

# 240-960W Three Phase POWER SUPPLIES



## 240W Three Phase Industrial DIN Rail Power Supply

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PST-24024	24V DC	10A	±1%	80 mVp-p	89%	
PST-24048	48V DC	5A	±1%	80 mVp-p	89%	



## 480W Three Phase Industrial DIN Rail Power Supply

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PST-48024	24V DC	20A	±1%	80 mVp-p	89%	
PST-48048	48V DC	10A	±1%	80 mVp-p	90%	



## 960W Three Phase Industrial DIN Rail Power Supply

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PST-96024	24V DC	40A	±1%	80 mVp-p	91%	
PST-96048	48V DC	20A	±1%	80 mVp-p	92%	

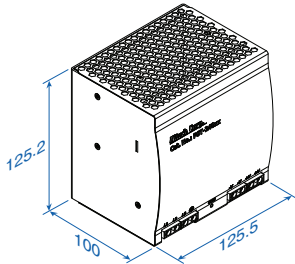
## 960W Three Phase Industrial DIN Rail Power Supply with PFC and Parallel Function (1+1)

**PARALLEL**

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PST-960P24	24V DC	40A	±1%	80 mVp-p	91%	
PST-960P48	48V DC	20A	±1%	80 mVp-p	92%	

# SPECIFICATIONS

## PST-240 Series



### TB1 Terminal Pin. No Assignment

Pin No.	Assignment
1	FG Ⓧ
2	AC/L3
3	AC/L2
4	AC/L1

### TB2 Terminal Pin. No Assignment

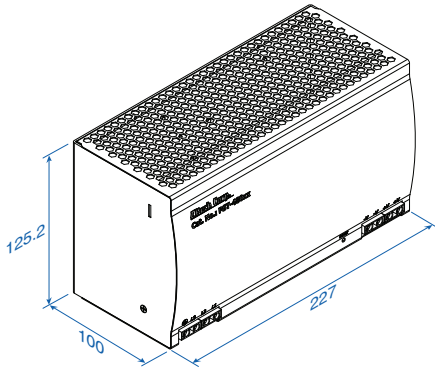
Pin No.	Assignment
1,2	DCOUTPUT +V
3,4	DCOUTPUT -V

Three phase input: 340-550V AC wide range, 480-780V DC  
0.95A @ 400V AC, 0.75A @ 500V AC

Connection: Input - 4 poles, Output - 4 poles screw terminal  
Size (WxHxD): 125x125x100mm (4.95x4.95x3.95 inches)

Packaging: 1/box; 2.87lbs / 1.3Kg

## PST-480 Series



### TB1 Terminal Pin. No Assignment

Pin No.	Assignment
1	AC/L1
2	AC/L2
3	AC/L3
4	FG Ⓧ

### TB2 Terminal Pin. No Assignment

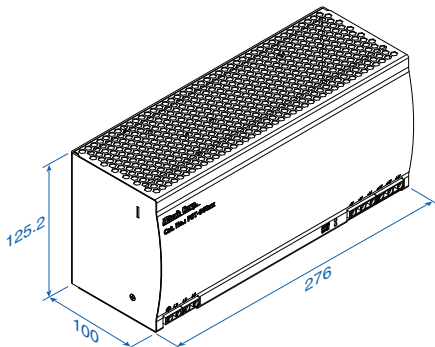
Pin No.	Assignment
1,2	DCOUTPUT +V
3,4	DCOUTPUT -V

Three phase input: 340-550V AC wide range, 480-780V DC  
1.7A @ 400V AC, 1.3A @ 500V AC

Connection: Input - 4 poles, Output - 4 poles screw terminal  
Size (WxHxD): 227x125x100mm (9.95x4.95x3.95 inches)

Packaging: 1/box; 5.5lbs / 2.5Kg

## PST-960 Series



### TB1 Terminal Pin. No Assignment

Pin No.	Assignment
1	AC/L1
2	AC/L2
3	AC/L3
4	FG Ⓧ

### TB2 Terminal Pin. No Assignment

Pin No.	Assignment
1,2,3	DCOUTPUT +V
4,5,6	DCOUTPUT -V
7	GND
8	P (Current Share)

} Parallel Only

Three phase input: 340-550V AC wide range,  
2.4A @ 400V AC, 1.9A @ 500V AC

Connection: Input - 4 poles, Output - 6 poles screw terminal  
Size (WxHxD): 276x125x100mm (10.87x4.95x3.95 inches)

Packaging: 1/box; 7.3lbs / 3.3Kg



# PST-240 Series Specifications



## Features:

- Three-Phase AC 340 ~ 550V wide range input
- High efficiency 89% and low dissipation
- Protections: Short Circuit / Overload / Overvoltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- DIN rail mountable
- UL 508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- Fixed switching frequency at 70KHz
- 3 year warranty

## OUTPUT

Cat. No.	PST-24024	PST-24048
DC VOLTAGE	24V	48V
RATED CURRENT	10A	5A
CURRENT RANGE	0 ~ 10A	0 ~ 5A
RATED POWER	240W	240W
RIPPLE & NOISE (max)	80mVp-p	80mVp-p
VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.0%	±1.0%
LINE REGULATION	±0.5%	±0.5%
LOAD REGULATION	±0.5%	±0.5%
SETUP, RISE, HOLD UP TIME	1200ms, 40ms, 20ms / 400VAC; 800ms, 40ms, 40ms / 500VAC at full load	

Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.

Tolerance: includes set up tolerance, line regulation and load regulation.

## INPUT

VOLTAGE RANGE	Three Phase 340 ~ 550VAC (Dual Phase operation possible)	480 ~ 780VDC
FREQUENCY RANGE	Dual phase operation: derating of 20% is required	
EFFICIENCY (Typ.)	47 ~ 63Hz	
AC CURRENT	89%	
INRUSH CURRENT (Typ.)	0.95A / 400VAC; 0.75 / 500VAC	
LEAKAGE CURRENT	COLD START 50A	
	≤ 3.5 mA / 530VAC	

## PROTECTION

OVERLOAD	105 ~ 150% rated output power	
OVERVOLTAGE	30 ~ 36V	59 ~ 66V
OVERTEMPERATURE	Protection type: Constant current limiting, recovers automatically after fault condition is removed	
	Protection type: Shut down overvoltage, re-power on to recover	
	100°C ± 5°C (TSW) detect on heat sink of power switch	
	Protection type: Shut down overvoltage, re-power automatically after temperature goes down	

## ENVIRONMENT

WORKING TEMP.	-20 ~ +70°C (Refer to output load derating curve)	
WORKING HUMIDITY	20 ~ 90% RH non-condensing	
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)	
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. each long X,Y, Z axes	
MOUNTING	Compliance to IEC60068-2-6	

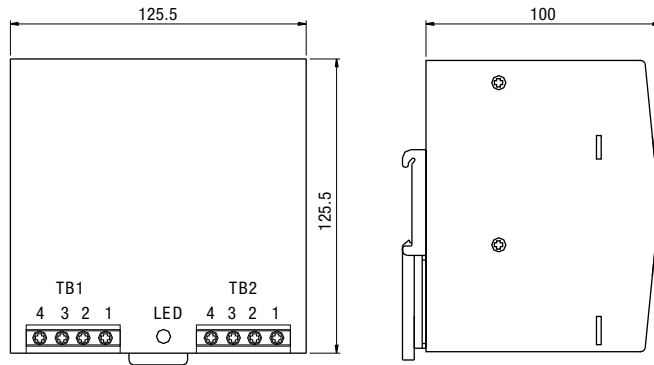
## SAFETY & EMC

SAFETY STANDARDS	UL508 EN60950-1 compliant UL60950-1	
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC	
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC (25°C; 70% RH)	
EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11), EN55022 (CISPR22) Class B	
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN61000-6-2; (EN50082-2), EN61204-3; heavy industry level; criteria A,	
	The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.	

## OTHERS

MTBF	114.6K hrs min. MIL-HDBK-217K (25°C)	
DIMENSION	125.5x125.2x100mm (WxHxD)	
PACKING	1.3Kg; 12pcs / 16.6Kg / 1.29CUFT	
	All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25°C of ambient temperature.	

## Mechanical Specification



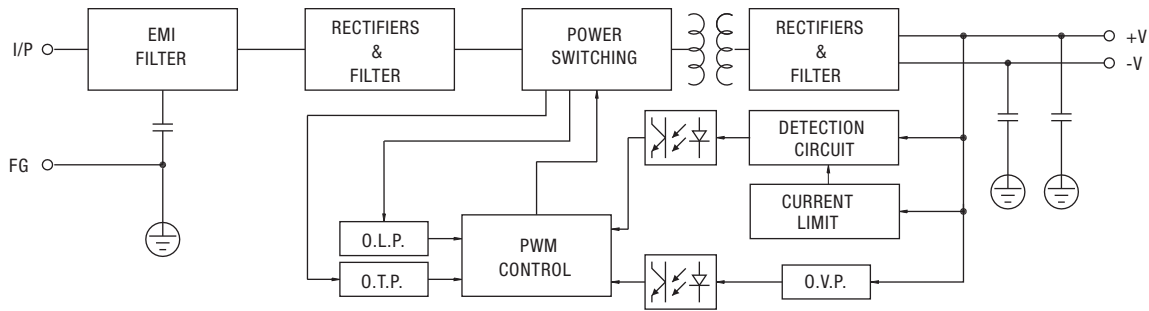
TB1 Terminal Pin. No Assignment

Pin No.	Assignment
1	FG $\oplus$
2	AC/L3
3	AC/L2
4	AC/L1

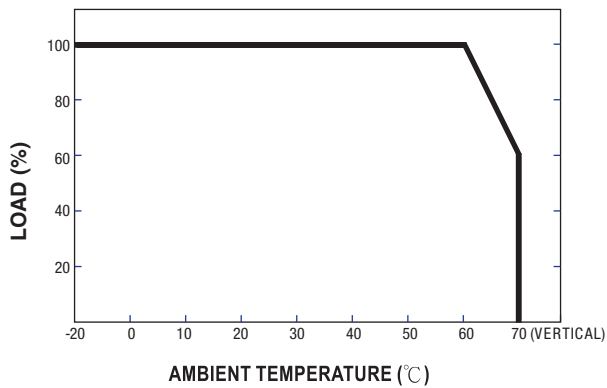
TB2 Terminal Pin. No Assignment

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V

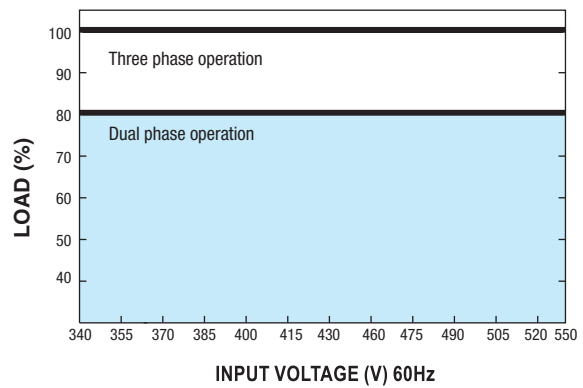
## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage





# PST-480 Series Specifications



## Features:

- Three-Phase AC 340 ~ 550V wide range input
- High efficiency 89% and low dissipation
- Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- DIN rail mountable
- UL 508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- 3 year warranty

## OUTPUT

Cat. No.	PST-48024	PST-48048
DC VOLTAGE	24V	48V
RATED CURRENT	20A	10A
CURRENT RANGE	0 ~ 20A	0 ~ 10A
RATED POWER	480W	480W
RIPPLE & NOISE (max)	80mVp-p	80mVp-p
VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.0%	±1.0%
LINE REGULATION	±0.5%	±0.5%
LOAD REGULATION	±0.5%	±0.5%
SETUP, RISE, HOLD UP TIME	1200ms, 40ms, 16ms / 400VAC; 800ms, 40ms, 35ms / 500VAC at full load	
VOLTAGE RANGE	Three Phase 340 ~ 550VAC (Dual Phase operation possible)	480 ~ 780VDC
FREQUENCY RANGE	47 ~ 63Hz	
EFFICIENCY (Typ.)	89%	90%
AC CURRENT	1.7A / 400VAC; 1.3A / 500VAC	
INRUSH CURRENT (Typ.)	COLD START 50A	
LEAKAGE CURRENT	≤ 3.5mA / 530VAC	
OVERLOAD	105 ~ 150% rated output power Protection type: Constant current limiting, recovers automatically after fault condition is removed	
OVERVOLTAGE	30 ~ 36V	59 ~ 66V
OVERTEMPERATURE	110°C ± 5°C (TSW) detect on heat sink of power switch Protection type: Shut down overvoltage, recovers automatically after temperature goes down	
WORKING TEMP.	-20 ~ +70°C (Refer to output load derating curve)	
WORKING HUMIDITY	20 ~ 90% RH non-condensing	
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)	
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. each long X,Y, Z axes	
MOUNTING	Compliance to IEC60068-2-6	
SAFETY STANDARDS	UL508 EN60950-1 compliant UL60950-1	
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC	
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC (25°C: 70% RH)	
EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11), EN55022 (CISPR22), EN61204-3 Class B	
HARMONIC CURRENT	Compliance to EN61000-3-2,-3	
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN50204; EN61204-3; EN61000-6-2; (EN50082-2), heavy industry level; criteria A	
	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.	
MTBF	91.1K hrs min. MIL-HDBK-217K (25°C)	
DIMENSION	227x125.2x100mm (WxHxD)	
PACKING	2.5Kg; 6pcs / 16Kg / 1.75CUFT	
	All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25°C of ambient temperature.	

## INPUT

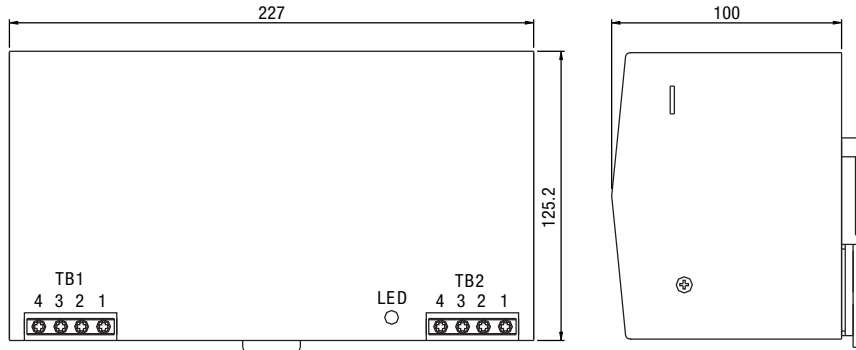
## PROTECTION

## ENVIRONMENT

## SAFETY & EMC

## OTHERS

## Mechanical Specification



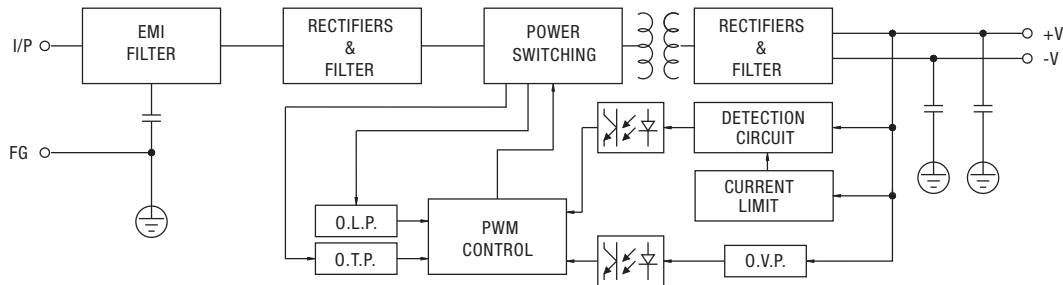
TB1 Terminal Pin. No Assignment

Pin No.	Assignment
1	AC/L1
2	AC/L2
3	AC/L3
4	FG $\oplus$

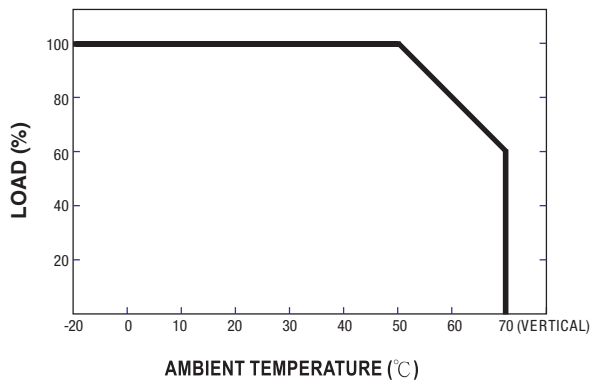
TB2 Terminal Pin. No Assignment

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V

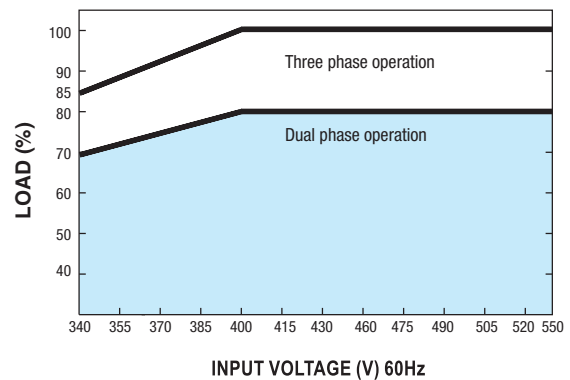
## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage





# PST-960 Series Specifications

**PARALLEL**



## Features:

- Three-Phase AC 340 ~ 550V wide range input
- High efficiency 91% and low dissipation
- Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Optional parallel function(1+1)
- Cooling by free air convection
- DIN rail mountable
- UL 508(industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- 3 year warranty

## OUTPUT

Cat. No.	PST-96024 / PST-960P24*	PST-96048 / PST-960P48*
DC VOLTAGE	24V	48V
RATED CURRENT	40A	20A
CURRENT RANGE	0 ~ 40A	0 ~ 20A
RATED POWER	960W	960W
RIPPLE & NOISE (max)	80mVp-p	80mVp-p
VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.0%	±1.0%
LINE REGULATION	±0.5%	±0.5%
LOAD REGULATION	±0.5%	±0.5%
SETUP, RISE, HOLD UP TIME	200ms, 60ms, 14ms / 400VAC	200ms, 60ms, 30ms / 500VAC at full load
VOLTAGE RANGE	Three Phase 340 ~ 550VAC (Dual Phase operation possible in connecting L1, L3, FG)	
FREQUENCY RANGE	47 ~ 63Hz	
EFFICIENCY (Typ.)	91%	
AC CURRENT	2A / 400VAC;	1.6A / 500VAC
INRUSH CURRENT (Typ.)	COLD START 50A	
LEAKAGE CURRENT	≤ 3.5 mA / 530VAC	
OVERLOAD	105 ~ 125% rated output power Protection type: Constant current limiting, unit will shut down overvoltage after 3 sec., re-power on to recover	
OVERVOLTAGE	30 ~ 36V	59 ~ 66V
OVERTEMPERATURE	Protection type: Shut down overvoltage, re-power on to recover 110°C ± 5°C (TSW1) detect on heat sink of power transistor 85°C ± 5°C (TSW2) detect on heat sink of power diode Protection type: Shut down overvoltage, recovers automatically after temperature goes down	
WORKING TEMP.	-20 ~ +60°C (Refer to output load derating curve)	
WORKING HUMIDITY	20 ~ 90% RH non-condensing	
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)	
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. each long X,Y, Z axes	
MOUNTING	Compliance to IEC60068-2-6	
SAFETY STANDARDS	UL508 EN60950-1 compliant UL60950-1	
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC	
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC (25°C; 70% RH)	
EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11), EN55022 (CISPR22), EN61204-3 Class B	
HARMONIC CURRENT	Compliance to EN61000-3-2,-3	
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN61204-3; EN61000-6-2; (EN50082-2), heavy industry level; criteria A	
MTBF	122.5K hrs min. MIL-HDBK-217K (25°C)	
DIMENSION	276x125.2x100mm (WxHxD)	
PACKING	3.3Kg; 4pcs / 14.2Kg / 1.14CUFT	

Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.  
Tolerance: includes set up tolerance, line regulation and load regulation.

## INPUT

## PROTECTION

## ENVIRONMENT

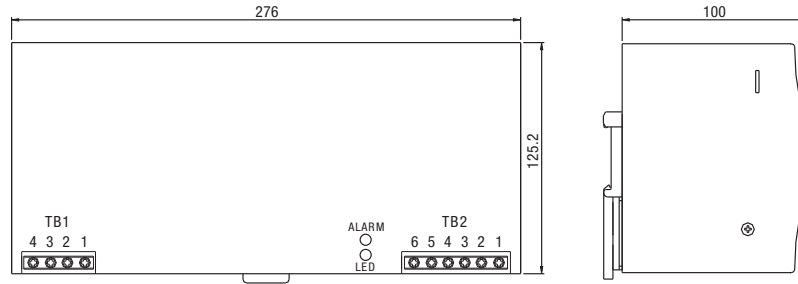
## SAFETY & EMC

## OTHERS

\*Special order required.

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

## Mechanical Specification



TB1 Terminal Pin. No Assignment

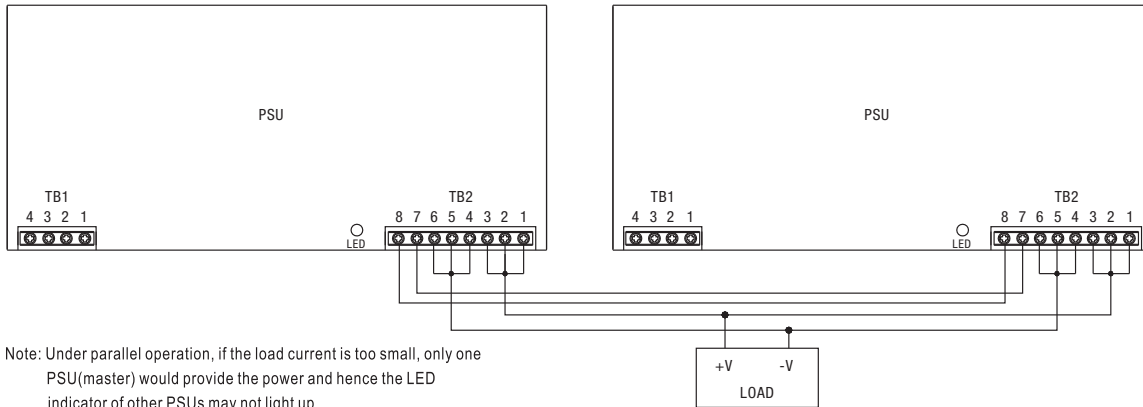
Pin No.	Assignment
1	ACL1
2	ACL2
3	ACL3
4	FG ⊕

TB2 Terminal Pin. No Assignment

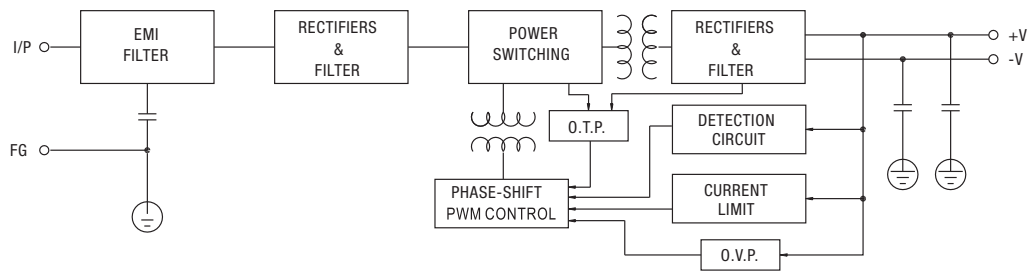
Pin No.	Assignment
1,2,3	DCOUTPUT+ V
4,5,6	DCOUTPUT - V
7	P (Current Share)
8	P (Current Share)

} Parallel Only

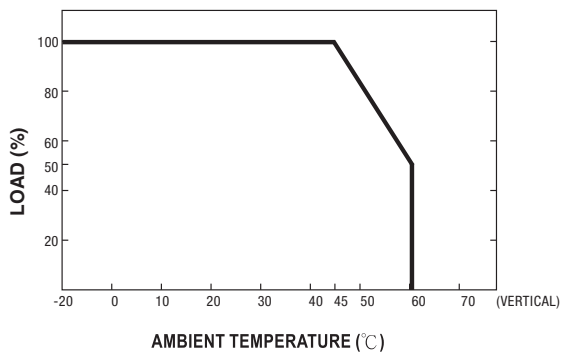
## Optional Parallel Function (1+1) - (Special order required)



## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage

