

Common features

- Instant ejection of relay by plastic retaining clip
- Integral coil indication and protection circuit
- 35 mm rail (EN 60715) mounting

6.2 mm wide

- EMR - DC, AC or AC/DC coil versions
- SSR - DC or AC/DC input versions
- Screw and Screwless terminal options

EMR Electromechanical Relays

38.51/38.61



• 1 CO - 6 A 250VAC

Page 1

SSR Solid State Relays

38.81/38.91



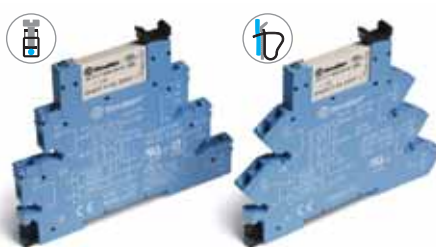
- Single solid state output:
Options 0.1A 48VDC, 2A 24VDC, 2A 240VAC
- Silent, high speed switching
- Long electrical life

Page 2

6.2 mm wide

- Special coil / input leakage current suppression types
- EMR - AC or AC/DC coil versions
- SSR - AC or AC/DC input versions
- Screw and Screwless terminal options

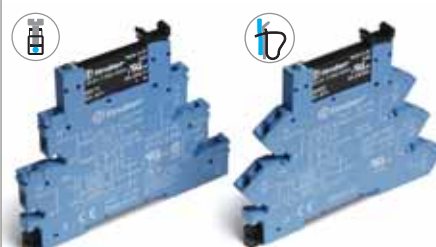
38.51.3... - 38.61.3...



• 1 CO - 6 A 250VAC

Page 1

38.81.3... - 38.91.3...



- Single solid state output:
Options 0.1A 48VDC, 2A 24VDC, 2A 240VAC
- Silent, high speed switching
- Long electrical life

Page 2

6.2 mm wide

- Timed Interface module
- 4 functions & 4 time scales 0.1s ... 6h
- EMR - AC/DC (12 or 24V) supply versions
- SSR - AC/DC (24V) supply
- Screw terminals

38.21



• 1 CO - 6 A 250VAC

Page 3

38.21...9024-8240



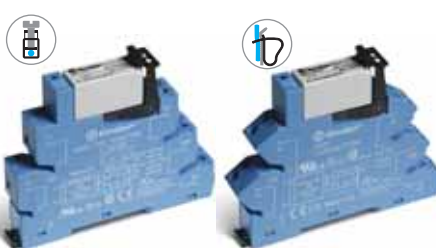
- Single solid state output:
Options 2A 24VDC, 2A 240VAC
- Silent, high speed switching
- Long electrical life

Page 3

14 mm wide

- 2 pole 8 A or 1 pole 16 A
- EMR - DC or AC/DC coil versions
- SSR - DC input versions
- Screw and Screwless terminal options

38.01/38.52/38.11/38.62



• 1 CO - 16 A 250VAC
• 2 CO - 8 A 250VAC

Page 4

38.31/38.41



- Single solid state output:
Options 5A 24VDC, 3A 240VAC
- Silent, high speed switching
- Long electrical life

Page 5

Features

1 Pole - 6 A electromechanical relay interface modules, 6.2 mm wide.

Ideal interface for PLC and electronic systems

- Sensitive DC coil or AC/DC coil versions
- Integral coil indication and protection circuit
- Instant ejection of relay using plastic retaining clip
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting

38.51 / 38.51.3
Screw terminal

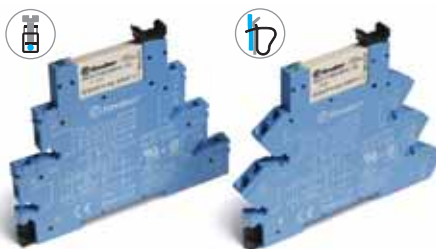


38.61 / 38.61.3
Screwless terminal

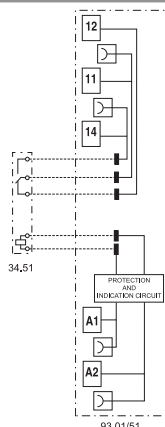


* Special version for max ambient temperature +70°C.
For outline drawing see page 12

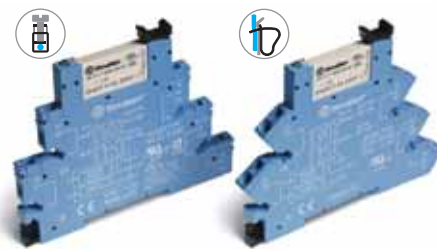
38.51/61



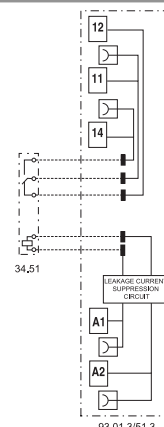
- 1 pole electromechanical relay
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting



38.51.3 / 38.61.3



- Leakage current suppression
- 1 pole electromechanical relay
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting



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	1,500	1,500
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)	500 (12/10)
Standard contact material	AgNi	AgNi

Coil specification

Nominal voltage (U _N)	V AC/DC	12 - 24 - 48 - 60 - (110...125) - (220...240)	(110...125)	—
	V AC	(230...240)*	—	(230...240)
	V DC	6 - 12 - 24 - 48 - 60 (non polarized)	—	—
Rated power AC/DC VA (50 Hz)/W		See page 9	1/1	0.5/—
Operating range	AC/DC	(0.8...1.1)U _N	(94...138)V	—
	AC	(184...264)V	—	(184...264)V
	DC	(0.8...1.2)U _N	—	—
Holding voltage	AC/DC	0.6 U _N / 0.6 U _N	0.6 U _N / 0.6 U _N	
Must drop-out voltage	AC/DC	0.1 U _N / 0.05 U _N	44 V	72 V

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	5/6	5/6
Insulation between coil and contacts (1.2/50 µs) kV		6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts V AC		1,000	1,000
Ambient temperature range (U _N ≤ 60 V / >60V) °C		−40...+70/−40...+55	−/−40...+55
Protection category		IP 20	IP 20

Approvals relay (according to type)

Features

Single output - solid state relay interface modules, 6.2 mm wide.

Ideal interface for PLC and electronic systems

- DC, AC or AC/DC input versions
- Supplied with integral coil indication and protection circuit
- Silent, high switching speed and long electrical life
- Instant ejection of relay using plastic retaining clip
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting

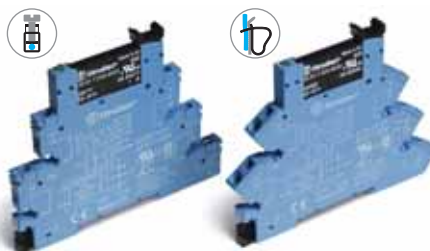
38.81 / 38.81.3
Screw terminal



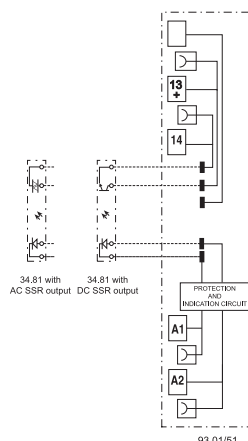
38.91 / 38.91.3
Screwless terminal



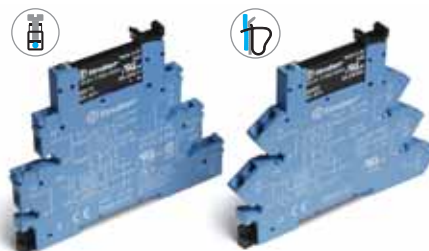
38.81/38.91



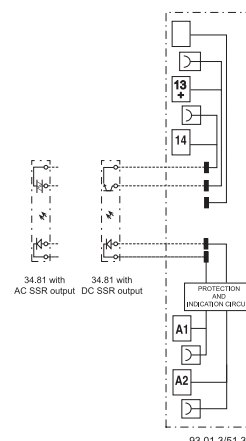
- AC or DC output switching
- SSR relay - DC input voltage
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting



38.81.3/38.91.3



- Leakage current suppression
- AC or DC output
- SSR relay - AC or AC/DC input voltage
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting



For outline drawing see page 12

Output specification							
Contact configuration		1 NO (SPST-NO)			1 NO (SPST-NO)		
Rated current/Maximum peak current (10 ms)	A	2/20	0.1/0.5	2/40	2/20	0.1/0.5	2/40
Rated voltage/Maximum blocking voltage	V	24/33 DC	48/60 DC	240/275 AC	24/33 DC	48/60 DC	240/275 AC
Switching voltage range	V	(1.5...24)DC	(1.5...48)DC	(12...240)AC	(1.5...24)DC	(1.5...48)DC	(12...240)AC
Minimum switching current	mA	1	0.05	22	1	0.05	22
Max. "OFF-state" leakage current	mA	0.001	0.001	1.5	0.001	0.001	1.5
Max. "ON-state" voltage drop	V	0.12	1	1.6	0.12	1	1.6
Input specification							
	V AC	—			230...240		
Nominal voltage (U _N)	V DC	6 - 24 - 60			—		
	V AC/DC	(110...125) - (220...240)			110...125		
Operating range	V DC	See page 10			See page 10		
Control current	mA	See page 10			See page 10		
Release voltage	V DC	See page 10			See page 10		
Technical data							
Operate/release time: ON/OFF (DC input)	ms	0.2/0.6	0.04/0.11	12/12	0.2/0.6	0.04/0.11	12/12
Dielectric strength between input/output	V AC	2,500			2,500		
Ambient temperature range	°C	-20...+55			-20...+55		
Environmental protection		IP20			IP20		
Approvals relay (according to type)		    RINA 					

Features

Slim timed interface module, 6.2 mm wide.
1 pole, 6 A - electromechanical relay
1 output, 2 A DC or AC - solid state relay

- Electromechanical or solid state output
- Multi-functions timer
- AC/DC supply
- 4 time scales from 0.1s to 6h
- Instant ejection of relay using plastic retaining clip
- 6.2 mm wide, 35 mm rail (EN 60715) mounting

38.21
Screw terminal

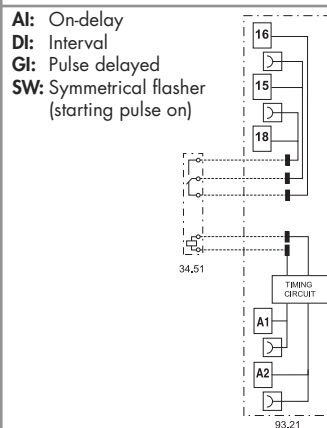


For outline drawing see page 12

38.21



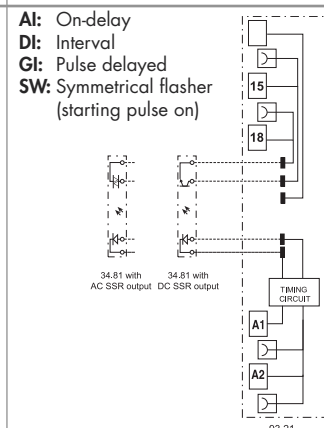
- 1 pole electromechanical output relay
- 12 or 24 V AC/DC supply
- Screw terminal
- 35 mm rail (EN 60715) mounting



38.21...9024-8240



- DC or AC solid state output relays
- 24V AC/DC supply voltage
- Screw terminal
- 35 mm rail (EN 60715) mounting



Contact specification			
Contact configuration		1 CO (SPDT)	
Rated current/Maximum peak current	A	6/10	
Rated voltage/Maximum switching voltage V AC		250/400	
Rated load AC1	VA	1,500	
Breaking capacity DC1: 30/110/220 V	A	6/0.2/0.12	
Minimum switching load	mW (V/mA)	500 (12/10)	
Standard contact material		AgNi	
Output specification		DC output (...9024)	AC output (...8240)
Output configuration		1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current	A	2/20	2/40
Rated voltage/Maximum blocking voltage	V	(24/33)DC	(240/275)AC
Switching voltage range	V	(1.5...24)DC	(12...240)AC
Minimum switching current	mA	1	22
Max. "OFF-state" leakage current	mA	0.001	1.5
Max. "ON-state" voltage drop	V	0.12	1.6
Supply specification			
Nominal voltage (U _N)	V AC (50/60Hz)/DC	12 - 24	
Rated power	VA/W	0.5	
Operating range	AC	(0.8...1.1)U _N	
	DC	(0.8...1.1)U _N	
Technical data			
Specified time range		(0.1...3)s, (3...60)s, (1...20)min, (0.3...6)h	
Repeatability	%	± 1	
Recovery time	ms	≤ 50	
Setting accuracy-full range	%	5%	
Ambient temperature	°C	-40...+70	-20...+55
Protection category		IP 20	
Approvals relay (according to type)			

Features

Electromechanical relay interface modules, 14 mm wide.

38.01 and 38.11 - 1 Pole 16 A

38.52 and 38.62 - 2 Pole 8 A

Ideal interface for PLC and electronic systems

- Sensitive DC coil or AC/DC coil versions
- Integral coil indication and protection circuit
- Instant ejection of relay using plastic retaining clip
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting

38.01/52

Screw terminal



38.11/62

Screwless terminal

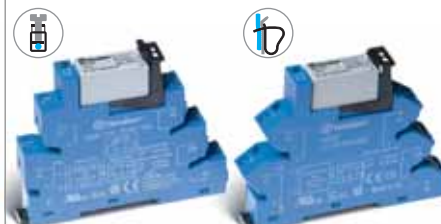


38.01/38.11

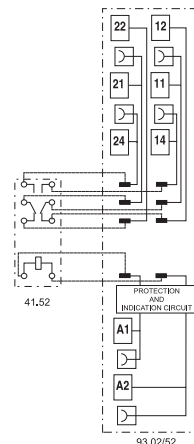
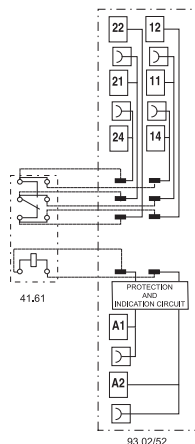


- Screw terminal and screwless terminal
- 1 pole electromechanical relay
- 35 mm rail (EN 60715) mounting

38.52/38.62



- Screw terminal and screwless terminal
- 2 pole electromechanical relay
- 35 mm rail (EN 60715) mounting



* For currents >10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).

For outline drawing see page 12

Contact specification		1 CO (DPDT)	2 CO (DPDT)
Contact configuration		1 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	16*/30	8/15
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	4,000	2,000
Rated load AC15 (230 V AC)	VA	750	400
Single phase motor rating (230 V AC)	kW	0.5	0.3
Breaking capacity DC1: 30/110/220 V	A	16/0.3/0.12	8/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi
Coil specification			
Nominal voltage (U _N)	V AC/DC	24 - 60 - (110...125) - (220...240)	24 - 60 - (110...125) - (220...240)
	V AC	230...240	230...240
	V DC	12 - 24 - 60	12 - 24 - 60
Rated power AC/DC	VA (50 Hz)/W	See page 9	See page 9
Operating range	AC/DC	0.8...1.1	0.8...1.1
	DC	(0.8...1.2)U _N	(0.8...1.2)U _N
Holding voltage	AC/DC	0.6 / 0.6 U _N	0.6 / 0.6 U _N
Must drop-out voltage	AC/DC	0.1 / 0.05 U _N	0.1 / 0.05 U _N
Technical data			
Mechanical life AC/DC	cycles	30 · 10 ⁶	30 · 10 ⁶
Electrical life at rated load AC1	cycles	70 · 10 ³	80 · 10 ³
Operate/release time	ms	8 / 10	8 / 10
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000
Ambient temperature range (U _N ≤ 60 V / >60V)	°C	-40...+70 / -40...+55	-40...+70 / -40...+55
Protection category		IP 20	IP 20
Approvals relay (according to type)		RINA	

Features

Single output - solid state relay interface modules, 14 mm wide

Ideal interface for PLC and electronic systems

- DC input versions
- Supplied with integral coil indication and protection circuit
- Silent, high switching speed and long electrical life
- Instant ejection of relay using plastic retaining clip
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting

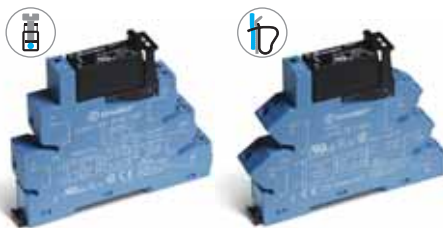
38.31
Screw terminal



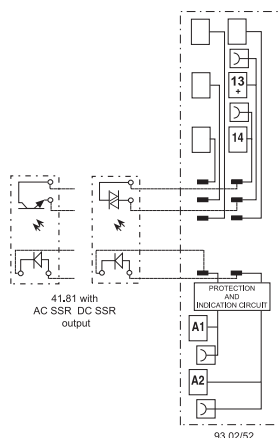
38.41
Screwless terminal



38.31/38.41



- Screw terminal and screwless terminal
- AC or DC output switching
- SSR relay - DC input voltage
- 35 mm rail (EN 60715) mounting



For outline drawing see page 12

Output specification			
Contact configuration		1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current (10 ms)	A	5/40	3/40
Rated voltage/Maximum blocking voltage	V	(24/35)DC	(240/275)AC
Switching voltage range	V	(1.5...24)DC	(12...240)AC
Minimum switching current	mA	1	50
Max. "OFF-state" leakage current	mA	0.01	1
Max. "ON-state" voltage drop	V	0.3	1.1
Input specification			
Nominal voltage (U _N)	V AC/DC	24	
	V DC	12 - 24	
Operating range	V DC	See page 10	
Control current	mA	See page 10	
Release voltage	V DC	See page 10	
Technical data			
Operate/release time: ON/OFF (DC input)	ms	0.05/0.25	12/12
Dielectric strength between input/output	V AC	2,500	
Ambient temperature range	°C	-20...+55	
Environmental protection		IP20	
Approvals relay (according to type)		CE S E M RINA cULus	

Ordering information

Electromechanical relay - 1 or 2 Pole

Example: 38 series screw terminal relay interface module, 1 CO (SPDT), sensitive 12 V DC coil.

3

8

.

5

1

.

7

.

0

1

2

.

0

0

5

0

Series _____

Type _____

0 = Electromechanical 16 A relay, with screw terminal

1 = Electromechanical 16 A relay, with screwless terminal

2 = Timer multifunction (AI, DI, GI, SW), with screw terminal

5 = Electromechanical relay, with screw terminal

6 = Electromechanical relay, with screwless terminal

No. of poles _____

1 = 1 pole, 6 or 16 A

2 = 2 pole, 8 A

Coil version _____

0 = AC (50/60 Hz)/ DC

3 = Leakage current suppression for (110...125)V AC/DC - (230...240)V AC

7 = Sensitive DC, (6, 12, 24, 48, 60)V only

8 = AC (50/60 Hz)

Coil voltage _____

See coil specifications

A **B** **C** **D**

D: Special versions
0 = Standard

C: Options
5 = Standard DC
6 = Standard AC or AC/DC

B: Contact circuit
0 = CO (nPDT)

A: Contact material
0 = AgNi Standard
4 = AgSnO₂
5 = AgNi + Au (5 µm)

Selecting features and options: only combinations in the same row are possible.

Type	Coil version	A	B	C	D
38.01/11	7	0 - 4	0	5	0
38.01/11	0 - 8	0 - 4	0	6	0
38.51/61	7	0 - 4 - 5	0	5	0
38.51/61	0 - 3 - 8	0 - 4 - 5	0	6	0
38.52/62	7	0 - 5	0	5	0
38.52/62	0 - 8	0 - 5	0	6	0
38.21	0	0	0	6	0

Ordering information

Solid state relay - Single output - 6.2 & 14 mm wide

Example: 38 series screw terminal SSR relay interface module, 6.2 mm wide, 2 A output, 24 V DC input.

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

Series _____

Type _____

21 = Timer SSR 6.2mm wide,
with screw terminal

31 = SSR 14mm wide,
with screw terminal

41 = SSR 14mm wide,
with screwless terminal

81 = SSR 6.2mm wide,
with screw terminal

91 = SSR 6.2mm wide,
with screwless terminal

Input version _____

0 = AC/DC

3 = Leakage current suppression for
(110...125)V AC/DC and (230...240)V AC SSR only

7 = DC, (6, 24, 60)V SSR only

Input voltage _____

See input specifications

Output version

9024 = 2 A - 24 V DC (38.21, 38.81 & 38.91)

9024 = 5 A - 24 V DC (38.31 & 38.41)

7048 = 0.1 A - 48 V DC (38.81 & 38.91)

8240 = 2 A - 240 V AC (38.21, 38.81 & 38.91)

8240 = 3 A - 240 V AC (38.31 & 38.41)

Selecting features and options: only combinations in the same row are possible.

Type	Input version	Output version
38.81/91	7	9024 - 7048 - 8240
38.81/91	0 - 3	9024 - 7048 - 8240
38.31/41	0 - 7	9024 - 8240
38.21	0	9024 - 8240

Technical data - 1 & 2 Pole Electromechanical Relays

Insulation				
Insulation according to EN 61810-1	insulation rated voltage	V	250	400
	rated impulse withstand voltage	kV	4	4
	pollution degree		3	2
	overvoltage category		III	III
Insulation between coil and contacts (1.2/50 µs)		kV	6 (8 mm)	
Dielectric strength between open contacts		V AC	1,000	
Conducted disturbance immunity				
Burst (5...50)ns, 5 kHz, on A1 - A2			EN 61000-4-4	level 4 (4 kV)
Surge (1.2/50 µs) on A1 - A2 (differential mode)			EN 61000-4-5	level 3 (2 kV)
Other data			1 Pole 6 A	1 Pole 16 A - 2 Pole 8 A
Bounce time: NO/NC		ms	1/6	2/5
Vibration resistance (10...55)Hz: NO/NC		g	10/5	15/2
Power lost to the environment	without contact current	W	0.2 (12 V) - 0.9 (240 V)	0.5 (24 V) - 0.9 (240 V)
	with rated current	W	0.5 (12 V) - 1.5 (240 V)	1.3 (24 V) - 1.7 (240 V)
Terminals			38.21 / 38.51	38.61
Wire strip length		mm	10	10
⊖ Screw torque		Nm	0.5	—
Max. wire size		mm²	solid cable	stranded cable
			solid cable	stranded cable
		AWG	1x2.5/2x1.5	1x2.5/2x1.5
			1x14/2x16	1x14/2x16
			38.01 / 38.52	38.11 / 38.62
Wire strip length		mm	10	10
⊖ Screw torque		Nm	0.5	—
Max. wire size		mm²	solid cable	stranded cable
			solid cable	stranded cable
		AWG	1x2.5/2x1.5	1x2.5/2x1.5
			1x14/2x16	1x14/2x16
			38.01 / 38.52	38.11 / 38.62

Coil specifications - 1 Pole 6 A Electromechanical Relay

Coil data sensitive DC, 1 Pole

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	W
6	7.006	4.8	7.2	35	0.2
12	7.012	9.6	14.4	15.2	0.2
24	7.024	19.2	28.8	10.4	0.3
48	7.048	38.4	57.6	6.3	0.3
60	7.060	48	72	7	0.4

Coil data AC/DC, 1 Pole

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	VA/W
12	0.012	9.6	13.2	16	0.2/0.2
24	0.024	19.2	26.4	12	0.3/0.2
48	0.048	38.4	52.8	6.9	0.3/0.3
60	0.060	48	66	7	0.5/0.5
110...125	0.125	88	138	5(*)	0.6/0.6(*)
220...240	0.240	176	264	4(*)	1/0.9(*)

(*) Rated coil consumption and power consumption values relate to $U_N = 125$ and 240 V.

Coil data AC, 1 Pole (indicated for max ambient temperature +70°C)

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	VA/W
(230...240) AC	8.240	184	264	3	0.7/0.3

Coil data, leakage current suppression types, 1 Pole

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	VA/W
(110...125) AC/DC	3.125	94	138	8(*)	1/1(*)
(230...240) AC	3.240	184	264	7(*)	1.7/0.5(*)

(*) Rated coil consumption and power consumption values relate to $U_N = 125$ and 240 V.

The 38 Series interface modules (supply version 3) have built-in leakage current suppression to address industry concerns of the contacts not dropping-out when there is residual current in the circuit; at (110...125)V AC and (230...240)V AC.

This problem can occur, for example, when connecting the interface modules to PLC,s with triac outputs or when connecting via relatively long cables.

Coil specifications - 1 Pole 16 A and 2 Pole 8 A Electromechanical Relay

Coil data sensitive DC, 1 Pole 16 A and 2 Pole 8 A

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	W
12	7.012	9.6	14.4	41	0.5
24	7.024	19.2	28.8	19.5	0.5
60	7.060	48	72	8	0.5

Coil data AC/DC, 1 Pole 16 A and 2 Pole 8 A

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	VA/W
24	0.024	19.2	26.4	20	0.5/0.5
60	0.060	48	66	7.1	0.5/0.5
110...125	0.125	88	138	4.6	0.6/0.6
220...240	0.240	184	264	3.8	0.9/0.9

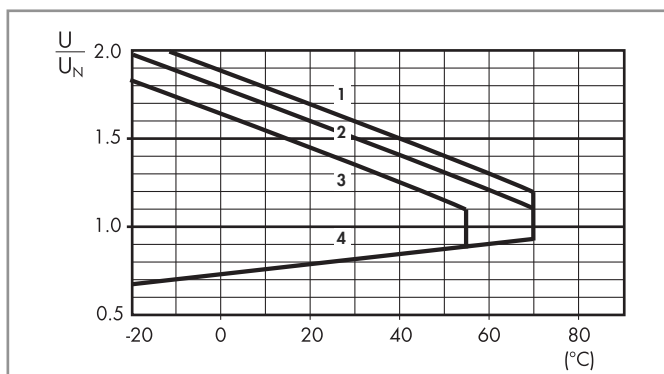
Coil data AC, 1 Pole 16 A and 2 Pole 8 A

Nominal voltage U_N	Coil code	Operating range		Rated coil consumption I at U_N	Power consumption P at U_N
V		U_{min}	U_{max}	mA	VA/W
230...240	8.230	184	264	5.3	1.2/0.6

Coil specification - 1 & 2 Pole Electromagnetic Relays

R 38 - DC coil operating range v ambient temperature

1 Pole and 2 Pole



- 1 - Max. permitted coil voltage at nominal load (DC coil).
- 2 - Max. permitted coil voltage at nominal load (AC/DC coils $U \leq 60$ V).
- 3 - Max. permitted coil voltage at nominal load (AC/DC coils $U > 60$ V).
- 4 - Min pick-up voltage with coil at ambient temperature.

Technical data - Solid State Relays

Other data			38.81/38.91		38.31/38.41	
Power lost to the environment	without output current	W	0.25 (24 V DC)		0.5	
	with rated current	W	0.4		2.2 (DC output) / 3 (AC output)	
Terminals			38.81		38.91	
Wire strip length		mm	10		10	
⊖ Screw torque		Nm	0.5		—	
Max. wire size			solid cable	stranded cable	solid cable	stranded cable
		mm ²	1x2.5 / 2x1.5	1x2.5 / 2x1.5	1x2.5	1x2.5
		AWG	1x14 / 2x16	1x14 / 2x16	1x14	1x14
			38.31		38.41	
Wire strip length		mm	10		10	
⊖ Screw torque		Nm	0.5		—	
Max. wire size			solid cable	stranded cable	solid cable	stranded cable
		mm ²	1x2.5 / 2x1.5	1x2.5 / 2x1.5	1x2.5	1x2.5
		AWG	1x14 / 2x16	1x14 / 2x16	1x14	1x14

Input specifications - Solid State Relays type 38.81 and 38.91 - 6.2 mm wide

Input data DC

Nominal voltage U _N	Supply code	Operating range		Release voltage U	Rated coil consumption I at U _N	Power consumption P
V		U _{min} V	U _{max} V	V	mA	W
6	7.006	5	7.2	2.4	7	0.2
24	7.024	16.8	30	10	10.5	0.3
60	7.060	35.6	72	20	6.5	0.4

Input data AC/DC

Nominal voltage U _N	Supply code	Operating range		Release voltage U	Rated coil consumption I at U _N	Power consumption P
V		U _{min} V	U _{max} V	V	mA	VA/W
110...125	0.125	88	138	22	5.5*	0.7/0.7
220...240	0.240	184	264	44	3.5*	1/0.9

(*) Rated coil consumption and power consumption values relate to U_N = 125 and 240 V.

Input data - Leakage current suppression types

Nominal voltage U _N	Supply code	Operating range		Release voltage U	Rated coil consumption I at U _N	Power consumption P at U _N
V		U _{min} V	U _{max} V	V	mA	W
110...125 AC/DC	3.125	94	138	44	8(*)	1/1(*)
230...240 AC	3.240	184	264	72	6.5(*)	1.6/0.6(*)

(*) Rated coil consumption and power consumption values relate to U_N = 125 and 240 V.

The 38 Series interface modules (supply version 3) have built-in leakage current suppression to address industry concerns of the contacts not dropping-out when there is residual current in the circuit; at (110...125)V AC and (230...240)V AC.

This problem can occur, for example, when connecting the interface modules to PLC,s with triac outputs or when connecting via relatively long cables.

Input specification - Solid State Relay types 38.31 and 38.41 - 14 mm wide

Input data DC

Nominal voltage U _N	Supply code	Operating range		Release voltage U	Rated coil consumption I at U _N	Power consumption P
V		U _{min} V	U _{max} V	V	mA	W
12	7.012	9.6	18	5	9	0.2
24	7.024	16.8	30	5	12	0.3

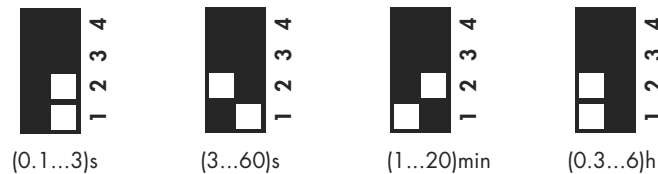
Input data AC/DC

Nominal voltage U _N	Supply code	Operating range		Release voltage U	Rated coil consumption I at U _N	Power consumption P
V		U _{min} V	U _{max} V	V	mA	W
24	0.024	16.8	30	9	16.5	0.3

Additional technical data - Timed Interface Module

EMC specifications			
Type of test		Reference standard	
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV
	air discharge	EN 61000-4-2	8 kV
Radio-frequency electromagnetic field (80 ÷ 1000 MHz)		EN 61000-4-3	10 V/m
Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals		EN 61000-4-4	4 kV
Surges (1.2/50 µs) on Supply terminals	common mode	EN 61000-4-5	4 kV
	differential mode	EN 61000-4-5	4 kV
Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals		EN 61000-4-6	10 V
Radiated and conducted emission		EN 55022	class B
Other data		EMR	SSR
Power lost to the environment	without contact current W	0.1	0.1
	with rated current W	0.6	0.5
Terminals		38.21	
Wire strip length		mm	10
Screw torque		Nm	0.5
Max. wire size	solid cable		stranded cable
	mm ²		1x2.5 / 2x1.5
	AWG		1x14 / 2x16

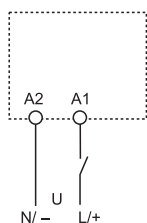
Times scales



Functions

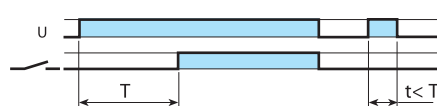
LED	Supply voltage	NO contact/output
	OFF	Open
	ON	Open (time in progress)
	ON	Closed

Wiring diagram

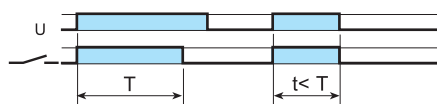
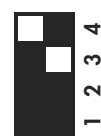


U = Supply voltage

= Output contact



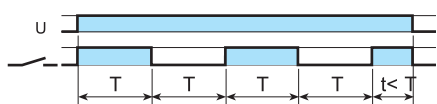
(AI) On-delay.
Apply power to timer.
Output contacts transfer after preset time has elapsed.
Reset occurs when power is removed.



(DI) Interval.
Apply power to timer.
Output contacts transfer immediately.
After the preset time has elapsed, contacts reset.



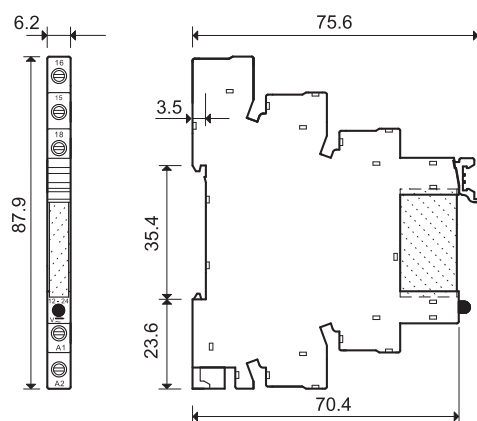
(GI) Pulse delayed.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs after a fixed time of 0.5s.



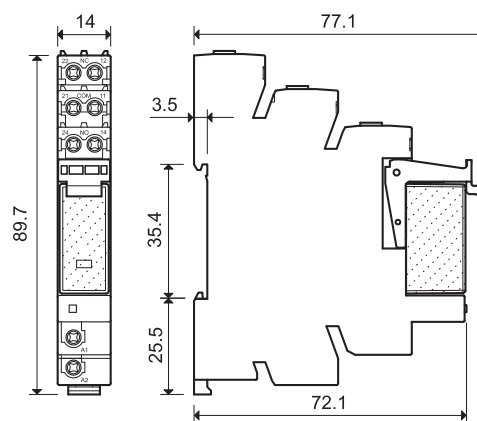
(SW) Symmetrical flasher (starting pulse on).
Apply power to timer.
Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied.
The ratio is 1:1 (time on = time off).

Outline drawings

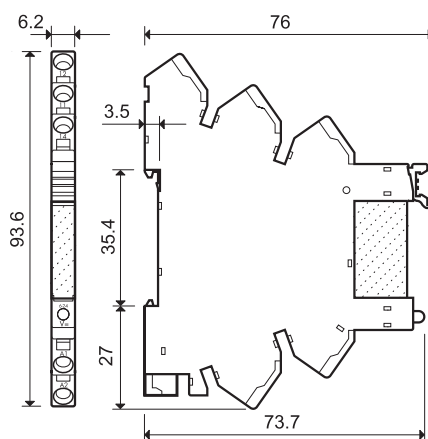
38.21
38.51 / 38.51.3
38.81 / 38.81.3
Screw terminal



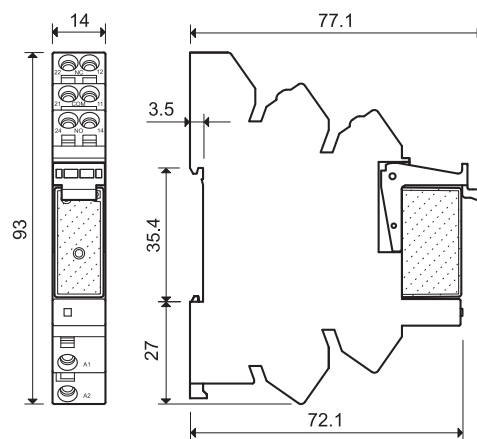
38.01
38.31
38.52
Screw terminal



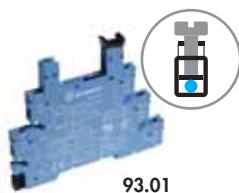
38.61 / 38.61.3
38.91 / 38.91.3
Screwless terminal



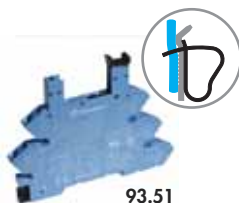
38.11
38.41
38.62
Screwless terminal



Electromechanical Relay & Socket Combinations



93.01



93.51



93.02

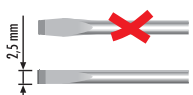


93.52

Approvals
(according to type):



UL US Certain relay/socket combinations



Screw terminal - 1 Pole relay 6 A

Interface Module Code	Coil voltage	Relay	Socket
38.51.0.012.0060	12 V AC/DC	34.51.7.012.0010	93.01.0.024
38.51.0.024.0060	24 V AC/DC	34.51.7.024.0010	93.01.0.024
38.51.0.048.0060	48 V AC/DC	34.51.7.048.0010	93.01.0.060
38.51.0.060.0060	60 V AC/DC	34.51.7.060.0010	93.01.0.060
38.51.0.125.0060	(110...125)V AC/DC	34.51.7.060.0010	93.01.0.125
38.51.0.240.0060	(220...240)V AC/DC	34.51.7.060.0010	93.01.0.240
38.51.3.125.0060	(110...125)V AC/DC	34.51.7.060.0010	93.01.3.125
38.51.3.240.0060	(230...240)V AC	34.51.7.060.0010	93.01.3.240
38.51.7.006.0050	6 V DC	34.51.7.005.0010	93.01.7.024
38.51.7.012.0050	12 V DC	34.51.7.012.0010	93.01.7.024
38.51.7.024.0050	24 V DC	34.51.7.024.0010	93.01.7.024
38.51.7.048.0050	48 V DC	34.51.7.048.0010	93.01.7.060
38.51.7.060.0050	60 V DC	34.51.7.060.0010	93.01.7.060
38.51.8.240.0060	(230...240)V AC	34.51.7.060.0010	93.01.8.240

Screwless terminal - 1 Pole relay 6 A

Interface Module Code	Coil voltage	Relay	Socket
38.61.0.012.0060	12 V AC/DC	34.51.7.012.0010	93.51.0.024
38.61.0.024.0060	24 V AC/DC	34.51.7.024.0010	93.51.0.024
38.61.0.125.0060	(110...125)V AC/DC	34.51.7.060.0010	93.51.0.125
38.61.0.240.0060	(220...240)V AC/DC	34.51.7.060.0010	93.51.0.240
38.61.3.125.0060	(110...125)V AC/DC	34.51.7.060.0010	93.51.3.125
38.61.3.240.0060	(230...240)V AC	34.51.7.060.0010	93.51.3.240
38.61.7.012.0050	12 V DC	34.51.7.012.0010	93.51.7.024
38.61.7.024.0050	24 V DC	34.51.7.024.0010	93.51.7.024
38.61.8.240.0060	(230...240)V AC	34.51.7.060.0010	93.51.8.240

Screw terminal - 1 Pole relay 16 A

Interface Module Code	Coil voltage	Relay	Socket
38.01.7.012.0050	12 V DC	41.61.9.012.0010	93.02.7.024
38.01.7.024.0050	24 V DC	41.61.9.024.0010	93.02.7.024
38.01.7.060.0050	60 V DC	41.61.9.060.0010	93.02.7.060
38.01.0.024.0060	24 V AC/DC	41.61.9.024.0010	93.02.0.024
38.01.0.060.0060	60 V AC/DC	41.61.9.060.0010	93.02.0.060
38.01.0.125.0060	125 V AC/DC	41.61.9.110.0010	93.02.0.125
38.01.0.240.0060	240 V AC/DC	41.61.9.110.0010	93.02.0.240
38.01.8.230.0060	230 V AC	41.61.9.110.0010	93.02.8.230

Screwless terminal - 1 Pole relay 16 A

Interface Module Code	Coil voltage	Relay	Socket
38.11.7.012.0050	12 V DC	41.61.9.012.0010	93.52.7.024
38.11.7.024.0050	24 V DC	41.61.9.024.0010	93.52.7.024
38.11.7.060.0050	60 V DC	41.61.9.060.0010	93.52.7.060
38.11.0.024.0060	24 V AC/DC	41.61.9.024.0010	93.52.0.024
38.11.0.060.0060	60 V AC/DC	41.61.9.060.0010	93.52.0.060
38.11.0.125.0060	125 V AC/DC	41.61.9.110.0010	93.52.0.125
38.11.0.240.0060	240 V AC/DC	41.61.9.110.0010	93.52.0.240
38.11.8.230.0060	230 V AC	41.61.9.110.0010	93.52.8.230

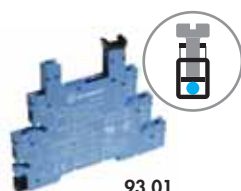
Screw terminal - 2 Pole relay 8 A

Interface Module Code	Coil voltage	Relay	Socket
38.52.0.024.0060	24 V AC/DC	41.52.9.024.0010	93.02.0.024
38.52.0.060.0060	60 V AC/DC	41.52.9.060.0010	93.02.0.060
38.52.0.125.0060	(110...125)V AC/DC	41.52.9.110.0010	93.02.0.125
38.52.0.240.0060	(220...240)V AC/DC	41.52.9.110.0010	93.02.0.240
38.52.7.012.0050	12 V DC	41.52.9.012.0010	93.02.7.024
38.52.7.024.0050	24 V DC	41.52.9.024.0010	93.02.7.024
38.52.7.060.0050	60 V DC	41.52.9.060.0010	93.02.7.060
38.52.8.230.0060	(230...240)V AC	41.52.9.110.0010	93.02.8.230

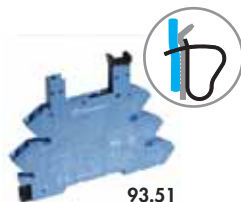
Screwless terminal - 2 Pole relay 8 A

Interface Module Code	Coil voltage	Relay	Socket
38.62.0.024.0060	24 V AC/DC	41.52.9.024.0010	93.52.0.024
38.62.0.060.0060	60 V AC/DC	41.52.9.060.0010	93.52.0.060
38.62.0.125.0060	(110...125)V AC/DC	41.52.9.110.0010	93.52.0.125
38.62.0.240.0060	(220...240)V AC/DC	41.52.9.110.0010	93.52.0.240
38.62.7.012.0050	12 V DC	41.52.9.012.0010	93.52.7.024
38.62.7.024.0050	24 V DC	41.52.9.024.0010	93.52.7.024
38.62.7.060.0050	60 V DC	41.52.9.060.0010	93.52.7.060
38.62.8.230.0060	(230...240)V AC	41.52.9.110.0010	93.52.8.230

Solid State Relay & Socket Combinations - 6.2 mm wide



93.01

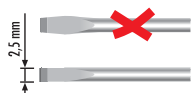


93.51

Approvals
(according to type):



UL US Certain relay/socket combinations



Screw terminal

Interface Module Code	Input voltage	Relay	Socket
38.81.7.006.xxxx	6 V DC	34.81.7.005.xxxx	93.01.7.024
38.81.7.024.xxxx	24 V DC	34.81.7.024.xxxx	93.01.7.024
38.81.7.060.xxxx	60 V DC	34.81.7.060.xxxx	93.01.7.060
38.81.0.125.xxxx	(110...125)V AC/DC	34.81.7.060.xxxx	93.01.0.125
38.81.0.240.xxxx	(220...240)V AC/DC	34.81.7.060.xxxx	93.01.0.240
38.81.3.125.xxxx	(110...125)V AC/DC	34.81.7.060.xxxx	93.01.3.125
38.81.3.240.xxxx	(230...240)V AC	34.81.7.060.xxxx	93.01.3.240

Screwless terminal

Interface Module Code	Input voltage	Relay	Socket
38.91.7.006.xxxx	6 V DC	34.81.7.005.xxxx	93.51.7.024
38.91.7.024.xxxx	24 V DC	34.81.7.024.xxxx	93.51.7.024
38.91.7.060.xxxx	60 V DC	34.81.7.060.xxxx	93.51.7.060
38.91.0.125.xxxx	(110...125)V AC/DC	34.81.7.060.xxxx	93.51.0.125
38.91.0.240.xxxx	(220...240)V AC/DC	34.81.7.060.xxxx	93.51.0.240
38.91.3.125.xxxx	(110...125)V AC/DC	34.81.7.060.xxxx	93.51.3.125
38.91.3.240.xxxx	(230...240)V AC	34.81.7.060.xxxx	93.51.3.240

Example: .xxxx

.9024

.7048

.8240

Solid State Relay & Socket Combinations - 14 mm wide



93.52

Approvals
(according to type):



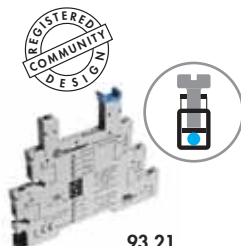
Screw terminal

Interface Module Code	Input voltage	Relay	Socket
38.31.0.024.xxxx	24 V AC/DC	41.81.7.024.xxxx	93.02.0.024
38.31.7.012.xxxx	12 V DC	41.81.7.012.xxxx	93.02.7.024
38.31.7.024.xxxx	24 V DC	41.81.7.024.xxxx	93.02.7.024

Screwless terminal

Interface Module Code	Input voltage	Relay	Socket
38.41.0.024.xxxx	24 V AC/DC	41.81.7.024.xxxx	93.52.0.024
38.41.7.012.xxxx	12 V DC	41.81.7.012.xxxx	93.52.7.024
38.41.7.024.xxxx	24 V DC	41.81.7.024.xxxx	93.52.7.024

SSR / EMR & Timer Socket Combinations



93.21

Approvals
(according to type):



Screw terminal

Interface Module Code	Input / Coil voltage	Relay	Socket
38.21.0.012.0060	12 V AC/DC	34.51.7.012.0010	93.21.0.024
38.21.0.024.0060	24 V AC/DC	34.51.7.024.0010	93.21.0.024
38.21.0.024.xxxx	24 V AC/DC	34.81.7.024.xxxx	93.21.0.024

Accessories



093.20

Approvals
(according to type):



20-way jumper link for 38.21/51/61/81/91

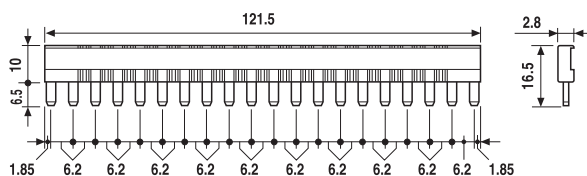
Rated values

093.20 (blue)

093.20.0 (black)

093.20.1 (red)

36 A - 250 V



093.08

Approvals
(according to type):



8-way jumper link for 38.01/11/31/41/52/62

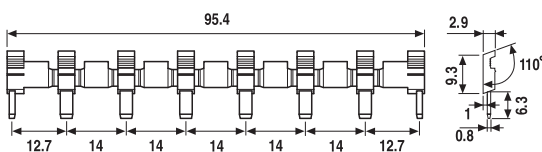
Rated values

093.08 (blue)

093.08.0 (black)

093.08.1 (red)

10 A - 250 V



093.01

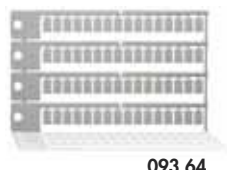
Plastic separator

093.01

Thickness 2 mm, required at the start and the end of a group of interfaces.

Can be used for visual separation group, must be used for:

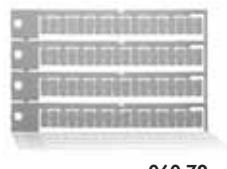
- protective separation of different voltages of neighbouring PLC interfaces according to VDE 0106-101
- protection of cut jumper links



093.64

Sheet of marker tags for 38.21/51/61/81/91, plastic, 64 tags, 6x10 mm

093.64



060.72

Sheet of marker tags for 38.01/11/31/41/52/62, plastic, 72 tags, 6x12 mm

060.72

