



## 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

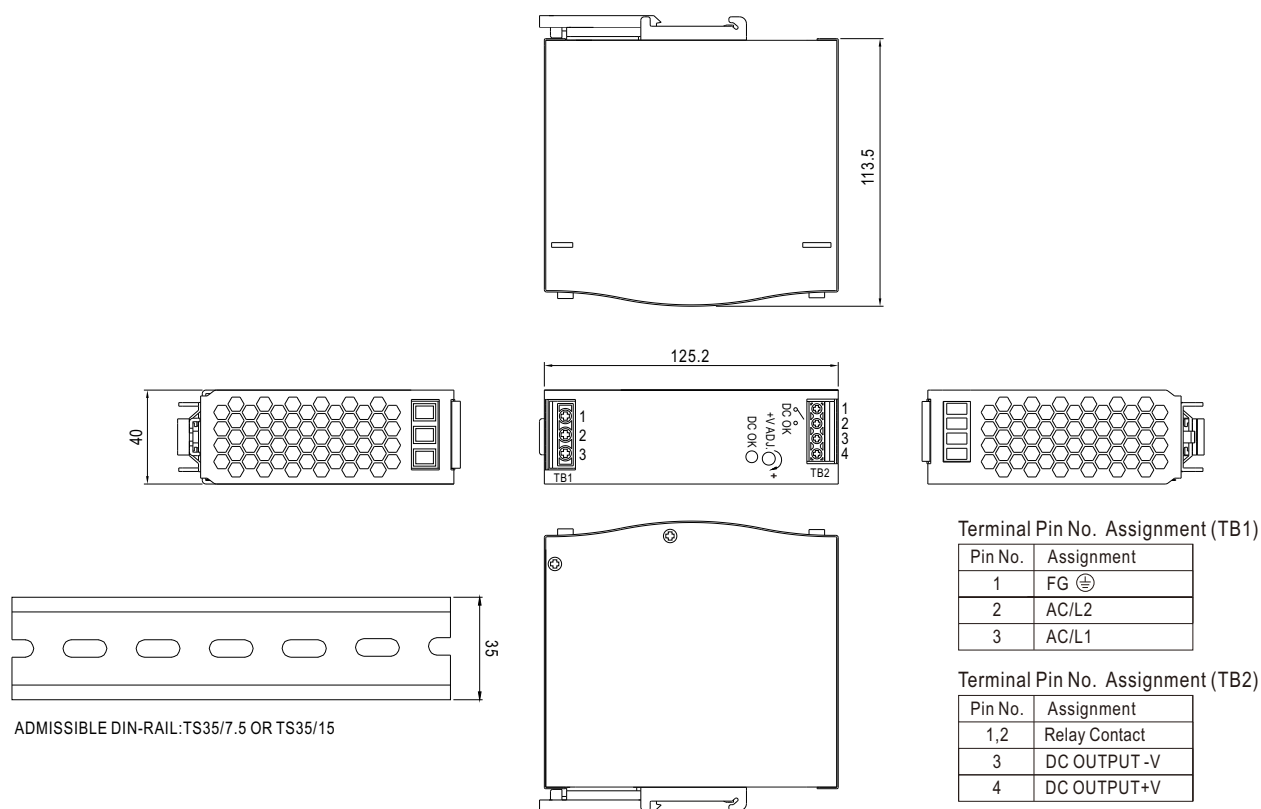


### SPECIFICATION

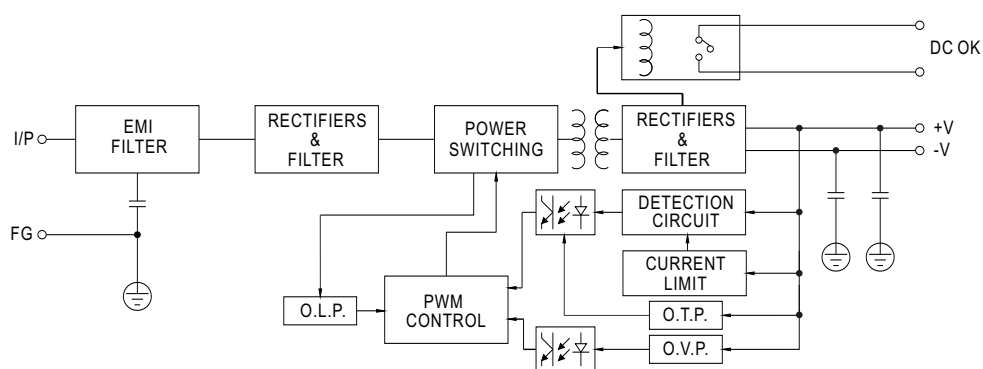
| MODEL                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 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.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 120mVp-p                                                                                                                              | 120mVp-p                                        | 150mVp-p   |
|                                         | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12 ~ 15V                                                                                                                              | 24 ~ 29V                                        | 48 ~ 58V   |
|                                         | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ± 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℃ (Refer to "Derating Curve")                                                                                                |                                                 |            |
|                                         | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ~ 90% 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 clip: Compliance to IEC60068-2-6                    |                                                 |            |
| SAFETY & EMC<br><small>(Note 4)</small> | 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℃ / 70% RH                                                                             |                                                 |            |
|                                         | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Compliance to EN55011 (CISPR11), EN55022 (CISPR22), 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℃)                                                                                                  |                                                 |            |
|                                         | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 40*125.2*113.5mm (W*H*D)                                                                                                              |                                                 |            |
|                                         | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.65Kg; 20pcs/14Kg/1.16CUFT                                                                                                           |                                                 |            |
| NOTE                                    | 1. All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25℃ 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. 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. |                                                                                                                                       |                                                 |            |

## Mechanical Specification

Case No.992B Unit:mm



## Block Diagram



## DC OK Relay Contact

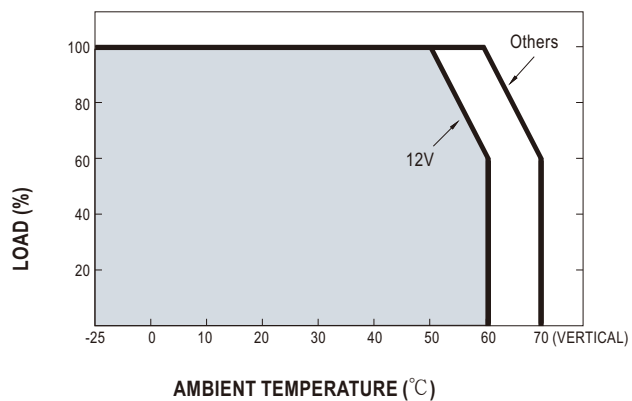
|                        |                          |
|------------------------|--------------------------|
| Contact Close          | PSU turns on / DC OK.    |
| Contact Open           | PSU turns off / DC Fail. |
| Contact Ratings (max.) | 30V/1A resistive load.   |



120W Single Output Industrial DIN RAIL Power Supply

**WDR-120** series

■ Derating Curve



■ Static Characteristics

