480W Single Output Industrial DIN RAIL with PFC and Parallel Function SDR-480P series



■ Features :

- Current sharing up to 3840W(7+1)
- High efficiency 94% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.94
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 years warranty

SPECIFICATION

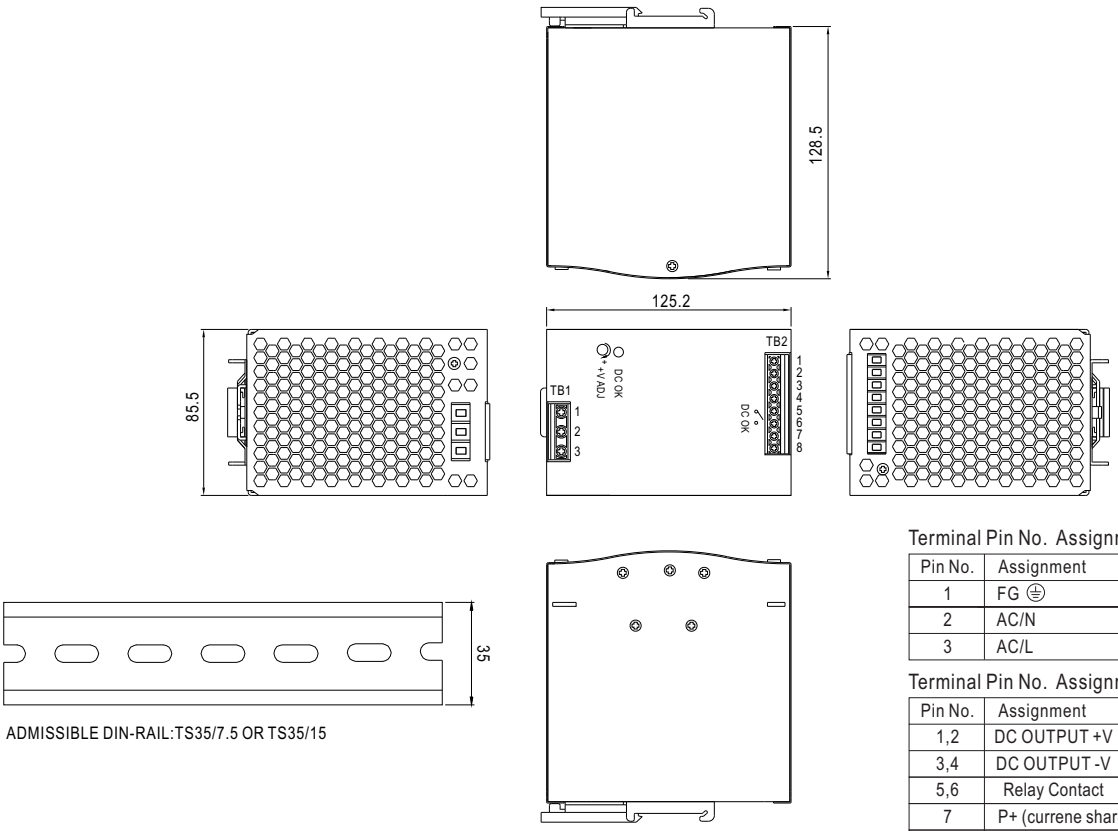
MODEL		SDR-480P-24	SDR-480P-48
OUTPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	20A	10A
	CURRENT RANGE	0 ~ 20A	0 ~ 10A
	RATED POWER	480W	480W
	PEAK CURRENT	30A	15A
	PEAK POWER Note.6	720W (3sec.)	
	RIPPLE & NOISE (max.) Note.2	100mVp-p	120mVp-p
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE Note.3	±1.2%	±1.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE TIME	1500ms, 150ms/230VAC 3000ms, 150ms/115VAC at full load	
	HOLD UP TIME (Typ.)	14ms/230VAC at full load	
INPUT	VOLTAGE RANGE Note.7	90 ~ 264VAC 127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	0.94/230VAC 0.99/115VAC at full load	
	EFFICIENCY (Typ.)	94%	
	AC CURRENT (Typ.)	5A/115VAC 2.5A/230VAC	
	INRUSH CURRENT (Typ.)	40A/115VAC 80A/230VAC	
	LEAKAGE CURRENT	<0.6mA / 240VAC	
PROTECTION	OVERLOAD	Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down o/p voltage with auto-recovery	
		>150% rated power, constant current limiting with auto-recovery within 2 seconds and may cause to shut down if over 2 seconds	
	OVER VOLTAGE	29 ~ 33V	56 ~ 65V
		Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery	
	OVER TEMPERATURE	105℃ ±5℃ (TSW : detect on heatsink of power switch)	
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down	
FUNCTION	DC OK REALY CONTACT RATINGS (max.)	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load	
	CURRENT SHARING	Please see the Function Manual	
ENVIRONMENT	WORKING TEMP. Note.5	-25 ~ +70℃ (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)	
	VIBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6	
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL508, TUV EN60950-1, EAC TP TC 004, BSMI CNS14336-1 approved	
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25℃/ 70% RH	
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020,CNS13438	
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2 (EN50082-2), EN61204-3, heavy industry level, criteria A, EAC TP TC 020, SEMI F47, GL approved	
OTHERS	MTBF	112.9K hrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	85.5*125.2*128.5mm (W*H*D)	
	PACKING	1.6Kg; 8pcs/13.8Kg/0.9CUFT	

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
5. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.
6. 3 seconds peak power max. and the average output power should not exceed the rate power.
7. Derating may be needed under low input voltage. Please check the derating curve for more details.
8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

■ Mechanical Specification

Case No.984A Unit:mm



ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

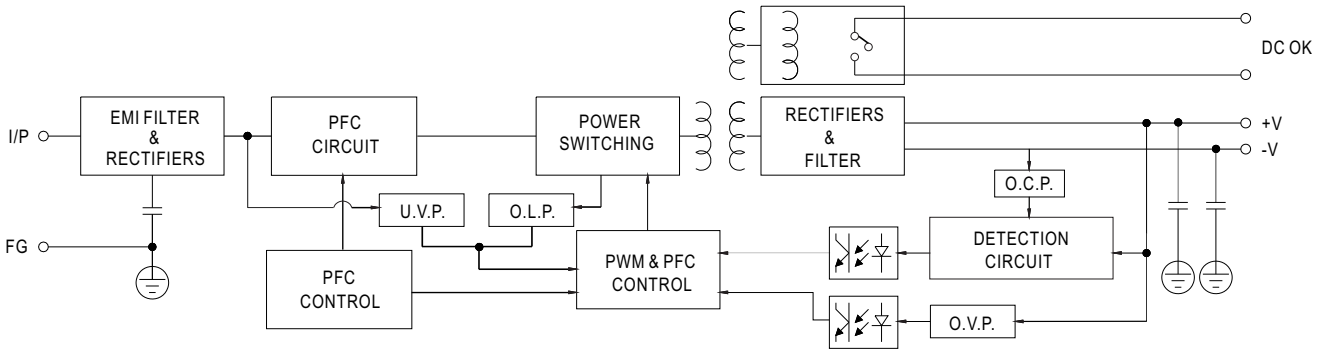
Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N
3	AC/L

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7	P+ (currene share)
8	P- (currene share)

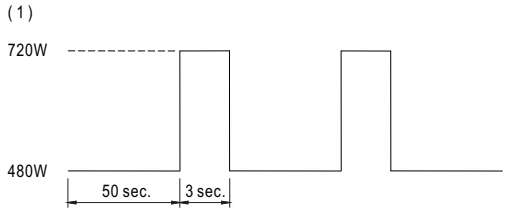
■ Block Diagram

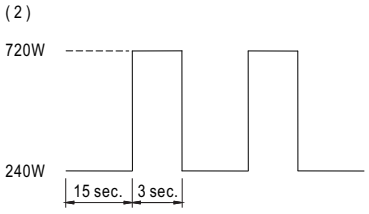


■ DC OK Relay Contact

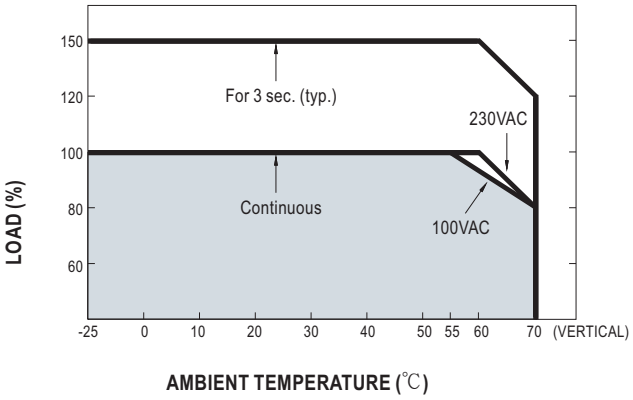
Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

■ Peak Loading



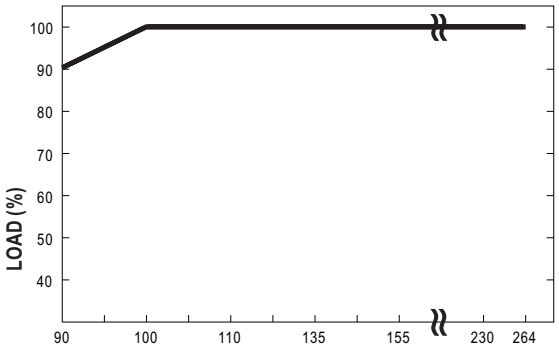


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Output derating VS input voltage



INPUT VOLTAGE (V) 60Hz

■ Function Manual

1. Current sharing
   (1)Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel) :
   (2)The voltage difference among each output should be minimized that less than 0.2V is required.
   (3)The total output current must not exceed the value determined by the following equation (Output current at parallel operation)
   =(The rated current per unit) x (Number of unit) x 0.9.
   (4)In parallel operation 8 units is the maximum, please consult the manufacture for other applications.
   (5)When in parallel operation, the minimum output load should be greater than 3% of total output load.
   (Min. load > 3% rated current per unit x number of unit)

