

Relay module with forcibly guided contacts 6 - 10 A



Disabled lift



Hoists and cranes



Wood-
processing
machines



Carousel
warehouses



Escalators



Elevators
and lifts



Industrial
robots



Automatic
car-washes



Relay module with forcibly guided contacts

Type 7S.12/32

- 2 pole 6 A (1 NO + 1 NC)

Type 7S.14/34

- 4 pole 6 A (2 NO + 2 NC and 3 NO + 1 NC)

Type 7S.16/36

- 6 pole 6 A (4 NO + 2 NC)

- For safety applications, with class A forcibly guided contact relays EN 61810-3 (previously EN 50205)
- For application up to SIL 2 evaluated according to EN 62061 (based on EN 61508 series)
- For functional reliability in machinery and plant engineering according to EN 13849-1
- For railway applications; materials compliant with fire and smoke characteristics EN 45545; mechanical and climatic characteristics compliant with EN 61373 and EN 50155
- DC and AC supply versions
- 24 and 110 V DC versions with extended operating range $(0.7 \dots 1.25)U_N$
- Coil status visual indication with LED
- 35 mm rail (EN 60715) mount

Screwless terminal



Screw terminal



For outline drawing see page 10

7S.12/32....5110 **NEW**

- 2 pole (1 NO + 1 NC)

7S.14/34....4xx0 **NEW**

- 4 pole :
(2 NO + 2 NC) type
7S.xxxxx.4220
(3 NO + 1 NC) type
7S.xxxxx.4310

7S.16/36....5420 **NEW**

- 6 pole (4 NO + 2 NC)

Contact specification

Contact configuration	1 NO + 1 NC	2 NO + 2 NC, 3 NO + 1 NC	4 NO + 2 NC
Rated current/Max. peak current A	6/15	6/15	6/15
Rated switching voltage V AC (50/60 Hz)	250	250	250
Rated load AC1 VA	1500	1500	1500
Rated load AC15 (230 V AC) VA	700	700	700
Breaking capacity DC1: 30/110/220 V A	6/0.6/0.2	6/0.9/0.3	6/0.9/0.3
Breaking capacity DC13: 24 V A	1	3	5
Minimum switching load mW (V/mA)	60 (5/5)	60 (5/10)	60 (5/10)
Standard contact material	AgNi + Au	AgSnO ₂	AgSnO ₂ +Au

Coil specification

Nominal voltage (U_N)	V AC (50/60 Hz)	110...125 - 230...240	110...125 - 230...240	110...125 - 230...240
	V DC	12 - 24	12 - 24 - 110	12 - 24 - 110
Rated power VA (50 Hz)/W		2.3/1	2.3/1	2.3/1
Operating range	AC	$(0.85 \dots 1.1)U_N$	$(0.85 \dots 1.1)U_N$	$(0.85 \dots 1.1)U_N$
	DC	$(0.8 \dots 1.2)U_N$	$(0.8 \dots 1.2)U_N$	$(0.8 \dots 1.2)U_N$
	DC extended range (24 and 110 V only)	$(0.7 \dots 1.25)U_N$	$(0.7 \dots 1.25)U_N$	$(0.7 \dots 1.25)U_N$
Holding voltage AC/DC		$0.45 U_N / 0.45 U_N$	$0.55 U_N / 0.55 U_N$	$0.55 U_N / 0.55 U_N$
Must drop-out voltage AC/DC		$0.1 U_N / 0.1 U_N$	$0.1 U_N / 0.1 U_N$	$0.1 U_N / 0.1 U_N$

Technical data

Mechanical life cycles		$10 \cdot 10^6$	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1 cycles		$100 \cdot 10^3$	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time ms		7/11	12/10	12/10
Insulation between coil and contacts (1.2/50 μ s) kV		6	6	6
Dielectric strength between open contacts V AC		1500	1500	1500
Ambient temperature °C		-40...+70	-40...+70	-40...+70
Protection category		IP 20	IP 20	IP 20

Approvals (according to type)



Relay module with forcibly guided contacts**Type 7S.23**

- 3 pole (2 NO + 1 NC)

- For safety applications, with class A forcibly guided contact relays EN 61810-3 (previously EN 50205)
- For application up to SIL 2 evaluated according to EN 62061 (based on EN 61508 series)
- For functional reliability in machinery and plant engineering according to EN 13849-1
- DC coil
- Camium free contacts
- 17.5 mm wide
- Coil status visual indication with LED
- 35 mm rail (EN 60715) mount

Screw terminal


NEW **7S.23**


- 3 pole (2 NO + 1 NC)

For outline drawing see page 10

Contact specification

Contact configuration		2 NO + 1 NC
Rated current/Max. peak current	A	10/20
Rated switching voltage	V AC (50/60 Hz)	250
Rated load AC1	VA	2500
Rated load AC15 (230 V AC)	VA	500
Breaking capacity DC1: 30/110/220 V	A	6/0.6/0.2
Breaking capacity DC13: 24 V	A	1
Minimum switching load	mW (V/mA)	60 (5/5)
Standard contact material		AgNi + Au

Coil specification

Nominal voltage (U_N)	V DC	12 - 24 - 48 - 110
Rated power	VA (50 Hz)/W	2.3/1
Operating range	DC	(0.8...1.2) U_N
Holding voltage	DC	0.45 U_N
Must drop-out voltage	DC	0.1 U_N

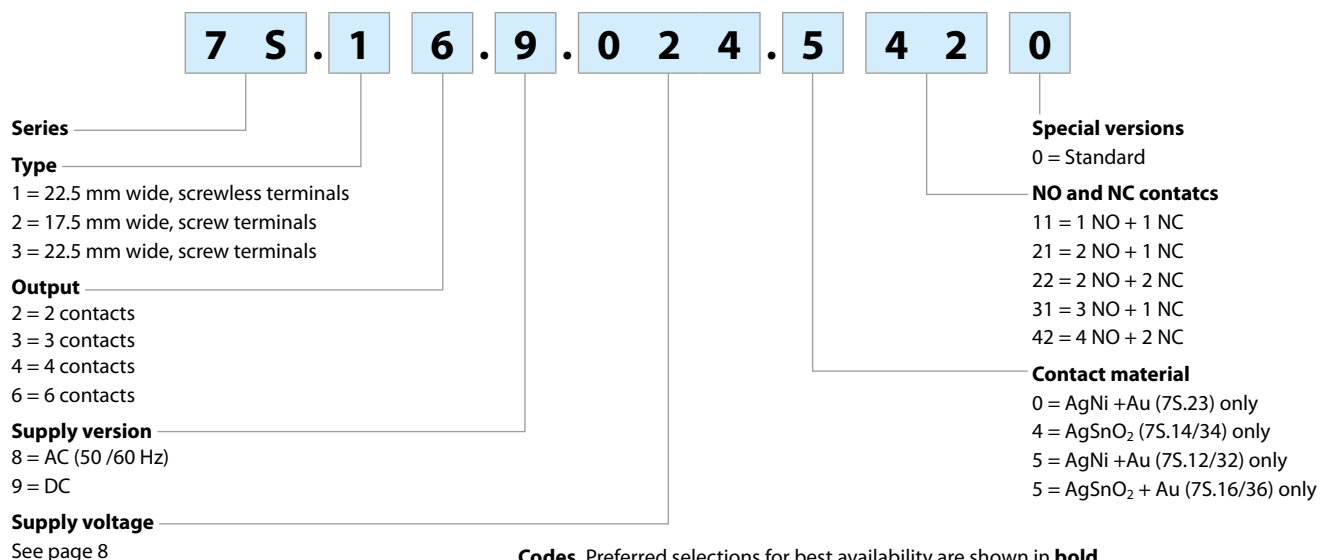
Technical data

Mechanical life	cycles	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$
Operate/release time	ms	7/11
Insulation between coil and contacts (1.2/50 μ s)	kV	6
Dielectric strength between open contacts	V AC	1500
Ambient temperature	°C	-40...+70
Protection category		IP 20

Approvals (according to type)

Ordering information

Example: 7S series Relay module with forcibly guided contacts, 6 contact (4 NO + 2 NC) 6 A, supply voltage 24 V DC.



Codes, Preferred selections for best availability are shown in **bold**.

7S.12.9.012.5110	7S.14.9.012.4220	7S.16.9.012.5420
7S.12.9.024.5110	7S.14.9.012.4310	7S.16.9.024.5420
7S.12.8.120.5110	7S.14.9.024.4220	7S.16.9.110.5420
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	7S.14.8.230.4310	7S.36.8.120.5420
		7S.36.8.230.5420
	7S.34.9.012.4220	
	7S.34.9.012.4310	7S.23.9.012.0210
	7S.34.9.024.4220	7S.23.9.024.0210
	7S.34.9.024.4310	7S.23.9.048.0210
	7S.34.9.110.4220	7S.23.9.110.0210
	7S.34.9.110.4310	
	7S.34.8.120.4220	
	7S.34.8.120.4310	
	7S.34.8.230.4220	
	7S.34.8.230.4310	

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		Reinforced
Overvoltage category		III
Rated impulse voltage	kV (1.2/50 µs)	6
Dielectric strength	V AC	4000

Insulation between adjacent contacts

Type of Insulation		Basic
Overvoltage category		III
Rated impulse voltage	kV (1.2/50 µs)	4
Dielectric strength	V AC	2500

Insulation between open contacts

Type of disconnection		Micro-disconnection
Dielectric strength	V AC/kV (1.2/50 µs)	1500/2.5

Insulation between coil terminals

Rated impulse voltage (surge) differential mode (according to EN 61000-4-5)	kV(1.2/50 µs)	1.5
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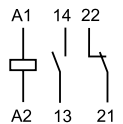
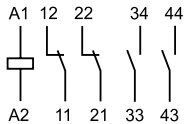
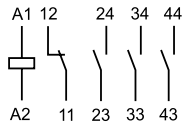
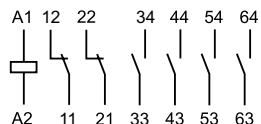
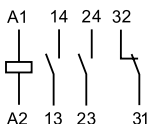
Terminals

Min. wire size		Screw Terminal		Screwless Terminal	
		solid cable	stranded cable	solid cable	stranded cable
	mm ²	0.5	0.5	0.5	0.5
	AWG	21	21	21	21
Max. wire size		Screw Terminal		Screwless Terminal	
		solid cable	stranded cable	solid cable	stranded cable
	mm ²	1 x 6 / 2 x 2.5	1 x 4 / 2 x 2.5	1 x 1.5	1 x 1.5
	AWG	1 x 10 / 2 x 14	1 x 12 / 2 x 14	1 x 14	1 x 16
Wire strip length	mm	9			

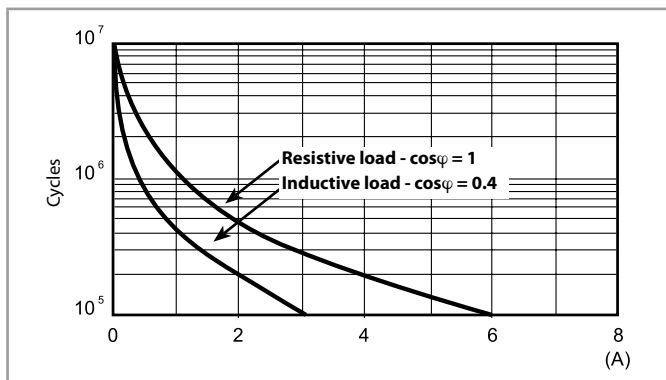
Other data		7S.12/32	7S.14/34	7S.16/36	7S.23
Bounce time: NO/NC	ms	2/8	2/10	2/10	2/15
Vibration resistance (10...200)Hz: NO/NC	g	10/5	20/6	20/6	10/2
Shock resistance: NO/NC	g	20/6	20/5	20/5	20/6
Power lost to the environment	without contact current	W	0.8	0.8	0.8
	with rated current	W	1.4	2.3	1.4

Contact specifications

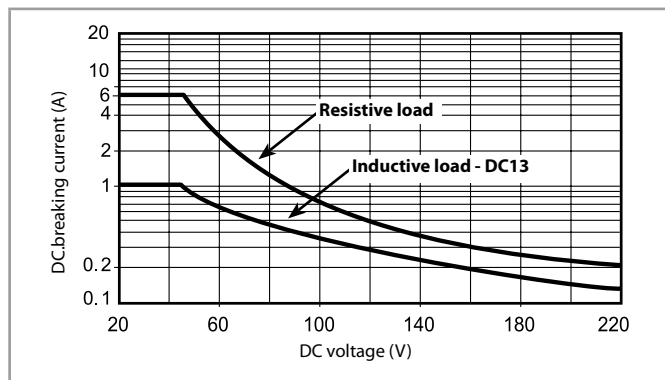
Contact diagrams

7S.12/7S.32	7S.14/34....4220	7S.14....4310	7S.16/36....5420	7S.23																																																																																																																																																																																
																																																																																																																																																																																				
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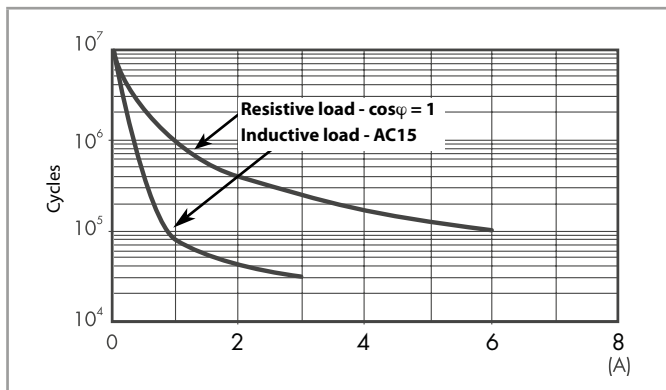
F 7S12 - Electrical life (AC) v contact current - 7S.12



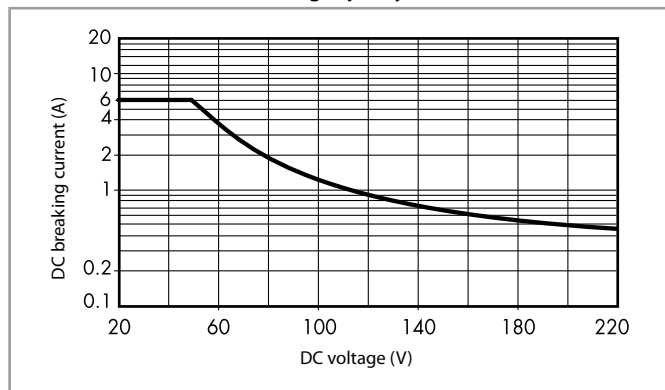
H 7S12* - Maximum DC breaking capacity - 7S.12



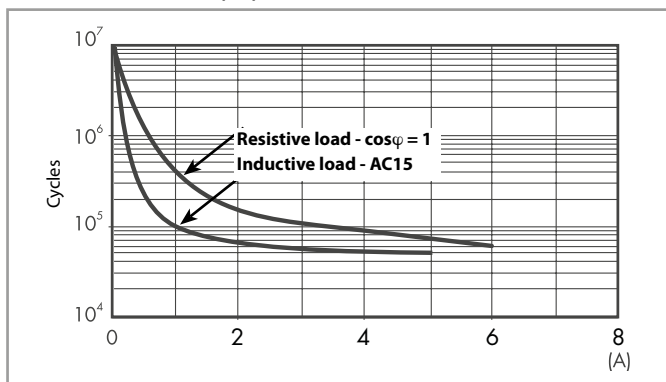
F 7S14 - Electrical life (AC) v contact current - 7S.14/34



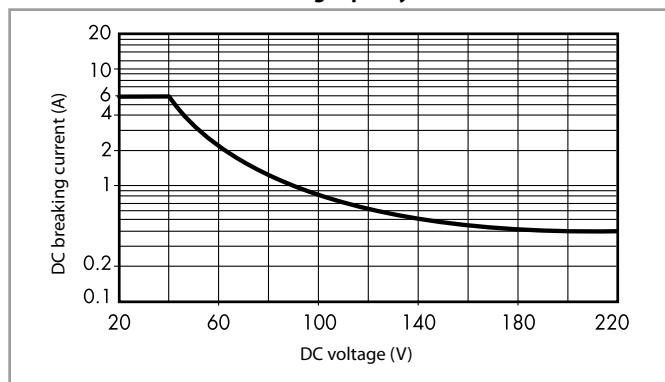
H 7S14* - Maximum DC breaking capacity - 7S.14/34



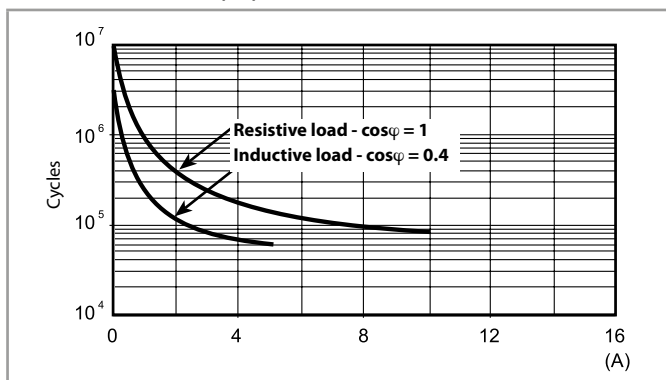
F 7S16 - Electrical life (AC) v contact current - 7S.16/36



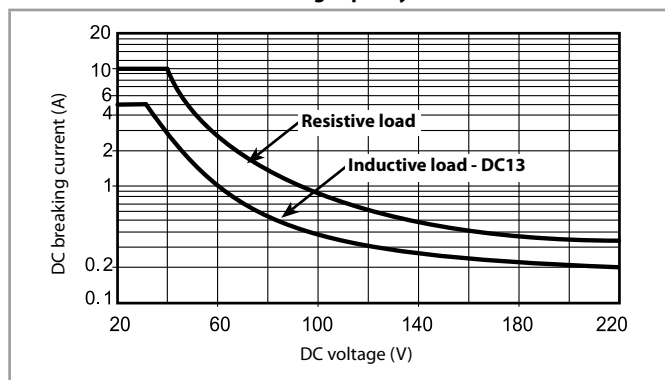
H 7S16* - Maximum DC breaking capacity - 7S.16/36



F 7S23 - Electrical life (AC) v contact current - 7S.23



H 7S23* - Maximum DC breaking capacity - 7S.23



* When switching a load having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^3$ can be expected.

Coil specifications

DC coil data - type 7S.12/32

Nominal voltage	Coil code	Operating range		Rated input current at U_N	Rated power at U_N
U_N		U_{min}	U_{max}	I_N	
V		V	V	mA	W
12	9.012	9.6	14.4	55	0.7
24	9.024	16.8	30	38.2	0.9

AC coil data - type 7S.12/32

Nominal voltage	Coil code	Operating range		Rated input current at U_N	Rated power at U_N
U_N		U_{min}	U_{max}	I_N	
V		V	V	mA	VA/W
110...125	8.120	93	138	9.8	1.2/1.1
230...240	8.230	195	264	11.8	2.8/1.2

DC coil data - type 7S.14/34 / 7S.16/36

Nominal voltage	Coil code	Operating range		Rated input current at U_N	Rated power at U_N
U_N		U_{min}	U_{max}	I_N	
V		V	V	mA	W
12	9.012	9.6	14.4	64.7	0.8
24	9.024	16.8	30	42.2	1
110	9.110	77	138	11.6	1.4

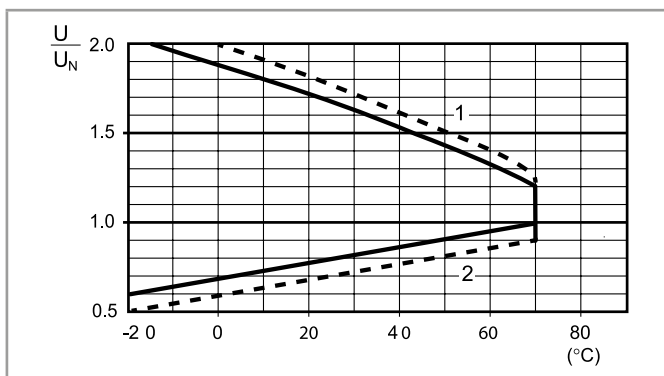
AC coil data - type 7S.14/34 / 7S.16/36

Nominal voltage	Coil code	Operating range		Rated input current at U_N	Rated power at U_N
U_N		U_{min}	U_{max}	I_N	
V		V	V	mA	VA/W
110...125	8.120	93	138	10.2	1.3/1.1
230...240	8.230	195	264	11.8	2.9/1.2

DC coil data - type 7S.23

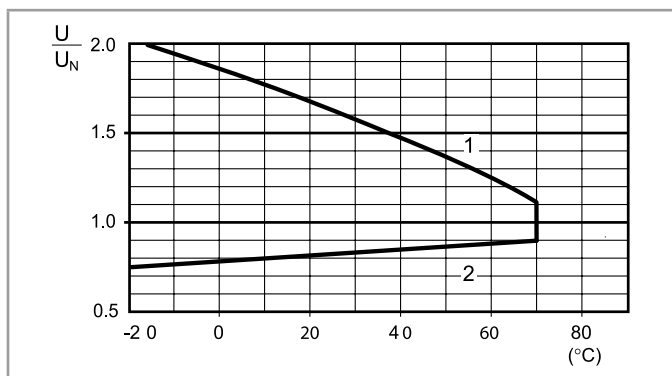
Nominal voltage	Coil code	Operating range		Rated input current at U_N	Rated power at U_N
U_N		U_{min}	U_{max}	I_N	
V		V	V	mA	W
12	9.012	9.6	14.4	47.1	0.6
24	9.024	16.8	30	26.6	0.6
48	9.048	33.6	60	16.2	0.8
110	9.110	77	138	8.8	1

R 7S - DC coil operating range v ambient temperature - 7S.12/32 / 7S.23 / 7S.14/34 / 7S.16/36



- 1 - Max. permitted coil voltage.
 2 - Min. pick-up voltage with coil at ambient temperature.
 ----- 24 and 110 V DC coils only (extended range)

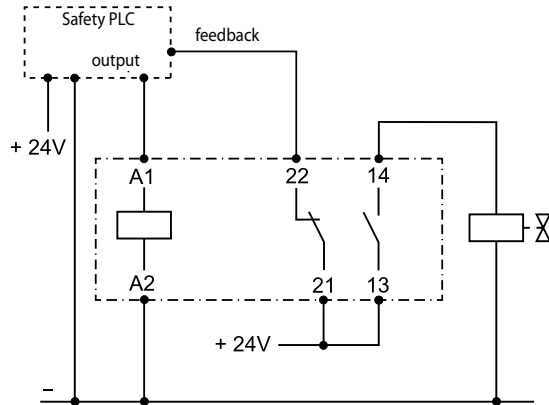
R 7S - AC coil operating range v ambient temperature - 7S.12/32 / 7S.23 / 7S.14/34 / 7S.16/36



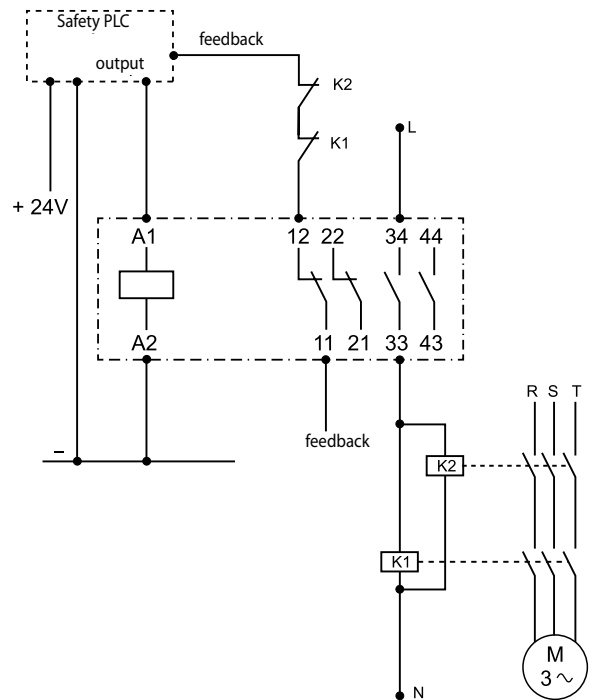
- 1 - Max. permitted coil voltage.
 2 - Min. pick-up voltage with coil at ambient temperature.

Example wiring diagrams

Type 7S.x2



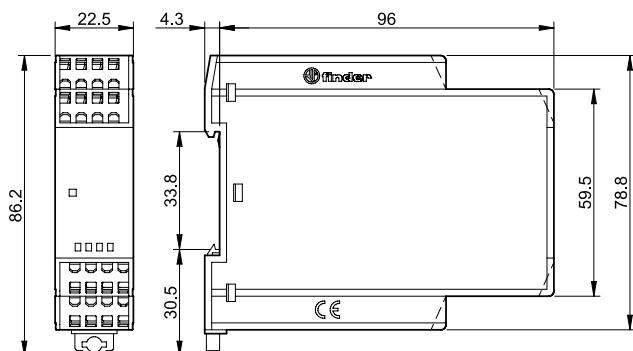
Type 7S.x4....4220



Outline drawings

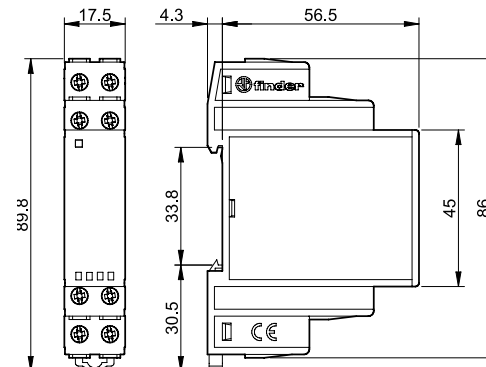
75.12/14/16

Screwless terminal



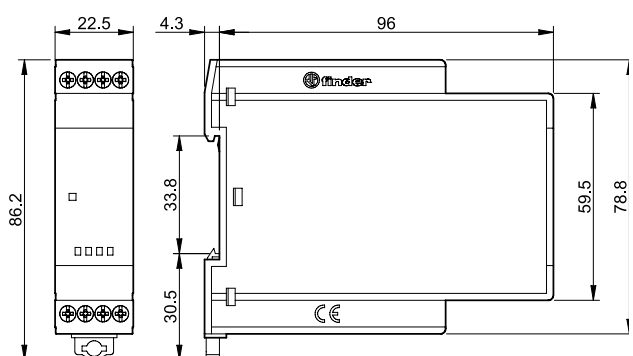
75.23

Screw terminal



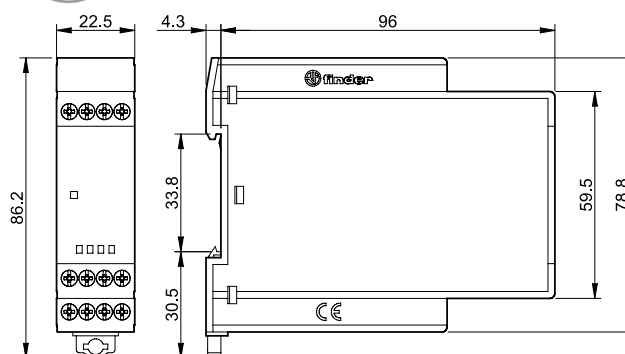
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Screw terminal



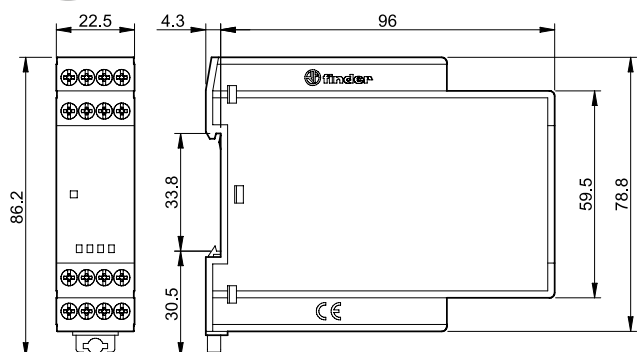
75.34

Screw terminal

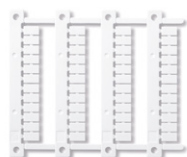


75.36

Screw terminal



Accessories



060.48

Sheet of marker tags, plastic, 48 tags, 6 x 12 mm, for CEMBRE thermal transfer printers

060.48



Kühn Controls AG

Notes:

You want more information about this product, please call us: tel: +49 (0)7082-940000
or send us a fax: +49 (0)7082-940001, or email: sales@kuehn-controls.de or visit our
Website: www.kuehn-controls.de