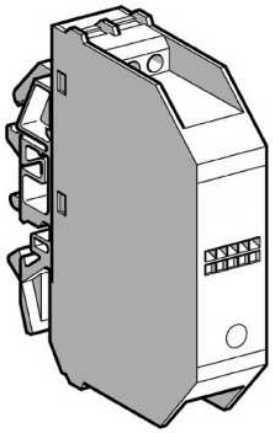
Product data sheet
Characteristics

ABR2EB312B
input interface module - 9.5 mm - electromechanical - 24 V DC - 1 C/O low-level



Main

Range of product	Interface for discrete signals
Product or component type	Slim electromechanical input interface module
Product specific application	For very low level switching
Contacts type and composition	1 C/O
[Uc] control circuit voltage	24 V
Control circuit type	DC
Width pitch dimension	17.5 mm
[In] rated current	<= 0.023 A
Reverse polarity protection	Internal for control circuit
Short circuit protection	0.4 A external fuse fast blow
[Ith] conventional free air thermal current	0.05 A conforming to IEC 60947-1
Local signalling	1 LED indicating control signal state

Complementary

Control voltage limits	28.8 V
Connections - terminals	Screw clamp terminal
Operating threshold	16.9 V
Drop-out voltage	<= 3.8 V
Holding current	2 mA
Power dissipation in W	0.55 W
Maximum switching voltage	60 V DC 60 V AC
[Ue] rated operational voltage	<= 48 V DC conforming to IEC 60947-5-1 for built-in contacts <= 48 V AC conforming to IEC 60947-5-1 for built-in contacts
Network frequency	50/60 Hz
Minimum switching current	0.01 mA
Minimum switching voltage	0.01 V
Electrical reliability	1e-008
Operating time	<= 6 ms between energisation of coil and closing of NO contact DC <= 6 ms between energisation of coil and closing of NC contact <= 6 ms between de-energisation of coil and closing of NO contact DC <= 6 ms between de-energisation of coil and closing of NC contact
Contact bounce time	<= 2 ms
Non-overlap time	5 ms on energisation 2 ms on de-energisation
Operating rate in Hz	10 Hz at no-load
Mechanical durability	>= 20000000 cycles
[Ui] rated insulation voltage	300 V conforming to IEC 60947-1 250 V conforming to VDE 0110 group C
Flame retardance	V0 conforming to UL 94
Cable cross section	0.6...2.5 mm², 1 or 2 wires flexible without cable end 0.34...2.5 mm², 1 or 2 wires flexible with cable end 0.27...4 mm², 1 wire rigid
Operating position	Any position
Installation category	II conforming to IEC 60947-1

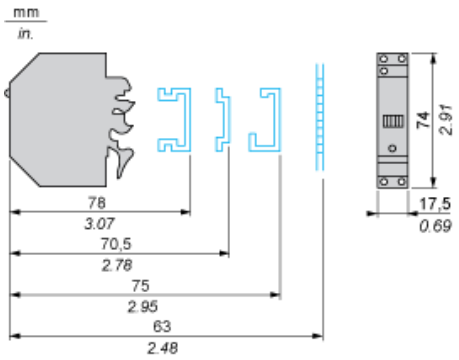
Mounting support	Asymmetrical DIN rail Combination rail Symmetrical DIN rail
Product weight	0.048 kg

Environment

Immunity to microbreaks	1 ms
Dielectric strength	2500 V between wired interface and earth 1500 V between coil circuit and contact circuits 1000 V between open 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	960 °C conforming to IEC 60695-2-1
Shock resistance	30 gn for 11 ms conforming to IEC 60068-2-27
Vibration resistance	3 gn (f = 10...150 Hz) conforming to IEC 60068-2-6
Electromagnetic compatibility	Rapid transients immunity test level 3, on power supply 2 kV conforming to IEC 61000-4-4 Rapid transients immunity test level 3, 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 Electromagnetic field immunity test level 3, 10 V/m between 27...1000 MHz conforming to IEC 61000-4-3 1.2/50 µs shock waves immunity test, 2.5 kV for U < 300 V conforming to IEC 947-1 1.2/50 µs shock waves immunity test, 1.5 kV for U < 150 V conforming to IEC 947-1 1.2/50 µs shock waves immunity test, 0.5 kV for U < 50 V conforming to IEC 947-1
Ambient air temperature for operation	-5...55 °C from 0.85...1.1 Us -5...40 °C unrestricted operation -25...70 °C at Us
Ambient air temperature for storage	-40...80 °C
Operating altitude	<= 3000 m
Pollution degree	2 conforming to IEC 60947-1

Slim Electromechanical Interface Module

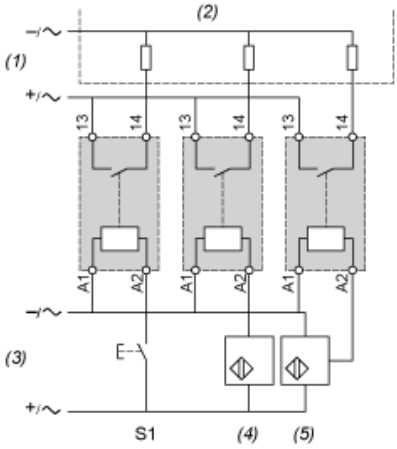
Dimensions



Slim Electromechanical Interface Module

Example of Application with PLC

Interfacing PLC discrete inputs



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S1 Pushbuttons series contacts
(1) Processing power supply
(2) PLC positive logic discrete inputs
(3) Process power supply
(4) 2-wire sensors
(5) 3-wire sensors

Slim Electromechanical Interface Module

Circuit Diagram

1 C/O