

# SDR-480P-48

## 480W Single Output Industrial DIN RAIL with PFC and Parallel Function

### 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
- 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



### Specifications

| MODEL      |                                             | SDR-480P-48                                                                                                                                                                                                                                                    |                          |
|------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| OUTPUT     | DC VOLTAGE                                  | 48V                                                                                                                                                                                                                                                            |                          |
|            | RATED CURRENT                               | 10A                                                                                                                                                                                                                                                            |                          |
|            | CURRENT RANGE                               | 0 ~ 10A                                                                                                                                                                                                                                                        |                          |
|            | RATED POWER                                 | 480W                                                                                                                                                                                                                                                           |                          |
|            | PEAK CURRENT                                | 15A                                                                                                                                                                                                                                                            |                          |
|            | PEAK POWER <small>Note.6</small>            | 720W (3sec.)                                                                                                                                                                                                                                                   |                          |
|            | RIPPLE & NOISE (max.) <small>Note.2</small> | 120mVp-p                                                                                                                                                                                                                                                       |                          |
|            | VOLTAGE ADJ. RANGE                          | 48 ~ 55V                                                                                                                                                                                                                                                       |                          |
|            | VOLTAGE TOLERANCE <small>Note.3</small>     | ± 1.0%                                                                                                                                                                                                                                                         |                          |
|            | LINE REGULATION                             | ± 0.5%                                                                                                                                                                                                                                                         |                          |
|            | LOAD REGULATION                             | ± 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 <small>Note.7</small>         | 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<br>>150% rated power, constant current limiting with auto-recovery within 2 seconds and may cause to shut down if over 2 seconds |                          |
|            | OVER VOLTAGE                                | 56 ~ 65V<br>Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery                                                                                                                                                              |                          |
|            | OVER TEMPERATURE                            | 105°C ±5°C (TSW : detect on heatsink of power switch)<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                           |                          |
|            |                                             |                                                                                                                                                                                                                                                                |                          |

## Specifications

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                    |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. <small>Note.5</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -25 ~ +70°C (Refer to "Derating Curve")                                                                                                            |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ~ 95% RH non-condensing                                                                                                                         |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -40 ~ +85°C, 10 ~ 95% RH                                                                                                                           |
|                          | 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                                      |
| SAFETY & EMC<br>(Note 4) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | UL508, TUV EN60950-1 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°C / 70% RH                                                                                       |
|                          | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2, -3                                                                                           |
|                          | 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, SEMI F47, GL approved |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 112.9K hrs min. MIL-HDBK-217F (25°C)                                                                                                               |
|                          | 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°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>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.<br>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.<br>In case the adjacent device is a heat source, 15mm clearance is recommended.<br>6. 3 seconds peak power max. and the average output power should not exceed the rate power.<br>7. Derating may be needed under low input voltage. Please check the derating curve for more details. |                                                                                                                                                    |

## Dimension

