ABB ABB Series Service Manual

CI845

1. Description

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.

3. Product Information

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The CI845 Ethernet Fieldbus Communication Interface Module (FCI) is responsible for communications of S800 I/O or Select I/O to the AC 800M controllers. For redundant configurations, two CI845s are required to be installed in the TU860 or TU865 Ethernet Field Communications Interface MTUs.

System 800xA offers flexible and modular I/O solutions through fieldbus technologies, wireless I/O and hardwired I/O systems like S800 and S900. The system is now enhanced with Select I/O that allows to condition each signal coming from the field individually. Select I/O is Ethernet connected and consists of single channel granular Signal Conditioning Modules (SCM).

Features and benefits

Can be used as single or redundant

Supports both Select I/O and S800 on Ethernet

Supports 12 single or 12 redundant S800 I/O modules

Supports up to 192 Select I/O channels

Possible to use with single or redundant 24V power supplies

Built-in power voting

Built-in supervision of power supply A and power supply B

Built-in cabinet temperature measurement

Built-in diagnostics

Soft marshalling

Optimized engineering

HART v7, HART pass-through

HART variables to the application (Select I/O)

Sequense of Events

Supports hot swap

Can be used in hazardous area

Mechanical locking slider which turns off power before removal

Mechanical keying

LED indicators

General info

Article number 3BSE075853R1

Communication protocol Ethernet

Type Ethernet FCI Module

Master or slave Slave

HART Yes

SOE Yes

Redundancy Yes

Hot swap Yes

High integrity N/A

Intrinsic safety N/A

Mechanics Select I/O

Detailed data

Isolation Galvanic isolation between power supply and I/O modules

Diagnostics Internal hardware supervision

Communication supervision

Internal power supervision

Supervision of incoming system power A and B

Cabinet temperature supervision

Power dissipation 5 W

Installation in Hazardous Area/Locations Yes/Yes

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

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 30 mm

Depth 121.7 mm

Height 135 mm

Weight (including base) 225 g