

AOS810

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 AOS810 is an Analog Output Signal Conditioning Module (16-bit) supporting 2-wire devices and HART communication.

Features and benefits

- Analog output for 2-wire field devices
- Signal range: 0...20 mA or 4...20 mA
- Can be used in hazardous areas
- 16 bit D/A converter
- Channel to channel galvanic isolation
- Configurable output rise/fall times (down to 1 ms; with HART down to 20 ms)
- Protected against wrong wiring
- Diagnostics:
 - Loop supervision (open circuit and short circuit)
 - Hardware error supervision
 - Communication supervision
 - Internal power supervision
- Support of HART field devices (up to HART application layer rev. 7):
 - HART Pass-Through
 - Cyclic read of up to two HART Device Variables
 - HART Device Validation
- OSP (Output Set to Predetermined value)
- 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	3BSE078764R1
Type	Analog Output Module
Number of channels	1
Signal specification	4...20 mA 0...20 mA
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	No
Intrinsic safety	No
Mechanics	Select I/O

Detailed data

Supported field devices	2-wire
Isolation	Galvanic isolation to system and between each channel (including field power). Routine tested at factory with 3060 VDC.
Field power	Current limited
Accuracy	0.1 %
Resolution	16-bit D/A converter
Diagnostics	Loop supervision (short circuit and open circuit) Internal hardware supervision Communication supervision Internal power supervision
Calibration	Factory calibration
Power dissipation	0.6 W (at 20 mA and 750 Ω load)
Installation in Hazardous Area/Locations	Yes/Yes
IS barrier	No
Output load. Max inductor time constant (L/R)	Supported load range: 50..750 ohm at 23mA, 50..863 ohm at 20mA
Field Input Robustness	±35 V between all terminals

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
Overtoltage 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 nA IIC T4 Gc II 3G Ex ec IIC T4 Gc II 3G Ex ic nA IIC T4 Gc II 3G Ex ic ec IIC T4 Gc
Hazardous Area IECEx	Available on IPA: II 3G Ex nA IIC T4 Gc II 3G Ex ec IIC T4 Gc II 3G Ex ic nA IIC T4 Gc II 3G Ex ic ec IIC T4 Gc
Hazardous Location US/CAN	cULus CL I, ZN 2, AEx ec IIC T4 Gc, Ex ec IIC T4 Gc X CL I, ZN 2, AEx nA IIC T4 Gc, Ex nA IIC T4 Gc X Non-incendive use for CL I, DIV 2, Groups A-D T4
Hazardous Area CCC	Ex ec IIC T4 Gc Ex ec ic IIC T4 Gc

Dimensions

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

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