# *Product datasheet*
## *Characteristics*

# ABR1E118B


## Main

| | |
|---|---|
| Range of product | Interface for discrete signals |
| Product or component type | Electromechanical input interface module |
| Contacts type and composition | 1 NO |
| [Uc] control circuit voltage | 24 V |
| Control circuit type | AC/DC |
| Control circuit frequency | 50/60 Hz |
| Width pitch dimension | 0.69 in (17.5 mm) |
| [In] rated current | <= 55 mA AC<br><= 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)<br>16 A external fuse gG (Ik <= 2.5 kA AC and Ik <= 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

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|---|---|
| Control circuit voltage limits | 30 V energization threshold: 16.5 V |
| Housing colour | Grey |
| Connections - terminals | Screw clamp terminal |
| Drop-out voltage | <= 3.8 V |
| Holding current | >= 4.9 mA DC<br>>= 5.2 mA AC |
| Power dissipation in W | <= 1.5 W |
| Maximum switching voltage | 125 V DC<br>252 V AC |
| System Voltage | <= 125 V DC conforming to IEC 60947-5-1<br><= 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<br>1 A AC-14 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1<br>1 A AC-15 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1<br>1 A DC-13 Ue: 24 V per 1000000 cycles conforming to IEC 60947-5-1<br>2 A AC-12 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1<br>2 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<br><= 12 ms between de-energisation of coil and closing of NO contact<br><= 12 ms between energisation of coil and closing of NC contact<br><= 12 ms between energisation of coil and closing of NO contact |
| Contact bounce time | <= 3 ms |
| Operating rate in Hz | <= 6 Hz at no-load<br><= 0.5 Hz at Ie |
| Mechanical durability | >= 20000000 cycles |
| [Ui] rated insulation voltage | 250 V conforming to IEC 60947-1<br>250 V conforming to VDE 0110 group C |
| Flame retardance | V0 conforming to UL 94 |
| Cable cross section | 0...0.01 in² (0.27...4 mm²), 1 wire rigid<br>0...0 in² (0.34...2.5 mm²), 1 or 2 wires flexible with cable end |

| | |
|---|---|
| | 0...0 in² (0.6...2.5 mm²), 1 or 2 wires flexible without cable end<br>0...0 in² (0.27...2.5 mm²), 2 wires rigid |
| Operating position | Any position |
| Installation category | II conforming to IEC 60947-1 |
| Mounting support | Asymmetrical DIN rail<br>Combination rail<br>Symmetrical DIN rail |
| Product weight | 0.21 lb(US) (0.095 kg) |

## Environment

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|---|---|
| immunity to microbreaks | 8 ms |
| dielectric strength | 1500 V between independent contacts<br>2500 V between wired interface and earth<br>4000 V between coil circuit and contact circuits |
| standards | IEC 60947-5-1 |
| product certifications | BV<br>CSA<br>DNV<br>LROS (Lloyds register of shipping)<br>UL |
| IP degree of protection | IP20 conforming to IEC 60529 |
| protective treatment | TC |
| fire resistance | 1562 °F (850 °C) conforming to IEC 60695-2-1 |
| shock resistance | 50 gn 11 ms conforming to IEC 60068-2-27 |
| vibration resistance | 6 gn (f = 10...55 Hz) conforming to IEC 60068-2-6 |
| electromagnetic compatibility | 1.2/50 ms shock waves immunity test, 0.25 kV for U > 50 V conforming to IEC 255-4<br>1.2/50 ms shock waves immunity test, 0.5 kV for U < 50 V conforming to IEC 255-4<br>Electrostatic discharge immunity test level 3, 8 kV conforming to IEC 61000-4-2<br>Rapid transients immunity test, on input/output 1 kV conforming to IEC 61000-4-4<br>Rapid transients immunity test, on power supply 2 kV conforming to IEC 61000-4-4 |
| ambient air temperature for operation | -4...140 °F (-20...60 °C) at Un<br>23...104 °F (-5...40 °C) unrestricted operation |
| ambient air temperature for storage | -40...158 °F (-40...70 °C) |
| operating altitude | <= 9842.52 ft (3000 m) |
| pollution degree | 3 conforming to IEC 60947-5-1 |

## Contractual warranty

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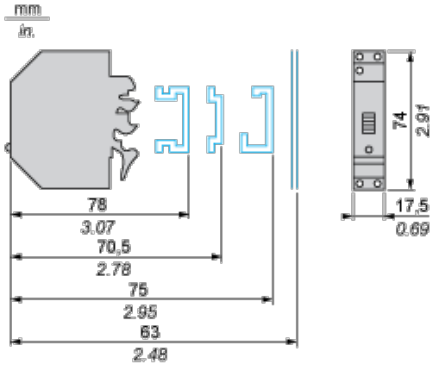
|---|---|
| Warranty period | 18 months |

## Electromechanical Interface Module

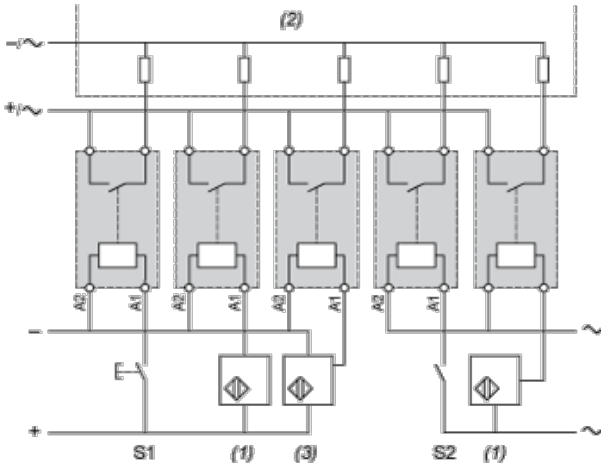
### Dimensions




## Electromechanical Interface Module

### Example of Application with PLC

Interfacing PLC discrete inputs




**S1, S2** Pushbuttons series contacts

**(1)** 2-wire sensors

**(2)** PLC positive logic discrete inputs

**(3)** 3-wire sensors

## Interface with Mechanical Indication + LED

### Circuit Diagram

1 N/O