MDR60 Series

60 W AC/DC Switching Power Supply – DIN rail

CoolPower Solutions

- Universal AC input/Full range
- Protections: Short circuit / Overload / Over voltage
- Can be installed on DIN rail TS-35/7.5 or 15
- Class I, Div 2 Hazardous Locations T4
- DC OK relay contact
- No load power consumption <0.75W



Electrical specifications

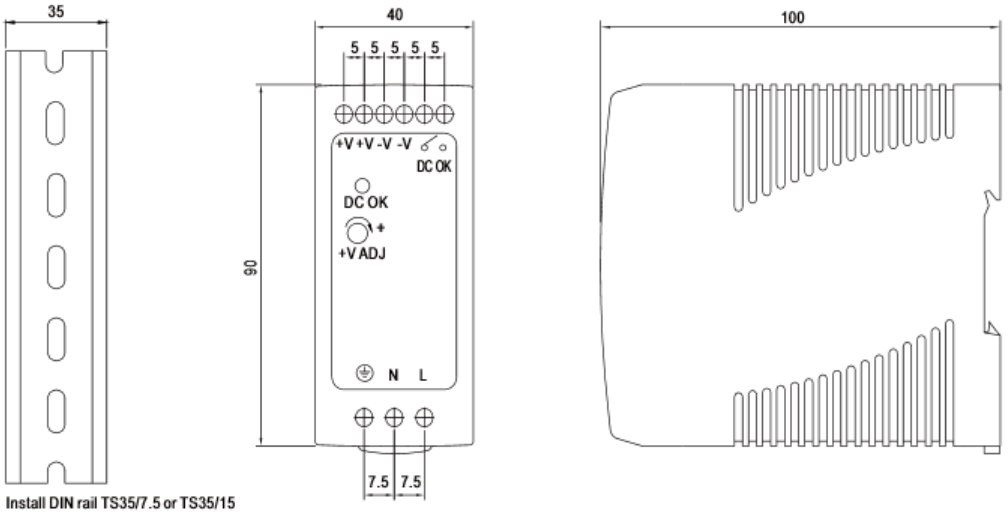
Model No.		MDR60-5	MDR60-12	MDR60-24	MDR60-48
Max Output Wattage (W)		50W	60W	60W	60W
Input	Voltage	85-264 VAC or 120-370 VDC			
	Frequency (Hz)	47-65 Hz			
	Current (Full load)	1,8 A typ. (115 VAC) / 1,0 A typ. (230 VAC)			
	Inrush Current (typ)	Cold start 30 A (115 VAC) / 60 A (230 VAC)			
	Leakage Current	<1 mA /240 VAC			
Output	Voltage (V.DC.)	5V	12V	24V	48V
	Voltage Adjustable Range	5 - 6V	12 - 15V	24 - 30V	48 - 56V
	Voltage Tolerance (Note 3)	±2%	±1%	±1%	±1%
	Rated Current	10 A	5 A	2,5 A	1,25 A
	Line Regulation	±1%	±1%	±1%	±1%
	Load Regulation	±1,5%	±1%	±1%	±1%
	Ripple % Noise (max) (Note2)	80mV$_{p-p}$	120mV$_{p-p}$	150mV$_{p-p}$	200mV$_{p-p}$
	Efficiency (typ)	78%	86%	88%	87%
	Hold-up Time	50 ms / 230 VAC			
	Setup, Rise Time (Note 5)	500 ms, 30 ms / 230 VAC			
Protection	Over Load	105% - 150% rated output power			
		Type: Constant current limiting, recovers automatically after fault condition is removed			
	Over Voltage	6,25 ~ 7,25V	15,6 ~ 18,0V	31,2 ~ 36,0V	57,6 ~ 64,8V
		Protection type : Shut down o/p voltage, re-power on to recover			
Function	DC OK Signal	Relay contact rating(max.): 30V/1A resistive			
Environment	Operating Temperature	-20°C…+70°C (with derating)			
	Storage Temperature	-40°C…+85°C, 10 – 95% RH			
	Temperature coefficient	±0.03%/°C			
	Humidity	20 - 90% RH			
	MTBF	299 200 h @ 25°C (MIL-HDBK-217F)			
Physical	Dimension (L x W x H)	40 x 90 x 100 mm			
	Weight	330 g			
	Cooling Method	Free air convection			
Safety	Safety standards	UL508, UL60950-1, TUV EN60950-1, Class I, Div. 2 Group A, B, C, D Hazardous Locations T4 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 EN55011, EN55032 (CISPR32), EN61204-3 Class B, EN61000-3-2,-3			
	EMC Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN55024,EN61000-6-2,EN61204-3, heavy industry level, criteria A			
Note	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 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. 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.				

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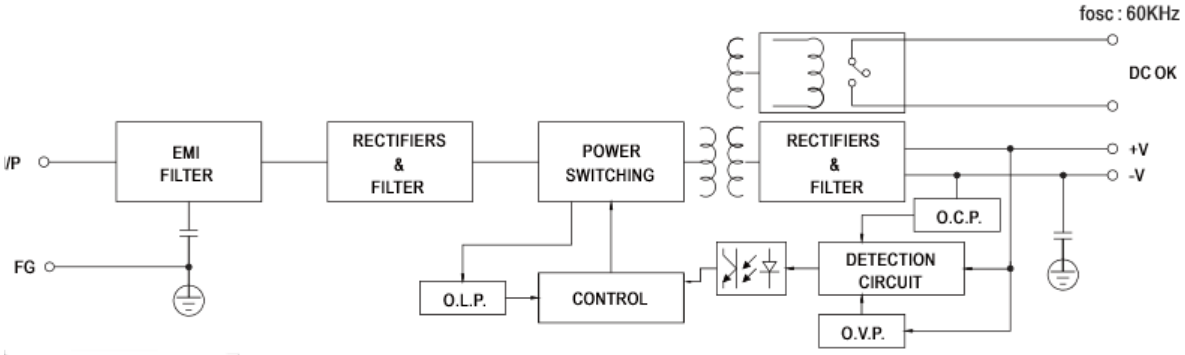
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Mechanical Specifications



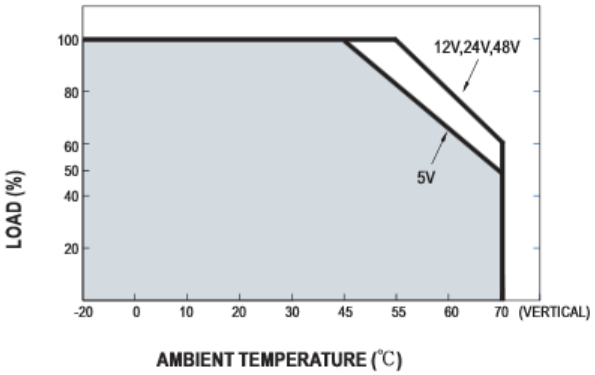
Block Diagramm



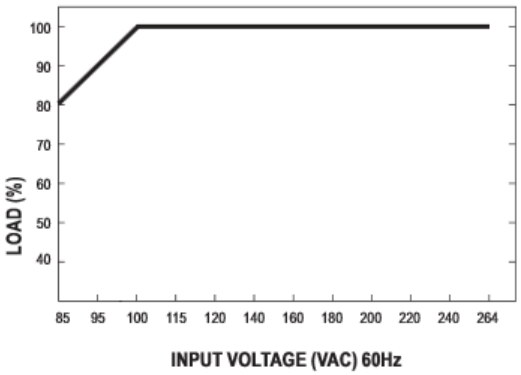
DC OK Relay Contact

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



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