



## Main

Range of product	Interface for discrete signals
Product or component type	Electromechanical output interface module
Contacts type and composition	1 NC + 1 NO
[Uc] control circuit voltage	24 V
Control circuit type	DC
Width pitch dimension	17.5 mm
Maximum [In] rated current	62 mA DC
Reverse polarity protection	With
Short-circuit protection	16 A external fuse gF (Ik ≤ 2.5 kA AC and Ik ≤ 100 A DC) 16 A external fuse gG (Ik ≤ 2.5 kA AC and Ik ≤ 100 A DC)
[Ith] conventional free air thermal current	12 A conforming to IEC 60947-1
Local signalling	Green mechanical indicator for position of contacts and 1 green LED control signal state

## Complementary

Control circuit voltage limits	30 V energization threshold: 15 V
Maximum switching voltage	125 V DC
Housing colour	Grey
Connections - terminals	Screw clamp terminal
Drop-out voltage	3.2 V
Minimum holding current	6.6 mA DC
Maximum power dissipation in W	1.5 W
[Ue] rated operational voltage	≤ 125 V DC conforming to IEC 60947-5-1 ≤ 230 V AC conforming to IEC 60947-5-1
Network frequency	50/60 Hz
[Ie] rated operational current	1 A AC-13 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1 1 A AC-14 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1 1 A AC-15 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1 1 A DC-13 Ue: 24 V per 1000000 cycles conforming to IEC 60947-5-1 4 A AC-12 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1 5 A DC-12 Ue: 24 V per 1000000 cycles conforming to IEC 60947-5-1
Minimum switching current	3 mA
Minimum switching voltage	17 V
Electrical reliability	≤ 0.00000001
Operating time	≤ 12 ms between de-energisation of coil and closing of NC contact ≤ 12 ms between de-energisation of coil and closing of NO contact ≤ 12 ms between energisation of coil and closing of NC contact ≤ 12 ms between energisation of coil and closing of NO contact
Contact bounce time	≤ 3 ms
Overlap time	1 ms
Operating rate in Hz	6 Hz at no-load 0.5 Hz at Ie
Mechanical durability	10000000 cycles
[Ui] rated insulation voltage	250 V conforming to IEC 60947-1 250 V conforming to VDE 0110 group C

Flame retardance	V0 conforming to UL 94
Cable cross section	0.34...2.5 Mm <sup>2</sup> , 1 or 2 wires flexible with cable end 0.6...2.5 Mm <sup>2</sup> , 1 or 2 wires flexible without cable end 0.27...2.5 Mm <sup>2</sup> , 2 wires rigid 0.27...4 mm <sup>2</sup> , 1 wire rigid
Operating position	Any position
Installation category	II conforming to IEC 60947-1
Mounting support	Symmetrical DIN rail Combination rail Asymmetrical DIN rail
Net weight	0.09 kg




## Environment

Immunity to microbreaks	3 ms
Dielectric strength	1500 V for 1 minute between independent contacts 2500 V for 1 minute between wired interface and earth 4000 V for 1 minute between coil circuit and contact circuits
Standards	IEC 60947-5-1
Product certifications	LROS (Lloyds register of shipping) BV DNV UL CSA
IP degree of protection	IP20 conforming to IEC 60529
Protective treatment	TC
Fire resistance	850 °C conforming to IEC 60695-2-1
Shock resistance	50 gn for 11 ms conforming to IEC 60068-2-27
Vibration resistance	6 gn conforming to IEC 60068-2-6 (f = 10...55 Hz)
Electromagnetic compatibility	1.2/50 ms shock waves immunity test conforming to IEC 255-4 Electrostatic discharge immunity test, level 3 8 kV conforming to IEC 61000-4-2 Rapid transients immunity test on input/output 1 kV conforming to IEC 61000-4-4 Rapid transients immunity test on power supply 2 kV conforming to IEC 61000-4-4
Ambient air temperature for operation	-20...60 °C at Un -5...40 °C unrestricted operation
Ambient air temperature for storage	-40...70 °C
Operating altitude	<= 3000 m
Pollution degree	3 conforming to IEC 60947-5-1

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	97 g
Package 1 Height	3 cm
Package 1 width	7.5 cm
Package 1 Length	9 cm
Unit Type of Package 2	S02
Number of Units in Package 2	50
Package 2 Weight	5.006 kg
Package 2 Height	15 cm
Package 2 width	30 cm
Package 2 Length	40 cm

## Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	 <a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)  <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	 <a href="#">Yes</a>

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China RoHS Regulation	<a href="#">China RoHS Declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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### Contractual warranty

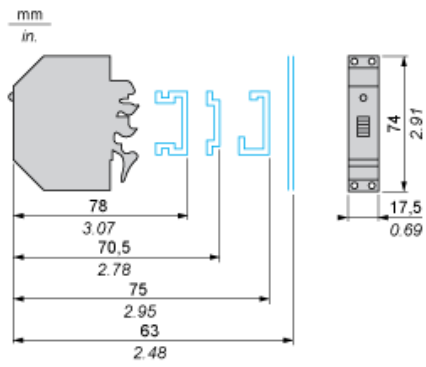
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Warranty	18 months
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Electromechanical Interface Module

Dimensions



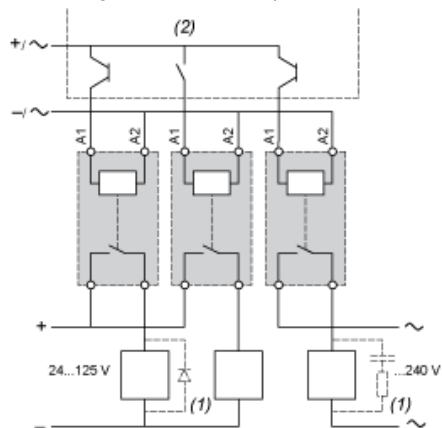
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Electromechanical Interface Module

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Example of Application with PLC

Interfacing PLC discrete outputs



- (1) Essential on inductive loads (can be replaced with peak limiter)
- (2) PLC positive logic transistor (or relay) outputs

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Interface with Mechanical Indication

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Circuit Diagram

1 N/C + 1 N/O

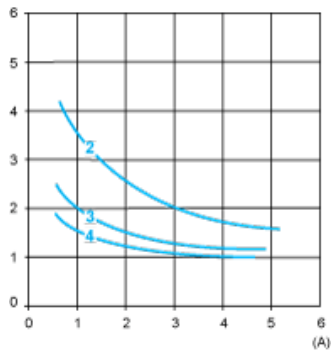


Electrical Durability of Contacts

AC Loads

Test conditions: in accordance with standard IEC 947-5-1 set up for rated control voltage, operating rate: 1800 cycles/hour. (0.5 Hz).

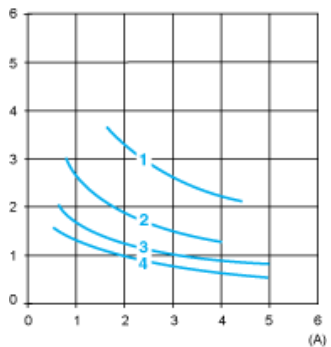
AC-12 operating cycles in millions



AC-12 Control of resistive loads and isolated solid state loads via optocoupler ( $\cos \phi \geq 0.9$ )

- (1) 24 V
- (2) 48 V
- (3) 127 V
- (4) 230 V

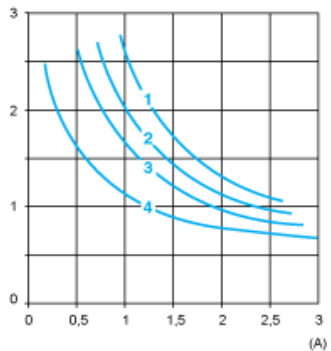
AC-13 operating cycles in millions



AC-13 Control of isolated solid state loads via transformer ( $\cos \phi \geq 0.65$ )

- (1) 24 V
- (2) 48 V
- (3) 127 V
- (4) 230 V

AC-14 and AC-15 operating cycles in millions



AC-14 Control of weak electromagnetic loads of electromagnets  $\leq 72$  VA (make:  $\cos \phi = 0.3$ , break:  $\cos \phi = 0.3$ )

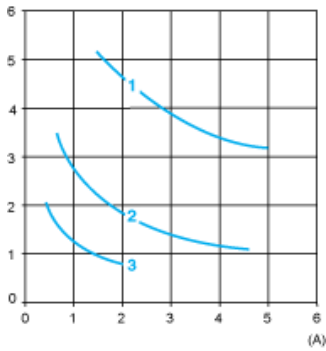
AC-15 Control of electromagnetic loads of electromagnets  $> 72$  VA (make:  $\cos \phi = 0.7$ , break:  $\cos \phi = 0.4$ )

- (1) 24 V
- (2) 48 V
- (3) 127 V
- (4) 230 V

## DC Loads

Test conditions: in accordance with standard IEC 947-5-1 set up for rated control voltage, operating rate: 1800 cycles/hour. (0.5 Hz).

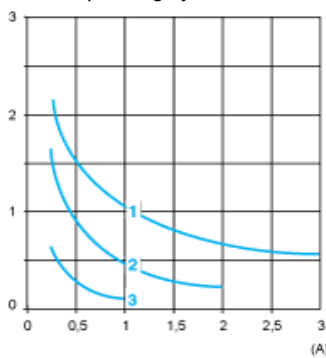
DC-12 operating cycles in millions



DC-12 Control of resistive loads and isolated solid state loads via optocoupler ( $L/R \leq 1$  ms)

- (1) 24 V
- (2) 48 V
- (3) 127 V

DC-13 operating cycles in millions



DC-13 Control of electromagnets ( $L/R \leq 2 \times (U_e \times I_e)$  in ms, with  $U_e$ : rated operating voltage and  $I_e$ : rated operating current)

- (1) 24 V
- (2) 48 V
- (3) 127 V