



# 120W Single Output Industrial DIN RAIL Power Supply **WDR-120** series



### ■ Features :

- Single and two phase wide input range 180 ~ 550VAC
- 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
- UL508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- Built-in DC OK relay contact
- 3 years warranty

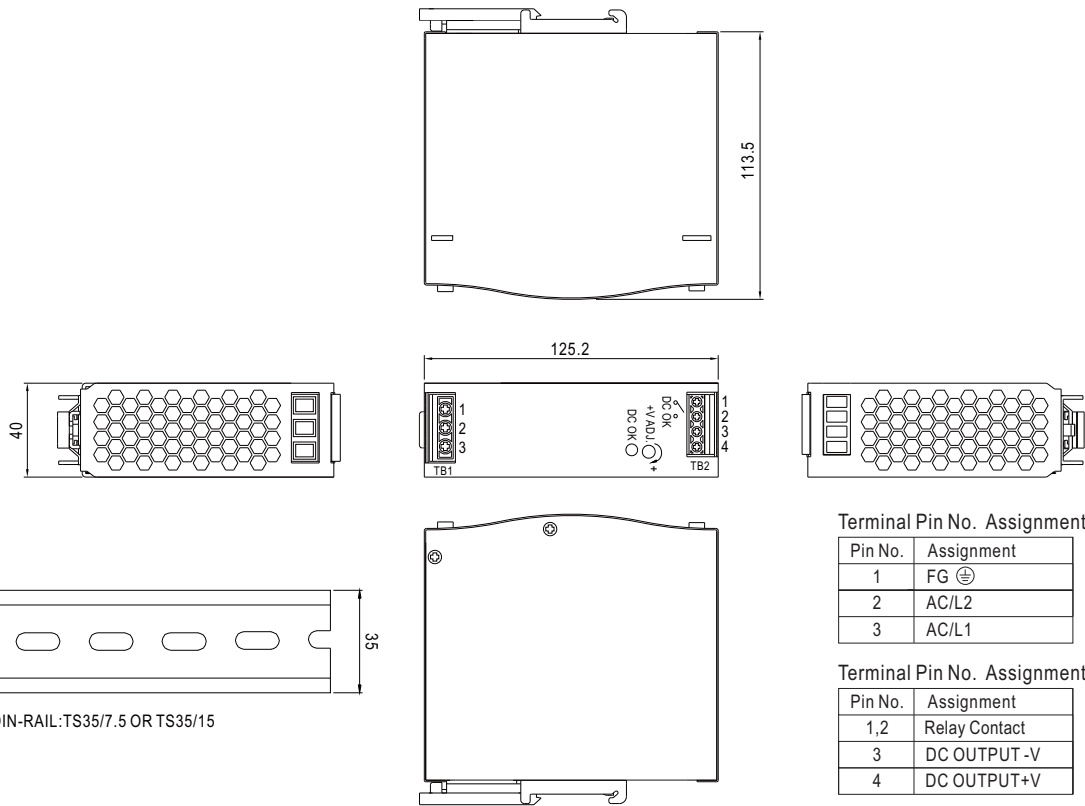


### SPECIFICATION

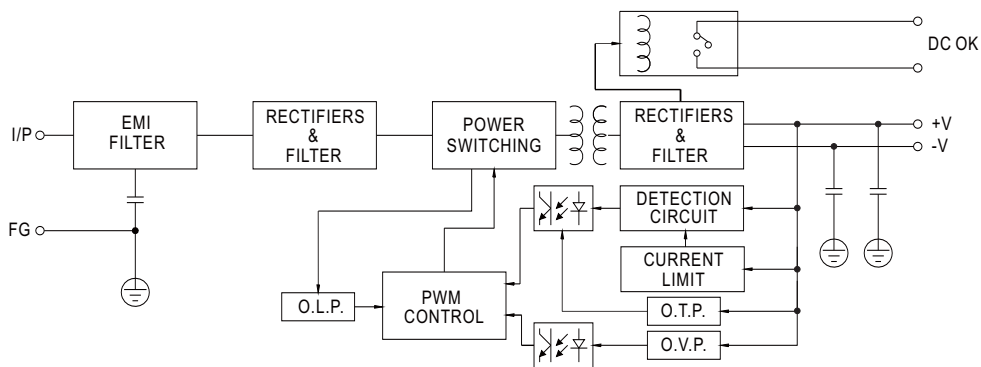
| MODEL                     | WDR-120-12   | WDR-120-24  | WDR-120-48 |            |
|---------------------------|--|---|------------|------------|
| OUTPUT                    | DC VOLTAGE   | 12V   | 24V        | 48V        |
|                           | RATED CURRENT  | 10A   | 5A         | 2.5A       |
|                           | CURRENT RANGE  | 0 ~ 10A   | 0 ~ 5A     | 0 ~ 2.5A   |
|                           | RATED POWER  | 120W  | 120W       | 120W       |
|                           | RIPPLE & NOISE (max.) Note.2   | 120mVp-p  | 120mVp-p   | 150mVp-p   |
|                           | VOLTAGE ADJ. RANGE   | 12 ~ 15V  | 24 ~ 29V   | 48 ~ 58V   |
|                           | VOLTAGE TOLERANCE Note.3   | ± 1.5%  | ± 1.0%     | ± 1.0%     |
|                           | LINE REGULATION  | ± 0.5%  | ± 0.5%     | ± 0.5%     |
|                           | LOAD REGULATION  | ± 0.5%  | ± 0.5%     | ± 0.5%     |
| SETUP, RISE, HOLD UP TIME | 2000ms, 70ms, 50ms/400VAC      2000ms, 70ms, 10ms/230VAC at full load  |   |            |            |
| INPUT                     | VOLTAGE RANGE  | 180 ~ 550VAC      254 ~ 780VDC  |            |            |
|                           | FREQUENCY RANGE  | 47 ~ 63Hz   |            |            |
|                           | EFFICIENCY (Typ.)  | 89.5% / 400V  | 91% / 400V | 92% / 400V |
|                           | AC CURRENT   | 0.7A/400VAC      1.2A/230VAC  |            |            |
|                           | INRUSH CURRENT (max.)  | COLD START 50A  |            |            |
|                           | LEAKAGE CURRENT  | <3.5mA / 530VAC   |            |            |
| PROTECTION                | OVERLOAD   | 105 ~ 130% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |            |            |
|                           | OVER VOLTAGE   | 16 ~ 18V  | 31 ~ 37V   | 60 ~ 67V   |
|                           | OVER TEMPERATURE   | Shut down o/p voltage, recovers automatically after temperature goes down   |            |            |
| FUNCTION                  | DC OK SIGNAL   | Relay contact rating(max.) : 30V / 1A resistive   |            |            |
| ENVIRONMENT               | WORKING TEMP.  | -25 ~ +70°C (Refer to "Derating Curve")   |            |            |
|                           | WORKING HUMIDITY   | 20 ~ 90% 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 clip: Compliance to IEC60068-2-6                    |            |            |
| SAFETY & EMC (Note 4)     | SAFETY STANDARDS   | UL508 approved, IEC60950-1 CB approved by SIQ, design refer to GL;(meet EN60204-1)  |            |            |
|                           | 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 EN55011 (CISPR11), EN55032 (CISPR32), EN61204-3 Class B   |            |            |
|                           | EMC IMMUNITY   | Compliance to EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN61000-6-2 (EN50082-2), heavy industry level, criteria A                          |            |            |
| OTHERS                    | MTBF   | 268K hrs min.    MIL-HDBK-217F (25°C)   |            |            |
|                           | DIMENSION  | 40*125.2*113.5mm (W*H*D)  |            |            |
|                           | PACKING  | 0.65Kg; 20pcs/14Kg/1.16CUFT   |            |            |
| NOTE                      | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>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.</li> <li>5. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quick may lead to increase of the set up time.</li> </ol> |   |            |            |

### Mechanical Specification

Case No.992B Unit:mm



### Block Diagram

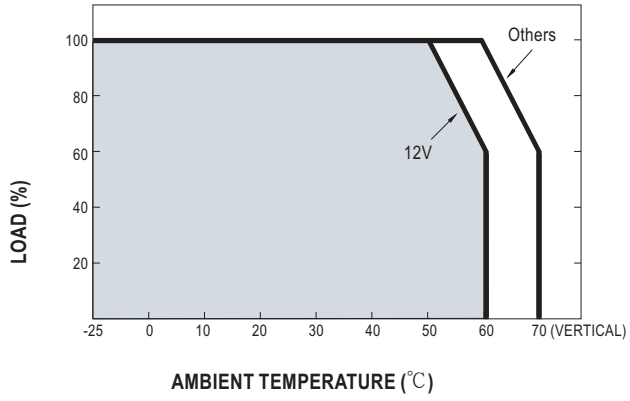


### DC OK Relay Contact

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



### Derating Curve



### Static Characteristics

