



### Features :

- Single and two phase wide input range 180~550VAC
- High efficiency 93% and low power dissipation
- 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

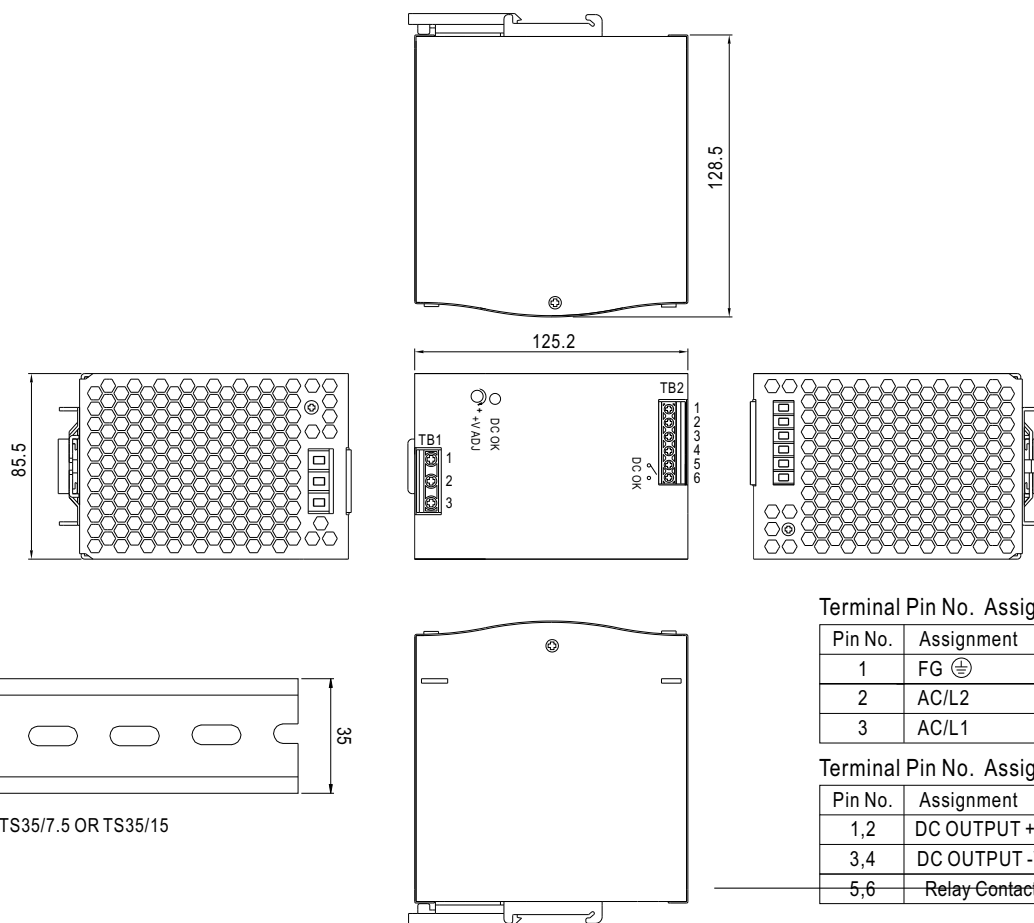


### SPECIFICATION

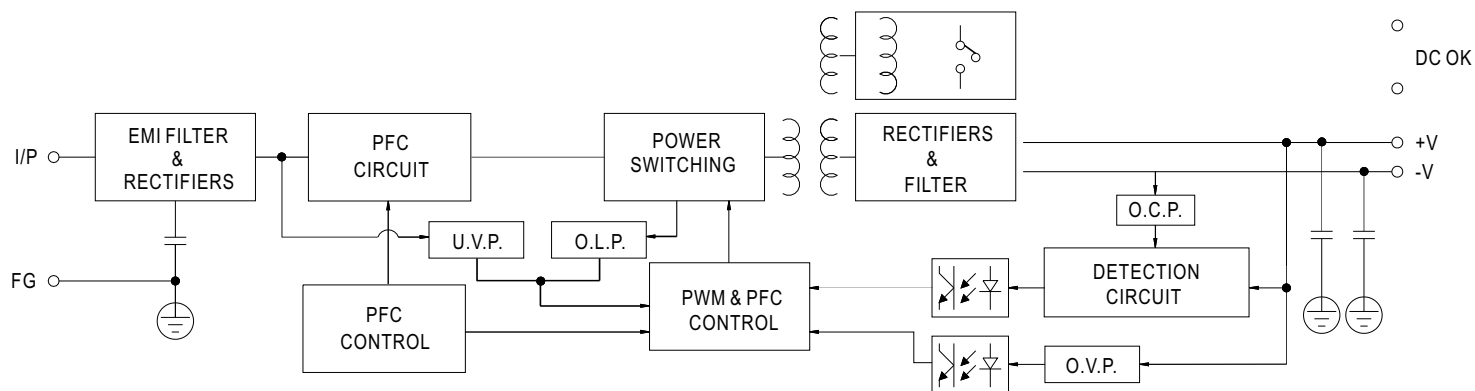
| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | WDR-480-24                                                                                                                                                                     |  | WDR-480-48                                                                                                          |  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------|--|
| OUTPUT                | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 24V                                                                                                                                                                            |  | 48V                                                                                                                 |  |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20A                                                                                                                                                                            |  | 10A                                                                                                                 |  |
|                       | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0 ~ 20A                                                                                                                                                                        |  | 0 ~ 10A                                                                                                             |  |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 480W                                                                                                                                                                           |  | 480W                                                                                                                |  |
|                       | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100mVp-p                                                                                                                                                                       |  | 150mVp-p                                                                                                            |  |
|                       | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 24 ~ 28V                                                                                                                                                                       |  | 48 ~ 55V                                                                                                            |  |
|                       | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±1.0%                                                                                                                                                                          |  | ±1.0%                                                                                                               |  |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.5%                                                                                                                                                                          |  | ±0.5%                                                                                                               |  |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±1.0%                                                                                                                                                                          |  | ±1.0%                                                                                                               |  |
|                       | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 800ms, 150ms/400VAC      2000ms, 150ms/230VAC at full load                                                                                                                     |  |                                                                                                                     |  |
|                       | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 18ms / 400VAC      16ms / 230VAC at full load                                                                                                                                  |  |                                                                                                                     |  |
| INPUT                 | VOLTAGE RANGE Note.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 180 ~ 550VAC      254 ~ 780VDC                                                                                                                                                 |  |                                                                                                                     |  |
|                       | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 47 ~ 63Hz                                                                                                                                                                      |  |                                                                                                                     |  |
|                       | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 92%                                                                                                                                                                            |  | 93%                                                                                                                 |  |
|                       | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.6A/400VAC      4A/230VAC                                                                                                                                                     |  |                                                                                                                     |  |
|                       | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | COLD STAR 50A                                                                                                                                                                  |  |                                                                                                                     |  |
|                       | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <3.5mA / 530VAC                                                                                                                                                                |  |                                                                                                                     |  |
| PROTECTION            | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 105 ~ 130% rated output power<br>Protection type : Constant current limiting, unit will shut down after 3 sec. ,auto-recovery after 1 minute if the fault condition is removed |  |                                                                                                                     |  |
|                       | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 29 ~ 33V                                                                                                                                                                       |  | 56 ~ 65V<br>Protection type : Shut down o/p voltage, auto-recovery after 1 minute if the fault condition is removed |  |
|                       | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 95℃ ±5℃ (TSW) detect on heatsink of power switch<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down                                |  |                                                                                                                     |  |
|                       | FUNCTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | DC OK RELAY CONTACT RATINGS (max.) 60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load                                                                                             |  |                                                                                                                     |  |
| ENVIRONMENT           | WORKING TEMP. Note.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -30 ~ +70℃ (Refer to output load 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 approved, IEC60950-1 CB approved by SIQ, design refer to GL                                                                                                              |  |                                                                                                                     |  |
|                       | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | I/P-O/P:3KVAC    I/P-FG:1.5KVAC    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                                                                                                                     |  |                                                                                                                     |  |
|                       | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to EN55022 (CISPR22), EN61204-3 Class B                                                                                                                             |  |                                                                                                                     |  |
|                       | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Compliance to EN61000-3-2,-3                                                                                                                                                   |  |                                                                                                                     |  |
|                       | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN55024, EN61000-6-2 (EN50082-2), EN61204-3, heavy industry level, criteria A approved                                       |  |                                                                                                                     |  |
| OTHERS                | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 112.8Khrs min.      MIL-HDBK-217F (25℃)                                                                                                                                        |  |                                                                                                                     |  |
|                       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 85.5*125.2*128.5mm (W*H*D)                                                                                                                                                     |  |                                                                                                                     |  |
|                       | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.7Kg; 8pcs/14.6Kg/0.9CUFT                                                                                                                                                     |  |                                                                                                                     |  |
| 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. 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.<br>6. Derating may be needed under low input voltage. Please check the derating curve for more details. |                                                                                                                                                                                |  |                                                                                                                     |  |

## Mechanical Specification

Case No.984B Unit:mm



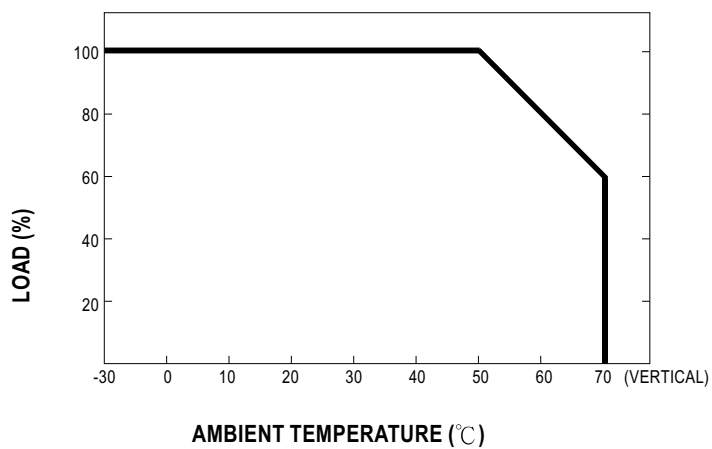
## Block Diagram



## 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



■ Output derating VS input voltage

