



960ACDR_SC series

960W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated
Industrial DIN Rail Power Supply

AC-DC Converter

960 Watt

- High efficiency up to 94%
- Universal AC input range (85~264VAC)
- Support 1+1 or N+1 redundant system
- 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% (360W) peak load capacity
- Easy fuse tripping due to high overload current



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 85% of rated output voltage
DC-OK relay contact rating:	Max 30V/1A or 60V/0.3A or 30Vac/0.3A resistive load
DC-OK LED:	Green
Over load LED:	Red, when output voltage goes down to 85% of rated voltage, overload LED flickers. When output voltage goes up to 90% of rated voltage, overload LED goes out.
Shut down signal:	Remote shut down output voltage
Remote control output voltage:	Remote control/adjust output voltage
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions (L*W*H):	140*124.6*138.2mm
Weight:	2500g

Example:

960ACDR_24SC

960= 960 Watts
AC= AC/DC
DR= Din Rail
24= Vout
S= Single Output
C= PFC (Power Factor Correction)

Note:

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

The 960ACDR_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.

Input specifications

Input voltage range	85~264VAC, 220-370VDC		
Input frequency	47~63Hz		
Power factor	100VAC • 0.99 (typ)	230VAC • 0.98 (typ)	
AC current	100VAC • 11A (max)	230VAC • 5A (max)	
Inrush current	Cold start 100VAC • 30A (typ)	230VAC • 60A (typ)	
Leakage current	≤1.18mA/2.82mA TN- TT-mains/IT-mains (264Vac input, 50Hz)		

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	Full load			±3	%
Voltage adjustment range	24~28V				
Line regulation				±0.5	%
Load regulation				±1	%
Ripple + Noise	see model specifications table				
Set-up time	• @230VAC • @100VAC			1 2	s s
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	29~33V, hiccup mode, auto recovery
Over-temperature protection	115±5°C, detect on temperature controller; shut down O/P, auto recovery after temperature goes down.

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Withstand voltage*	• Primary-Sec. ≤20mA • Primary-PG ≤20mA • Secondary-PG ≤40mA	3000 2500 500			VAC
Isolation resistance		10			MΩ

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

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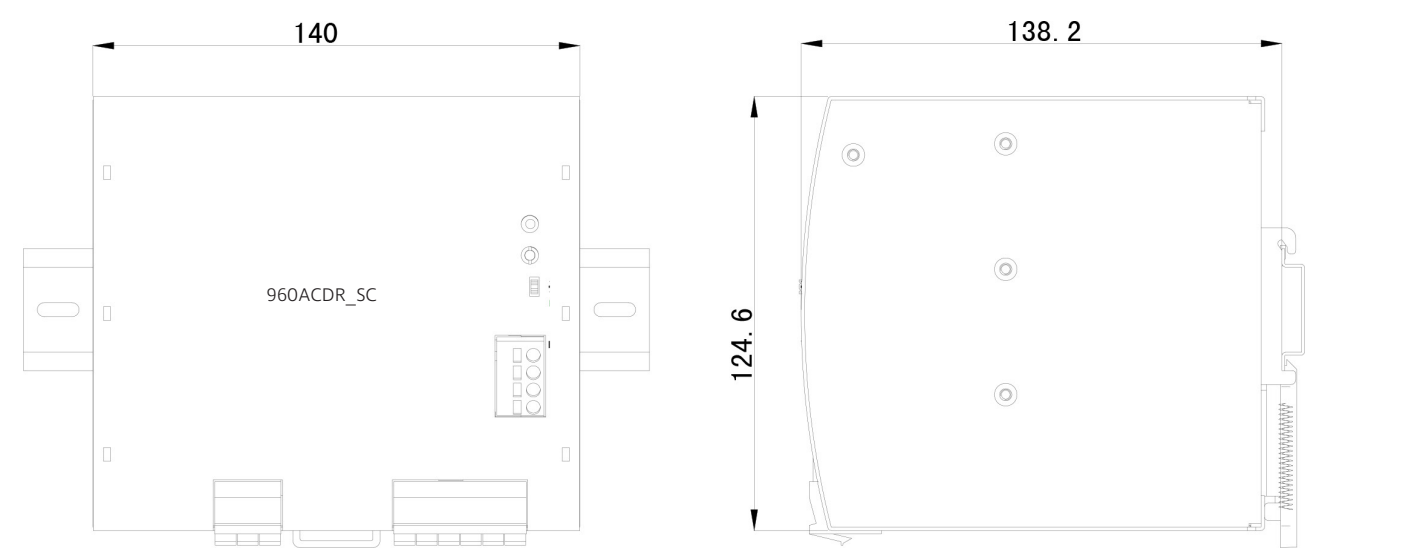
EMC specifications	
EMC / Emission	Compliance to EN55022, EN55024, FCC PART 15 Class A
EMC / Harmonic current	Compliance to EN61000-3-2, CLASS A
EMC / Immunity	Compliance to EN61000-4-2, -3, -4, -5, -6, -11; heavy industry level

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] 0~70°C -25°C		Efficiency [%, typ]
UL (pending)	960ACDR_24SC	960	24	40	0~40	240	480	94.4

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

Mechanical dimensions



LED light		
	LED	DC OK Relay contact
Normal condition	Green	On
During extra power	Green	On
Overload(Hiccup mode)	Red, flicker	Off
Short circuit	Red, flicker	Off
Over temp. shut down	Red, flicker	Off
Active remote shut down input	Red, flicker	Off
No input	OFF	Off

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Shut down signal input

This function allows a signal or external voltage to shut down output voltage.
Under shut down condition, output voltage<2V and output power<0.5W.
When parallel using, the voltage must be <1V between V- terminal blocks of different units.

Mark: if select C, please don't use limited diodes.

Option A:

OFF: linked
ON : open

Option B:
(via open collector)

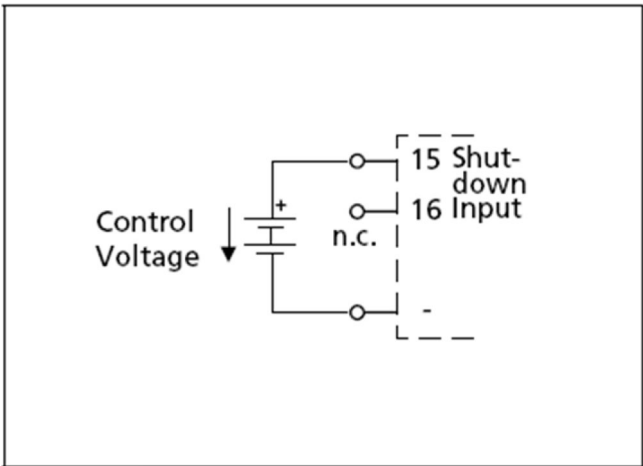
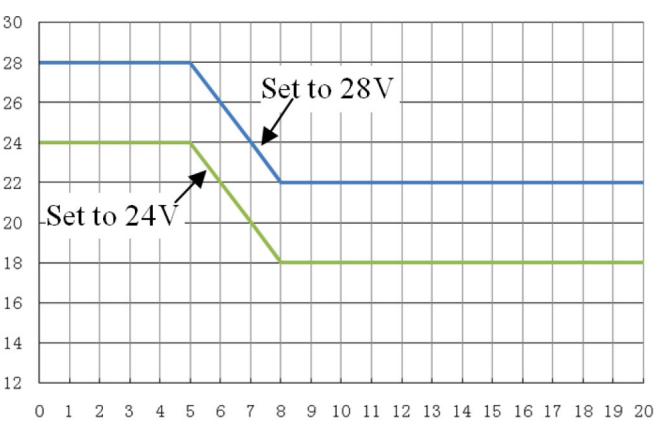
OFF: I > 0.3mA
ON : I < 0.1mA

Option C:
(via external voltage)

OFF: U < 1V
ON : U = 4 -29V

Remote control output voltage

This function can adjust output voltage, type: 18~28Vdc.

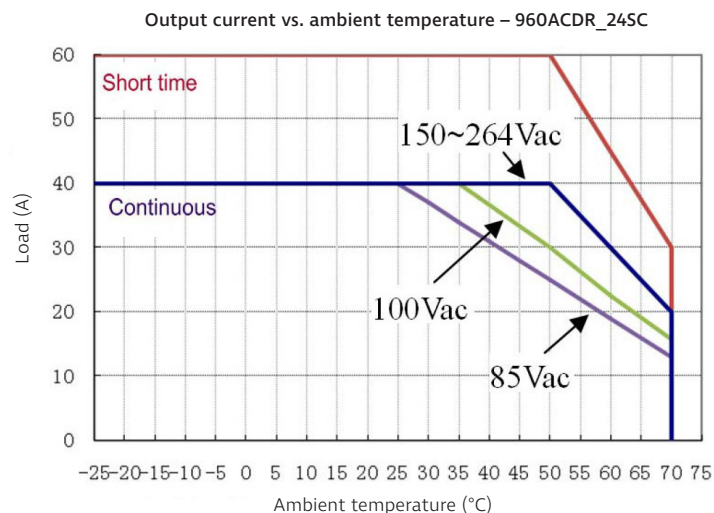


	Input/output terminal	DC-OK,shut-down
Type	Spring connector	Spring connector
Solid wire	0.5-6mm ²	0.15-1.5mm ²
Strand wire	0.5-4mm ²	0.15-1.5mm ²
Wire Spec	AWG20-10	AWG26-14
Max wire diameter	2.8mm	1.5mm
Stripping length	7mm	7mm
Screwdriver	/	3mm Straight Screwdriver (open spring)

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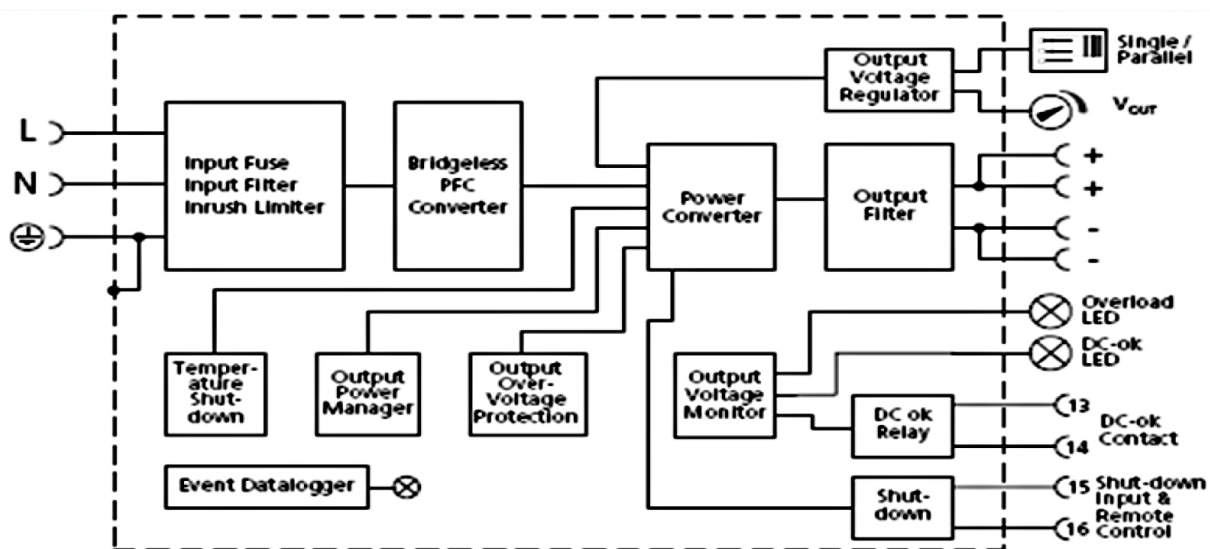
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Typical characteristics



Functional block diagram

Functional diagram



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Mounting method instruction

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A1 is recommended output current.

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

