



**Main**

Range of product	Interface for discrete signals
Product or component type	Slim solid state output interface module
Contacts type and composition	1 NC
[Uc] control circuit voltage	24 V
Control circuit type	DC
Maximum [In] rated current	13.6 mA
Reverse polarity protection	Control circuit: internal Output circuit: internal
Short-circuit protection	3.15 A external fuse fast blow (Ik <= 1 kA AC and Ik <= 100 A DC)
[Ith] conventional free air thermal current	3 A at 40 °C
Local signalling	Green mechanical indicator for position of contacts and 1 green LED control signal state
Sale per indivisible quantity	1
Width pitch dimension	17.5 mm

**Complementary**

Control circuit voltage limits	28.8 V
Voltage state 1 guaranteed	16.9 V
Current state 1 guaranteed	8.3 mA
Voltage state 0 guaranteed	5.3 V
Current state 0 guaranteed	2 mA
[Ue] rated operational voltage	24...240 V
Output circuit type	AC
Rated operational voltage limits	<= 264 V
[Ie] rated operational current	1 A AC-15 vertical position, single product conforming to IEC 60947-5-1 1 A AC-15 vertical position, touching product conforming to IEC 60947-5-1 1.6 A AC-13 vertical position, single product conforming to IEC 60947-5-1 1.6 A AC-14 vertical position, single product conforming to IEC 60947-5-1 2.1 A AC-12 vertical position, single product conforming to IEC 60947-5-1 1.5 A AC-12 vertical position, touching product conforming to IEC 60947-5-1 1.5 A AC-13 vertical position, touching product conforming to IEC 60947-5-1 1.5 A AC-14 vertical position, touching product conforming to IEC 60947-5-1
Minimum switching current	10 mA
Maximum residual current	2.5 mA
Drop-out voltage	3 V 1.5 V
DV/dt	500 V/μs
0 crossing voltage	50 V peak
Response time	<= 10 ms from state 0 to state 1 at 50 Hz <= 10 ms from state 1 to state 0 at 50 Hz <= 8 ms from state 0 to state 1 at 60 Hz <= 8 ms from state 1 to state 0 at 60 Hz
Switching frequency	<= 0.7 Hz AC-13 module alone duty cycle: 40 % <= 0.7 Hz AC-14 module alone duty cycle: 40 % <= 0.7 Hz AC-15 module alone duty cycle: 40 % <= 50 Hz on resistive load duty cycle: 50 %

[Ui] rated insulation voltage	250 V conforming to VDE 0110 group C 300 V conforming to IEC 60947-1
Flame retardance	V0 conforming to UL 94
Cable cross section	0.6...2.5 Mm <sup>2</sup> , 1 or 2 wires flexible without cable end screw clamp terminal 0.27...4 Mm <sup>2</sup> , 1 wire rigid 0.34...2.5 mm <sup>2</sup> , 1 or 2 wires flexible with cable end
Operating position	Any position
Installation category	II conforming to IEC 60947-1
Mounting support	Asymmetrical DIN rail Combination rail Symmetrical DIN rail
Net weight	0.44 kg

## Environment

Dielectric strength	2500 V between wired interface and earth for 1 minute 4000 V between I/O for 1 minute
Standards	IEC 60947-5-1
Product certifications	CSA UL DNV BV LROS (Lloyds register of shipping)
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	5 gn conforming to IEC 60068-2-6 (f = 10...150 Hz)
Electromagnetic compatibility	Electromagnetic field immunity test: level 3 10 V/m between 27...1000 MHz conforming to IEC 61000-4-3 Electrostatic discharge immunity test: level 3 8 kV conforming to IEC 61000-4-2 Fast transients immunity test: level 3 on input/output 1 kV conforming to IEC 61000-4-4 Fast transients immunity test: level 3 on power supply 2 kV conforming to IEC 61000-4-4 1.2/50 µs shock waves immunity test conforming to IEC 60947-1
Ambient air temperature for operation	-25...70 °C at Us -5...55 °C unrestricted operation
Ambient air temperature for storage	-40...80 °C
Operating altitude	<= 3000 m
Pollution degree	2 conforming to IEC 60947-1

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	47 g
Package 1 Height	7.2 cm
Package 1 width	9 cm
Package 1 Length	10.8 cm
Unit Type of Package 2	BB1
Number of Units in Package 2	5
Package 2 Weight	237 g
Package 2 Height	7.2 cm
Package 2 width	9 cm
Package 2 Length	10.8 cm
Unit Type of Package 3	S01
Number of Units in Package 3	25
Package 3 Weight	1.375 kg
Package 3 Height	15 cm
Package 3 width	15 cm
Package 3 Length	40 cm

## Offer Sustainability

REACH Regulation	<input checked="" type="checkbox"/> REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <input checked="" type="checkbox"/> EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	<input checked="" type="checkbox"/> Yes
China RoHS Regulation	<input checked="" type="checkbox"/> China RoHS Declaration

## Contractual warranty

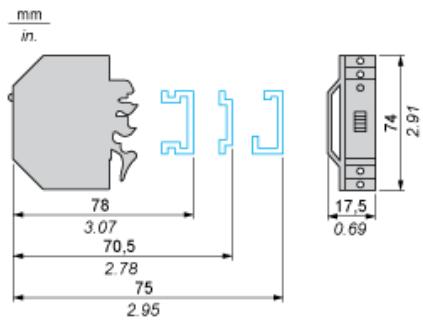
Warranty	18 months
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Slim Solid-State Interface Module

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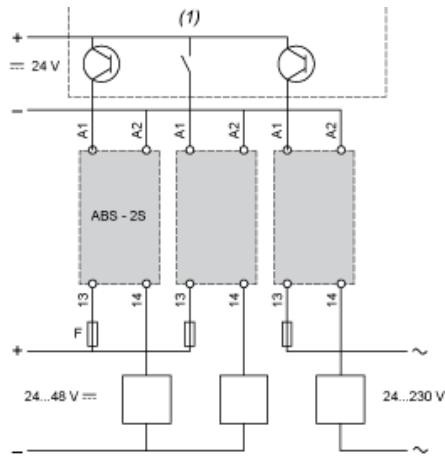
Dimensions



**Slim Solid-State Interface Module**

**Example of Application with PLC**

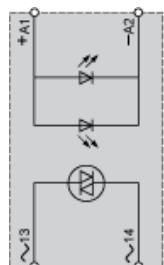
Interfacing PLC discrete outputs



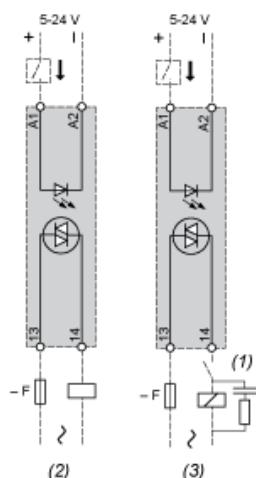
(1) PLC positive logic transistor (or relay) outputs

**Solid-State Output Module**

**Circuit Diagram**



**Wiring Diagrams**



F fuse DF1 SS133.2

(1) or peak limiter

(2) Resistive load

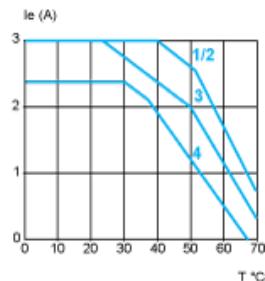
(3) Inductive load

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Temperature Derating Curves -  $U_c = U_s = 24$  V

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AC Loads



- (1) Vertical module alone or adjacent to modules with low heat dissipation
- (2) Horizontal module alone or adjacent to modules with low heat dissipation
- (3) Vertical module mounted with 2 modules with identical heat dissipation on both sides
- (4) Horizontal module mounted with 2 modules with identical heat dissipation on both sides

NOTE:  $T$  °C is the ambient temperature.