

# ABR2S112B

output interface module - 9.5 mm -  
electromechanical - 24 V DC - 1 NC



## Main

Range of Product	Interface for discrete signals
Product or Component Type	Slim electromechanical output interface module
Contacts type and composition	1 NO
[Uc] control circuit voltage	24 V
Control circuit type	DC
Width pitch dimension	0.47 in (12 mm)
Maximum [In] rated current	28 mA
Reverse polarity protection	With
Short-circuit protection	6.3 A external fuse fast blow I <sub>k</sub> ≤ 1 kA AC and I <sub>k</sub> ≤ 100 A DC)
[I <sub>th</sub> ] conventional free air thermal current	5 A IEC 60947-1
Local signalling	For control signal state green LED
Sale per indivisible quantity	5

## Complementary

Control circuit voltage limits	28.8 V 16.9 V
Connections - Terminals	Screw clamp terminal
Drop-out voltage	3.8 V
Holding Current	2 mA
Power dissipation in W	0.64 W
Maximum switching voltage	150 V DC 250 V AC
[Ue] rated operational voltage	≤ 120 V DC IEC 60947-5-1 ≤ 230 V AC IEC 60947-5-1
Network Frequency	50/60 Hz
[Ie] rated operational current	1 A AC-14 Ue: 230 V 1000000 cycles IEC 60947-5-1 1 A AC-15 Ue: 230 V 1000000 cycles IEC 60947-5-1 3 A AC-12 Ue: 230 V 1000000 cycles IEC 60947-5-1 1.5 A DC-13 Ue: 24 V 1000000 cycles IEC 60947-5-1 1.7 A DC-12 Ue: 24 V 1000000 cycles IEC 60947-5-1
Minimum switching current	5 mA
Minimum switching voltage	5 V
Electrical reliability	≤ 0.00000001
Operating time	≤ 10 ms between energisation of coil and closing of NO contact DC ≤ 12 ms between de-energisation of coil and closing of NO contact DC
Contact bounce time	≤ 5 ms
Operating rate in Hz	10 Hz at no-load 0.5 Hz at I <sub>e</sub>
Mechanical durability	10000000 cycles
[Ui] rated insulation voltage	250 V VDE 0110 group C 300 V IEC 60947-1
Flame retardance	V0 conforming to UL 94
Cable cross section	0.00...0.00 In <sup>2</sup> (0.34...2.5 mm <sup>2</sup> ), 1 or 2 wires flexible with cable end 0.00...0.00 In <sup>2</sup> (0.6...2.5 mm <sup>2</sup> ), 1 or 2 wires flexible without cable end 0.00...0.01 in <sup>2</sup> (0.27...4 mm <sup>2</sup> ), 1 wire rigid

Operating position	Any position
Installation category	II IEC 60947-1
Mounting Support	Symmetrical DIN rail Combination rail Asymmetrical DIN rail
Net Weight	0.09 lb(US) (0.041 kg)

## Environment

Immunity to microbreaks	1 ms
Dielectric strength	1000 V for 1 minute between open 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	CSA LROS (Lloyds register of shipping) BV DNV UL
IP degree of protection	IP20 conforming to IEC 60529
Protective treatment	TC
Fire resistance	1760 °F (960 °C) IEC 60695-2-1
Shock resistance	30 gn 11 ms IEC 60068-2-27
Vibration resistance	3 gn 10...150 Hz)IEC 60068-2-6
Electromagnetic compatibility	Electromagnetic field immunity test level 3 10 V/m between 27...1000 MHz IEC 61000-4-3 Electrostatic discharge immunity test level 3 8 kV IEC 61000-4-2 Fast transients immunity test level 3 on input/output 1 kV IEC 61000-4-4 Fast transients immunity test level 3 on power supply 2 kV IEC 61000-4-4 1.2/50 µs shock waves immunity test IEC 60947-1
Ambient Air Temperature for Operation	-13...131 °F (-25...55 °C) at Us -13...158 °F (-25...70 °C) at Us with 8 mm space between ABR2S1... 23...104 °F (-5...40 °C) unrestricted operation 23...131 °F (-5...55 °C) from 0.85...1.1 Us
Ambient Air Temperature for Storage	-40...176 °F (-40...80 °C)
Operating altitude	<= 9842.52 ft (3000 m)
Pollution degree	2 IEC 60947-1

## Ordering and shipping details

Category	22375 - INTERFACE MODULE(ABA,R,S)
Discount Schedule	CP2
GTIN	3389110651478
Nbr. of units in pkg.	1
Package weight(Lbs)	1.69 oz (48 g)
Returnability	No
Country of origin	FR

## Packing Units

Unit Type of Package 1	PCE
Package 1 Height	2.87 in (7.3 cm)
Package 1 width	3.54 in (9 cm)
Package 1 Length	4.21 in (10.7 cm)
Unit Type of Package 2	BB1
Number of Units in Package 2	5
Package 2 Weight	8.47 oz (240 g)
Package 2 Height	2.87 in (7.3 cm)
Package 2 width	3.54 in (9 cm)
Package 2 Length	4.21 in (10.7 cm)
Unit Type of Package 3	S02
Number of Units in Package 3	75
Package 3 Weight	8.94 lb(US) (4.055 kg)

Package 3 Height	5.91 in (15 cm)
Package 3 width	11.81 in (30 cm)
Package 3 Length	15.75 in (40 cm)

### Offer Sustainability

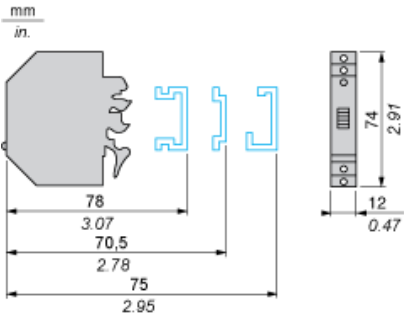
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
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>
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.

### Contractual warranty

Warranty	18 months
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Slim Electromechanical Interface Module

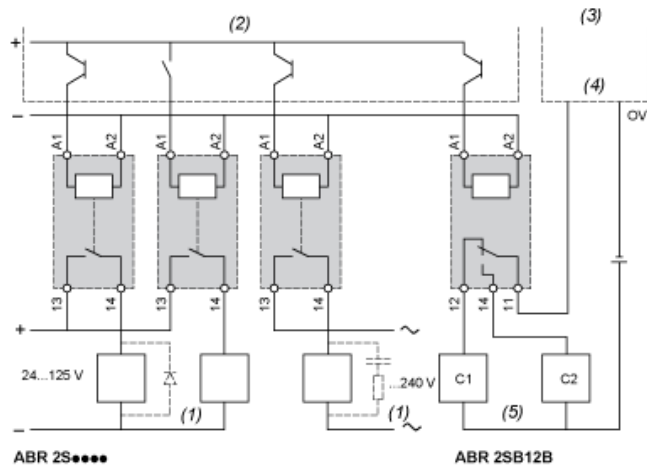
Dimensions



## Slim Electromechanical Interface Module

### Example of Application with PLC

Interfacing PLC discrete outputs

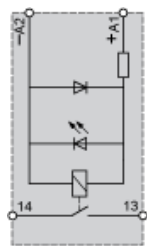


- (1) Essential on inductive loads (can be replaced with peak limiter)
- (2) PLC positive logic transistor (or relay) outputs
- (3) PLC analog inputs
- (4) Channel X
- (5) Analog sensors

## Slim Electromechanical Interface Module

### Circuit Diagram

1 N/O

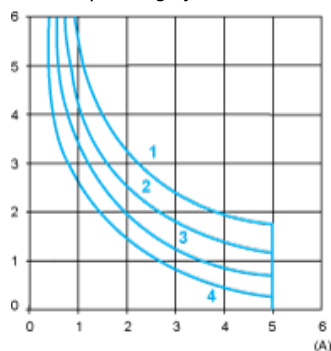


## Electrical Durability of Contacts

### AC Loads

Test conditions: in accordance with standard IEC 947-5-1 set up for rated control voltage.

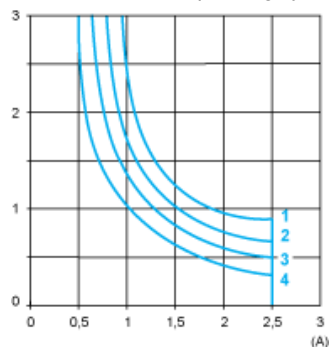
AC-12 operating cycles in millions



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) 115 V
- (4) 230 V

AC-14 and AC-15 operating cycles in millions



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

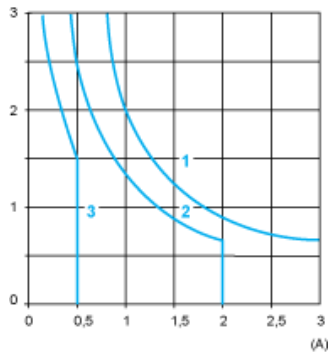
AC-15 Control of electro-magnetic loads of electro-magnets  $> 72$  VA (make:  $\cos \phi = 0.7$ , break:  $\cos \phi = 0.4$ )

- (1) 24 V
- (2) 48 V
- (3) 115 V
- (4) 230 V

### DC Loads

Test conditions: in accordance with standard IEC 947-5-1 set up for rated control voltage.

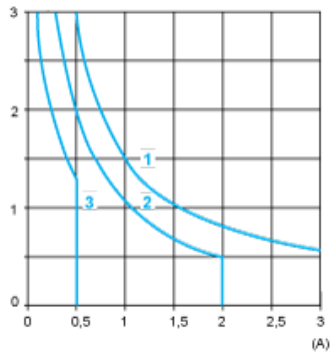
DC-12 operating cycles in millions



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) 115 V

DC-13 operating cycles in millions



DC-13 Control of electro-magnets ( $L/R \leq 2 \times (U_e \times I_e)$  in ms, with  $U_e$ : rated operating voltage and  $I_e$ : rated operating current, with a load protection diode

- (1) 24 V
- (2) 48 V
- (3) 115 V

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