AIS885
ABB Ability™ System 800xA® 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 62004-1 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

ABB

—
solutions.abb/800xA
solutions.abb/controlsystems