### ABR1E412F

input interface module - 17.5 mm - electromechanical - 110..127 V DC - 2 NO



| Main  |  |
|---|--|
| Range of product                            | Interface for discrete signals   |
| Product or component type                   | Electromechanical input interface module   |
| Contacts type and composition               | 2 NO   |
| [Uc] control circuit voltage                | 110127 V   |
| Control circuit type                        | DC   |
| Width pitch dimension                       | 17.5 mm  |
| [In] rated current                          | <= 15 mA DC  |
| Reverse polarity protection                 | With   |
| Short circuit protection                    | 16 A external fuse gG (lk <= 2.5 kA AC and lk <= 100 A DC)                               |
|   | 16 A external fuse gF (lk <= 2.5 kA AC and lk <= 100 A DC)                               |
| [Ith] conventional free air thermal current | 2 A conforming to IEC 60947-1  |
| Local signalling                            | Green mechanical indicator for position of contacts and 1 green LED control signal state |

#### Complementary

| Complementary                  |   |
|--------------------------------|---|
| Control voltage limits         | 264 V energization threshold: 75 V  |
| Housing colour                 | Grey  |
| Connections - terminals        | Screw clamp terminal  |
| Drop-out voltage               | <= 16 V   |
| Holding current                | >= 1.5 mA DC  |
| Power dissipation in W         | <= 1.5 W  |
| Maximum switching voltage      | 252 V AC<br>125 V DC  |
| [Ue] rated operational voltage | <= 230 V AC conforming to IEC 60947-5-1<br><= 125 V DC conforming to IEC 60947-5-1  |
| Network frequency              | 50/60 Hz  |
| [le] rated operational current | 2 A DC-12 Ue: 24 V per 1000000 cycles conforming to IEC 60947-5-1 2 A AC-12 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 1 A AC-15 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-13 Ue: 230 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 energisation of coil and closing of NO contact <= 12 ms between energisation of coil and closing of NC contact <= 12 ms between de-energisation of coil and closing of NO contact <= 12 ms between de-energisation of coil and closing of NC contact   |
| Contact bounce time            | <= 3 ms   |
| Operating rate in Hz           | <= 0.5 Hz at le<br><= 6 Hz at no-load   |
| Mechanical durability          | >= 20000000 cycles  |
| [Ui] rated insulation voltage  | 250 V conforming to VDE 0110 group C<br>250 V conforming to IEC 60947-1   |
| Flame retardance               | V0 conforming to UL 94  |
|                                | <u> </u>  |

| Cable cross section   | 0.62.5 mm <sup>2</sup> , 1 or 2 wires flexible without cable end |  |
|-----------------------|--|--|
|                       | 0.342.5 mm <sup>2</sup> , 1 or 2 wires flexible with cable end   |  |
|                       | 0.274 mm <sup>2</sup> , 1 wire rigid                             |  |
|                       | 0.272.5 mm <sup>2</sup> , 2 wires rigid                          |  |
| Operating position    | Any position   |  |
| Installation category | II conforming to IEC 60947-1                                     |  |
| Mounting support      | Asymmetrical DIN rail  |  |
|                       | Combination rail   |  |
|                       | Symmetrical DIN rail   |  |
| Product weight        | 0.095 kg   |  |

#### Environment

| Immunity to microbreaks               | 10 ms  |  |
|---------------------------------------|--|--|
| Dielectric strength                   | 4000 V between coil circuit and contact circuits                                 |  |
|                                       | 2500 V between wired interface and earth   |  |
|                                       | 1500 V between independent contacts  |  |
| Standards                             | IEC 60947-5-1  |  |
| Product certifications                | BV   |  |
|                                       | CSA  |  |
|                                       | DNV  |  |
|                                       | LROS (Lloyds register of shipping)   |  |
|                                       | UL   |  |
| 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 (f = 1055 Hz) conforming to IEC 60068-2-6                                   |  |
| Electromagnetic compatibility         | Rapid transients immunity test, on power supply 2 kV conforming to IEC 61000-4-4 |  |
|                                       | Rapid transients immunity test, on input/output 1 kV conforming to IEC 61000-4-4 |  |
|                                       | Electrostatic discharge immunity test level 3, 8 kV conforming to IEC 61000-4-2  |  |
|                                       | 1.2/50 ms shock waves immunity test, 0.5 kV for U < 50 V conforming to IEC       |  |
|                                       | 255-4  |  |
|                                       | 1.2/50 ms shock waves immunity test, 0.25 kV for U > 50 V conforming to IEC      |  |
|                                       | 255-4  |  |
| Ambient air temperature for operation | -540 °C unrestricted operation   |  |
| ·                                     | -2060 °C at Un   |  |
| Ambient air temperature for storage   | -4070 °C   |  |
| Operating altitude                    | <= 3000 m  |  |
| Pollution degree                      | 3 conforming to IEC 60947-5-1  |  |

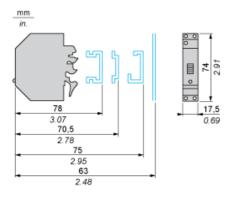


# Product data sheet Dimensions Drawings

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#### Electromechanical Interface Module

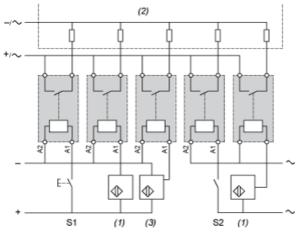
#### Dimensions



#### Electromechanical Interface Module

#### Example of Application with PLC

Interfacing PLC discrete inputs



- S1, Pushbuttons series contacts
- S2
- (1) 2-wire sensors
- (2) PLC positive logic discrete inputs
- (3) 3-wire sensors

#### Interface with Mechanical Indication + LED

#### Circuit Diagram

2 N/O

