500W Single Output Industrial DIN RAIL with PFC Function

MDR-500 series

■ Features :

- High efficiency up to 94%
- Built-in active PFC function>0.95
- Protections:Short circuit/Overload/ Over voltage/Over temperature
- Can be installed on DIN rail TS-35/7.5 or 15
- Built-in DC OK relay contact
- Built-in redundant function(optional)
- 100% full load burn-in test
- LED indicator for power on
- slim body width only 55mm
- 3 years warranty

Type	Description	Note
Blank	Enclosed	In Stock
R	Buit-in DC OK active signal and redundant function.	By request

SPECIFICATION

c UL us pending CB pending CE FC

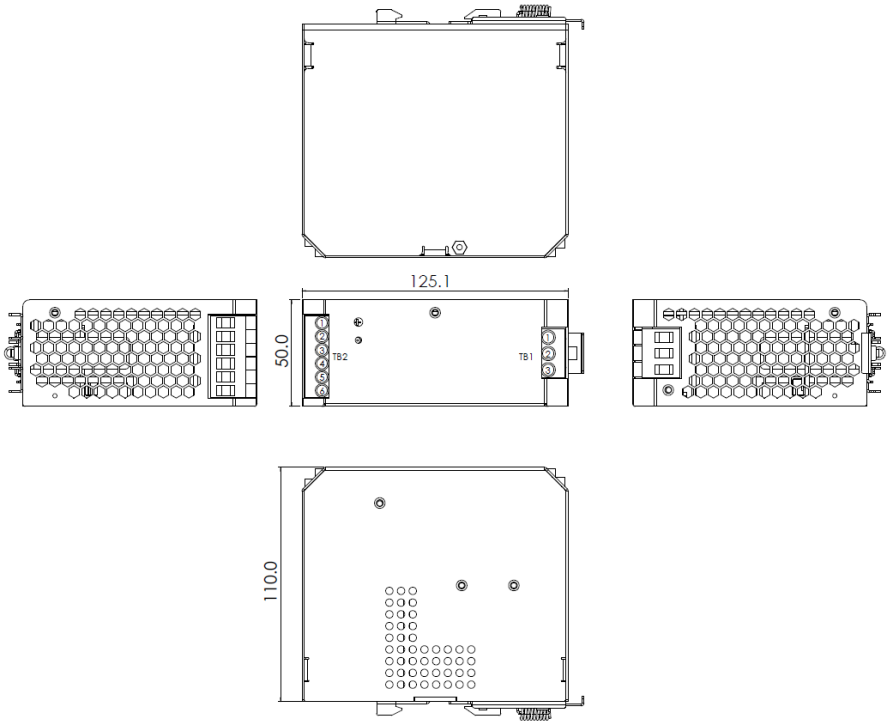
MODEL		MDR-500-12	MDR-500-24	MDR-500-48
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	30A	20.8A	10.4A
	CURRENT RANGE	0～30A	0～20.8A	0～10.4A
	RATED POWER	360W	499.2W	499.2W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	12～14V	24～28V	48～55V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2%	±1%	±1%
	SETUP, RISE TIME	1000ms, 50ms/230VAC 2000ms, 50ms/115VAC at full load		
	HOLD UP TIME (Typ.)	14ms/230VAC at full load		
INPUT	VOLTAGE RANGE Note.7	90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	0.94/230VAC 0.99/115VAC at full load		
	EFFICIENCY (Typ.)	91.5%	94%	
	AC CURRENT (Typ.)	5A/115VAC 3.2A/230VAC		
	INRUSH CURRENT (Typ.)	20A/115VAC 40A/230VAC		
	LEAKAGE CURRENT	2mA / 240VAC		
PROTECTION	OVERLOAD	Normally works within 110 ~ 140% rated output power		
		Protection type：>0.2s，Shutdown，recovers automatically after re-power on		
	OVER VOLTAGE	15 ~18V	29~33V	56 ~ 65V
		Protection type : Shut down re-power on to recovery		
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down		
FUNCTION	DC OK REALY CONTACT RATINGS (max.)	30Vdc/1A resistive load		
ENVIRONMENT	WORKING TEMP. Note.5	-30 ~ +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 (Note 4)	SAFETY STANDARDS	Refer to IEC/UL62368-1, GB4943.1-2011		
	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	Refer to EN55032:2015, Class B		
	EMC IMMUNITY	Refer to EN61000-3-3:2013, EN55035:2017, EN55024:2010+A1:2015		
OTHERS	MTBF	150K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	50*125.1*110mm(W*H*D)		
	PACKING	1Kg; 12pcs/ 13Kg/0.85CUFT		

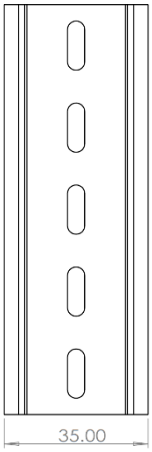
NOTE

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. Line regulation is measured from low line and high line at rated load.
5. Load regulation is measured from 0% to 100% rated load.
6. 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.

■ Mechanical Specification

Unit:mm





TS35/7.5 OR TS35/15

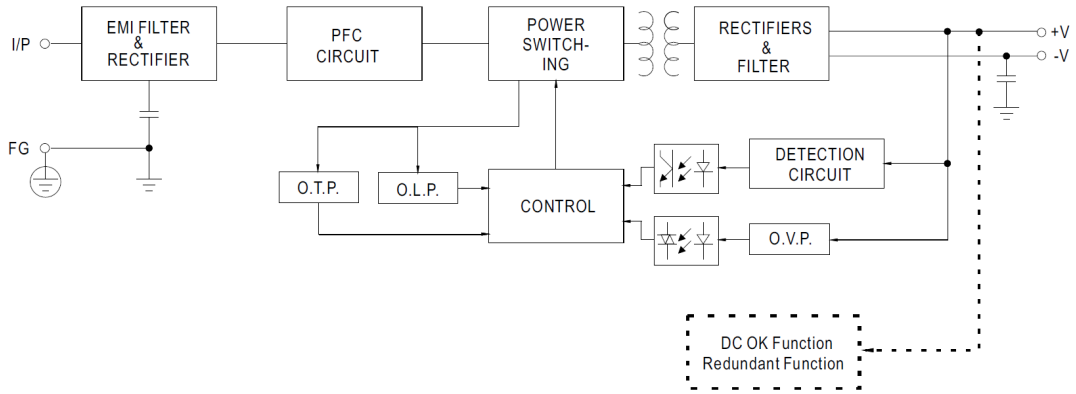
Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N
3	AC/L

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	Relay Contact
3,4	DC OUTPUT +V
5,6	DC OUTPUT -V

■ Block Diagram



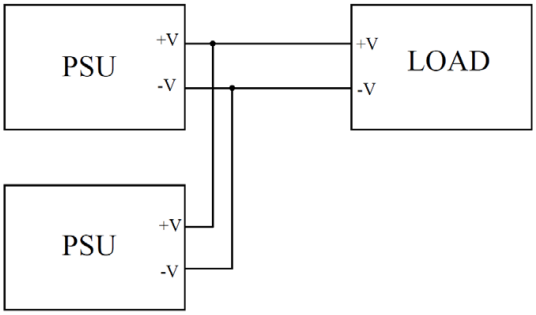
■ DC OK Relay Contact

Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

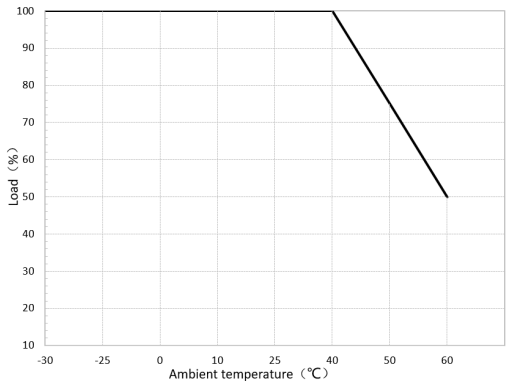
■ Redundant function (MDR-500R only)

(1) MDR-500R is built-in redundant function and can be connected 2 units in parallel.

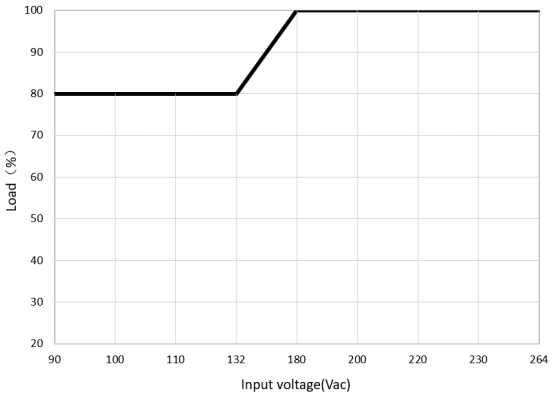
(2) When in parallel operation the maximum load should not be greater than the rated power of any PSU.



■ Derating Curve



■ Output derating VS input voltage

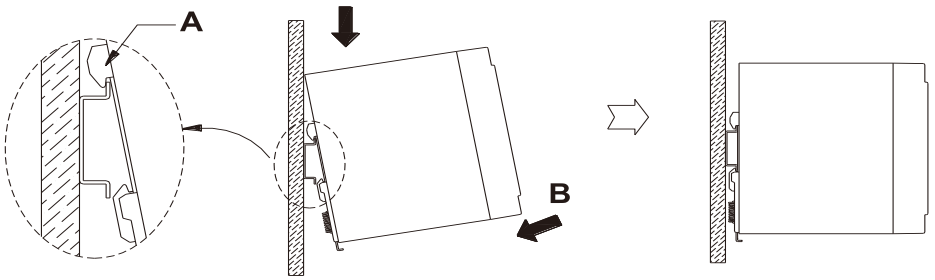


■ Installation Instruction

This series fits DIN rail TS35/7.5 or TS35/15.

(1) How to fix

Firstly hang A part on the top of Rail as shown in below, then push the power supply into B di-rection to fix it.



(2) How to remove

Remove the power supply to D direction, pulling C part by using tools, such as a screwdriver, to downward direction.