

Features

- Input Voltage 90~305V AC
- Built in Active PFC Function
- Forced air cooling by build-in DC fan
- Approved to UKCA, CE
- Safety Approved to IEC 62368-1 BS EN/EN 62368-1
- Efficiency up to 91.5%
- Protection: OLP, OVP, OTP SCP
- 3 Years Warranty



Ideal Power's 56YEP500-xy-RS 500W Enclosed AC/DC Power Supply (PSU) Series is certified to UKCA, CE & IEC 62368-1/BS EN62368-1/EN 62368-1 Standards and complies with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Models

Part number	DC Voltage	Rated Current (max.)	Rated Power	Average Efficiency	Ripple & Noise	Max Capacitive Load	Voltage ADJ Range
56YEP500-5-RS	5V	90A	450W	84%	150mVp-p	45000uF	4.5~5.5V
56YEP500-12-RS	12V	41.7A	500.4W	88%	150mVp-p	40000uF	10~13.2V
56YEP500-15-RS	15V	33.4A	501W	88%	150mVp-p	10000uF	13.5~18V
56YEP500-24-RS	24V	21A	504W	89%	150mVp-p	6000uF	20~26.4V
56YEP500-27-RS	27V	18.6A	502W	89.5%	150mVp-p	6000uF	26~30V
56YEP500-36-RS	36V	14A	504W	90%	180mVp-p	3000uF	32.4~39.6V
56YEP500-48-RS	48V	10.5A	504W	90.5%	240mVp-p	1800uF	41~56V
56YEP500-60-RS	60V	8.4A	504W	91.5%	300mVp-p	1800uF	56~64V

Input Specifications

Rated Voltage Range	100-277VAC/127-430VDC	
AC Voltage Range	90-305VAC/127-430VDC	
Frequency Range	50/60Hz	
AC Current	5.3A/115VAC	2.65A/230VAC
Inrush Current	Cold Start 40A/200us at 230VAC 50Hz	Cold Start 20A/200us at 115VAC 50Hz
Leakage Current	<2mA/240VAC	
Power Factor(Typ.)	>0.95/230VAC at full load	>0.98/115VAC at full load

Output Specifications

Setup, Rise, Hold up	1.5s,80ms,18ms/230VAC(at full load)	3.0s,80ms,14ms/115VAC(at full load)
Voltage Tolerance	±2.0	
Line Regulation	±0.5%	
Load Regulation	±1.0% 5/7.5/12/13.5/15 v	±0.5% 24/27/36/48/60 v

Protection

Over Load	105~130%Rated Output Power Constant current limiting recovers automatically after fault condition is removed.
Short Circuit	Hiccup mode, recovers automatically after fault condition is removed.
Over Voltage	115~135%Rated Output Voltage Shut down o/p voltage, re-power on to recover.
Over Temperature	Shut down o/p voltage, recovers automatically after temperature goes down.

Environmental Characteristics

Working TEMP.	-30 ~ +70°C(Please refer to “Derating Curve” section)
Working Humidity	20 ~ 95%RH Non-condensing
Storage TEMP. Humidity	-40 ~ +85°C, 10 ~ 95%RH Non-condensing
TEMP. Coefficient	0±03%/(0 ~ 50°C) on load output
Vibration	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes
Safety Protection	Class I
Over Voltage Category	OVC III / According to EN62368-1;altitude up to 2000 meters

Safety & EMC

Safety Standards	BS EN/EN62368-1
Withstand Voltage	I/P-O/P:3KVAC/1min I/P-FG:2KVAC/1min O/P-FG:0.5KVAC/1min
Isolation Resistance	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH
EMC EMISSION	BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 Class A,BS EN/EN61000-3-3
EMC IMMUNITY	BS EN/EN61000-4-11 Criteria B, BS EN/EN61000-4-2,3,4,5,6,8 Criteria A

Other

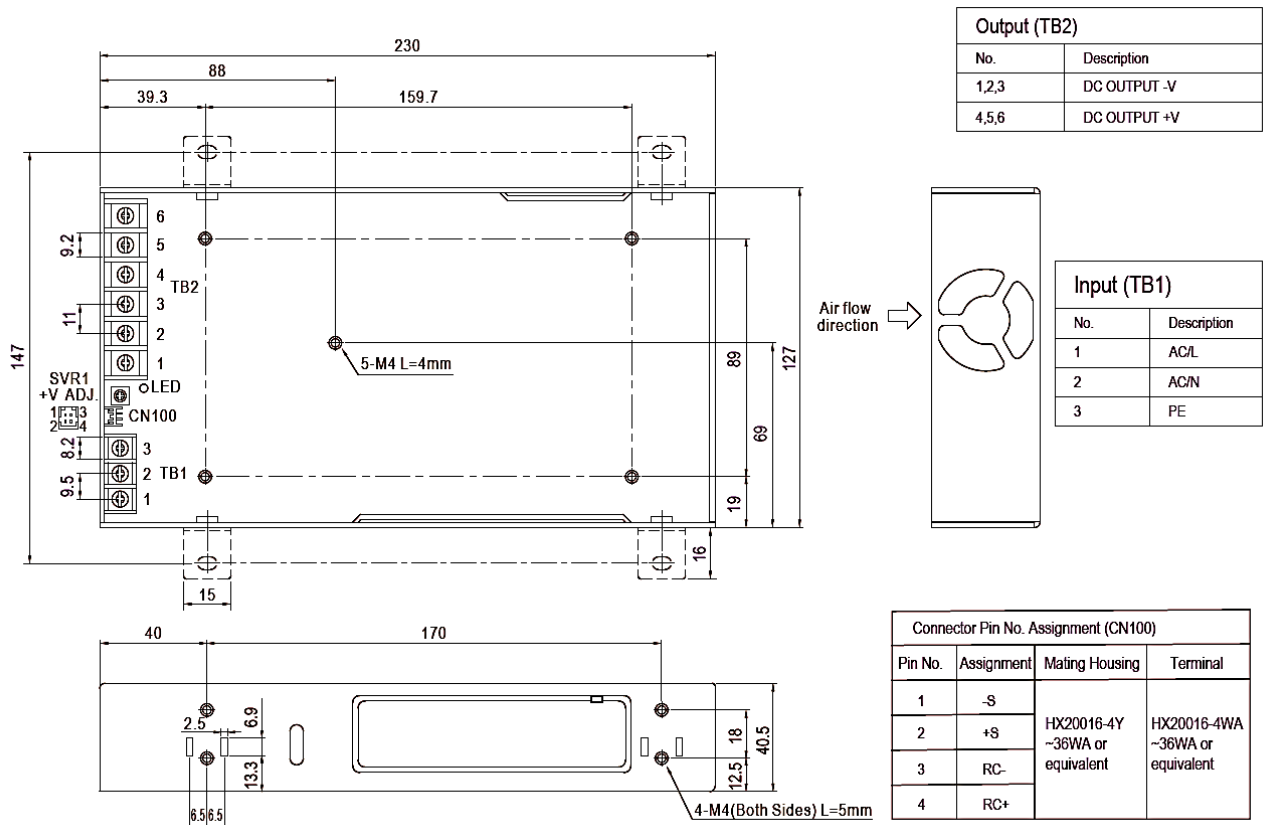
Packing	1.3kg/pcs; 54 x 30 x 24 cm; 9pcs/carton
Dimension (LxWxH)	230 x 127 x 40.5 mm
MTBF	176.8Khrs min. MIL-HDBK-217F(25°C)
Housing material	Aluminium / steel
Connection Method	Input & Output , Screw connection
Terminal	Input 3 pins / Output 6 pins
Wire	Input 22-12AWG / 0.3246-2.05mm ² Output 22-10AWG / 0.3246-4mm ²
Stripping length	Input 5-6mm, output 3-4mm
Tightening torque	Input 1.47Nm, output 1.47Nm




Notes:

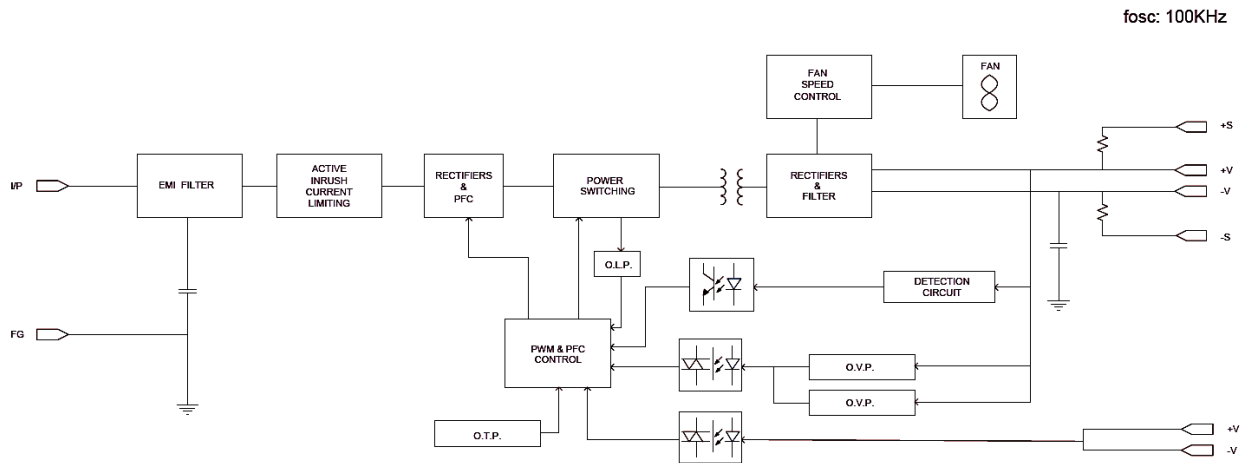
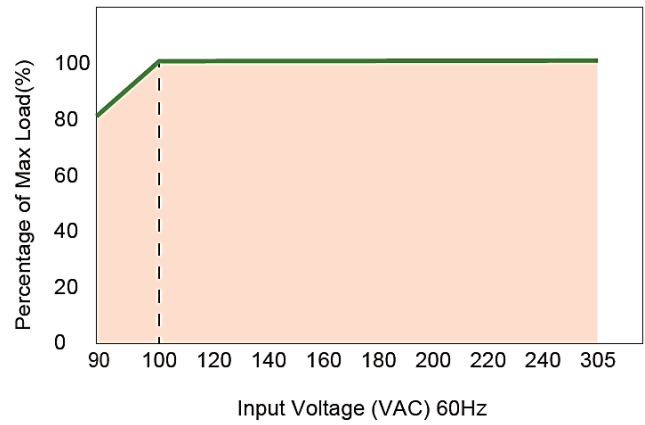
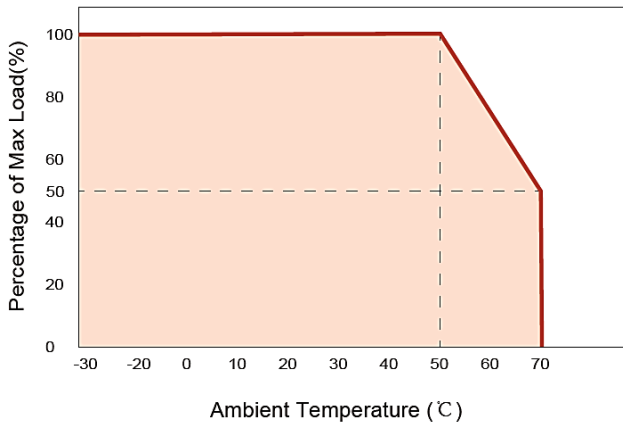
- All parameters NOT specially mentioned are measured at 115/230VAC input, rated load and 25°C of ambient temperature.
- Ripple&noise are measured at 20MHz of bandwidth by using a 12” twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.

3. 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.
4. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. Strongly recommended that external output capacitance should not exceed 10000uF (Only for the models with output voltage 5/12V)
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).

Dimensions and Recommended Layout



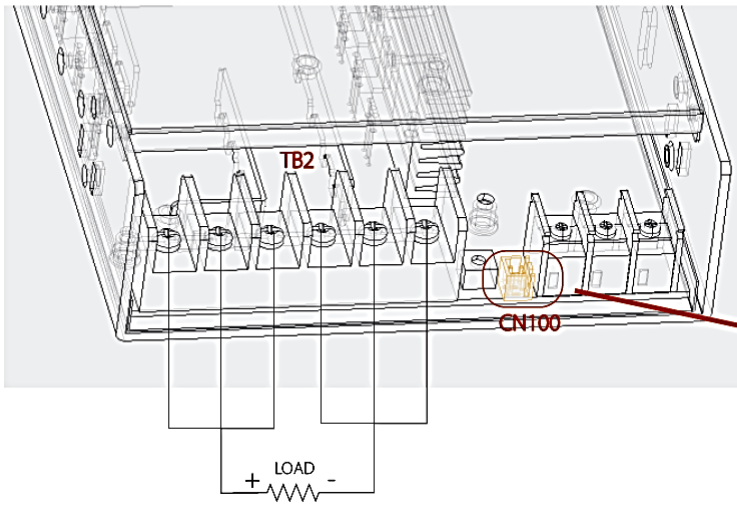
RS PRO	MODEL: YEP500-12	CE IP20 
POWER SUPPLY	INPUT: 100-277VAC 50/60Hz 5.9A	MADE IN CHINA 2025.02
OUTPUT: 12.0VDC 41.7A 500.4W	+V ADJ. 	 N L
V+	V-	

Block Diagram

Derating Curve

Function Description of CN100

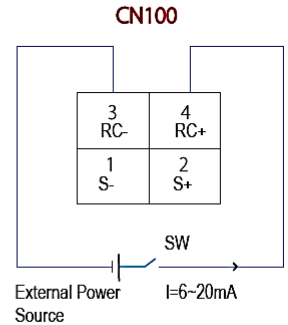
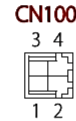
Pin No	Function	Description
1	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimise noise pick-up effect. The maximum line drop compensation is
2	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is
3	RC-	Return for RC+ signal input.
4	RC+	Turns the output on and off by electrical or dry contact between pin 4 (RC+) and pin 3 (RC-). 0~0.8VDC or open: Power ON, 4~10VDC: Power OFF.

1. Remote Control

The PSU can be turned ON/OFF by using the "Remote Control" function.

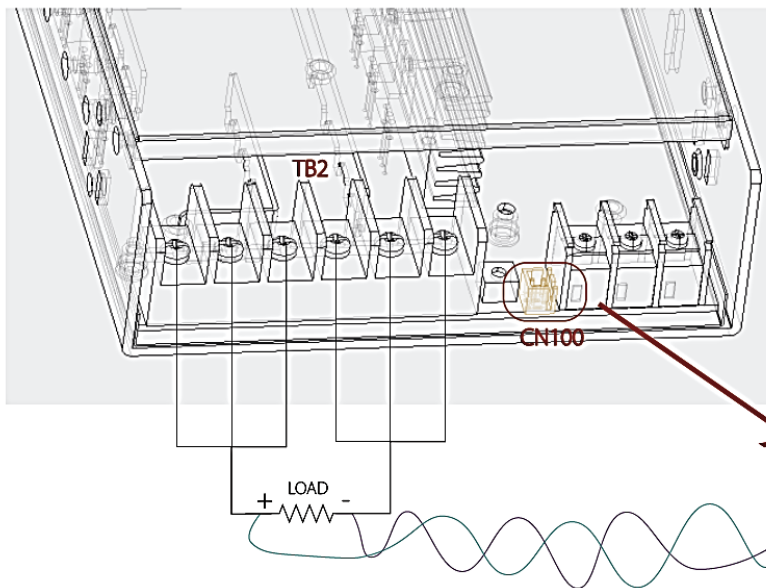


Between RC-(pin3) and RC+(pin4) on CN100	PSU Status
SW OFF (0 ~ 0.8VDC) or open	ON
SW ON (4 ~ 10V)	OFF



2. Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.3V



CN100

3 RC-	4 RC+
1 S-	2 S+



Sense lines should be twisted in pairs