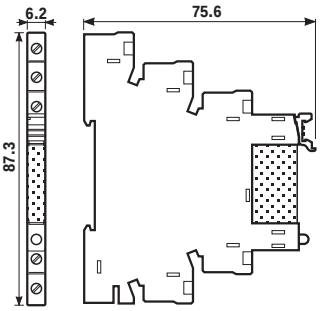
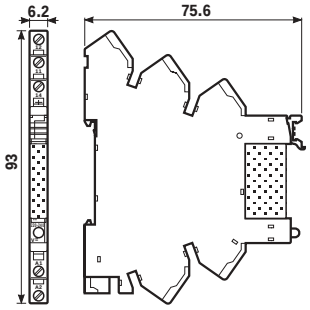
- *Relay interface modules for use with PLC systems, 6.2 mm wide*
- *Sensitive DC coil or AC/DC coil version*
- *Supplied with integral coil indication and protection circuit*
- *Instant removal of relay using plastic retaining clip*
- *35 mm rail (EN 50022) mounting*

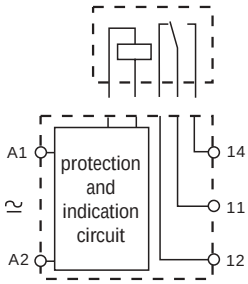
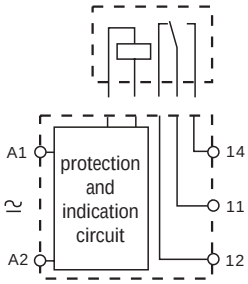
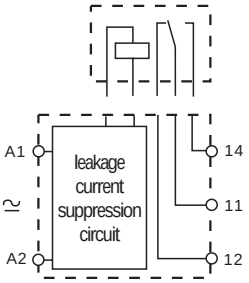
38.51



38.61



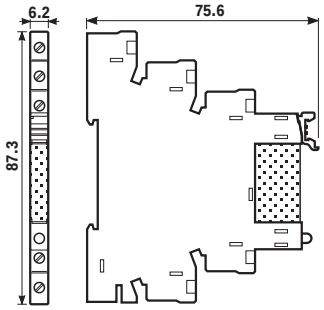
* for 400 V applications, requirements for pollution degree 2 are met.

		38.51	38.61	38.51.3 / 38.61.3
				
		- Screw terminal - Electromechanical relay - 35 mm rail mounting	- Screwless terminal - Electromechanical relay - 35 mm rail mounting	- Leakage current suppression - Electromechanical relay - 35 mm rail mounting
				
Contact specifications				
Contact configuration		1 CO	1 CO	1 CO
Rated current / Maximum peak current	A	6 / 10	6 / 10	6 / 10
Rated voltage / Maximum switching voltage	V AC	250 / 400*	250 / 400*	250 / 400*
Rated load in AC1	VA	1,500	1,500	1,500
Rated load in AC15 (230 VAC)	VA	300	300	300
Single phase motor rating (230 VAC)	kW	—	—	—
Breaking capacity in DC1: 30 / 110 / 220V	A	6 / 0.2 / 0.15	6 / 0.2 / 0.15	6 / 0.2 / 0.15
Minimum switching load	mW (V / mA)	500 (12 / 10)	500 (12 / 10)	500 (12 / 10)
Standard contact material		AgNi	AgNi	AgNi
Coil specifications				
Nominal voltage (U_N)	V DC / AC	12 - 24 - 48 - 60 - 110...125 - 220...240		110...125 / 230...240 AC
	V DC	6 - 12 - 24 - 48 - 60		—
Rated power AC / DC	VA (50 Hz) / W	see table page 91	see table page 91	see table page 91
Operating range	AC / DC	see table page 91	see table page 91	see table page 91
	DC	see table page 91	see table page 91	—
Holding voltage	AC / DC	0.6 U_N / 0.6 U_N	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	0.1 U_N / 0.05 U_N	see table page 91
Technical data				
Mechanical life AC / DC	cycles	— / 10 · 10^6	— / 10 · 10^6	— / 10 · 10^6
Electrical life at rated load AC1	cycles	60 · 10^3	60 · 10^3	60 · 10^3
Operate / release time	ms	5 / 6	5 / 6	5 / 6
Insulation according to EN 61810-5		4 kV / 3	4 kV / 3	4 kV / 3
Insulation between coil and contacts (1.2 / 50µs)	kV	6 (8mm)	6 (8mm)	6 (8mm)
Dielectric strength between open contacts	V AC	1,000	1,000	1,000
Ambient temperature range (≤60V / >60V)	°C	–40...+70 / -40...+55	–40...+70 / -40...+55	–40...+70 / -40...+55
Protection category		IP20	IP20	IP20
Approvals (relay): (according to type)		GOST		

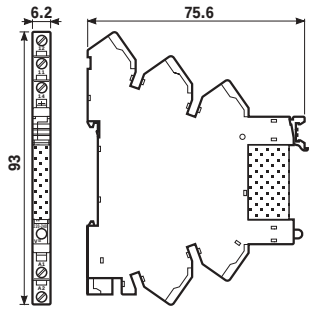
38 Series - Relay Interface Modules 0.1 - 2 - 6 A

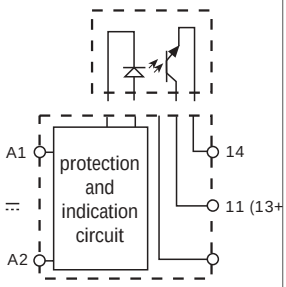
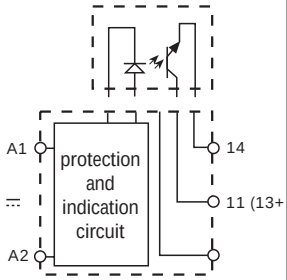
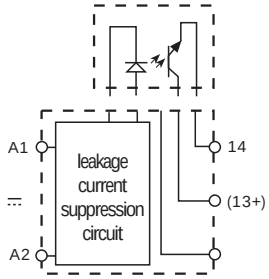
- *Relay interface modules for use with PLC systems, 6.2 mm wide*
- *Sensitive DC coil or AC/DC coil version*
- *Supplied with integral coil indication and protection circuit*
- *Instant removal of relay using plastic retaining clip*
- *35 mm rail (EN 50022) mounting*

38.81



38.91



	38.81	38.91	38.81.3/38.91.3
			
	- Screw terminal - SSR relay - 35 mm rail mounting	- Screwless terminal - SSR relay - 35 mm rail mounting	- Leakage current suppression - SSR relay - 35 mm rail mounting
			
Output circuit			
Rated current / Maximum peak current (10 ms) A	2 / 20 | 0.1 / 0.5	2 / 20 | 0.1 / 0.5	2 / 20 | 0.1 / 0.5
Rated voltage / Maximum blocking voltage V DC	24 / 33 | 48 / 60	24 / 33 | 48 / 60	24 / 33 | 48 / 60
Switching voltage range V DC	1.5...24 | 1.5...48	1.5...24 | 1.5...48	1.5...24 | 1.5...48
Minimum switching current mA	1 | 0.05	1 | 0.05	1 | 0.05
Max "OFF-state" leakage current µA	1 | 1	1 | 1	1 | 1
Max "ON-state" voltage drop V	0.12 | 1	0.12 | 1	0.12 | 1
Input circuit			
Nominal voltage V	24 - 60 DC	24 - 60 DC	120...125 AC/DC 230...240 AC
Operating range V DC	see table page 92	see table page 92	see table page 92
Control current mA	see table page 92	see table page 92	see table page 92
Release voltage V DC	see table page 92	see table page 92	see table page 92
Impedance Ω	3,200 | 21,300	3,200 | 21,300	—
Technical data			
Operate / release time µs	100 / 400 | 20 / 110	100 / 400 | 20 / 110	100 / 400 | 20 / 110
Dielectric strength between input / output V	2,500	2,500	2,500
Ambient temperature range °C	-20...+55	-20...+55	-20...+55
Environmental protection	IP20	IP20	IP20
Approvals: (according to type)	—	—	—

ORDERING INFORMATION

ELECTROMECHANICAL RELAY (EMR)

Example: a 38 series relay interface module with 1 CO contact, with coil rated at 12 V DC.

3	8	.	5	1	.	7	.	0	1	2	.	0	0	5	0
												A	B	C	D

Series

Type
5 = Electromechanical relay, with screw terminal
6 = Electromechanical relay, with screwless terminal

No. of poles
1 = 1 pole, 6 A

Coil version
0 = AC (50/60 Hz)/ DC
3 = Leakage current suppression (for 110…125VAC/DC - 230…240VAC only)
7 = Sensitive DC

Coil voltage
see coil specifications

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

B: Contact circuit
0 = CO

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

D: Special versions
0 = Standard

SOLID STATE RELAY (SSR)

Example: a 38 series SSR relay interface module with 2 A, with 24 V DC supply.

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

Series

Type
8 = SSR relay, with screw terminal
9 = SSR relay, with screwless terminal

Output
1 = 1 NO

Supply version
3 = Leakage current suppression
7 = DC

Supply voltage
see input specifications

Output circuit
9024 = 2 A - 24 V DC
7048 = 0.1A - 48 V DC

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..125VAC and 230..240VAC.
This problem can occur, for example, when connecting the interface modules to PLC,s with triac outputs or when connecting via relatively long cables.

ELECTROMECHANICAL RELAY

TECHNICAL DATA

INSULATION

INSULATION according to EN 61810-5	insulation rated voltage	V	250
	rated impulse withstand voltage	kV	4
	pollution degree		3
	overvoltage category		III

IMMUNITY

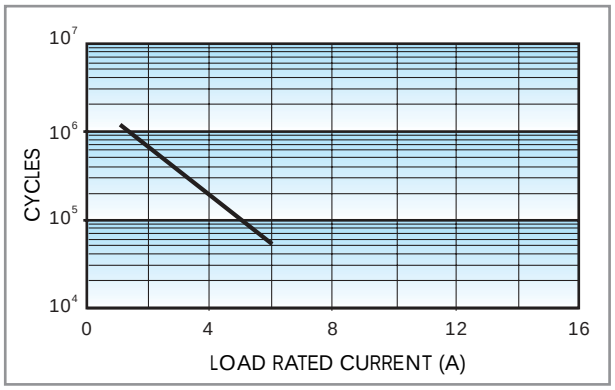
CONDUCTED DISTURBANCE IMMUNITY	BURST (according to EN 61000-4-4) level 4 (4kV)
	SURGE (according to EN 61000-4-5) level 3 (2kV)

OTHER DATA

BOUNCE TIME: NO/NC		ms	1/6		
VIBRATION RESISTANCE (10...55Hz): NO/NC		g/g	10/5		
POWER LOST TO THE ENVIRONMENT		W	0.2 (12V) - 0.9 (240V)		
	without contact current	W	0.5 (12V) - 1.5 (240V)		
WIRE STRIP LENGTH	with rated current	mm	10		
			38.51		**38.61**	
⏀ 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

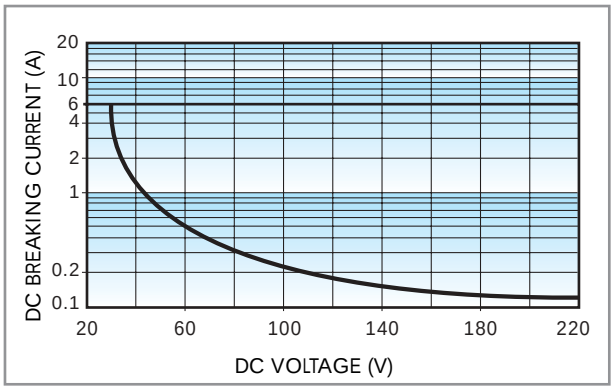
CONTACT SPECIFICATIONS

F 38



Electrical life vs AC1 load.

H 38



Breaking capacity in DC1 load.

- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is ≥ $100 \cdot 10^3$ cycles.
- In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load. **Note:** the release time of load will be increase.

COIL SPECIFICATIONS

AC/DC VERSION DATA

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated coil consumption I at U_N	Power consumption P at U_N
V		V	V	mA	W
12	**0**.012	9.8	13.2	19	0.2
24	**0**.024	19.2	26.4	12	0.3
48	**0**.048	38.4	52.8	9	0.4
60	**0**.060	48	66	7	0.5
110...125	**0**.125	88	138	5(*)	0.6(*)
220...240	**0**.240	184	264	4(*)	0.9(*)

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

DC VERSION DATA (sensitive)

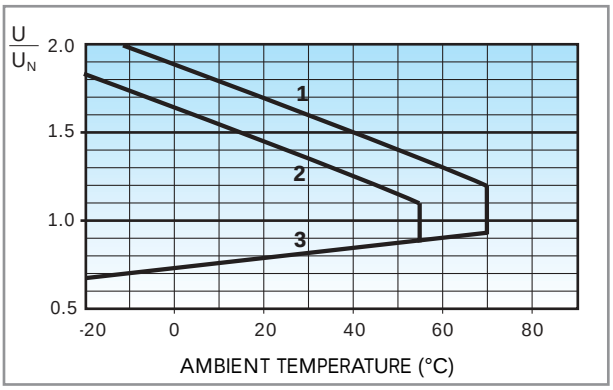
Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated coil consumption I at U_N	Power consumption P at U_N
V		V	V	mA	W
6	**7**.006	5	7.2	48.1	0.3
12	**7**.012	9.8	14.4	15.2	0.2
24	**7**.024	18.2	28.8	9.4	0.2
48	**7**.048	35	57.6	6.3	0.3
60	**7**.060	43.5	72	5.2	0.3

TYPE 38.51.3/38.61.3 DATA

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Must drop out U	Rated coil consumption I at U_N	Power consumption P at U_N
V		V	V		mA	W
110...125 AC/DC	**3**.125	94	138	44	8(*)	1(*)
230...240 AC	**3**.240	184	264	92	7(*)	0.5(*)

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

R 38



Operating range Vs ambient temperature.
1 - Max coil voltage permitted at nominal load (≤60 V versions).
2 - Max coil voltage permitted at nominal load (>60 V versions).
3 - Min pick-up voltage with coil at ambient temperature.

SOLID STATE RELAY

OTHER DATA

POWER LOST TO THE ENVIRONMENT	without contact current	W	0.17		
	with rated current	W	0.4		
WIRE STRIP LENGTH		mm	10		
			38.81	**38.91**	
⏀ 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 SPECIFICATION

DC VERSION DATA

Nominal voltage U_N	Supply code	Operating range Umin	Operating range Umax	Release voltage	Control current I at U_N
V		V	V	V	mA
24	**7**.024	16.8	30	10	7
60	**7**.060	35.6	72	20	3

TYPE 38.81.3/38.91.3 DATA

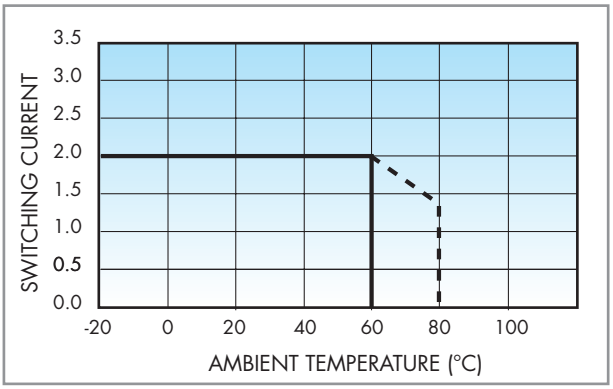
Nominal voltage U_N	Supply code	Operating range Umin	Operating range Umax	Release voltage U	Rated coil consumption I at U_N	Power consumption P at U_N
V		V	V		mA	W
110...125 AC/DC	**3**.125	94	138	44	8(*)	1(*)
230...240 AC	**3**.240	184	264	72	7(*)	0.5(*)

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

38

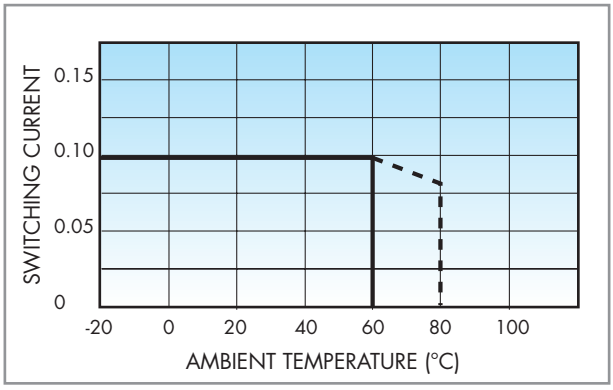
OUTPUT SPECIFICATION

L 38/2A



Type 38.81/91 (2A-24VDC)
Switching current vs ambient temperature

L 38/0.1A



Type 38.81/91 (100mA-48VDC)
Switching current vs ambient temperature

COMBINATIONS


93.01


93.51

Approvals (according to type):

CE GOST cULus

COMBINATION FOR ELECTROMECHANICAL RELAY			
Code	**Supply voltage**	**Type of relay**	**Type of 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
38.61.0.012.0060	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

COMBINATION FOR SSR RELAY			
Code	**Supply voltage**	**Type of relay**	**Type of socket**
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
38.81.3.125.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
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
38.91.3.125.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

ACCESSORIES

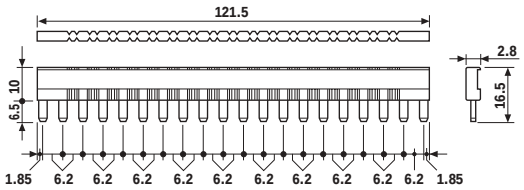

093.20

Approvals (according to type):

cULus

20-way jumper link for 38 series	093.20

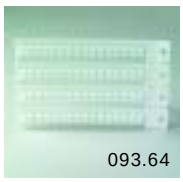
- RATED VALUES: 36 A - 250 V




093.01

Plastic separator	093.01

Thickness 2mm, 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 (64 tags): 6x10mm	093.64