

Interface Relays I1-L General Purpose (6A 1N/O)



- Interface relay I1-L - with changeover relay, rated load 6 A / 250 V (AC1)
- 35 mm DIN rail mount, EN 50022
- Adapted for the co-operation with interconnection strip type I1-C
- Equipped in green LED

Contact data

Number and type of contacts		1 C/O, SPDT	
Contact material		AgSnO ₂	AgSnO ₂ /Au 3 μm ^①
Max. switching voltage	AC/DC	250 V / 300 V	30 V / 36 V
Min. switching voltage	AC/DC	12 V	0,1 V
Rated load	AC 1	6 A / 230 V AC	0,05 A / 30 V AC
	DC1	6 A / 24 V DC	0,05 A / 36 V DC
Min. switching current		100 mA	10 mA
Max. inrush current		15 A 20 ms	0,1 A 20 ms
Rated current		6 A	0,05 A
Max. breaking capacity	AC1	1 500 VA	1,2 VA
Min. breaking capacity		1 W	0,05 W
Contact resistance		≤ 100 mΩ 100 mA, 24 V	≤ 30 mΩ 10 mA, 5 V
Max. operating frequency	AC 1	• at rated load	360 cycles/hour
		• no load	72 000 cycles/hour

Input control circuit

Rated voltage	DC	12-24-36 V		
	AC: 50/60 Hz AC/DC	24-42-115- 230 V		
Must release voltage		AC: ≥ 0,2 U _n	AC: ≥ 0,5 U _n ^②	DC: ≥ 0,1 U _n
Operating range of supply voltage		see Table 1		
Must operate voltage		AC and DC: ≤ 0,7 U _n	AC: 0,6...0,85 U _n ^②	DC: ≤ 0,8 U _n ^②
Input polarization current		AC: 8 mA < I _p < 10 mA 230 V AC ^②		
Rated power consumption	DC	0,3...0,7 W		
	AC/DC	0,3...1,6 VA / 0,3...1,6 W		

Insulation

Insulation category		C250	
Insulation rated voltage		400 V AC	
Rated surge voltage		4 000 V AC	
Overvoltage category		III	PN-EN 60664-1
Insulation pollution degree		3	
Dielectric strength	• input - output	4 000 V AC	50/60 Hz, 1 min.
	• input - output	6 000 V AC	1,2 / 50 μs, surge voltage
	• mass - input, output	2 500 V AC	50/60 Hz, 1 min.
	• contact clearance	1 000 V AC	50/60 Hz, 1 min.
Input - output distance		≥ 6 mm \ ≥ 8 mm	
• clearance \ creepage			

General data

Operating time (typical value)		AC: 7 ms	DC: 6 ms
Release time (typical value)		AC: 15 ms	DC: 10 ms
Electrical life	• resistive AC1	> 0,6 x 10 ⁵	6 A, 250 V AC
	• cos φ = 0,4	> 2 x 10 ⁵	2 A, 250 V AC
	• resistive DC1	10 ⁵	6 A, 30 V DC
Mechanical life (cycles)		> 2 x 10 ⁷	
Dimensions (L x W x H)		93,8 x 6,2 x 80 mm	
Weight		40 g	
Ambient temperature	• storage	-40...+70 °C	
	• operating	-40...+55 °C	-40...+60 °C 12, 24 V DC
		-40...+40 °C 230 V AC ^②	-40...+50 °C 230 V DC ^②
Protection category		IP 20	
Environmental protection		RTI PN-EN 116000-3	

The data in bold type pertain to the standard versions of the relays. ^① For gold-plated contacts - when the maximum values given have been exceeded, the gold layer is destroyed. Then, the advantages of gold-plating disappear and the values are as for AgSnO₂ contacts (see beside). In consequence however, the life of the contact may be shorter than that of the normal power contact. ^② Refers version I1-L-U230F - relay with integrated anti-interference filter (designed on the basis of appropriately selected elements R and C, and Zener diode), resistant to occurrence of induced voltages in long distances of control wires.

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Input data

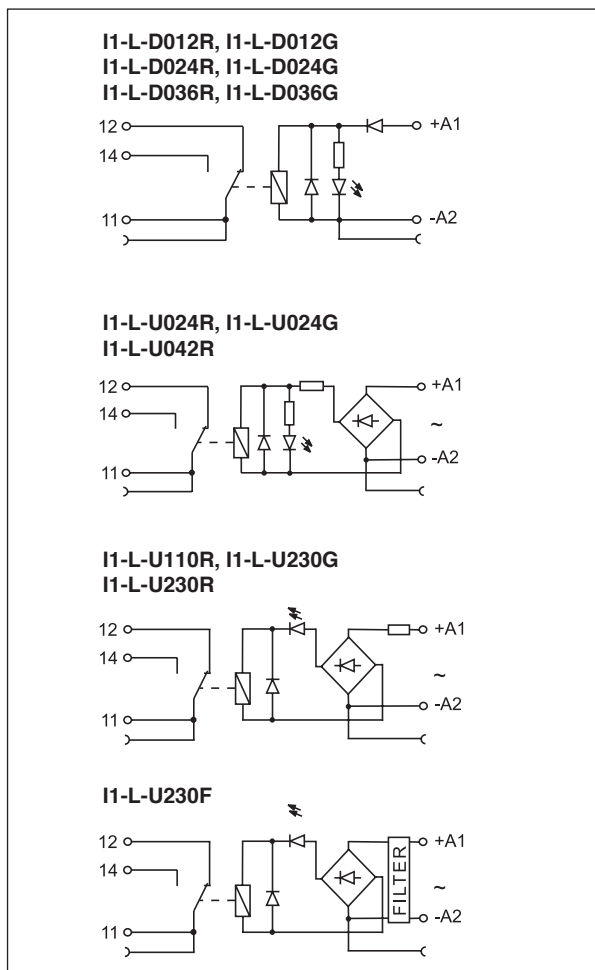
Table 1

Cat. No.	Interface relay code	Rated input voltage U_n	Power of input control circuit	Input - voltage range V	
				min.	max.
I1-L-D012R	PI6-1P-12VDC	12 V DC	0,3 W	8,5	14,4
I1-L-D024R	PI6-1P-24VDC	24 V DC	0,4 W	16,8	28,0
I1-L-D036R	PI6-1P-36VDC	36 V DC	0,7 W	25,2	40,0
I1-L-U024R	PI6-1P-24VAC/DC	24 V AC/DC	0,5 VA / 0,5 W	16,8	26,4
I1-L-U042R	PI6-1P-42VAC/DC	42 V AC/DC	0,3 VA / 0,3 W	29,4	50,0
I1-L-U110R	PI6-1P-115VAC/DC	115 V AC/DC	0,8 VA / 0,8 W	80,0	130,0
I1-L-U230R	PI6-1P-230VAC/DC	230 V AC/DC	0,8 VA / 0,8 W	161,0	253,0
I1-L-U230F	PI6-1P-230VAC/DC-10 ②	230 V AC/DC	1,6 VA / 1,6 W	196,0	253,0
I1-L-D012G	PI6-1P-12VDC-01 ①	12 V DC	0,3 W	8,5	14,4
I1-L-D024G	PI6-1P-24VDC-01 ①	24 V DC	0,4 W	16,8	28,0
I1-L-D036G	PI6-1P-36VDC-01 ①	36 V DC	0,7 W	25,2	40,0
I1-L-U024G	PI6-1P-24VAC/DC-01 ①	24 V AC/DC	0,5 VA / 0,5 W	16,8	26,4
I1-L-U230G	PI6-1P-230VAC/DC-01 ①	230 V AC/DC	0,8 VA / 0,8 W	161,0	253,0

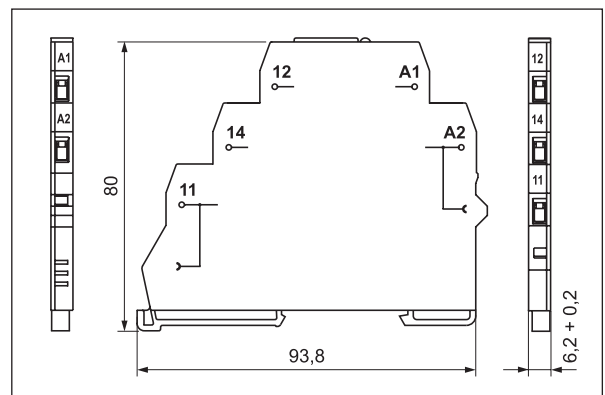
① Version with gold plated contacts.

② Version with integrated anti-interference filter.

Connections diagrams



Dimensions



Mounting

Relays I1-L are designed for 35 mm DIN rail mount, EN 50022. Maximum size of wires $1 \times 2,5 \text{ mm}^2$ (1 x 14 AWG). Rated contactability $2 \times 1,5 \text{ mm}^2$ (2 x 16 AWG). Maximum screw torque: 0,3 Nm.

I1-L are adapted for the co-operation with interconnection strip type I1-C. I1-C bridges common input or output signals, maximum permissible current is 36 A / 250 V AC. Colors of strips: red, black or blue.

