

# Datasheet

## YSDT960 SERIES 960W

**FORTEC**  
UNITED STATES

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INTEGRATED

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UNITED KINGDOM

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# YSDT960 SERIES 960W



YSDT series are designed with metal housing and for three phase system with wide range from 340V Ac to 550V Ac.

The series offer built-in constant current limiting circuit, active PFC function, current sharing up to 3840w(3+1) and operating in wide temperature range.

They are suitable for industrial-related applications such as industrial control, semiconductor fabrication equipment, and factory automation and Electro-mechanical apparatus etc.

## Features

- ⚡

3-phase 340~550VAc wide Range Input  
(2-phase operation possible)
- PFC

Built-in Active pFc Function
- 🛡️

protection: short circuit/overload  
/over Voltage/over Temperature
- DC

Dc oK Relay contact
- CCL

Built-in constant current Limiting circuit
- 🔧

Higher Efficiency and  
Low power Dissipation
- 🔄

current sharing up to 3840w (3+1)
- 3

Three years warranty

## Model Information

yǐngjiāo Part number	DC VOLTAGE	RATED CURRENT	RATED POWER	VOLTAGE ADJ. RANGE
YSDT960-24	24V	40A	960W	24 ~ 28V
YSDT960-48	48V	20A	960W	48 ~ 55V

## Input

VOLTAGE RANGE	Three-Phase 380 ~ 480VAC (Dual phase operation possible) 480 ~ 780VDC
INPUTVOLTAGE RANGE	340 ~ 550VAC/480 ~ 780VDC
FREQUENCY RANGE	47~63Hz
POWER FACTOR (TYP.)	PF $\geq$ 0.88/400VAC at full load PF $\geq$ 0.86/500VAC at full load
EFFICIENCY (TYP.)	94% YSDT960-24 94.5% YSDT960-48
AC CURRENT (TYP.)	2.0A/400VAC 1.4A/500VAC
INRUSH CURRENT (TYP.)	COLD START 60A
LEAKAGE CURRENT	<3.5mA / 530VAC

## Output

RIPPLE & NOISE (max.)	180mVp-p YSDT960-24 250mVp-p YSDT960-48
VOLTAGETOLERANCE	$\pm$ 2.0%
LINE REGULATION	$\pm$ 0.5%
LOAD REGULATION	$\pm$ 1.0%
SETUP, RISETIME	1200ms/ 60ms/400VAC at full load 800ms/ 60ms/500VAC at full load
HOLD UPTIME (TYP.)	20ms / 400VAC at full load 20ms / 500VAC at full load

## protection

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OVER LOAD	105 ~ 130% rated output power Protection tYpe: Constant current limiting  unit will shutdown after 3 sec.  re-power on to recover.
OVERVOLTAGE	29~33V    YSDT960-24 56~65V    YSDT960-48 Protection tYpe: Shutdown o/p voltage  re-power on to recover.
OVERTEMPERATURE	Shutdown o/p voltage  recovers automaticallY after temperature goes down.

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## Environment

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WORKINGTEMP.	-30 ~ +70 °C (Refer to "Derating Curve")
WORKING HUMIDITY	20 ~ 95% RH non-condensing
STORAGETEMP., HUMIDITY	-40 ~ +85 °C  10 ~ 95% RH non-condensing
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
MTBF	550.04K hrs min.TelcordiaSR-332(Bellcore)

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## SAFETY & EMC

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SAFETY STANDARDS	UL61010-1  UL61010-2-2011  BS EN/EN62368-1
WITHSTANDVOLTAGE	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/PI I/P-FGIO/P-FG:> 100M Ohms / 500VDC / 25°C / 70% RH
EMC EMISSION	BS EN/EN55032(CISPR32)
EMC IMMUNITY	BS EN/EN61000-4-2  3I 4I 5I 6I 8 11

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## Note

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1.All parameters NOT specially mentioned are measured at 400VAC input rated load and 25°C of ambient temperature.

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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 IAC nominal input 25°C ambient temperature).

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3.Installation clearances: top with 40mm bottom with 20mm left and right with 5mm. Increase the space to 10-15mm when the adjacent device is heat source.

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4.The ambient temperature derating of 3.5 °C/1000m for operating altitude higher than 2000m(6500ft).

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5.Dual phase operation is allowed under certain derating to output load. Please refer to derating curves for details.

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## Dimensions & weight

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width:	110mm / 4.33in
Height:	125.2mm / 4.93in
Depth:	152.3mm / 6.00in
weight:	2.47kg

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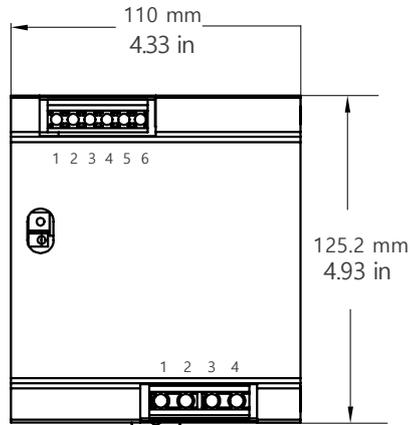
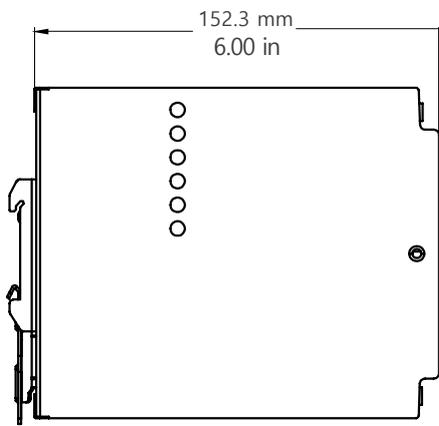
## packing

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carton size:	49 X 34.5 X 16.5 CM 19.3 X 13.6 X 6.5 in
Master carton Quantities:	6pcs / Carton

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# Mechanical Specification

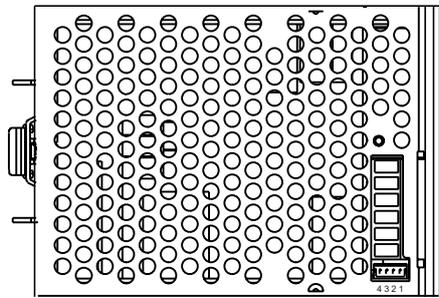


### Output

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

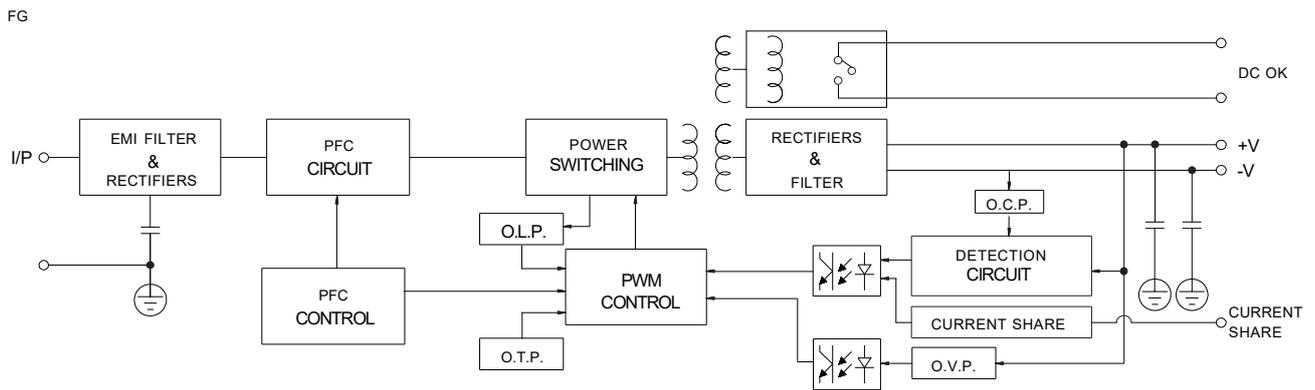
### Input

No.	Description
1	FG ⊖
2	AC/L3
3	AC/L2
4	AC/L1



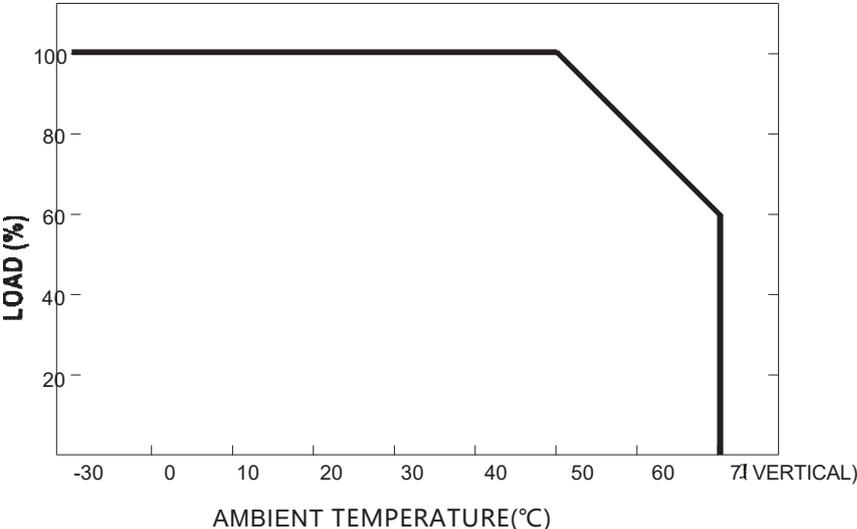
No.	Description
1	P-(Current Share)
2	P+(Current Share)
3,4	DC OK Relay Contact

# Block Diagram



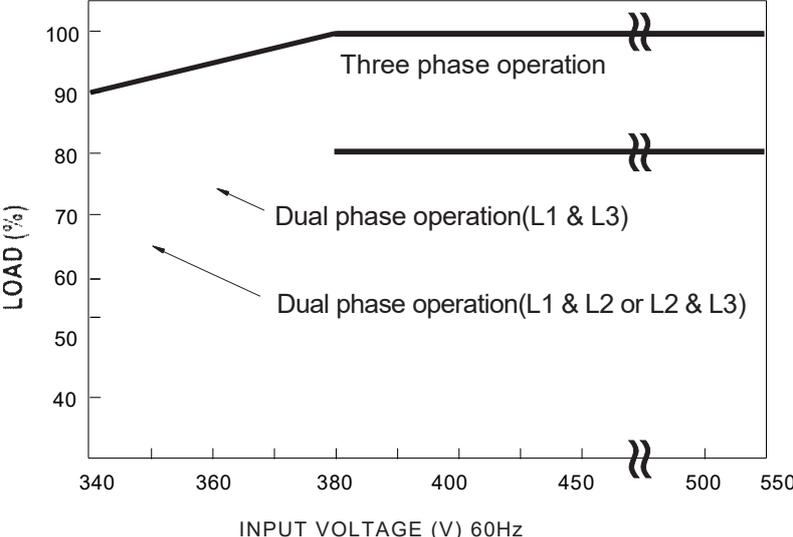
# Deduction curve and Temperature

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# Minus output and Input voltage curves

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# DC OK Relay Contact

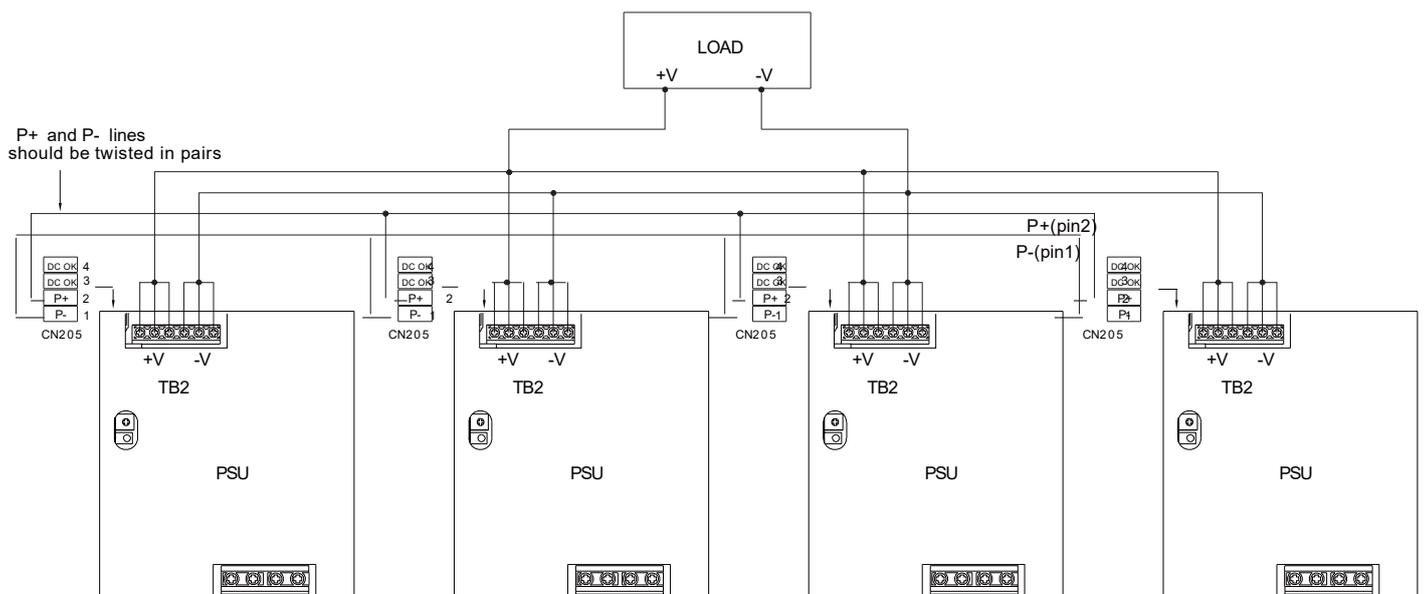
Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns of / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

## Note

### current sharing

1. connection type of parallel operation is as follows (P+IP- parallel connection)
2. The output Voltage difference between the parallel units should be less than 0.2v
3. The total output current must not exceed the Value calculated of the following equation  

$$(\text{output current at parallel operation}) = (\text{The rated current per unit}) * (\text{Number of unit}) * 0.9$$
4. The maximum quantity of parallel operation is four units. If need more quantity of parallel operation please contact the manufacture.
5. In parallel connection the minimum output load should be more than 3% of total output load  
 (Min. load > 5% rated current per unit X number of unit).
6. The power supplies should be paralleled using short and large diameter wiring and then connected to the load.
7. In parallel connection maybe only one unit (master) operate if total output LEDs & relays will not turn on.
8. some minor noise may be heard at lightload condition under parallel operation.  
 This is a normal phenomenon and the performance of the Psu will not be influenced.



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