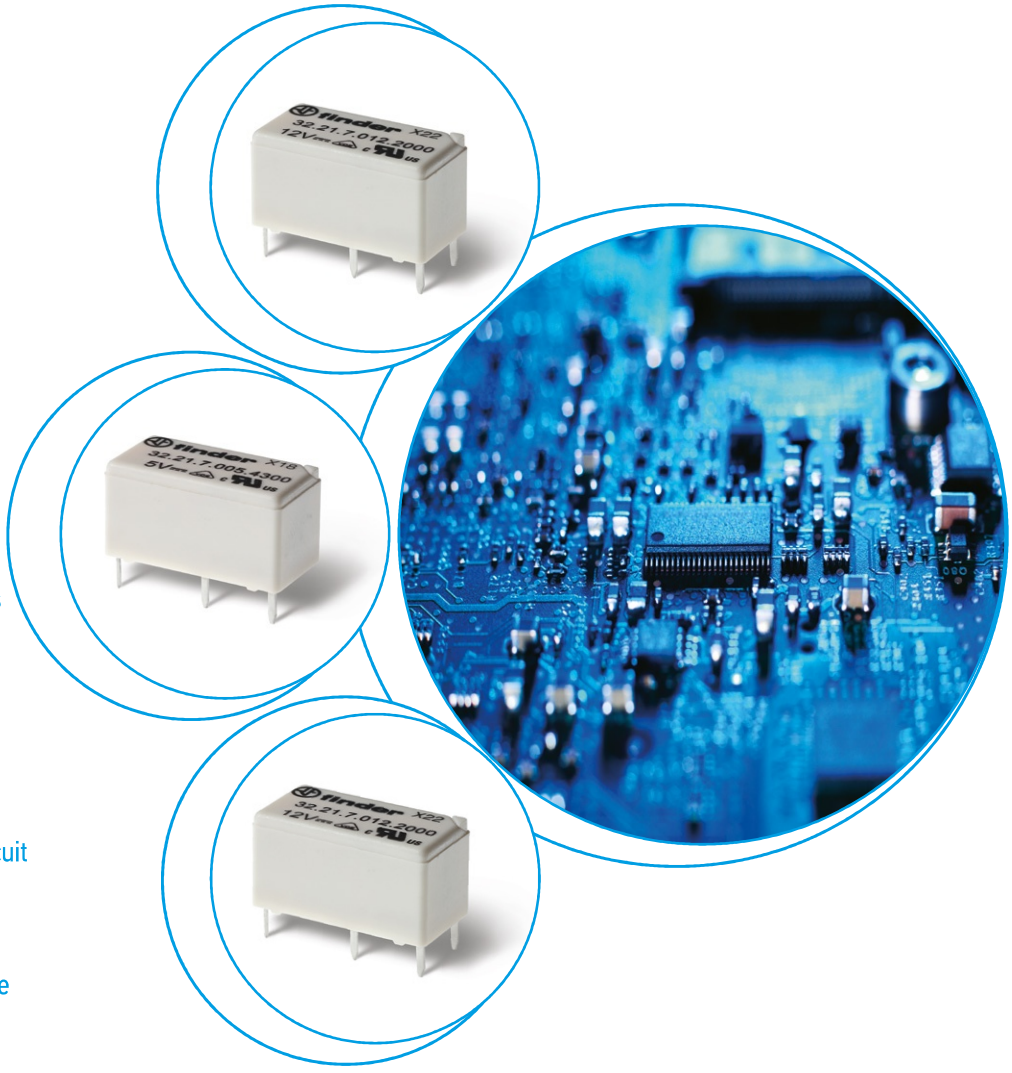


finder
SWITCH TO THE FUTURE

32
SERIES

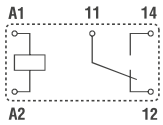
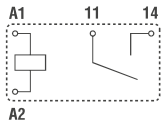
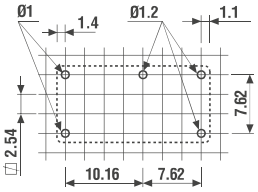
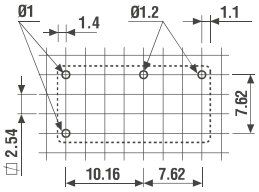
Subminiature PCB relays 6 A

- Copiers
- Hi-Fi systems
- Washing machines
- Control systems
- Electronic kits
- Medical and dentistry
- Electronic circuit boards
- Programmable controllers



Printed circuit mount 6 A relay

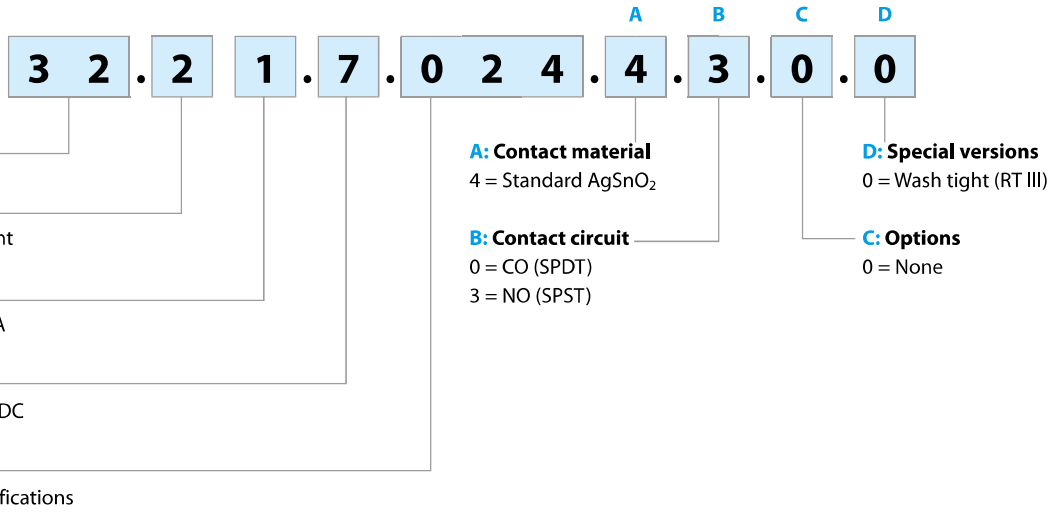
- 1 Pole changeover contacts or 1 Pole normally open contact
- Subminiature, low profile package
- Sensitive DC coil - 200 mW
- Wash tight: RT III
- Cadmium Free contacts

	32.21-4000	**32.21-4300**
		
	• 1 CO (SPDT), 6 A • Low coil power • PCB mount	• 1 NO (SPST-NO), 6 A • Low coil power • PCB mount
		
		
For outline drawing see page 5	Copper side view	Copper side view
Contact specification		
Contact configuration	1 CO (SPDT)	1 NO (SPST-NO)
Rated current/Maximum peak current A	6/15	6/15
Rated voltage/ Maximum switching voltage V AC	250/400	250/400
Rated load AC1 VA	1500	1500
Rated load AC15 (230 V AC) VA	250	250
Single phase motor rating (230 V AC) kW	0.185	0.185
Breaking capacity DC1: 30/110/220 V A	3/0.35/0.2	3/0.35/0.2
Minimum switching load mW (V/mA)	500 (10/5)	500 (10/5)
Standard contact material	$AgSnO_2$	$AgSnO_2$
Coil specification		
Nominal voltage (U_N) V AC (50/60 Hz)	—	—
V DC	5 - 12 - 24 - 48	5 - 12 - 24 - 48
Rated power AC/DC VA (50 Hz)/W	—/0.2	—/0.2
Operating range AC	—	—
DC	(0.78…1.5)U_N	(0.78…1.5)U_N
Holding voltage AC/DC	—/0.4 U_N	—/0.4 U_N
Must drop-out voltage AC/DC	—/0.1 U_N	—/0.1 U_N
Technical data		
Mechanical life AC/DC cycles	—/$20 \cdot 10^6$	—/$20 \cdot 10^6$
Electrical life at rated load AC1 cycles	$50 \cdot 10^3$	$50 \cdot 10^3$
Operate/release time ms	6/4	6/2
Insulation between coil and contacts (1.2/50 µs) kV	5	5
Dielectric strength between open contacts V AC	1000	1000
Ambient temperature range °C	–40…+85	–40…+85
Environmental protection	RT III	RT III
Approvals (according to type)	EAC cULus VDE	

A

Ordering information

Example: 32 series PCB, 1 NO (SPDT-NO) - 6 A contacts, 24 V sensitive DC coil.



Selecting features and options: only combinations in the same row are possible.
Preferred selections for best availability are shown in **bold.**

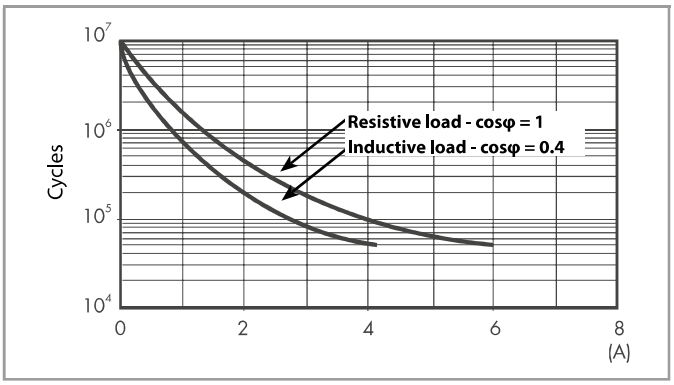
Type	Coil version	A	B	C	D
32.21	sens. DC	**4**	**0 - 3**	**0**	**0**

Technical data

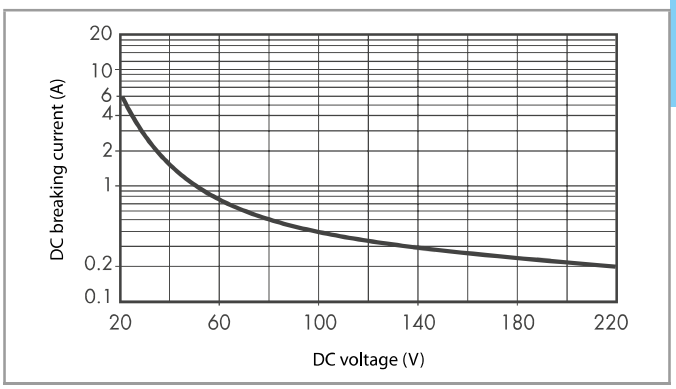
Insulation according to EN 61810-1				
Nominal voltage of supply system		V AC	230/400	
Rated insulation voltage		V AC	250	
Pollution degree			2	
Insulation between coil and contact set				
Type of insulation			Basic	
Overvoltage category			III	
Rated impulse voltage		kV (1.2/50 µs)	5	
Dielectric strength		V AC	4000	
Insulation between open contacts				
Type of disconnection			Micro-disconnection	
Dielectric strength		V AC/kV (1.2/50 µs)	1000/1.5	
Insulation between coil terminals				
Rated impulse voltage (surge) differential mode (according to EN 61000-4-5)		kV (1.2/50 µs)	2	
Other data				
Bounce time: NO/NC		ms	2/10 (changeover)	2/— (normally open)
Vibration resistance (5…55)Hz: NO/NC		g	10/10 (changeover)	10/— (normally open)
Shock resistance		g	20	
Power lost to the environment	without contact current	W	0.2	
	with rated current	W	0.5	
Recommended distance between relays mounte d on PCB		mm	≥ 5	

Contact specification

F 32 - Electrical life (AC) v contact current



H 32 - Maximum DC1 breaking capacity



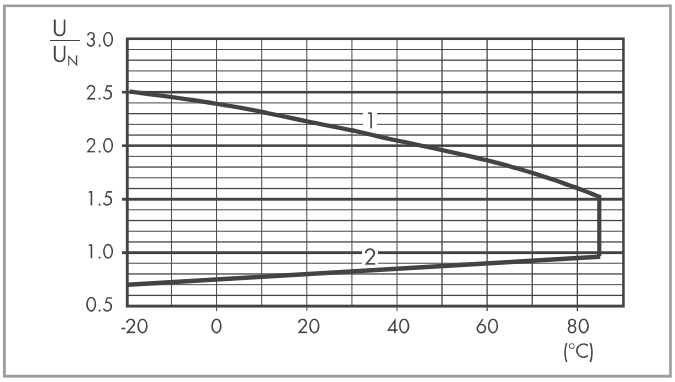
- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ $50 \cdot 10^3$ can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.
  Note: the release time for the load will be increased.

Coil specifications

DC coil data - 0.2 W sensitive

Nominal voltage	Coil code	Operating range		Resistance	Rated coil consumption
U_N		U_{min}	U_{max}	R	I at U_N
V		V	V	Ω	mA
5	**7**.005	3.9	7.5	125	40
12	**7**.012	9.4	18	720	16
24	**7**.024	18.7	36	2880	8.3
48	**7**.048	37.4	72	11520	4

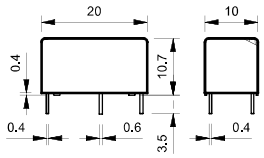
R 32 - DC coil operating range v ambient temperature



1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Outline drawing

Types 32.21-4000/4300

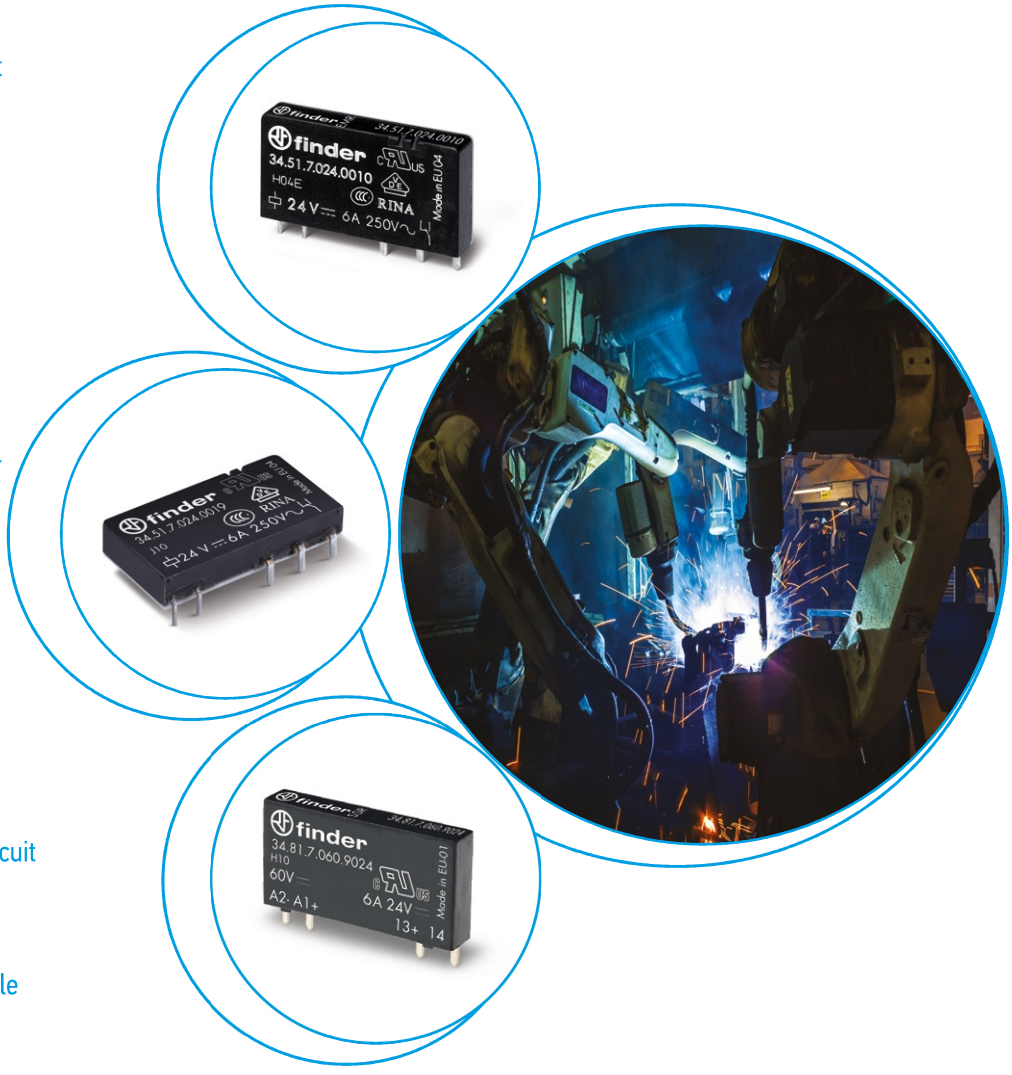


finder
SWITCH TO THE FUTURE

34
SERIES

Ultra-slim PCB Relays (EMR or SSR) 0.1 - 0.2 - 2 - 6 A

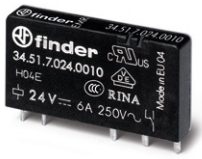
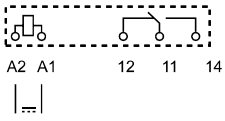
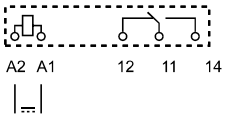
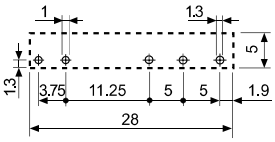
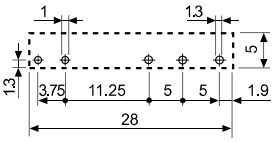
- Bottling plant
- Packaging machines
- Labelling machines
- Road / tunnel lighting
- Burners, boilers and furnaces
- Timers and lighting controls
- Electronic circuit boards
- Programmable controllers



Ultra-slim 1 Pole - 6 A relay

Printed circuit mount
- direct or via PCB socket
35 mm rail mount
- via screw, screwless or push-in terminal sockets

- 1 Pole changeover contacts or 1 Pole normally open contact
- Ultra slim (5 mm), package
- Sensitive DC coil - 170 mW (Dual AC/DC coil drive possible using 93 series sockets)
- UL Listing (certain relay/socket combinations)
- Cadmium Free contact materials
- 8/8 mm clearance/creepage distance
- 6 kV (1.2/50 µs) insulation, coil-contacts

		34.51	34.51-5010
			
		• 5 mm wide • Low coil power • PCB or 93 series sockets	• 5 mm wide • Low coil power • PCB or 93 series sockets • Contact AgNi + Au
			
			
For UL ratings see: *"General technical information" page* V			
For outline drawing see page 9		Copper side view	Copper side view
Contact specification			
Contact configuration		1 CO (SPDT)	1 CO (SPDT)
Rated current/ Maximum peak current	A	6/10	6/10
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	1500	1500
Rated load AC15 (230 V AC)	VA	300	300
Single phase motor rating (230 V AC)	kW	0.185	0.185
Breaking capacity DC1: 30/110/220 V	A	6/0.2/0.12	6/0.2/0.12
Minimum switching load	mW (V/mA)	500 (12/10)	50 (5/2)
Standard contact material		AgNi	AgNi + Au
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	—	—
	V DC	5 - 12 - 24 - 48 - 60	5 - 12 - 24 - 48 - 60
Rated power AC/DC	VA (50 Hz)/W	—/0.17	—/0.17
Operating range	AC	—	—
	DC	(0.7…1.5)U_N	(0.7…1.5)U_N
Holding voltage	AC/DC	—/0.4 U_N	—/0.4 U_N
Must drop-out voltage	AC/DC	—/0.05 U_N	—/0.05 U_N
Technical data			
Mechanical life AC/DC	cycles	—/10 · 10^6	—/10 · 10^6
Electrical life at rated load AC1	cycles	60 · 10^3	60 · 10^3
Operate/release time	ms	5/3	5/3
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1000	1000
Ambient temperature range	°C	–40…+85	–40…+85
Environmental protection		RT II	RT II
Approvals (according to type)			

A

Ultra-slim Solid State Relays

Printed circuit mount
- direct or via PCB socket
35 mm rail mount
- via screw, screwless or push-in terminal sockets

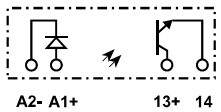
- Single circuit output switching options
  - 6 A, 24 V DC
  - 2 A, 240 V AC
- Silent, high speed switching with long electrical life
- Ultra slim (5 mm), package
- Sensitive DC Input circuits (Dual AC/DC input drive possible using 93 series sockets)
- UL Listing (certain relay/socket combinations)
- Wash tight: RT III
- 3000 V AC insulation, input-output

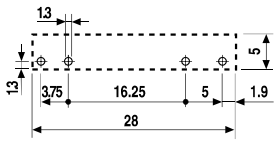
NEW **34.81.7.xxx.9024**

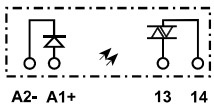
- 6 A, 24 V DC output switching
- PCB or 93 series sockets

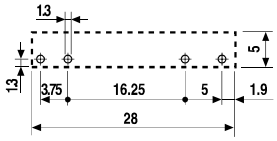
34.81.7.xxx.8240

- 2 A, 240 V AC output switching
- Zero crossing switching
- PCB or 93 series sockets









For outline drawing see page 9

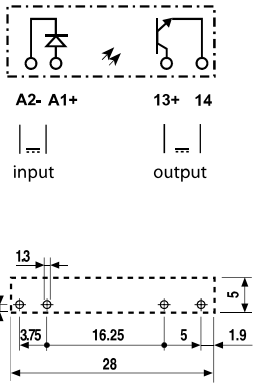
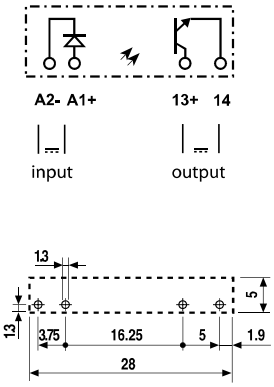
		Copper side view				Copper side view			
Output circuit									
Contact configuration		1 NO (SPST-NO)				1 NO (SPST-NO)			
Rated current/ Maximum peak current (10 ms)	A	6/50				2/80			
Rated switching voltage	V	24 DC				240 AC (50/60 Hz)			
Switching voltage range	V	(1.5…33)DC				(12…275)AC			
Maximum blocking voltage	V	33				—			
Repetitive peak off-state voltage	V_{pk}	—				800			
Rated load DC13	W	36				—			
Rated load AC15	VA	—				300			
Minimum switching current	mA	1				35			
Max. "OFF-state" leakage current	mA	0.001				1.5			
Max. "ON-state" voltage drop	V	0.4				1.6			
Supply specification									
Nominal voltage (U_N)	V DC	5	12	24	60	5	12	24	60
Rated power	W	0.035	0.085	0.17	0.21	0.06	0.085	0.17	0.21
Operating range	V DC	35…12	8…17	16…30	35…72	35…10	8…17	16…30	35…72
Control current	mA	7	7	7	3.5	12	7	7	3.5
Release voltage	V DC	4	4	10	20	1	4	10	20
Technical data									
Electrical life at rated load	cycles	> 10^6				> 10^6			
Operate/release time	ms	0.02/0.2				11/11			
Insulation between input and output (1.2/50µs)	kV	4				4			
Ambient temperature range	°C	–20…+70*				–20…+50*			
Environmental protection		RT III				RT III			
Approvals (according to type)		CE cULus							

* Note: all technical data relates to using the relay directly on PCB or PCB socket type 93.11.
If the relay is used with 35 mm rail socket types 93.01 and 93.51, refer to the technical data of 38 Series; if used with types 93.60, 93.61, 93.62, 93.63, 93.64, 93.65, 93.66, 93.67,93.68 and 93.69, refer to the technical data of the *Master**INTERFACE*** 39 Series. See L34 diagrams page 8

Ultra-slim Solid State Relays

Printed circuit mount
- direct or via PCB socket
35 mm rail mount
- via screw, screwless or push-in terminal sockets

- Single circuit output switching options
  - 0.1 A, 48 V DC
  - 0.2 A, 220 V DC
- Silent, high speed switching with long electrical life
- Ultra slim (5 mm), package
- Sensitive DC Input circuits (Dual AC/DC input drive possible using 93 series sockets)
- UL Listing (certain relay/socket combinations)
- Wash tight: RT III
- 3000 V AC insulation, input-output

	34.81.7.xxx.7048	**NEW 34.81.7.xxx.7220**
		
	• 100 mA, 48 V DC output switching • PCB or 93 series sockets	• 200 mA, 110/220 V DC output switching • PCB or 93 series sockets
		
For outline drawing see page 9	Copper side view	Copper side view

Output circuit					
Contact configuration		1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current/ Maximum peak current (10 ms)	A	0.1/0.5		0.2/10	
Rated switching voltage	V	48 DC		220 DC	
Switching voltage range	V	(1.5…53)DC		(90…256)DC	
Maximum blocking voltage	V	53		256	
Rated load DC13	W	2.4		44	
Minimum switching current	mA	0.05		0.05	
Max. "OFF-state" leakage current	mA	0.001		0.001	
Max. "ON-state" voltage drop	V	1		0.4	
Supply specification					
Nominal voltage (U_N)	V DC	24	60	24	60
Rated power	W	0.17	0.21	0.17	0.21
Operating range	V DC	16…30	35…72	16…30	35…72
Control current	mA	7	3.5	7	3.5
Release voltage	V DC	10	20	10	20
Technical data					
Electrical life at rated load	cycles	> 10^6		> 10^6	
Operate/release time	ms	0.03/0.6		0.4/2.2	
Insulation between input and output (1.2/50µs)	kV	4		4	
Ambient temperature range	°C	–20…+70*		–20…+70*	
Environmental protection		RT III		RT III	
Approvals (according to type)		CE cULus			

* Note: all technical data relates to using the relay directly on PCB or PCB socket type 93.11.
If the relay is used with 35 mm rail socket types 93.01 and 93.51, refer to the technical data of 38 Series; if used with types 93.60, 93.61, 93.62, 93.63, 93.64, 93.65, 93.66, 93.67,93.68 and 93.69, refer to the technical data of the *Master**INTERFACE*** 39 Series.

A

Ordering information

Electromechanical relay (EMR)

Example: 34 series Ultra-Slim electromechanical relay, 1 CO (SPDT) 6 A contacts, 24 V sensitive DC coil.

									A	B	C	D	
3	4	.	5	1	.	7	.	0	2	4	.	0	0	1	0

Series

Type
5 = Electromechanical type

No. of poles
1 = 1 pole, 6 A

Coil version
7 = Sensitive DC

Coil voltage
See coil specifications

A: Contact material
0 = Standard AgNi
4 = $AgSnO_2$
5 = AgNi + Au

B: Contact circuit
0 = CO (SPDT)
3 = NO (SPST)

C: Options
1 = None

D: Special versions
0 = Flux proof (RT II)
9 = Flat version

Selecting features and options: only combinations in the same row are possible.
Preferred selections for best availability are shown in **bold**.

Type	Coil version	A	B	C	D
34.51	sens. DC	**0** - 4 - 5	**0** - 3	**1**	**0**
34.51	sens. DC	0 - 4 - 5	0	1	9

Solid state relay (SSR)

Example: 34 series solid state relay, 6 A 24 V DC output, 24 V DC supply.

3	4	.	8	1	.	7	.	0	2	4	.	9	0	2	4

Series

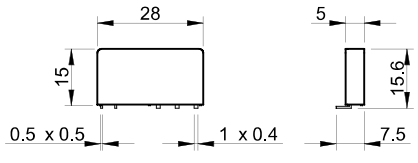
Type
8 = SSR type

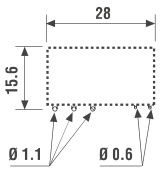
Output
1 = 1 NO (SPST-NO)

Input circuit
See input specifications

Output circuit
9024 = 6 A - 24 V DC
7048 = 0.1 A - 48 V DC
7220 = 0.2 A - 220 V DC
8240 = 2 A - 240 V AC

Flat pack version





Copper side view

Option = 34.51.7xxx.x019

Environmental protection RT I