

DATA SHEET

SD853

Freelance hardware selector



The SD85x Power supply units are designed for high efficiency, electronic inrush current limitation, wide operating temperature range, and extraordinarily small size. The lowest power losses and high lifetime expectancy deliver the lowest cost of ownership.

The SD85x series complies for use in potentially explosive atmospheres (IECEx Zone 2, ATEX Zone 2, and Class I Div 2). The SD85x series has a built-in power reserve and can easy breaking fuses due to high overload peak current capability.

Features and benefits

- DIN-rail mounting, Width 39 mm
- Efficiency up to 95.2 %
- 20% Output Power Reserves
- Easy Fuse Breaking due to High Overload Peak Current
- Active Power Factor Correction (PFC)
- Minimal Inrush Current Surge
- Temperature range -25°C and +70°C (derating 6W / °C between 60°C 70°C)
- DC-OK Relay Contact
- Class I Div 2, IECEx Zone 2 and ATEX Zone 2

General info		
Article number	3BSE088188R1	
Туре	Power supply	
Rated output current	10 A	
Rated output power	240 W	
Rated output voltage	24 V d.c.	
Mains/input voltage, nominal	100-240 V a.c. 110-150 V d.c.	
Applications	SELV and PELV	
Efficiency	93.6/95.2 % @ 120/230 V a.c.	

Detailed data		
Mains frequency	50 - 60 HZ +/- 6%	
Load sharing	Parallel connection	
Supervision relay	Yes	
Power Factor (at rated output power)	0.99/0.97	
Heat dissipation	16.4 W / 12.1 W, 120/230 V a.c.	
Output voltage regulation at max. current	max 50 mV 0 - 12 A	
Maximum ambient temperature	70 °C	
Primary: Recommended external fuse	10-20 A	
Secondary: Short circuit	Hiccup (2s on 18s off)	
Output over voltage protection	Max 32 V DC	
AC input current	2.15 / 1.13 A	
AC inrush current	6 A / 9 A peak	

Environment and certification		
CE mark	Yes	
Electrical safety	IEC 60950-1	
ATEX Zone 2	Yes	
IECEx Zone 2	Yes	
Hazardous Location, Class 1 Div 2	Yes	
Hazardous Location	ATEX Zone 2: EN 60079-0, EN60079-15; IECEx Zone 2: IEC 60079-0, IEC 60079-15; CSA Class I Div 2, Groups A, B, C D T4: ANSI/ISA 12.12.01-2015, C22.2 No. 213-M1987	
Marine certification	DNV-GL, ABS	
Protection rating	IP20 according to IEC 60529	
Corrosive atmosphere ISA-S71.04	G3	
Pollution degree	Degree 2, IEC 62477-1	
Mechanical operating conditions	IEC 61131-2	
EMC	EN 61000-6-4 and EN 61000-6-2	
Overvoltage Categories	Category III (IEC 62477-1 for altitudes up to 2000 m)	
Equipment class	I PE (Protection Earth) connection required	
Max ambient temperature	-25 °C (-13 °F) to +70 °C (158 °F), derating 6W / °C between 60 °C - 70 °C	
RoHS compliance	DIRECTIVE/2011/65/EU (EN 50581:2012)	
WEEE compliance	DIRECTIVE/2012/19/EU	

Dimensions		
Width	39 mm (1.53")	
Depth	117 mm (4.60")	
Height	124 mm (4.88")	
Weight (lbs.)	600 g (1.32 lbs.)	
Mounting spacing W mm	15 mm (0.59")	
Mounting spacing H mm	40 mm (1.57")	



solutions.abb/freelance solutions.abb/controlsystems

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2025 ABB All rights reserved