ABB ABB Series Service Manual

DOS810

1. Description

ABB DOS810 3BSE078768R1 Digital Output Module

3. Product Information

ABB DOS810 3BSE078768R1 Digital Output Module

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 DOS810 is a Digital Output (24V / 0.6A) Signal Conditioning Module supporting 2-wire devices.

Features and benefits

Digital output for 2-wire field devices

24 V / 0.6 A current sourcing

Can be used in hazardous areas

Field power sourced from the power injection

Short circuit proof, electronically current limited to 0.6 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

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 3BSE078768R1

Type Digital Output Module

Number of channels 1

Signal specification 24 V DC / 0.6 A

HART N/A

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.

Routine tested at factory with 3060 VDC.

Field power Current limited

Diagnostics Loop supervision (short circuit and open circuit)

Internal hardware supervision

Communication supervision

Internal power supervision

Power injection supervision

Calibration Factory calibration

Power dissipation 0.36 W

Installation in Hazardous Area/Locations Yes/Yes

IS barrier No

Output load. Max inductor time constant (L/R) 40 - 5000 Ω, 50 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-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

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

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