

YSDH960 SERIES 960W



YINGJIAO's YSDH series were designed with metal housing and higher reliability features.

All models in the series will operate with wide ambient temperature, having peak power for 5 s and DC OK relay contact. The current sharing design for YSDH480&960 could be used for higher load.

The series be used in industrial control systems, factory automation, machine building and automotive industry etc.

Features

- ◆ AC input with 180-264V AC
- ◆ High peak power up to 130% for 5s
- ◆ Parallel function, current sharing up to 3840W(3+1)
- ◆ Built-in active PFC function
- ◆ Protections: Short circuit/Overload/Over voltage/Over temperature
- ◆ Built-in constant current limiting circuit
- ◆ High efficiency and low power dissipation
- ◆ Built-in DC OK relay contact
- ◆ Free air convection design
- ◆ Three years warranty

Model Information

Part number	DC Voltage	Rated Current(max.)	Rated Power	Peak Power	Voltage ADJ. range
YSDH960-24	24V	40A	960W	1248W(5sec.)	24-28V
YSDH960-48	48V	20A	960W	1248W(5sec.)	48-55V

Input

Nominal Input Voltage	200-240 VAC
Input Voltage Range	180~264VAC,254~370VDC
Frequency Range	47~63Hz
Power Factor(Typ.)	0.95/230VAC at full load
Efficiency(Typ.)	93%
No Load Power Consumption	6W max.
AC Current(Typ.)	6A/230VAC
Inrush Current(Typ.)	50A/230VAC, Cold start
Leakage Current	5mA max.
Start-up With Capacitance Loads	120000 μ F min.

Output

Ripple & Noise(Max.)	YSDH960-24 180mVp-p	YSDH960-48 250mVp-p
Voltage Tolerance	$\pm 1.0\%$	
Line Regulation	$\pm 0.5\%$	
Load Regulation	$\pm 1.0\%$	
Set-up, Rise & Hold Up Time	1000ms max. / 100ms max. / 14ms Typ.	

Protection

Over Load	Normally works within 105 ~ 130% rated output power for more than 5 seconds and then shutdown o/p voltage with auto-recovery after 30 seconds if the peak load condition is removed. Constant current limiting within 130 ~ 150% rated output power for more than 5 seconds and then shutdown o/p voltage, re-power on to recover.	
Over Voltage	YSDH960-24 29 ~ 33V	YSDH960-48 56 ~ 65V
	Protection Type: Shut down o/p voltage, auto-recovery or re-power to recover	
Reverse Over Voltage	YSDH960-24 24.5 ~ 25.5V	YSDH960-48 48.5 ~ 49.5V
	Protection Type: Shut down o/p voltage, auto-recovery or re-power to recover	
Over Temperature	Protection Type: Shutdown o/p voltage, auto-recovery after temperature goes down	
Internal Fuse At L Pin	F10 A /250V	
Short Circuit	Constant current Limiting within 130 ~ 150% rated output power for more than 5 seconds and then shutdown o/p voltage, re-power on to recover.	

Function

DC OK relay contact ratings(max.)	60VDC/0.3A, 30VDC/1A, 30vac/0.5A resistive load
Current Sharing	Please refer to Function Manual

Environment

Working temp.	-30 ~ +70 °C (Refer to "Derating curve")
Start-up tested temp.	-40°C (50% load max.)
Working humidity	20 ~ 95% RH non-condensing
Storage temp., humidity	-40 ~ +85 °C, 10 ~ 95% RH
MTBF	Conducted by Parts Stress Analysis Prediction 82K hrs min. MIL-HDBK-217F (25°C)
Temp. coefficient	±0.03%/ °C (0 ~ 50 °C)
Vibration	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. Each alongX,Y, Z axes; Mounting: compliance to IEC60068-2-6
Over voltage category	II
Pollution Degree	2

Safety And Electromagnetic Compatibility

Safety standards	UL61010-1, UL61010-2-201, EN61010-1, BS EN61010-1
Withstand voltage	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC
Isolation resistance	I/P-O/P,I/P-FG,O/P-FG:>100M Ohms/500VDC°C/70%RH
EMC emission	Compliance to BS EN/EN55032 , BS EN/EN61000-3-2,--3
EMC immunity	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11

Note

- 1.All parameters NOT specially mentioned at 230VAC input, rated load and 25°C of ambient temperature.
- 2.Ripple & noise are measured from peak to peak with bandwidth limit of 20MHz (0.1uF and 47uF/50V parallel capacitor under DC output full load, AC nominal input 25°C).
- 3.Installation clearances : top with 40mm, bottom with 20mm,left and right with 5mm.Increase the space to10-15mm when the adjacent device is heat source.
- 4.It could hold up 5 seconds max when reached peak power 1248W,and the average output power should not exceed the rate power.
- 5.Derating may be needed under low input voltage .Please check the derating curve for more details.
- 6.The ambient temperature derating of 3.5°C/1000m for operating altitude higher than 2000m(6500ft).

Mechanical

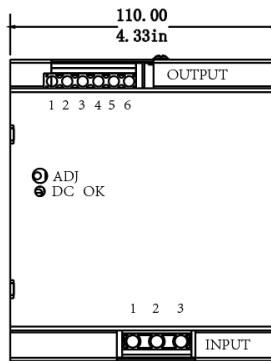
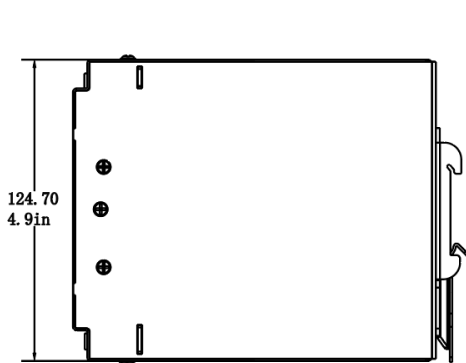
Housing material:	Aluminium / steel
Dimensions(HXWXD):	124.7x110x150.2mm(4.91x4.33x5.91inch)
Weight:	2.47kg
Connection Method:	Input & Output, Screw connection ; DC&Current sharing, plug in
Terminal	Input 3 pins / Output 6 pins / DC-OK & Current sharing 4 Pins
Wire	Input 26-10AWG / 0.128-4mm ² Output 30-10AWG / 0.05-4mm ² DC-OK & Current sharing 26-20AWG /0.128-0.517mm ²
Stripping length	Input 7-8mm, output 7.5-8.5mm
Tightening torque	Input 0.5Nm, output 0.56Nm
Mounting Rail	Standard TS35 DIN Rail in accordance with EN60715

Packing

Inner box: 1pcs / box, 41.5 * 33.2 * 20.2cm

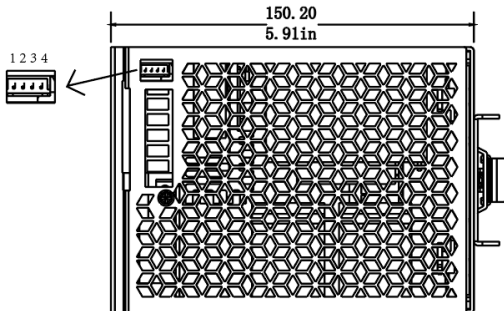
Outer carton: 4pcs/carton

Drawing & Label

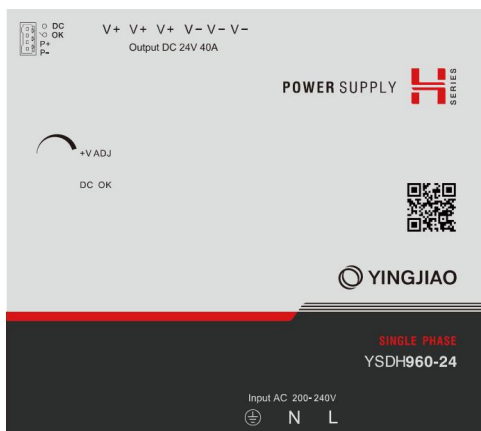


Output	
No.	Description
1,2,3	DC OUTPUT +V
4,5,6	DC OUTPUT -V

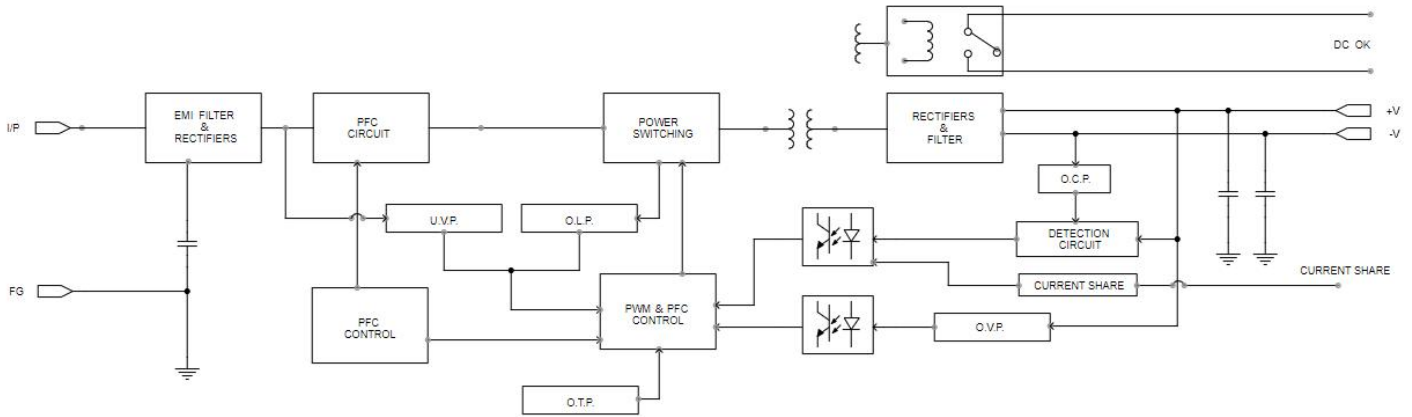
Input	
No.	Description
1	PE
2	AC/N
3	AC/L



Control Pin: WJ15EDGK-2.54-4P or equivalent			
Pin No.	Assignment	Mating Housing	Wire Diameter
1	P-(Current Share)	WJ15EDGRC-2.54-04P or equivalent(Including in the single package)	0.128~0.517mm ² (26~20AWG)
2	P+(Current Share)		
3,4	DC OK Relay Contact		

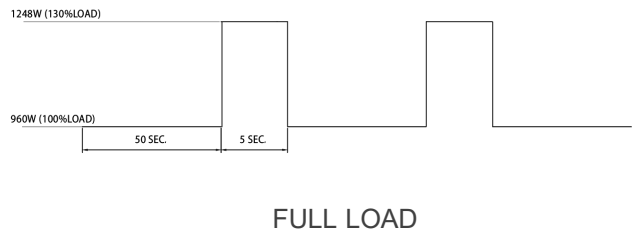
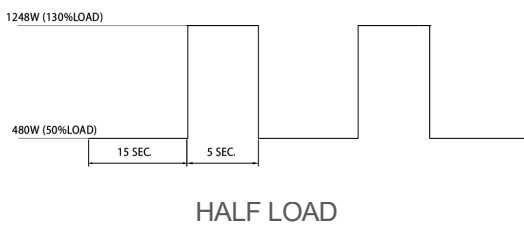


Block Diagram

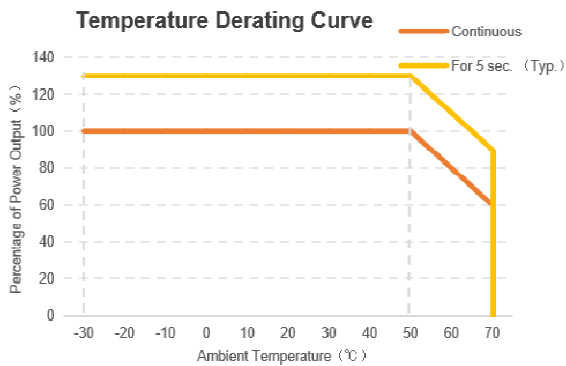


Engineering Data

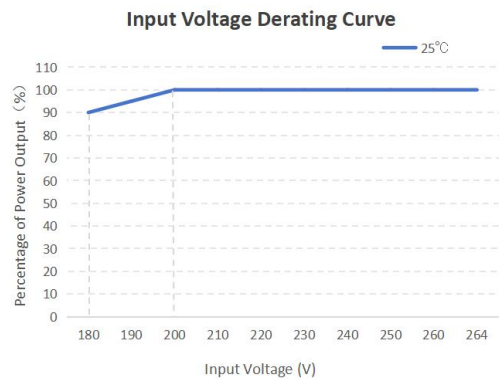
Peak loading



Derating Curve



Output Derating VS Input Voltage



Function Manual

DC OK Relay Contact

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

Current Sharing

1.Connection method for parallel operation is shown as below drawing(P+,P- should be connected in parallel), the maximum quantity is 4 unit

2.The difference of output voltage should be less than 0.2V for all PSU units in parallel

3.The total output current must not exceed the value calculated of the following equation (output current at parallel operation)=(the rated current per unit)*(number of unit) $\times 0.9$

4.In parallel connection ,the minimum output load should be more than 5% of than output load (Min. load $>5\%$ rated current per unit \times number of unit)

5. In parallel operation, pls using short and large diameter wires to connect the PSUs to the load

