ABB ABB Series Service Manual

DO840

1. Description

This module has 16 digital outputs. The maximum continuous output current per channel is 0.5 A. The outputs are current limited and protected against over temperature. The outputs are divided into two groups with eight output channels and one voltage supervision input in each group. Each output channel consists of a current limited and over temperature protected high side driver, EMC protection components, inductive load suppression, output state indication LED and optical isolation barrier.

3. Product Information

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Features and benefits

16 channels for 24 V d.c. current sourcing outputs

2 isolated groups of 8 channels with process voltage supervision

Advanced on-board diagnostics

Output status indicators

OSP sets outputs to predetermined state upon error detection

Redundant or single applications

Current limited and over-temperature protection

MTUs that match this product

,

TU810V1

General info

Article number 3BSE020838R1

Type Digital Output

Signal specification 24 V d.c. (19.2 - 32 V d.c.), 0.5 A

Number of channels 16

Signal type Current sourcing, current limiting

HART No

SOE No

Redundancy Yes

High integrity No

Intrinsic safety No

Mechanics S800

Detailed data

Isolation Groupwise isolated from ground

Current limiting Short circuit proof current limited output

Maximum field cable length 600 meters (656 yards)

Rated insulation voltage 50 V

Dielectric test voltage 500 V a.c.

Power dissipation Typ. 4.3 W

Current consumption +5 V Modulebus 130 mA

Current consumption +24 V Modulebus 0

Current consumption +24 V external 200 mA

Diagnostics

Front LED's F(ault), R(un), W(arning), O(SP), Channel 1-16 Status

Supervision Process power 1 per group

Status indication of supervision Module Error, Module Warning, Channel error

Environment and certification

CE mark Yes

Electrical safety EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201

Hazardous Location C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2

Marine certification DNV

Temperature, Operating 0 to +55 °C (+32 to +131 °F), approvals are issued for +5 to +55 °C

Temperature, Storage -40 to +70 °C (-40 to +158 °F)

Pollution degree Degree 2, IEC 60664-1

Corrosion protection ISA-S71.04: G3

Relative humidity 5 to 95 %, non-condensing

Max ambient temperature 55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F)

Protection class IP20 according to IEC 60529

Mechanical operating conditions IEC/EN 61131-2

EMC EN 61000-6-4, EN 61000-6-2

Overvoltage categories IEC/EN 60664-1, EN 50178

Equipment class Class I according to IEC 61140; (earth protected)

RoHS compliance DIRECTIVE/2011/65/EN (EN 50581:2012)

WEEE compliance DIRECTIVE/2012/19/EU

Compatibility

Use with MTU TU810, TU812, TU814, TU830, TU833, TU842, TU843, TU852

Keying code CE

Dimensions

Width 45 mm (1.77”)

Depth 102 mm (4.01”), 111 mm (4.37”) including connector

Height 119 mm (4.7”)

Weight 0.15 kg (0.33 lbs.)