ABB ABB Series Service Manual

SS823

1. Description

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3. Product Information

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The Voting Unit separates the redundant Power Supply Units, supervises the voltage supplied, and generates supervision signals to be connected to the power consumer. Green LED’s, mounted on the front panel of the voting unit, provide a visual indication that the correct output voltage is being delivered. Simultaneously with the green LED illuminating, a voltage-free contact closes the path to the corresponding “OK connector”. Voting Unit trip levels are factory preset.

The AC 800M High Integrity and the connected S880 High Integrity I/O system (including field power) shall be supplied from a SELV or PELV power supply (e.g. SD83x) connected through the power voter SS823. The SS823 Voting Unit has a double overvoltage protection circuit on input.

The Voting Units SS822Z, SS823 and SS833 have been specifically designed to be employed as a control unit within a redundant power supply configuration. The output connections from two Power Supply Units are connected to the Voting Unit.

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The AC 800M High Integrity and the connected S880 High Integrity I/O system (including field power) shall be supplied from a SELV or PELV power supply (e.g. SD83x) connected through the power voter SS823. The SS823 Voting Unit has a double overvoltage protection circuit on both inputs. It is also able to detect both short and open circuits in the voting element.

Features and benefits

Simple DIN-rail mounting

Class I Equipment, (when connected to Protective Earth, (PE))

Over-voltage Category III for connection to primary main

TN network

Protective separation of the secondary circuit from the primary circuit

Accepted for SELV and PELV applications

The output of the units is protected against over current

(current limit) and over-voltage (OVP)

Certified for SIL3 according to IEC 61508

The SS823 unit is also G3 compliant

General info

Article number 3BSE038226R1

Type Voter and Over Voltage Protection

Rated output current 20 A

Rated output power -

Rated output voltage -

Rated input power 500 W

Mains/input voltage, nominal 1x24 V d.c.

Applications -

Efficiency -

High integrity Yes

Detailed data

Mains voltage variation allowed -

Mains frequency 60 V d.c.

Primary peak inrush current at power on -

Load sharing Yes

Supervision relay Yes

Power Factor (at rated output power) -

Heat dissipation 24 W at 20 A and 6 W at 5 A

Output voltage regulation at max. current 1.2 V lower than input

Ripple (peak to peak) -

Secondary voltage holdup time at mains blackout -

Maximum output current 35 A (Overload)

Maximum ambient temperature 55 °C

Primary: Recommended external fuse -

Secondary: Short circuit -

Output over voltage protection < 30 V

Environment and certification

CE mark Yes

Electrical safety IEC 61131-2, EN 50178

ATEX Zone 2 Yes

IECEx Zone 2 No

Hazardous Location, Class 1 Div 2 No

Hazardous Location ATEX Zone 2

Marine certification ABS, BV, DNV-GL, LR

Protection rating IP20 according to IEC 60529

Corrosive atmosphere ISA-S71.04 G3

Pollution degree Degree 2, IEC 60664-1

Mechanical operating conditions IEC 61131-2

EMC EN 61000-6-4 and EN 61000-6-2

Overvoltage Categories -

Equipment class Class 1 according to EN 50718; 3.56

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

WEEE compliance DIRECTIVE/2012/19/EU

Dimensions

Width 116 mm(4.6")

Depth 145 mm (5.8") including connector

Height 132 mm (5.3")

Weight (lbs.) 870 g (1.9 lbs.)

Mounting spacing W mm 15 mm (0.59")

Mounting spacing H mm 30 mm (1.2")