

## MDR-20 Series

### 20W Single Output Industrial DIN RAIL



#### ■ 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

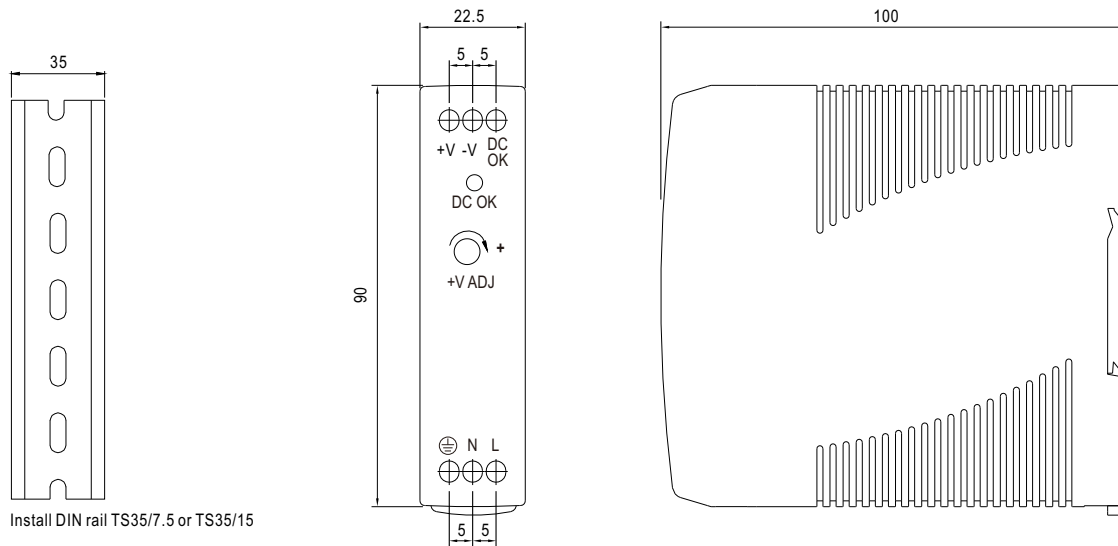


### SPECIFICATION

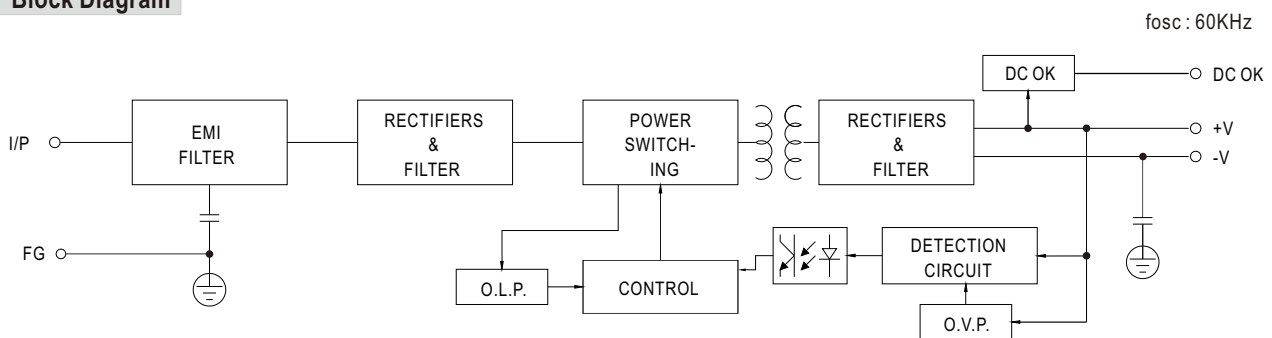
MODEL		MDR-20-5	MDR-20-12	MDR-20-15	MDR-20-24
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	3A	1.67A	1.34A	1A
	CURRENT RANGE	0 ~ 3A	0 ~ 1.67A	0 ~ 1.34A	0 ~ 1A
	RATED POWER	15W	20W	20W	24W
	RIPPLE & NOISE (max.) <small>Note.2</small>	80mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V
	VOLTAGE TOLERANCE <small>Note.3</small>	± 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 <small>Note.5</small>	500ms, 30ms/230VAC      1000ms, 30ms/115VAC at full load			
HOLD UP TIME (Typ.)	50ms/230VAC      20ms/115VAC at full load				
INPUT	VOLTAGE RANGE	85 ~ 64VAC      120 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 3Hz			
	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 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 ~ 7V / 20mA
ENVIRONMENT	WORKING TEMP.	-20 ~ +70°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ 85°C, 10 ~ 5% 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 <small>(Note 4)</small>	SAFETY STANDARDS	UI508, TUV BS EN/EN62368-1, EAC TP TC 004, BSMI CNS15598-1, AS/NZS 62368.1 , IS13252(Part1)/IEC60950-1 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°C/ 70% RH			
	EMC EMISSION	Compliance to BS EN/EN55032 (CISPR32), BS EN/EN61204-3 Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020, CNS15936 Class B			
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2, 3, 4, 5, 6, 8, 11, BS EN/EN55035,BS EN/EN61000-6-1,BS EN/EN61204-3, light industry level, EAC TP TC 020			
OTHERS	MTBF	2780.8K hrs min.      Telcordia SR-332 (Bellcore) ; 236.9K hrs min.      MIL-HDBK-217F (25°C)			
	DIMENSION	22.5*90*100mm (W*H*D)			
	PACKING	0.17Kg; 72pcs/13.2Kg/1.04CUFT			
NOTE	<div>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</div> <div>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 µF &amp; 47 µF parallel capacitor.</div> <div>3. Tolerance : includes set up tolerance, line regulation and load regulation.</div> <div>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.</div> <div>5. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</div> <div>6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m (6500ft)</div>				

### Mechanical Specification

Case No. 956 Unit:mm

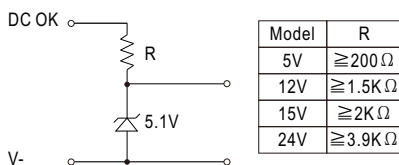


### Block Diagram

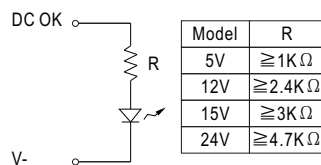


### Application of DC OK Active Signal

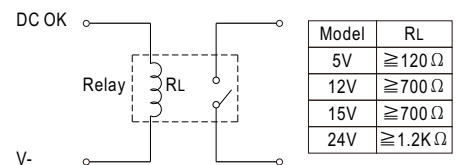
#### (a) 5V signal



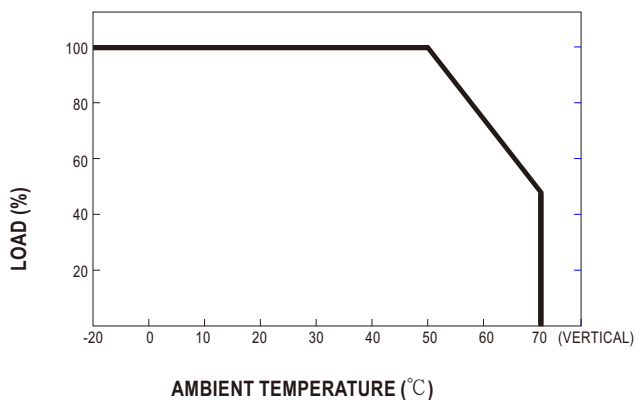
#### (b) LED



#### (c) Relay



### Derating Curve



### Output Derating VS Input Voltage

