



## 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                                                                                       |
| Line Rated Current                          | <= 13.6 mA                                                                               |
| Reverse polarity protection                 | Internal control circuit<br>Internal output circuit                                      |
| 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 Aat 104 °F (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                       | 0.69 in (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<br>1 A AC-15 vertical position, touching product conforming to IEC 60947-5-1<br>1.6 A AC-13 vertical position, single product conforming to IEC 60947-5-1<br>1.6 A AC-14 vertical position, single product conforming to IEC 60947-5-1<br>2.1 A AC-12 vertical position, single product conforming to IEC 60947-5-1<br>1.5 A AC-12 vertical position, touching product conforming to IEC 60947-5-1<br>1.5 A AC-13 vertical position, touching product conforming to IEC 60947-5-1<br>1.5 A AC-14 vertical position, touching product conforming to IEC 60947-5-1 |
| Minimum switching current        | 10 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Residual current                 | <= 2.5 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Drop-out voltage                 | <= 3 V Ie >= 10 mA<br><= 1.5 V Ie >= 100 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DV/dt                            | 500 V/μs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0 crossing voltage               | 50 V peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Response time                    | <= 10 ms from state 0 to state 1at 50 Hz<br><= 10 ms from state 1 to state 0at 50 Hz<br><= 8 ms from state 0 to state 1at 60 Hz<br><= 8 ms from state 1 to state 0at 60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Switching frequency              | <= 0.7 Hz AC-13 module alone duty cycle: 40 %<br><= 0.7 Hz AC-14 module alone duty cycle: 40 %<br><= 0.7 Hz AC-15 module alone duty cycle: 40 %<br><= 50 Hz on resistive load duty cycle: 50 %                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| [Ui] rated insulation voltage    | 250 V conforming to VDE 0110 group C<br>300 V conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Flame retardance                 | V0 conforming to UL 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Cable cross section              | 0...0.01 in <sup>2</sup> (0.27...4 mm <sup>2</sup> ), 1 wire rigid<br>0...0 in <sup>2</sup> (0.34...2.5 mm <sup>2</sup> ), 1 or 2 wires flexible with cable end<br>0...0 in <sup>2</sup> (0.6...2.5 mm <sup>2</sup> ), 1 or 2 wires flexible without cable end screw clamp terminal                                                                                                                                                                                                                                                                                                                                                      |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| 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        | 0.97 lb(US) (0.44 kg)                                             |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dielectric strength                   | 2500 V between wired interface and earth for 1 minute<br>4000 V between I/O for 1 minute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 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                       | 1760 °F (960 °C) conforming to IEC 60695-2-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| shock resistance                      | 30 gn 11 ms conforming to IEC 60068-2-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| vibration resistance                  | 5 gn (f = 10...150 Hz) conforming to IEC 60068-2-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| electromagnetic compatibility         | 1.2/50 µs shock waves immunity test, 0.5 kV for U < 50 V conforming to IEC 60947-1<br>1.2/50 µs shock waves immunity test, 1.5 kV for U < 150 V conforming to IEC 60947-1<br>1.2/50 µs shock waves immunity test, 2.5 kV for U < 300 V conforming to IEC 60947-1<br>Electromagnetic field immunity test level 3, 10 V/m between 27...1000 MHz conforming to IEC 61000-4-3<br>Electrostatic discharge immunity test level 3, 8 kV conforming to IEC 61000-4-2<br>Fast transients immunity test level 3, on input/output 1 kV conforming to IEC 61000-4-4<br>Fast transients immunity test level 3, on power supply 2 kV conforming to IEC 61000-4-4 |
| ambient air temperature for operation | -13...158 °F (-25...70 °C) at Us<br>23...131 °F (-5...55 °C) unrestricted operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ambient air temperature for storage   | -40...176 °F (-40...80 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| operating altitude                    | <= 9842.52 ft (3000 m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| pollution degree                      | 2 conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Offer Sustainability

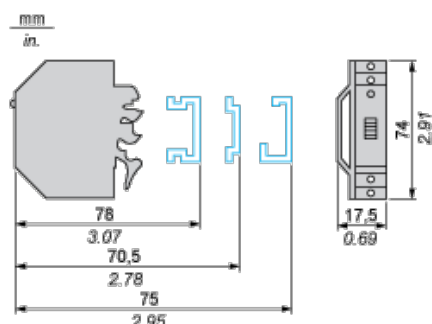
|                                                                                                                                  |                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| WARNING: This product can expose you to chemicals including:                                                                     | 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. | 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>                                    | For more information go to <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>                                    |

## Contractual warranty

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

## Slim Solid-State Interface Module

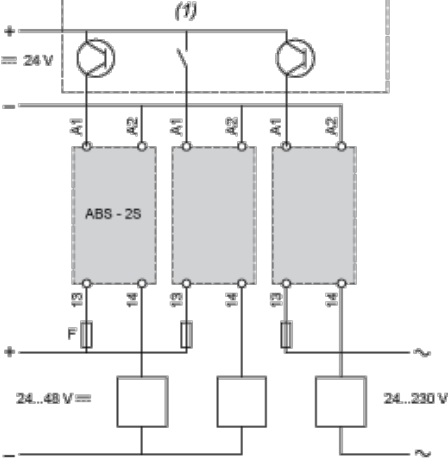
### Dimensions



## Slim Solid-State Interface Module

### Example of Application with PLC

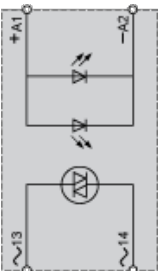
Interfacing PLC discrete outputs



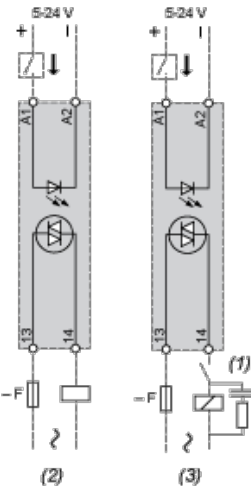
(1) PLC positive logic transistor (or relay) outputs

## Solid-State Output Module

### Circuit Diagram



### Wiring Diagrams



F fuse DF1 SS133.2

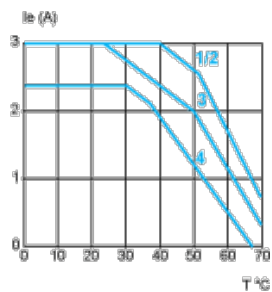
(1) or peak limiter

(2) Resistive load

(3) Inductive load

## Temperature Derating Curves - $U_c = U_s = 24\text{ V}$

### 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.