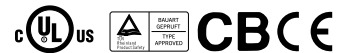




■ Features :

- Universal AC input/Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- NEC class 2 / LPS compliant
- Built in DC OK active signal
- LED indicator for power on
- No load power consumption<0.75W
- 100% full load burn-in test
- 3 years warranty

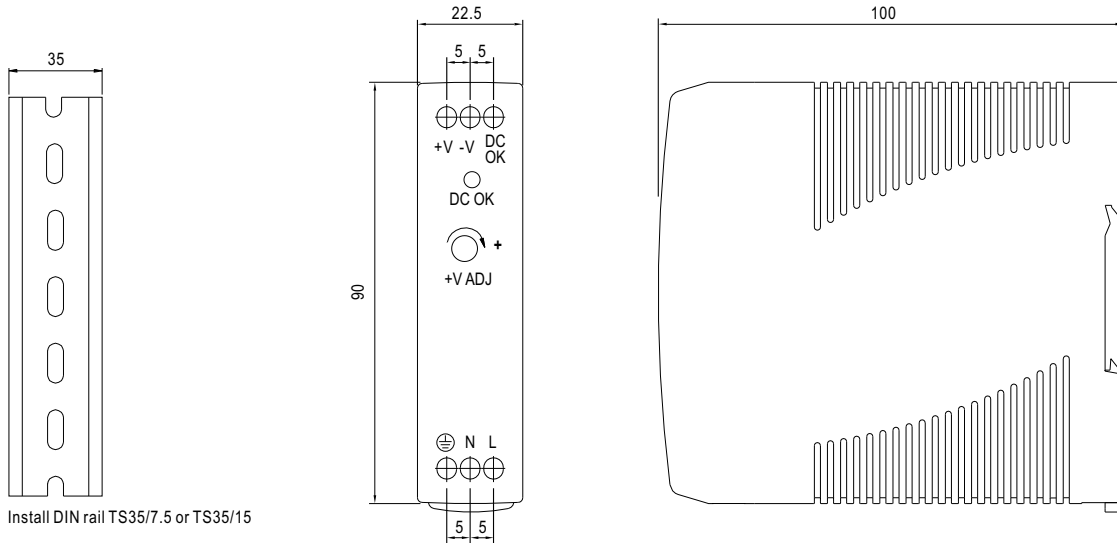


**SPECIFICATION**

| MODEL                 | MDR-20-5  | MDR-20-12   | MDR-20-15                        | MDR-20-24           |                 |
|-----------------------|---|---|----------------------------------|---------------------|-----------------|
| OUTPUT                | DC VOLTAGE  | 5V  | 12V                              | 15V                 | 24V             |
|                       | RATED CURRENT   | 3A  | 1.67A                            | 1.34A               | 1A              |
|                       | CURRENT RANGE   | 0 ~ 3A  | 0 ~ 1.67A                        | 0 ~ 1.34A           | 0 ~ 1A          |
|                       | RATED POWER   | 15W   | 20W                              | 20W                 | 24W             |
|                       | RIPPLE & NOISE (max.) Note.2  | 80mVp-p   | 120mVp-p                         | 120mVp-p            | 150mVp-p        |
|                       | VOLTAGE ADJ. RANGE  | 4.75 ~ 5.5V   | 10.8 ~ 13.2V                     | 13.5 ~ 16.5V        | 21.6 ~ 26.4V    |
|                       | VOLTAGE TOLERANCE Note.3  | ±2.0%   | ±1.0%                            | ±1.0%               | ±1.0%           |
|                       | LINE REGULATION   | ±1.0%   | ±1.0%                            | ±1.0%               | ±1.0%           |
|                       | LOAD REGULATION   | ±1.0%   | ±1.0%                            | ±1.0%               | ±1.0%           |
|                       | SETUP, RISE TIME Note.5   | 500ms, 30ms/230VAC  | 1000ms, 30ms/115VAC at full load |                     |                 |
| HOLD UP TIME (Typ.)   | 50ms/230VAC   | 20ms/115VAC at full load  |                                  |                     |                 |
| INPUT                 | VOLTAGE RANGE   | 85 ~ 264VAC (accepts 120 ~ 370VDC but not certified)  |                                  |                     |                 |
|                       | FREQUENCY RANGE   | 47 ~ 63Hz   |                                  |                     |                 |
|                       | EFFICIENCY (Typ.)   | 76%   | 80%                              | 81%                 | 84%             |
|                       | AC CURRENT (Typ.)   | 0.55A/115VAC 0.35A/230VAC   |                                  |                     |                 |
|                       | INRUSH CURRENT (Typ.)   | COLD START 20A/115VAC 40A/230VAC  |                                  |                     |                 |
|                       | LEAKAGE CURRENT   | <1mA/ 240VAC  |                                  |                     |                 |
| PROTECTION            | OVERLOAD  | 105 ~ 160% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |                                  |                     |                 |
|                       | OVER VOLTAGE  | 5.75 ~ 6.75V  | 13.8 ~ 16.2V                     | 17.25 ~ 20.25V      | 27.6 ~ 32.4V    |
|                       |   | Protection type : Shut down o/p voltage, re-power on to recover   |                                  |                     |                 |
| FUNCTION              | DC OK ACTIVE SIGNAL (max.)  | 3.75 ~ 6V / 50mA  | 9 ~ 13.5V / 40mA                 | 11.5 ~ 16.5V / 40mA | 18 ~ 27V / 20mA |
| ENVIRONMENT           | WORKING TEMP.   | -20 ~ +70°C (Refer to output load 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: Compliance to IEC60068-2-6                          |                                  |                     |                 |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS  | UL508, TUV EN60950-1 approved, NEC class 2 / LPS compliant  |                                  |                     |                 |
|                       | WITHSTAND VOLTAGE   | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC   |                                  |                     |                 |
|                       | ISOLATION RESISTANCE  | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC  |                                  |                     |                 |
|                       | EMI CONDUCTION & RADIATION  | Compliance to EN55011,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, EN550204, EN55024,EN61000-6-1,EN61204-3, light industry level, criteria A   |   |                                  |                     |                 |
| OTHERS                | MTBF  | 236.9K hrs min. MIL-HDBK-217F (25°C)  |                                  |                     |                 |
|                       | DIMENSION   | 22.5*90*100mm (W*H*D)   |                                  |                     |                 |
|                       | PACKING   | 0.19Kg; 72pcs/14.7Kg/0.91CUFT   |                                  |                     |                 |
| NOTE                  | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC 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 may lead to increase of the set up time.</li> </ol> |   |                                  |                     |                 |

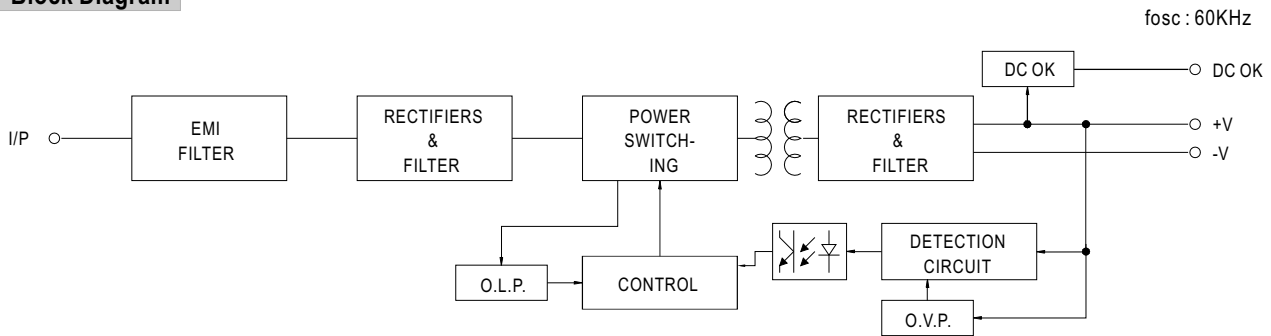
**Mechanical Specification**

Case No. 956 Unit:mm



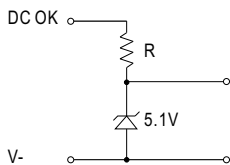
Install DIN rail TS35/7.5 or TS35/15

**Block Diagram**



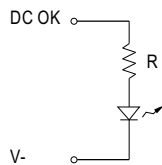
**Application of DC OK Active Signal**

(a) 5V signal



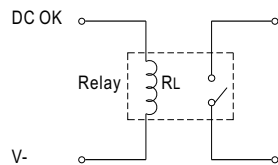
| Model | R       |
|-------|---------|
| 5V    | ≥ 200Ω  |
| 12V   | ≥ 1.5KΩ |
| 15V   | ≥ 2KΩ   |
| 24V   | ≥ 3.9KΩ |

(b) LED



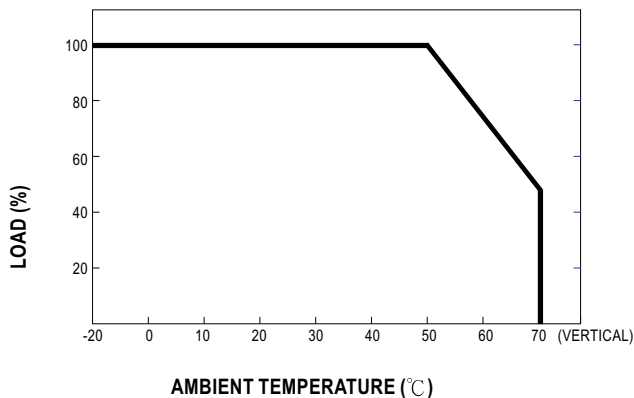
| Model | R       |
|-------|---------|
| 5V    | ≥ 1KΩ   |
| 12V   | ≥ 2.4KΩ |
| 15V   | ≥ 3KΩ   |
| 24V   | ≥ 4.7KΩ |

(c) Relay



| Model | RL      |
|-------|---------|
| 5V    | ≥ 120Ω  |
| 12V   | ≥ 700Ω  |
| 15V   | ≥ 700Ω  |
| 24V   | ≥ 1.2KΩ |

**Derating Curve**



**Output Derating VS Input Voltage**

