

# DOS885

## 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 DOS885 is a Digital Output (24V / 3A) Signal Conditioning Module for use in High Integrity applications (certified for SIL3) supporting 2-wire devices such as solenoids, horns, and beacons.

## Features and benefits

- Digital output for 2-wire field devices
- 24 V/3 A current sourcing
- Can be used in hazardous areas
- Certified for Functional safety
- Field power sourced from the power injection
- Short circuit proof, electronically current limited to 3 A
- Built-in inductive load suppression, free-wheeling diode
- Galvanic isolation
- Protected against wrong wiring
- Diagnostics:
  - Loop supervision (open circuit and short circuit)
  - Hardware error supervision
  - Communication supervision
  - Internal power supervision
  - Power injection supervision
- 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       | 3BSE074061R1                  |
| Type                 | Digital Output Module - SIL 3 |
| Number of channels   | 1                             |
| Signal specification | 24 V DC / 3 A                 |
| HART                 | N/A                           |
| SOE                  | N/A                           |
| Redundancy           | Yes                           |
| Hot swap             | Yes                           |
| High integrity       | Yes                           |
| Intrinsic safety     | No                            |
| Mechanics            | Select I/O                    |

| Detailed data                                 |  |
|---|--|
| Supported field devices                       | 2-wire Solenoids, Horns and Beacons  |
| Isolation                                     | Galvanic isolation to system.<br>Routine tested at factory with 3060 VDC.  |
| Field power                                   | Current limited  |
| Diagnostics                                   | Loop supervision (short circuit and open circuit)<br>Internal hardware supervision<br>Communication supervision<br>Internal power supervision<br>Power injection supervision |
| Calibration                                   | Factory calibration  |
| Power dissipation                             | 0.61 W   |
| Installation in Hazardous Area/Locations      | Yes/Yes  |
| IS barrier                                    | No   |
| Output load. Max inductor time constant (L/R) | 8 - 5000 Ω, 10 ms  |
| Field Input Robustness                        | ±35 V between all terminals  |
| Input voltage range                           | 19.2 ... 30 V  |

| Environment and certification   |  |
|---------------------------------|--|
| 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-condensation  |
| 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>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 |

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

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