

75ACDR_SC Series

75W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated
Industrial DIN Rail Power Supply



AC-DC Converter

75 Watt

- ⊕ High efficiency up to 91%
- ⊕ Universal AC input range (85~264VAC)
- ⊕ Easy fuse tripping due to high overload current
- ⊕ Built-in current sharing function
- ⊕ Built-in current limiting circuit
- ⊕ Over voltage protection (OVP)
- ⊕ Over load protection (OLP)
- ⊕ Short circuit protection (SCP)
- ⊕ Over temperature prot. (OTP)
- ⊕ Wide operating ambient temperature (-25°C~70°C)
- ⊕ 150% peak load capacity
- ⊕ 100% full load burn-in test

The 75ACDR_SC 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 and 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:	-25°C~+70°C
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	< 95%
Temperature coefficient:	0.03%/°C MAX
MTBF (using MIL-HDBK-217F):	+25°C >300,000 hours
Safety standards:	meet UL508, UL60950, EN60950
Power boost:	150% of rated current
Parallel function:	support
DC-OK:	V On: when output voltage is up to 90% of rated output voltage V Off: when output voltage is down to 80% of rated output voltage
DC-OK relay contact rating:	Max 30V/1A or 60V/0.3A or 30Vac/0.3A resistive load
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions:	124*119*32mm
Weight:	757g

Input specifications	
Input voltage range	85~264VAC, 127-360VDC
Input frequency	47~63Hz
Power factor	100VAC • 0.99 (typ) 230VAC • 0.95 (typ)
AC current	100VAC • 0.95A (max) 230VAC • 0.45A (max)
Inrush current	Cold start 100VAC • 30A (typ) 230VAC • 60A (typ)
Leakage current	Input—output: <0.25mA Input—PG: <3.5mA

Output specifications					
Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	Full load			±1	%
Voltage adjustment range	• 12V: 12V~14V • 24V: 24~28V • 48V: 48~56V				
Line regulation	Vin= min. to max. at full load			±0.5	%
Load regulation	0% to 100% load			±1	%
Ripple + Noise	see model specifications table				
Set-up time	• @230VAC • @100VAC	250			ms
		100			ms
Hold-up time	@230VAC, full load	20			ms
Overshoot and undershoot				5	%
Switching frequency			100		KHz

Protection specifications	
Over-load protection	110%~150% of rated current, Constant current limiting for some time (150% of rated current, last 3S) then PS stop working for 7S, after 7S, if the load <=rated current, PS will work normally, auto recovery
Over-voltage protection	• 12V: 15~18V, hiccup mode, auto recovery • 24V: 29~33V, hiccup mode, auto recovery • 28V: 58~65V, hiccup mode, auto recovery
Over-temperature protection	100±5°C, detect on heat sink of power transistor; shut down O/P, auto recovery after temperature goes down.

Note:

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

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Withstand voltage*	• Primary-Sec. ≤10mA • Primary-PG ≤10mA • Secondary-PG ≤10mA	3000 2500 500			VAC
Isolation resistance		100			MΩ

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

Example: 75ACDR_24SC

75 = 75 Watts
AC = AC/DC
DR = Din Rail
24 = Vout
S = Single Output
C = PFC (Power Factor Correction)

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EMC specifications

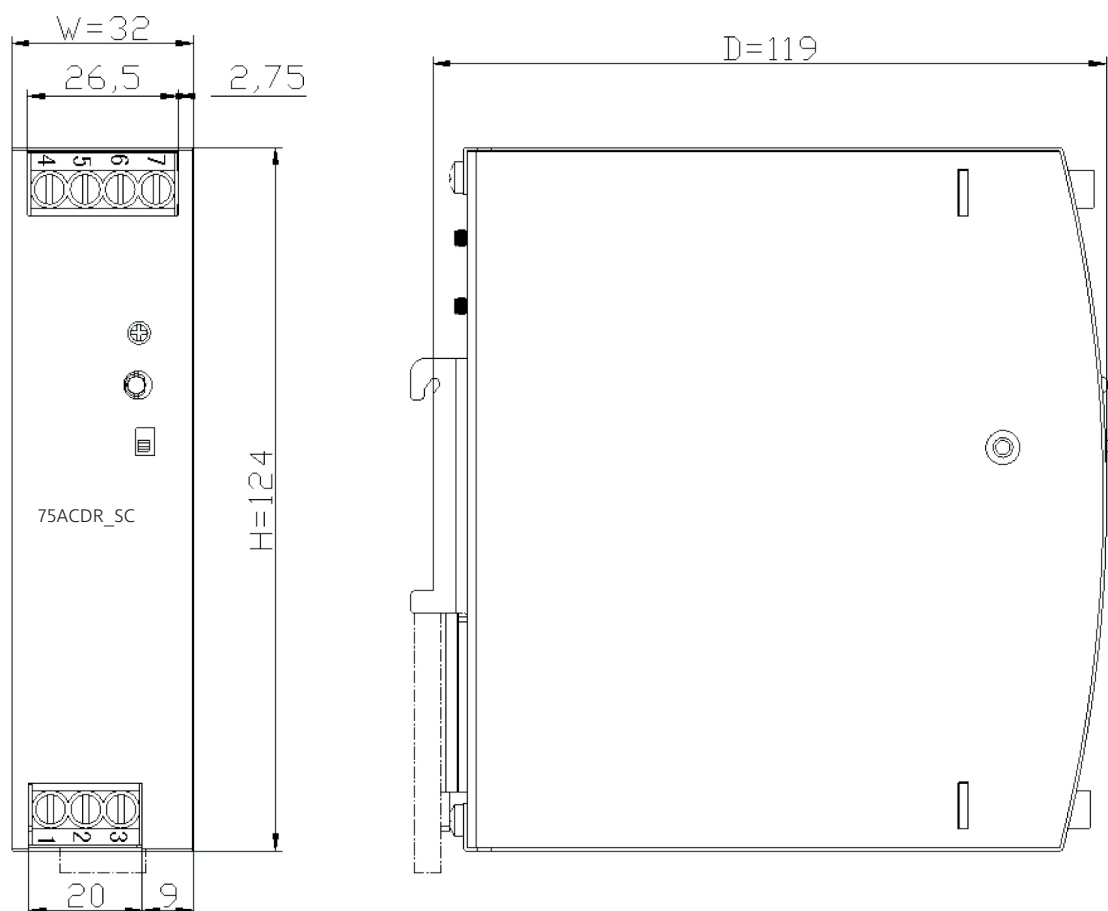
EMC / Emission	Compliance to EN55022, EN55024, FCC PART 15 Class B	
EMC / Harmonic current	Compliance to EN61000-3-2, CLASS A	
EMC / Immunity	Compliance to EN61000-4-2, -3, -4, -5, -6, -8, -11; heavy industry level	perf. Criteria B

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.

Approval	Model	Power [W]	Output [Vo, VDC]	Rated Current [A]	Current Range [A]	Ripple&Noise* [mV, max]		Efficiency [%, typ]
						0~70°C	-25°C	
UL (pending)	75ACDR_12SC	75	12	6.3	0~6.3	100	200	88
UL (pending)	75ACDR_24SC	75	24	3.2	0~3.2	120	240	91
UL (pending)	75ACDR_48SC	75	48	1.6	0~1.6	120	240	91

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

Mechanical dimensions



AC terminal blocks installation information

Terminal No.	Function	Wire specs	Rec. torque
1	L	20~10AWG	1Nm
2	N		
3	PG		

DC terminal blocks installation information

Terminal No.	Function	Wire specs	Rec. torque
4&5	DC OK Relay contact	20~10AWG	1Nm
6	-V		
7	+V		

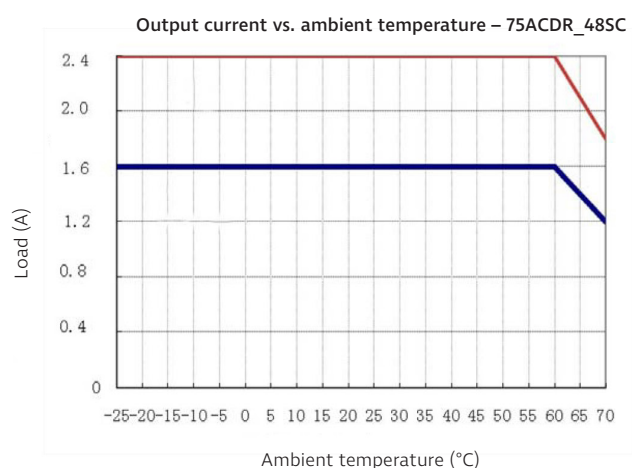
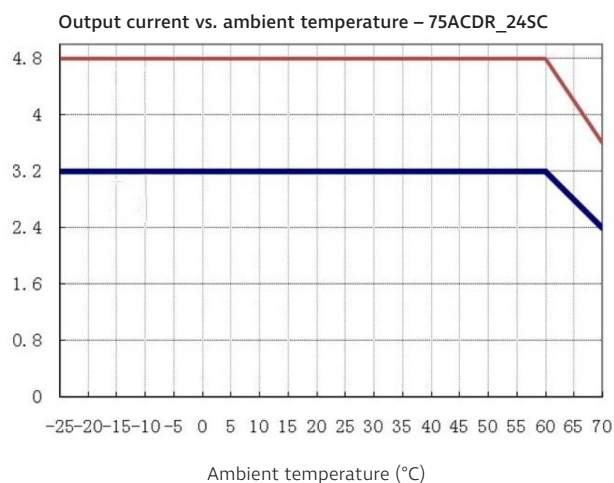
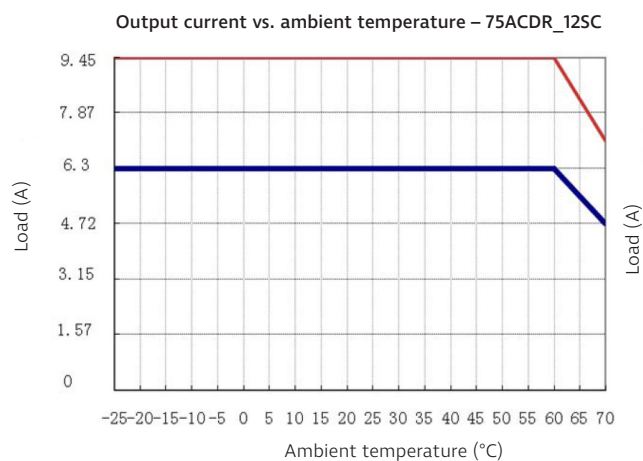
AC/DC terminal

Type	Screw terminal blocks
Solid wire	0.5-6mm ²
Strand wire	0.5-4mm ²
Wire Spec	AWG20-10 (PG wire >18AWG)
Max wire diameter	2.8mm
Recommended stripping length	7mm
Screwdriver	3.5mm Straight or Cross Screwdriver
Recommended torque	1NM

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Typical characteristics

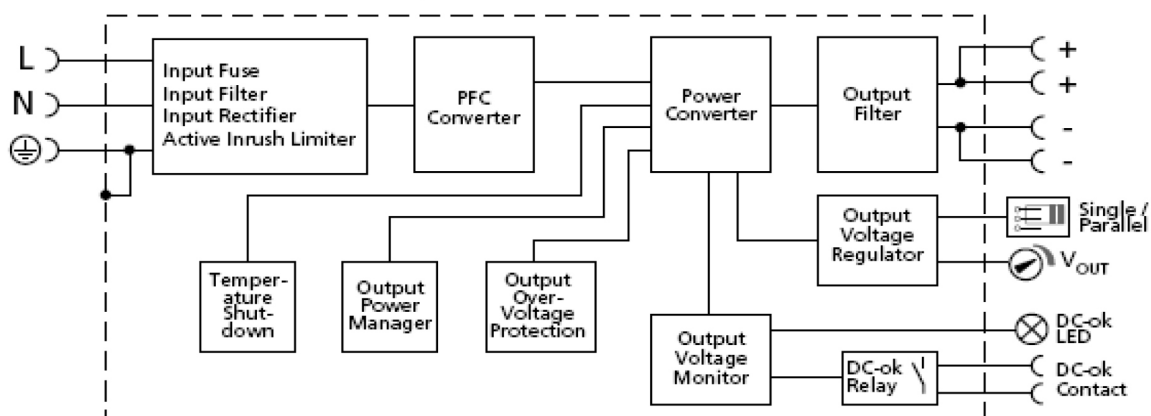


— short time working, 3s.

— continuous working

Functional block diagram

Functional diagram



75ACDR_SC Series

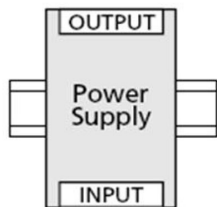
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Mounting method instruction

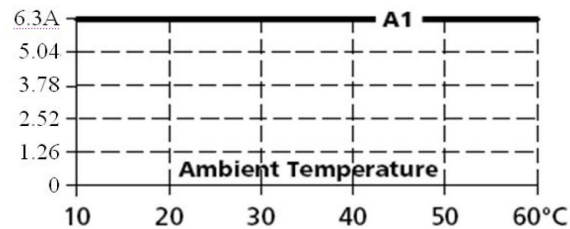
A1 is recommended output current.

A2 is the allowed max output current (PSU lifetime is around half of A1).

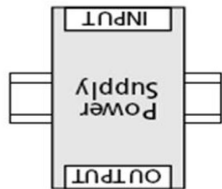
75ACDR_125C



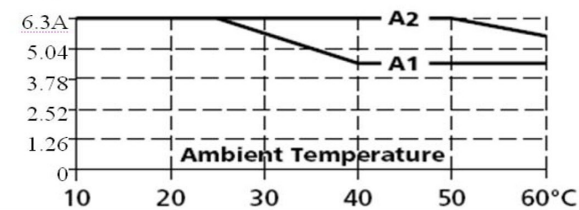
Output Current



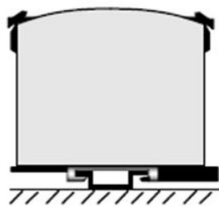
Mounting A



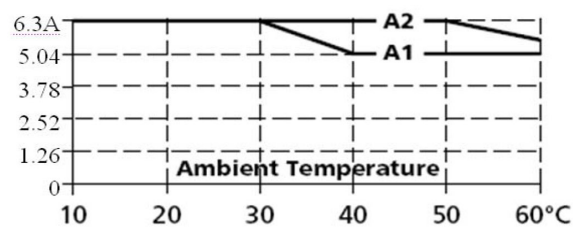
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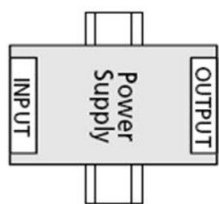
Mounting B



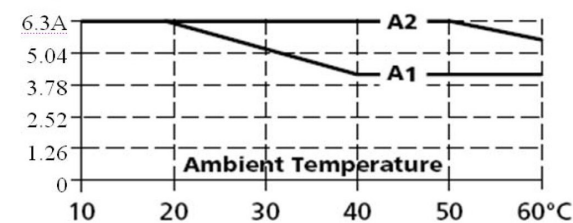
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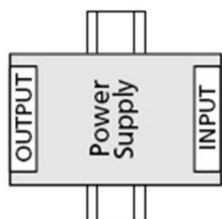
Mounting C



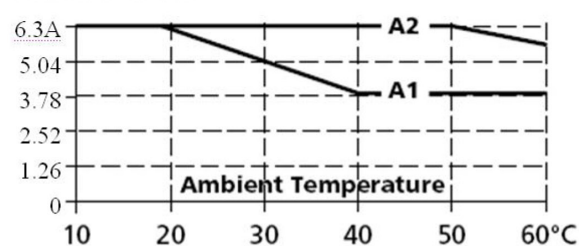
Output Current



Mounting D



Output Current



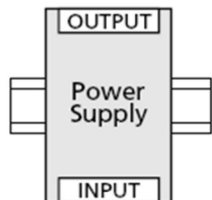
Mounting E

75ACDR_SC Series

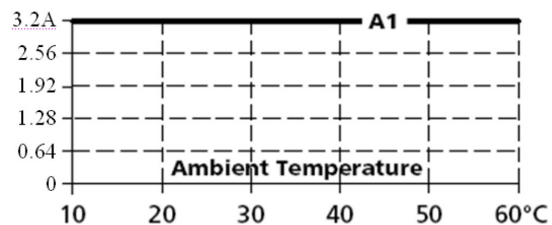
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Mounting method instruction

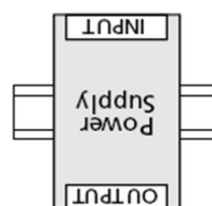
75ACDR_24SC



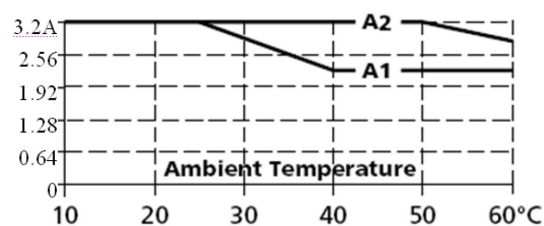
Output Current



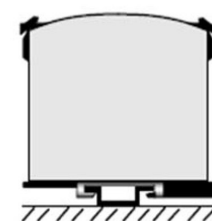
Mounting A



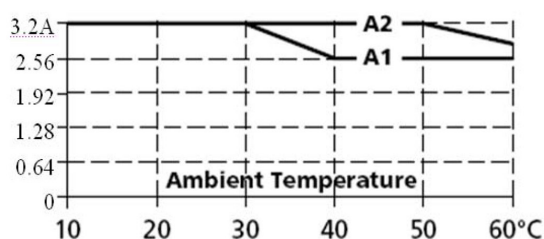
Output Current



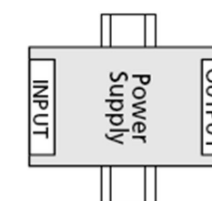
Mounting B



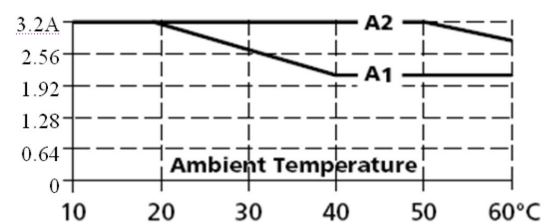
Output Current



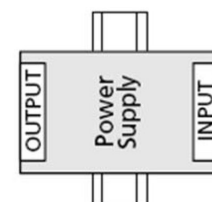
Mounting C



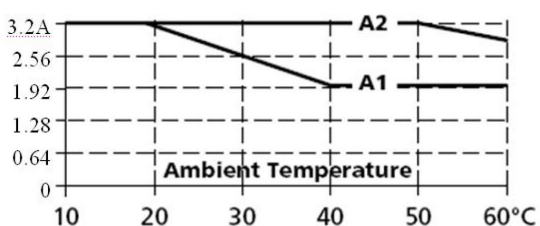
Output Current



Mounting D



Output Current



Mounting E