

# DIS880

## Compact Product Suite hardware selector



Select I/O is an Ethernet networked, single-channel granular I/O system for the ABB Ability™ System 800xA automation platform. Select I/O helps decouple project tasks, minimizes the impact of late changes, and supports standardization of I/O cabinetry ensuring automation projects are delivered on time and under budget. A Signal Conditioning Module (SCM) performs the necessary signal conditioning and powering of the connected field device for one I/O channel.

The DIS880 is a Digital Input 24V Signal Conditioning Module for use in High Integrity applications (certified for SIL3) supporting 2/3/4-wire devices with Sequence of Events (SOE).

### Features and benefits

- Digital input for 2-wire, 3-wire and externally powered 4-wire field devices
- Can be used in hazardous areas
- Field device power output current limited to 30 mA
- Channel to channel galvanic isolation
- Configurable software signal filter 0...100 ms
- Protected against wrong wiring
- Diagnostics:
  - Loop supervision (open circuit and short circuit)
  - Hardware error supervision
  - Communication supervision
  - Internal power supervision
- Sequence of Events (SoE)
- DIS880 supports both Normally Open (NO) and Normally Closed (NC) 24 V loops and both will confirm to SIL3.
- Single loop granularity - each SCM handles a single channel
- Supports hot swap
- Mechanical locking slider which turns off field device power and/or output before removal
- Field disconnect function which can galvanically separate the field loop wiring from the SCM during commissioning and maintenance
- All SCMs have electronic current limitation
- Mechanical keying to prevent insertion of wrong module type after commissioning
- 24V DC powered through Modulebus
- Configurable through parameters
- LED indicators on the SCM indicate the operational state of the module
- Certified for SIL3

**General info**

|                      |                             |
|----------------------|-----------------------------|
| Article number       | 3BSE074057R1                |
| Type                 | Digital Input Module - SIL3 |
| Number of channels   | 1                           |
| Signal specification | 24V DC                      |
| HART                 | N/A                         |
| SOE                  | Yes                         |
| Redundancy           | Yes                         |
| Hot swap             | Yes                         |
| High integrity       | Yes                         |
| Intrinsic safety     | No                          |
| Mechanics            | Select I/O                  |

**Detailed data**

|  |   |
|--|---|
| Supported field devices                  | 2-wire, 3-wire and 4-wire sensors (dry contacts and proximity switches, external power required for 4-wire devices)                           |
| Isolation                                | Galvanic isolation to system and between each channel (including field power).<br>Routine tested at factory with 3060 VDC.                    |
| Field power                              | Current limited to 30 mA  |
| Diagnostics                              | Loop supervision (short circuit and open circuit)<br>Internal hardware supervision<br>Communication supervision<br>Internal power supervision |
| Calibration                              | Factory calibration   |
| Power dissipation                        | 0.55 W  |
| Installation in Hazardous Area/Locations | Yes/Yes   |
| IS barrier                               | No  |
| Field Input Robustness                   | ±35 V between all terminals   |
| Input voltage range                      | 19.2 ... 30 V   |

| <b>Environment and certification</b> |  |
|--------------------------------------|--|
| Temperature, Operating               | -40 °C (-40 °F) to +70 °C (158 °F)   |
| Temperature, Storage                 | -40 °C (-40 °F) to +85 °C (185 °F)   |
| Pollution degree                     | Pollution Degree 2 acc. to, IEC 60664-1  |
| Relative humidity                    | 5 to 95 %, non-condensing  |
| Altitude                             | -1000 to 5000 m (restrictions apply)   |
| Mechanical operating conditions      | IEC 61131-2  |
| EMC                                  | IEC/EN 61000-6-4, IEC/EN 61000-6-2   |
| Overvoltage categories               | Category II acc. to IEC 60664-1  |
| Protection class                     | IP20 acc. to IEC 60529   |
| CE-marking                           | Yes  |
| UKCA                                 | Yes  |
| Electrical Safety                    | IEC/EN 61010-1<br>UL 61010-1<br>CSA-C22.2 No. 61010-1-12<br>IEC/EN 61010-2-201<br>UL 61010-2-201<br>CSA C22.2 No. 61010-2-201  |
| Marine certification                 | DNV, ABS   |
| Corrosive atmosphere                 | G3   |
| RoHS compliance                      | EU RoHS, UAE RoHS, CN RoHS   |
| WEEE compliance                      | EU   |
| Hazardous Area ATEX                  | II 3G Ex nA IIC T4 Gc<br>II 3G Ex ec IIC T4 Gc<br>II 3G Ex ic nA IIC T4 Gc<br>II 3G Ex ic ec IIC T4 Gc   |
| Hazardous Area IECEx                 | Available on IPA:<br>II 3G Ex nA IIC T4 Gc<br>II 3G Ex ec IIC T4 Gc<br>II 3G Ex ic nA IIC T4 Gc<br>II 3G Ex ic ec IIC T4 Gc  |
| Hazardous Location US/CAN            | cULus<br>CL I, ZN 2, AEx ec IIC T4 Gc, Ex ec IIC T4 Gc X<br>CL I, ZN 2, AEx nA IIC T4 Gc, Ex nA IIC T4 Gc X<br>Non-incendive use for<br>CL I, DIV 2, Groups A-D T4   |
| Hazardous Area CCC                   | Ex ec IIC T4 Gc<br>Ex ec ic IIC T4 Gc  |
| Functional Safety                    | IEC 61508 Ed. 2, SIL 1-3<br>IEC 61511-1<br>IEC 62061<br>IEC 61131-2, IEC 61131-6<br>IEC 60204-1<br>NFPA 72, NFPA 79, NFPA 85, NFPA 86<br>EN ISO 14118<br>EN 50156-1<br>EN 298<br>EN 54-2, EN 54-2 A1<br>EN ISO 13850 |

| <b>Dimensions</b>       |         |
|-------------------------|---------|
| Width                   | 77.9 mm |
| Depth                   | 105 mm  |
| Height                  | 9.8 mm  |
| Weight (including base) | 73 g    |

—  
[solutions.abb/compactproductsuite](https://solutions.abb/compactproductsuite)  
[solutions.abb/controlsystems](https://solutions.abb/controlsystems)

—  
We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2024 ABB All rights reserved