ABB ABB Series Service Manual

SD831

1. Description

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3. Product Information

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The secondary output circuitry is accepted for SELV or PELV applications. They are switch-mode Power Supply Units that convert the mains voltage to 24 volts d.c. These power supplies can be utilized for non-redundant and redundant applications.

Redundant applications require diode voting units SS823 or SS832. The SD831 Power Supply Units, It is no requirement for the installation of a mains filter. It provide a soft start feature; power-on of an SD831 will not trip fuse or earth-fault circuit breaker.

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 secondary circuit from primary circuit

Accepted for SELV and PELV applications

The output of the units is protected against over current

(current limit) and over-voltage (OVP)

Both a.c. and d.c. input at SD831 and SD834

General info

Article number 3BSC610064R1

Type Power supply

Rated output current 3 A

Rated output power 72 W

Rated output voltage d.c. 24 V

Rated input power 134/143 VA

Mains/input voltage, nominal 100-240 V a.c. 110-300 V d.c.

Applications SELV and PELV

Efficiency 88/89.8 %

Detailed data

Mains voltage variation allowed 100-240 V a.c. +-10 %. 110-300 V d.c. -20 % / +25 %

Mains frequency 50-60 Hz +-6 %

Primary peak inrush current at power on <28/<54 A

Load sharing -

Supervision relay No

Power Factor (at rated output power) 0.61/0.56

Heat dissipation 10/8 W

Output voltage regulation at max. current < 50 mV / < 100 mV

Ripple (peak to peak) < 50 mV

Secondary voltage holdup time at mains blackout 29/120 ms

Maximum output current 3.3 A

Maximum ambient temperature 55 °C

Primary: Recommended external fuse 10-20 A

Secondary: Short circuit 4-8 A

Output over voltage protection < 39 V

Environment and certification

CE mark Yes

Electrical safety IEC 61131-2, UL 508, EN 50178

ATEX Zone 2 No

IECEx Zone 2 No

Hazardous Location, Class 1 Div 2 No

Marine certification ABS, BV, DNV-GL, LR

Protection rating IP20 according to IEC 60529

Corrosive atmosphere ISA-S71.04 G2

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 Over-voltage Category III (IEC/EN 60664-1)

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 32 mm (1.26")

Depth 102 mm (4.02")

Height 124 mm (4.88")

Weight (lbs.) 430 g (0.9 lbs.)

Mounting spacing W mm 15 mm (0.59")

Mounting spacing H mm 40 mm (1.57")