



45ACDR_S3 Series

45W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated Industrial DIN Rail Power Supply

AC-DC Converter 45 Watt

- ⊕ High efficiency up to 89%
- ⊕ Universal AC input range (90~264VAC)
- ⊕ Suitable for critical applications
- ⊕ Cooling by free air convection
- ⊕ Over voltage protection
- ⊕ Over current protection
- ⊕ Short circuit protection (SCP)
- ⊕ 100% full load burn-in test
- ⊕ Wide operating ambient temperature (-25°C~70°C)

The 45ACDR_S3 series features standard rail mounting, energy efficiency and is highly cost-effective. The series offers stability and high noise immunity especially for industrial control equipment, machinery and other demanding environments for industrial equipment. This converter offers a compact and light weight design with standard rail installation (32mm). Furthermore this series offers Easy Fuse Tripping due and a built-in DC OK relay contact. The converter can be installed on TS-35/7.5 or TS-35/15.



Common specifications

Short circuit protection:	Long-term mode, automatic recovery
Temperature rise at full load:	40°C MAX
Cooling:	Free air convection
Operation temperature range:	-20°C~+70°C (with derating)
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	< 95%
Temperature coefficient:	0.03%/°C MAX
MTBF (using MIL-HDBK-217F):	+25°C >200,000 hours
Safety standards:	Designed to meet the following: UL8750, UL1310-2, EN61347, EN61547
Reliability/Burn-in test:	230VAC (50Hz) input voltage applied to the power supply. Full load is applied on the product in a 40+/-5 degrees Environment in a burn-in room for 4 hours
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions:	126*102*34mm (L*W*H)
Weight:	0.31kg

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Withstand voltage*	• Primary-Sec. ≤10mA	3000			VAC
	• Primary-PG ≤10mA	1500			
	• Secondary-PG ≤10mA	500			
Isolation resistance		10			MΩ

* Input-Output, tested for 1 minute, 500VDC and leakage current less than 1mA

Example:

45ACDR_24S3

45= 45 Watts

AC= AC/DC

DR= Din Rail

24= Vout

S= Single Output

3= 3000VAC

Note:

- All parameters NOT specially mentioned are measured at rated input, rated load and 25°C of ambient temperature.

Input specifications

Input voltage range	90~264VAC		
Input frequency	47~63Hz		
Input current	115VAC	230VAC	
	• 1.1A (max)	• 0.4A (max)	
Inrush current	Cold start	110VAC	230VAC
		• 15A (max)	• 35A (max)
Leakage current	Input—output:	<0.25mA	
	Input—PE:	<3.5mA	

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Load dynamic response	Settling time 10ms R/s 1A/us load 25%~75%full load			±5	%
Line regulation				±1	%
Load regulation				±1	%
Set-up time	115VAC/230VAC full load			2	s
Rise time	The output voltages shall rise from 10% to 90% of their output voltage.			100	ms
Hold-up time	@115VAC, full load	20			ms
Overshoot and undershoot	Power on/off			±5	%
Switching frequency			100		KHz

Note:

- Oscilloscope should be limited at 20MHz bandwidth.
- At output terminals with parallel 0.1uF ceramic and 22uF electrolytic capacitors

Protection specifications

Over-current protection	110%~150%Io constant current limiting, Reset must be need when Output Limit current to get right.
Over-voltage protection	120%~135%Vo Reset must be need when over voltage to get right. The protection time hold-up for 10 seconds or up.

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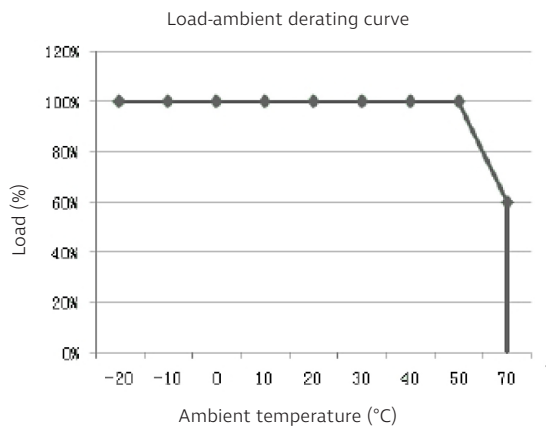
EMC specifications		
EMC / CE	Compliance to EN55015, Class B	Conducted emission Test
EMC / RE	Compliance to EN55015, Class B	Radiated emission Test
EMC / HARMONIC	Compliance to EN61000-3-2	Harmonic current emissions
EMC / ESD	Compliance to EN61000-4-2	Electrostatic Discharge: 8kV air discharge, 4kV contact discharge
EMC / RS	Compliance to EN61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EMC / EFT	Compliance to EN61000-4-4	Electrical Fast Transient / Burst-EFT±2kV
EMC / SURGE	Compliance to EN61000-4-5	Surge Immunity Test: AC Power Line: line to line 1 kV, line to earth 2 kV
EMC / CS	Compliance to EN61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EMC / DIP	Compliance to EN61000-4-11	Voltage Dips

The power supply is considered as a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

Model	Power [W]	Output [Vo, VDC]	Rated Current [A]	Current Range [A]	Ripple&Noise* [mV, max]	Efficiency [%, typ]
45ACDR_12S3	45	12	3.75	0~3.75	100	85
45ACDR_24S3	45	24	2	0~2	120	87
45ACDR_48S3	45	48	1	0~1	200	89

* Measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uF & 10uF parallel capacitor.

Typical characteristics



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Mechanical dimensions

