



## ■ 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
- 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

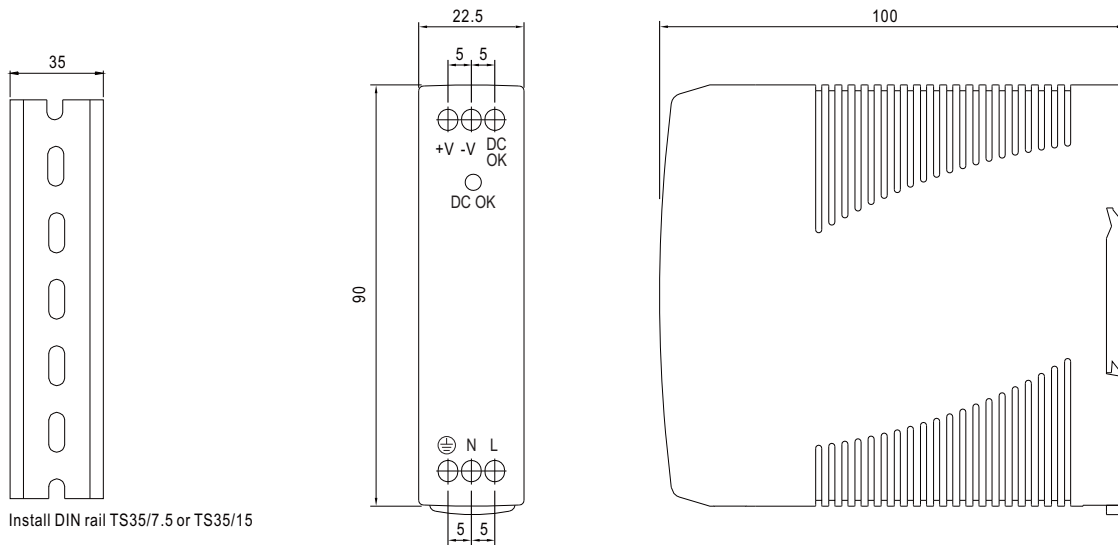


## SPECIFICATION

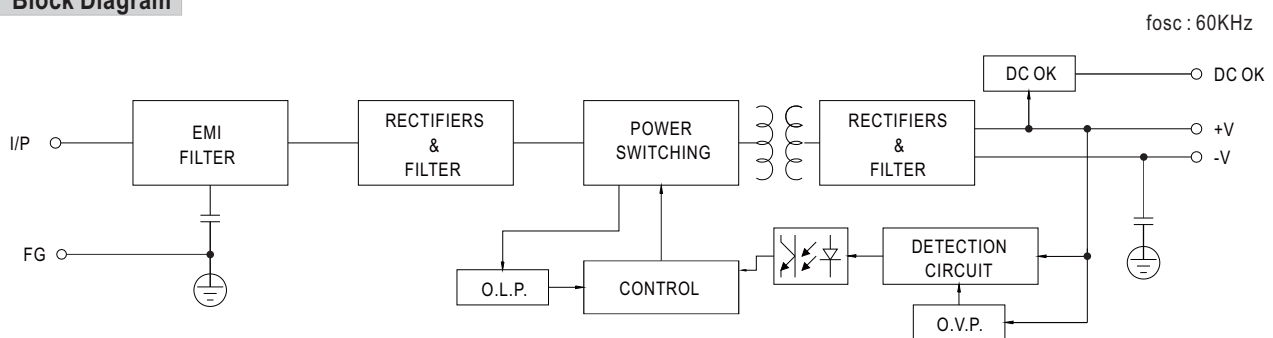
| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MDR-10-5                                                                                                                     |                          | MDR-10-12                        |  | MDR-10-15           |  | MDR-10-24       |  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------|--|---------------------|--|-----------------|--|
| OUTPUT                   | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5V                                                                                                                           |                          | 12V                              |  | 15V                 |  | 24V             |  |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2A                                                                                                                           |                          | 0.84A                            |  | 0.67A               |  | 0.42A           |  |
|                          | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0 ~ 2A                                                                                                                       |                          | 0 ~ 0.84A                        |  | 0 ~ 0.67A           |  | 0 ~ 0.42A       |  |
|                          | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10W                                                                                                                          |                          | 10W                              |  | 10W                 |  | 10W             |  |
|                          | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 80mVp-p                                                                                                                      |                          | 120mVp-p                         |  | 120mVp-p            |  | 150mVp-p        |  |
|                          | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ± 5.0%                                                                                                                       |                          | ± 3.0%                           |  | ± 3.0%              |  | ± 2.0%          |  |
|                          | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ± 1.0%                                                                                                                       |                          | ± 1.0%                           |  | ± 1.0%              |  | ± 1.0%          |  |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ± 5.0%                                                                                                                       |                          | ± 3.0%                           |  | ± 3.0%              |  | ± 2.0%          |  |
|                          | SETUP, RISE TIME Note.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 500ms, 30ms/230VAC                                                                                                           |                          | 1000ms, 30ms/115VAC at full load |  |                     |  |                 |  |
| HOLD UP TIME (Typ.)      | 120ms/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                              | 25ms/115VAC at full load |                                  |  |                     |  |                 |  |
| INPUT                    | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 85 ~ 264VAC                                                                                                                  |                          | 120 ~ 370VDC                     |  |                     |  |                 |  |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 47 ~ 63Hz                                                                                                                    |                          |                                  |  |                     |  |                 |  |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 77%                                                                                                                          |                          | 81%                              |  | 81%                 |  | 84%             |  |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.33A/115VAC                                                                                                                 |                          | 0.21A/230VAC                     |  |                     |  |                 |  |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | COLD START 35A/115VAC                                                                                                        |                          | 70A/230VAC                       |  |                     |  |                 |  |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <1mA / 240VAC                                                                                                                |                          |                                  |  |                     |  |                 |  |
| PROTECTION               | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Above 105% rated output power<br>Protection type : Hiccup mode, 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℃ (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: Compliance to IEC60068-2-6                 |                          |                                  |  |                     |  |                 |  |
| SAFETY & EMC<br>(Note 4) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UL508, TUV EN60950-1, EAC TP TC 004, BSMI CNS14336-1 approved                                                                |                          |                                  |  |                     |  |                 |  |
|                          | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG: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, EN55032 (CISPR32), EN61204-3 Class B, EN61000-3-2,-3, EAC TP TC 020, CNS13438 Class B                 |                          |                                  |  |                     |  |                 |  |
|                          | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN55024,EN61000-6-1,EN61204-3, light industry level, criteria A, EAC TP TC 020 |                          |                                  |  |                     |  |                 |  |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 584K hrs min. MIL-HDBK-217F (25℃)                                                                                            |                          |                                  |  |                     |  |                 |  |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 22.5*90*100mm (W*H*D)                                                                                                        |                          |                                  |  |                     |  |                 |  |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.15Kg; 72pcs/11.8Kg/0.91CUFT                                                                                                |                          |                                  |  |                     |  |                 |  |
| NOTE                     | 1. All parameters NOT specially mentioned are measured at 230VAC 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>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.<br>6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). |                                                                                                                              |                          |                                  |  |                     |  |                 |  |

### Mechanical Specification

Case No. 956 Unit:mm

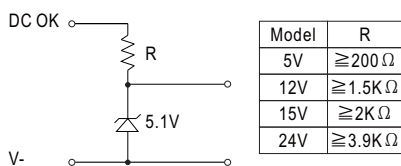


### Block Diagram

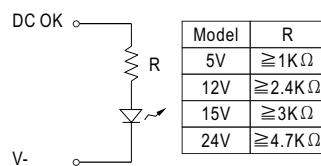


### Application of DC OK Active Signal

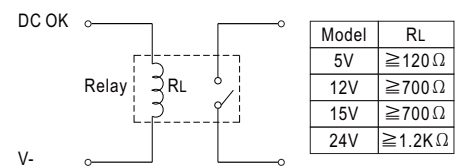
#### (a) 5V signal



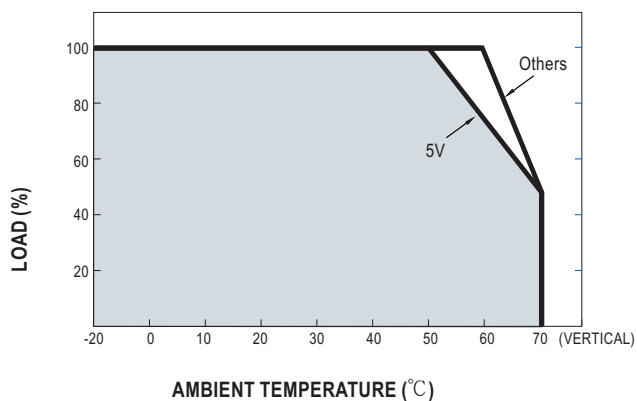
#### (b) LED



#### (c) Relay



### Derating Curve



### Output Derating VS Input Voltage

