



480ACDRP_SC series

480W - Single Output AC-DC Converter

AC-DC Converter

480 Watt

- ⊕ Higher peak power
- ⊕ Built-in DC ok relay contact
- ⊕ Current sharing up to 3840W (7+1)

- ⊕ Built-in active PFC function
- ⊕ DC output voltage adjustable

Introducing our new 480ACDRP_SC series. Engineered for demanding applications, this series delivers higher peak power with current sharing up to 3840W (7+1 configuration). It features a built-in DC OK relay contact, active PFC function, and adjustable DC output voltage for maximum flexibility. Designed for reliability and scalability, it ensures powerful performance where it matters most. Three years warranty.



Common specifications

Over load	Normally works within 110 ~ 150% rated output power for more than 5 seconds and then shut down o/p voltage with auto-recovery >150% rated power, constant current limiting with auto-recovery within 5 seconds and may cause to shut down if over 3 seconds
Over voltage	29~33V, 480ACDRP_24SC/56~65V, 480ACDRP_48SC Protection type: Shut down o/p voltage, re-power on to recover
Over temperature	105°C ±5°C (TSW) detect on heatsink of power switch Protection type: Shut down o/p voltage, recovers automatically after temperature goes down
DC OK realy contact ratings (max.)	60VDC/0.3A, 30VDC/1 A, 30VAC/0.5A resistive load
Working temperature:	-25~+70°C (with derating)
Storage temperature:	-40~+85°C
Cold start	-40°C
Working humidity:	20%~95%RH, non considering
Storage humidity:	10%~95%RH
Safety standard:	UL61010-1, UL61010-2-201, BS EN/EN61010-1
MTBF:	100,000 hrs min. MIL-HDBK-217F (25°C)
Temp. coefficient	±0.03%/°C (0 ~ 50°C)
Vibration	Component:10 ~ 500Hz, 2G 10min./1cycle,60min. each along X, Y, Z axes; mounting: compliance to IEC60068-2-6
Dimension:	85.5 × 125 × 129 mm
Weight	1.6 Kg

Output specifications

Item	Operating condition	Min	Typ	Max	Units
Voltage tolerance			±2.0		%
Line regulation			±0.5		%
Load regulation			±1.0		%
Ripple & noise	24V 48V			100 120	mVp-p
Setup rise time	230VAC at full load 115VAC at full load	1000 3000		150 150	ms
Hold up time	230VAC at full load		14		ms

Isolation specifications

Item	Operating Conditions	Min	Typ	Max	Units
Withstand voltage	I/P-O/P		3		kVAC
	I/P-FG		2		
	O/P-FG		0.50		
	O/P-DC OK		0.50		
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:> 100M ohms/ 500VDC / 25°C / 70% RH				

EMC specifications

EMC Emissions	Compliance to BS EN/EN55032, BS EN/EN61 000-3-2,-3
EMC Immunity	Compliance to BS EN/EN61 000-4-2, 3, 4, 5, 6, 8, 11, BS EN/EN55024, BS EN/EN61 000-6-2 (BS EN/EN50082-2), BS EN/EN61 204-3, heavy industry level

Input specifications

Item	Operating condition	Min	Typ	Max	Units
Rated input	(certified voltage)	100		240	VAC
Nominal input voltage range		90		264	VAC
		127		370	VDC
Frequency range		47		63	Hz
Power factor	230VAC at full load		0.94		VAC
	115VAC at full load		0.99		
Efficiency			94		%
AC current	115VAC	5			A
	230VAC	2.5			
Inrush current	115VAC	40			A
	230VAC	80			
Leakage current	240VAC		<0.6		mA

Example:

480ACDRP_24SC

480 = 480Watt; AC = AC-DC; DR = Din Rail, P = High performance; 24 = 24Vout; S = Single output; C = PFC (Power Factor Correction);

Note:

- All parameters NOT specially mentioned at 230VAC input, rated load and 25°C of ambient temperature.
- Ripple & noise are measured from peak to peak with band width limit of 20MHz (0.1 uF and 47uF/50V parallel capacitor under DC output full load, AC nominal input 25°C ambient temperature).
- Installation clearances: top with 40mm, bottom with 20mm, left and right with 5mm. increase the space to 10-15mm when the adjacent device is heat source.
- It could hold up 3 seconds max when reached peak power 720W, please refer to peak loading curves.
- Derating may be needed under low input voltage. Please check the derating curve for more details.
- After 30 minutes of burn-in.
- The ambient temperature derating of 3.5 °C/1000m for operating altitude higher than 2000m (6500ft).
- Connection type of parallel operation is as follows (P+,P- parallel connection)
- The output voltage difference between the parallel units should be less than 0.2V
- The total output current must not exceed the value calculated of the following equation (output current at parallel operation) = (the rated current per unit)* (number of unit) x 0.9
- The maximum quantity of parallel operation is eight units, If need more quantity of parallel operation, please contact the manufacture.
- In parallel connection, the minimum output load should be more than 3% of total output load (Min. load > 3% rated current per unit x number of unit)

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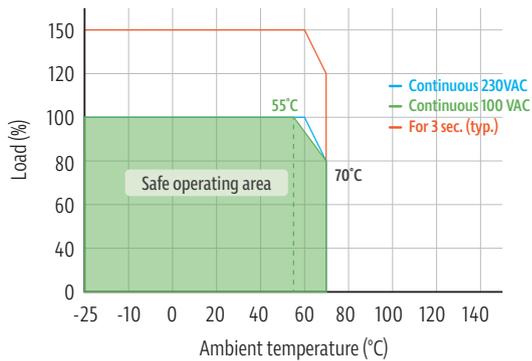
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Product Selection Guide

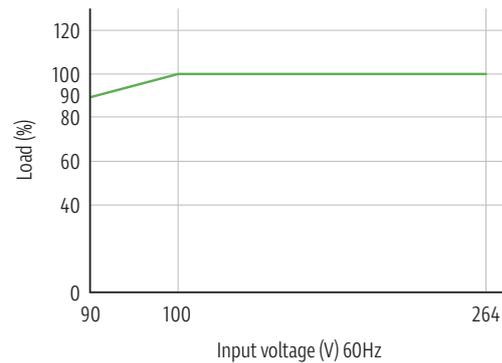
Certification	Part number	DC Voltage (V)	Rated Current (max) A	Rated Power (W)	Peak Power* (W)	Voltage Adj. Range (V)	Ripple & Noise (Max.) mVp-p
	480ACDRP_24SC	24	20	480	720 (3sec.)	24-28	100
	480ACDRP_48SC	48	10	480	720 (3sec.)	48-55	120

Product characteristic curve

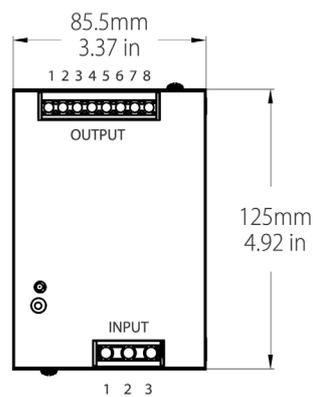
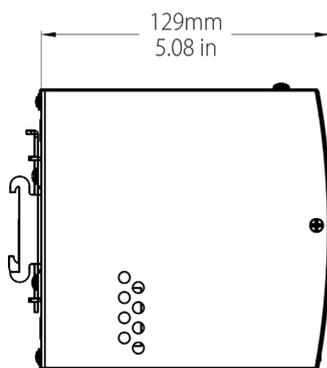
Temperature derating graph



Output and Input Voltage Curves



Mechanical dimensions



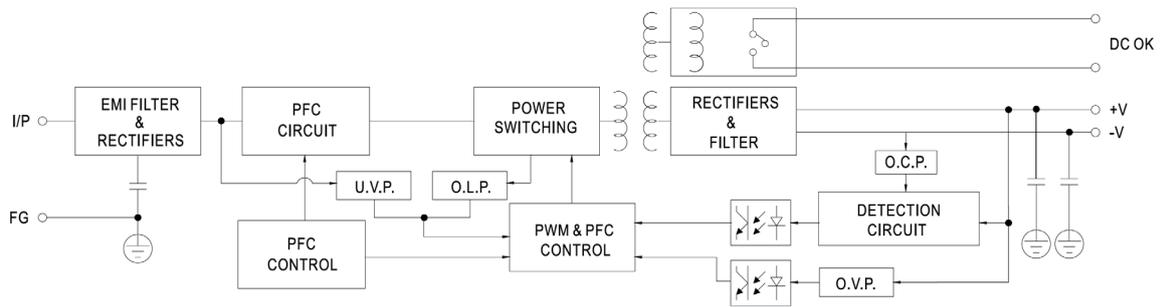
Input	
PIN	Description
1	FG ⚡
2	AC/N
3	AC/L

Output	
PIN	Description
1, 2	DCOUTPUT+V
3, 4	DCOUTPUT-V
5, 6	Relay Contact
7	P+ (current share)
8	P- (current share)

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Block diagram



DC OK relay contact

Contact close	PSU turns on / DC OK.
Contact open	PSU turns off / DC Fail.
Contact ratings (max.)	30V/1A resistive load.

Peak loading

