

AIS885

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 AIS885 is an Analog Input Signal Conditioning Module (16-bit) for use in High Integrity applications (certified for SIL3) supporting 2/3/4-wire devices (1.2 amp) and HART communications.

Features and benefits

- Analog input for 2-wire, 3-wire or 4-wire field devices, powered by AIS885
- Signal range: 4...20 mA
- Can be used in hazardous areas
- Certified for Functional safety
- Field power sourced from the power injection
- Short circuit proof, configurable current limit 0.1 to 1.2 A
- Transmitter power current limited to 25 mA (for 2-wire field devices; input current limitation for SCM pin 2)
- 16 bit A/D converter resolution
- Galvanic isolation
- Protected against wrong wiring (± 35 V) between all terminals
- Hardware filter, rise time 1 ms
- Software filter configurable through parameters
- Diagnostics:
 - Loop supervision (open circuit and short circuit)
 - Internal hardware supervision
 - Communication supervision
 - Device malfunction low, under range, over range and device malfunction high detection
 - Internal power supervision
 - Power injection supervision
- LED indicators:
 - Status (S)
 - Primary (P)
- 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.

| General info | |
|---------------------------|--|
| Article number | 3BSE080108R1 |
| Type | Analog Input Module, SIL3 |
| Number of channels | 1 |
| Signal specification | 4...20 mA 1.2 A field power |
| HART | Yes |
| Detailed HART information | HART v7, HART pass-through and HART variables to the application |
| 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 (loop powered transmitters), 3-wire (transmitters powered by SCM), 4-wire (transmitters powered by SCM) |
| Isolation | Galvanic isolation to system. Routine tested at factory with 3060 V DC. |
| Field power | Current limited (configurable) |
| Accuracy | 0.1 % |
| Resolution | 16 bit A/D converter |
| Diagnostics | Loop supervision (open circuit and short circuit) Device malfunction low, under range, over range, and device malfunction high Internal hardware supervision Communication supervision Internal power supervision Power injection supervision |
| Calibration | Factory calibration |
| Power dissipation | 0.65 W |
| Installation in Hazardous Area/Locations | Yes/Yes (on IPA) |
| IS barrier | No |
| Field Input Robustness | ±35 V between all terminals |
| Input voltage range | 19.2...30 V |
| Input impedance | 250 ohm |

| 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 UL 61010-1 CSA-C22.2 No. 61010-1-12 IEC/EN 61010-2-201 UL 61010-2-201 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 ec IIC T4 Gc |
| Hazardous Area IECEx | Available on IPA: II 3G Ex ec IIC T4 Gc |
| Hazardous Location US/CAN | Available on IPA: cULus CL I, ZN 2, AEx ec IIC T4 Gc, Ex ec IIC T4 Gc X CL I, DIV 2, Groups A-D T4 |
| Hazardous Area CCC | Ex ec IIC T4 Gc |
| Functional Safety | IEC 61508 Ed. 2, SIL 1-3 IEC 61511-1 IEC 62061 IEC 61131-2, IEC 61131-6 IEC 60204-1 NFPA 72, NFPA 79, NFPA 85, NFPA 86 EN ISO 14118 EN 50156-1 EN 298 EN 54-2, EN 54-2 A1 EN ISO 13850 |

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

**solutions.abb/compactproductsuite
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