Product data sheet

ABR1E411M
input interface module - 17.5 mm -
electromechanical - 230/240 V AC - 2 NO

Main

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of product</td>
<td>Interface for discrete signals</td>
</tr>
<tr>
<td>Product or component type</td>
<td>Electromechanical input interface module</td>
</tr>
<tr>
<td>Contacts type and composition</td>
<td>2 NO</td>
</tr>
<tr>
<td>Control circuit voltage</td>
<td>230...240 V</td>
</tr>
<tr>
<td>Control circuit type</td>
<td>AC</td>
</tr>
<tr>
<td>Control circuit frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Width pitch dimension</td>
<td>17.5 mm</td>
</tr>
<tr>
<td>[In] rated current</td>
<td>&lt;= 7 mA AC</td>
</tr>
<tr>
<td>Reverse polarity protection</td>
<td>With</td>
</tr>
<tr>
<td>Short-circuit protection</td>
<td>16 A external fuse gF (Ik &lt;= 2.5 kA AC and Ic &lt;= 100 A DC)</td>
</tr>
<tr>
<td></td>
<td>16 A external fuse gG (Ik &lt;= 2.5 kA AC and Ic &lt;= 100 A DC)</td>
</tr>
<tr>
<td>[Ith] conventional free air thermal current</td>
<td>2 A conforming to IEC 60947-1</td>
</tr>
<tr>
<td>Local signalling</td>
<td>Green mechanical indicator for position of contacts and 1 green LED control signal state</td>
</tr>
</tbody>
</table>

Complementary

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control circuit voltage limits</td>
<td>264 V energization threshold: 170 V</td>
</tr>
<tr>
<td>Housing colour</td>
<td>Grey</td>
</tr>
<tr>
<td>Connections - terminals</td>
<td>Screw clamp terminal</td>
</tr>
<tr>
<td>Drop-out voltage</td>
<td>&lt;= 68 V</td>
</tr>
<tr>
<td>Holding current</td>
<td>&gt;= 2 mA AC</td>
</tr>
<tr>
<td>Power dissipation in W</td>
<td>&lt;= 1.5 W</td>
</tr>
<tr>
<td>Maximum switching voltage</td>
<td>125 V DC</td>
</tr>
<tr>
<td></td>
<td>252 V AC</td>
</tr>
<tr>
<td>[Ue] rated operational voltage</td>
<td>&lt;= 125 V DC conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>&lt;= 230 V AC conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td>Network frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>[Ie] rated operational current</td>
<td>1 A AC-13 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>1 A AC-14 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>1 A AC-15 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>1 A DC-13 Ue: 24 V per 1000000 cycles conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>2 A AC-12 Ue: 230 V per 1000000 cycles conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>2 A DC-12 Ue: 24 V per 1000000 cycles conforming to IEC 60947-5-1</td>
</tr>
<tr>
<td>Minimum switching current</td>
<td>3 mA</td>
</tr>
</tbody>
</table>

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.
## Minimum switching voltage
17 V

## Electrical reliability
\( \leq 0.00000001 \)

## Operating time
\( \leq 12 \text{ ms between de-energisation of coil and closing of NC contact} \)
\( \leq 12 \text{ ms between de-energisation of coil and closing of NO contact} \)
\( \leq 12 \text{ ms between energisation of coil and closing of NC contact} \)
\( \leq 12 \text{ ms between energisation of coil and closing of NO contact} \)

## Contact bounce time
\( \leq 3 \text{ ms} \)

## Operating rate in Hz
\( \leq 6 \text{ Hz at no-load} \)
\( \leq 0.5 \text{ Hz at Ie} \)

## Mechanical durability
\( \geq 20000000 \text{ cycles} \)

## [\(U_i\)] 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
0.27...4 mm², 1 wire rigid
0.34...2.5 mm², 1 or 2 wires flexible with cable end
0.6...2.5 mm², 1 or 2 wires flexible without cable end
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
Combination rail
Symmetrical DIN rail

## Product weight
0.095 kg

### Environment

#### Immunity to microbreaks
5 ms

#### Dielectric strength
1500 V between independent contacts
2500 V between wired interface and earth
4000 V between coil circuit and contact circuits

#### 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 = 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
1.2/50 ms shock waves immunity test, 0.5 kV for U < 50 V 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
\( \leq 3000 \text{ m} \)

#### Pollution degree
3 conforming to IEC 60947-5-1

### Contractual warranty

#### Warranty period
18 months
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

2 N/O

![Circuit Diagram Image]