



## High Efficiency Compact Housing Power Supply

This high performance single output compact DIN rail PS-C Series, with up-to-date circuit design, possess up to 94% of high efficiency and works within 110 ~150% rated output power for up to 3 seconds.

With built-in active PFC function, PS-C Series is a full range AC input switching power supply that fulfills the requirement of EN61000-3-2 for harmonic current. The compact design helps save the precious space on the rail and also makes it up to 50% smaller in size compare to its predecessor model PS-Series. Meanwhile, PS-C also have 5~9% higher efficiency than corresponding models of the PS-Series, which response to the trend of green power with energy saving concept.

Other standard functions include DC OK relay contact, on panel LED indicator, and protection for short-circuit, overload (constant current limiting, shut down if over 3 seconds), over voltage, and over temperature. To fulfill the requirements of marine and semi-conductor related usage, PS-C Series also complies with GL and SEMI F47 norms in addition to UL, CUL and CE certificates. Suitable applications are factory automation, semi-conductor fabrication equipment, marine related installation, and electro-mechanical applications.

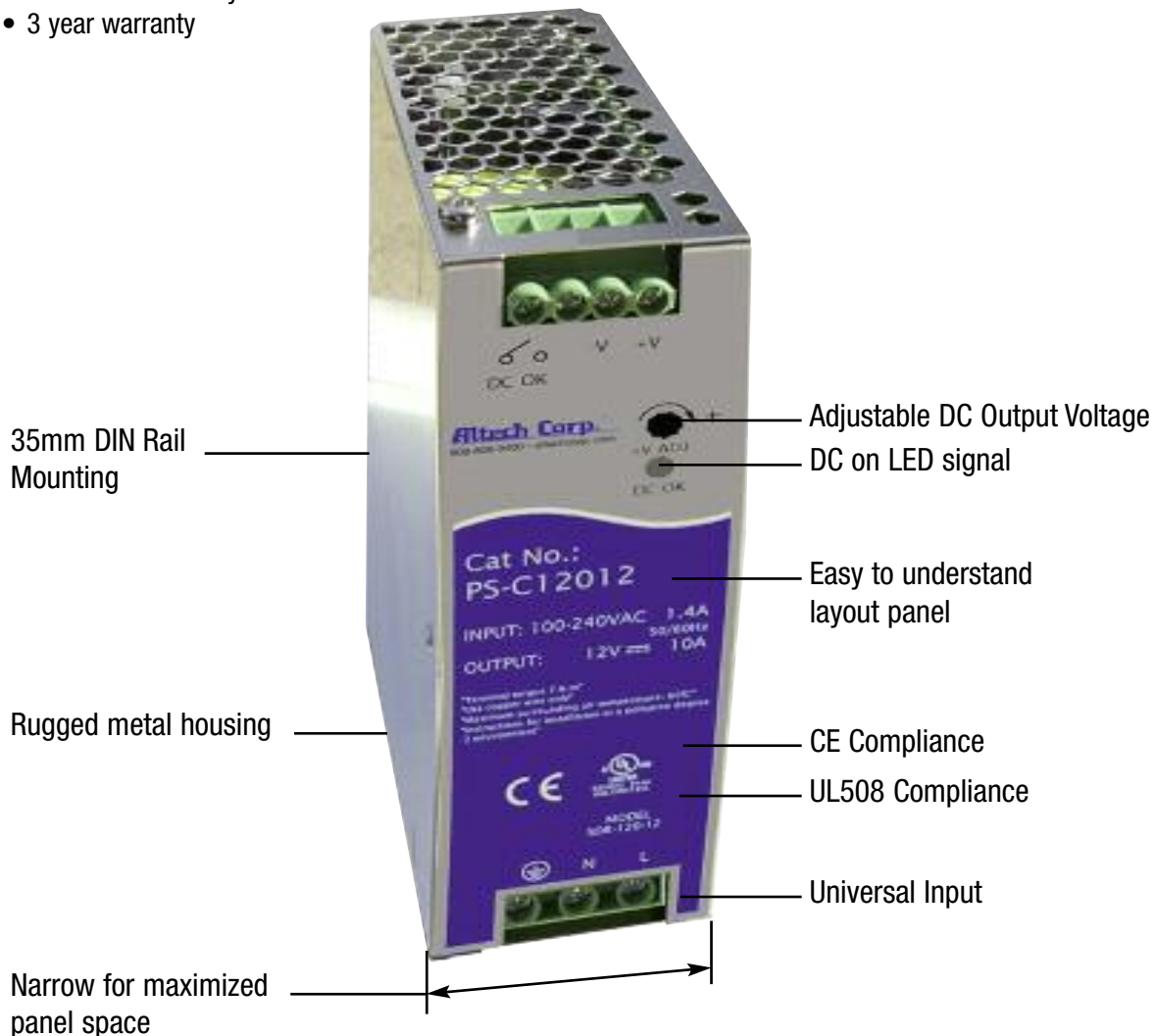
- Input voltage range: 88-264V AC; 124-370V DC
- AC inrush current (typical):Cold start: 65A at 230V AC (PSC-240)
- DC adjustment range (typical): 12V: 12-14V, 24V: 24-28V, 48V: 48-55V,
- Overload protection (typical): 110%-150% rated output power
- Overvoltage protection (typical): 14-17V for 12V model (PSW-120),  
29-33V for 24V model  
56-65V for 48V model
- Over temperature protection: 95°C ± 5°C (PSC-120/240); 105°C ± 5°C
- Withstand voltage: I/P-O/P:3KV AC, I/P-FG:1.5KV AC, O/P-FG:0.5KV AC,
- Working temperature: -25 to +70°C (-4° to +158°F),  
refer to output derating curve
- Safety standards: UL508; EN60950-1 compliant
- EMC standards: Compliance to EN55022 class B,  
EN61000-4-2,3,4,5,6,8,11, ENV50204,  
EN61000-6-2, EN61204-3, heavy Industry level,  
SEMI F47, GL
- Military standard: MIL-HDBK-217K

# PS-C Series



## Features:

- High efficiency up to 94% and low power dissipation
- Universal AC Input / Full Range
- 150% peak load capability
- Built-in active PFC function, PF>0.93
- Protections: Short circuit / Overload / Overvoltage / Over temperature
- Cooling by free air convection
- Din rail mountable
- LED indicator for power on
- UL 508 (industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- Built-in DC OK relay contact
- 3 year warranty



# 120-480W Single Phase

## COMPACT SIZE POWER SUPPLIES



### 120W Single Output DIN Rail Power Supply

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PS-C12012	12V DC	10A	±1%	100 mVp-p	89%	
PS-C12024	24V DC	5A	±1%	100 mVp-p	91%	
PS-C12048	48V DC	2.5A	±1%	120 mVp-p	91%	



### 240W Single Output DIN Rail Power Supply

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PS-C24024	24V DC	10A	±1%	100 mVp-p	94%	
PS-C24048	48V DC	5A	±1%	120 mVp-p	94%	



### 480W Single Output DIN Rail Power Supply

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PS-C48024	24V DC	20A	±1%	100 mVp-p	94%	
PS-C48048	48V DC	10A	±1%	120 mVp-p	94%	



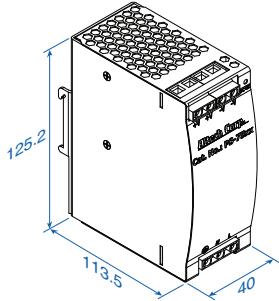
### 480W Single Output DIN Rail Power Supply with PFC and Parallel Function (1+7)

Cat. No.	Output		Tol. %	Ripple & Noise	Efficiency	NOTES
	V DC	A				
PS-C480P24	24V DC	20A	±1%	100 mVp-p	94%	
PS-C480P48	48V DC	10A	±1%	120 mVp-p	94%	

**PARALLEL**

# SPECIFICATIONS

## PS-C120 Series



Terminal Pin. No Assign. (TB1)

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

Terminal Pin. No Assign. (TB2)

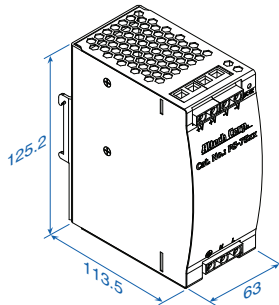
Pin No.	Assignment
1,2	Relay Contact
3	DC OUTPUT -V
4	DC OUTPUT +V

Universal Input: 88-264V AC, 124-370V DC full range,  
1.4A/115V AC, 0.7A/230V AC

Connection: Input - 3 poles, Output – 4 poles screw terminal  
Size (WxHxD): 40x125.2x113.5mm (1.57x4.93x4.47 inches)

Packaging: 1/box; 1.48lbs / 0.67Kg

## PS-C240 Series



Terminal Pin. No Assign. (TB1)

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

Terminal Pin. No Assign. (TB2)

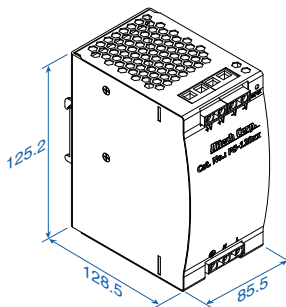
Pin No.	Assignment
1,2	Relay Contact
3,4	DC OUTPUT -V
5,6	DC OUTPUT +V

Switch select Input: 88-264V AC, 124-370V DC range,  
2.6A/115V AC, 1.3A/230V AC

Connection: Input - 3 poles, Output – 6 poles screw terminal  
Size (WxHxD): 63x125.2x113.5mm (2.48x4.93x4.47 inches)

Packaging: 1/box; 2.27lbs / 1.03Kg

## PS-C480 Series



Terminal Pin. No Assign. (TB1)

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

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7,8	NC

For Parallel Model  
Terminal Pin. No Assign. (TB1)

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

For Parallel Model  
Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7	P+ (current share)*
8	P- (current share)*

\* Only parallel function.

Universal Input: 90-264V AC, 127-370V DC full range,  
5A/115V AC, 2.5A/230V AC

Connection: Input - 3 poles, Output – 12 poles screw terminal  
Size (WxHxD): 85.5x125.2x128.5mm (3.37x4.93x5.06 inches)

Packaging: 1/box; 3.53lbs / 1.6Kg



# PS-C120 Series Specifications



## Features:

- High efficiency 91% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.93
- Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- DIN rail mountable
- UL 508 (industrial control equipment) approved
- EN61000-6-2 (EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 year warranty

## OUTPUT

Cat. No.	PS-C12012	PS-C12024	PS-C12048
DC VOLTAGE	12V	24V	48V
RATED CURRENT	10A	5A	2.5A
CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 2.5A
RATED POWER	120W	120W	120W
PEAK CURRENT	15A	7.5A	3.75A
PEAK POWER	180W (3 sec.) 3 seconds max., please refer to peak loading curves		
RIPPLE & NOISE (max)	100mVp-p	100mVp-p	120mVp-p
Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.			
VOLTAGE ADJ. RANGE	12 ~ 14V	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.0%	±1.0%	±1.0%
Tolerance: includes set up tolerance, line regulation and load regulation.			
LINE REGULATION	±0.5%	±0.5%	±0.5%
LOAD REGULATION	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME	1500ms, 60ms / 230VAC	3000ms, 60ms / 115VAC at full load	
HOLD UP TIME (Typ.)	20ms / 230VAC	20ms / 115VAC at full load	
VOLTAGE RANGE	88 ~ 264VAC	124 ~ 370VDC	
Derating may be needed under low input voltages, please check the derating curve for more detail			
FREQUENCY RANGE	47 ~ 63Hz		
POWER FACTOR (Typ.)	0.93 / 230VAC	0.96 / 115VAC at full load	
EFFICIENCY (Typ.)	89%	91%	90.50%
AC CURRENT (Typ.)	1.4A / 115VAC	0.7A / 230VAC	
INRUSH CURRENT (Typ.)	35A / 115VAC	70A / 230VAC	
LEAKAGE CURRENT	≤ 1 mA / 240VAC		
OVERLOAD	Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down overvoltage ≥ 150% rated power, constant current limiting with auto-recovery within 3 seconds and shut down overvoltage after 3 seconds		
OVERVOLTAGE	14 ~ 17V	29 ~ 33V	56 ~ 65V
Protection type: Shut down overvoltage, re-power on to recover			
OVERTEMPERATURE	95°C ± 5°C (TSW: detect on heat sink of power switch) Protection type: Shut down overvoltage, re-power automatically after temperature goes down		
DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A	30VDC / 1A	30VAC / 0.5A RESISTIVE LOAD
WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve) 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		
WORKING HUMIDITY	20 ~ 95% 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		
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC 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 (25°C; 70% RH)		
EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B		
HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024; EN61000-6-2; (EN50082-2); EN61204-3; heavy industry level; criteria A, SEMI F47, GL approved		
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.			
MTBF	289.9K hrs min. MIL-HDBK-217K (25°C)		
DIMENSION	40x125.2x113.5mm (WxHxD)		
PACKING	0.67Kg; 20pcs / 14.4Kg / 1.16CUFT		
All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.			

## INPUT

## PROTECTION

## ENVIRONMENT

## SAFETY & EMC

## OTHERS

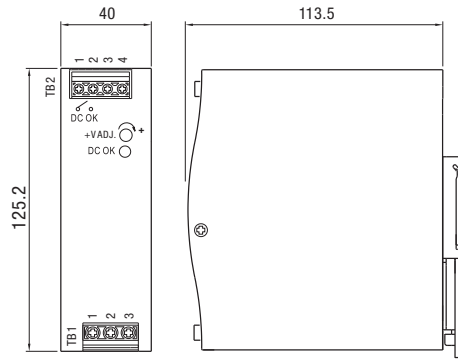
## Mechanical Specification

Terminal Pin No. Assignment (TB1)

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

Terminal Pin No. Assignment (TB2)

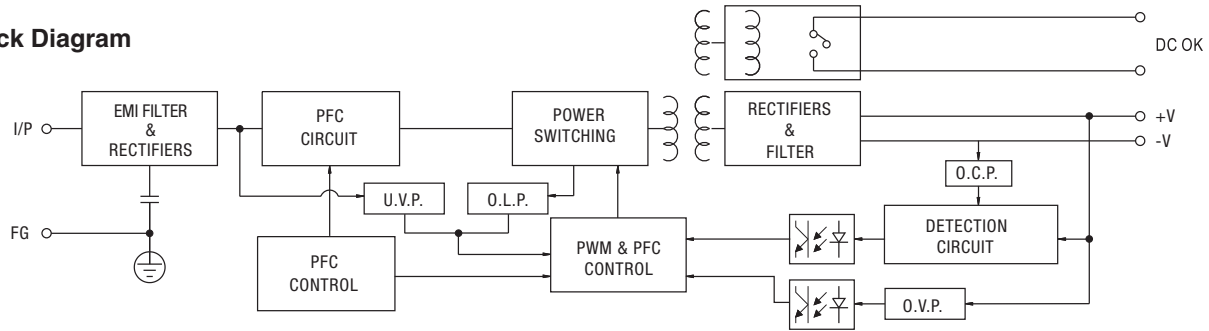
Pin No.	Assignment
1,2	Relay Contact
3	DC OUTPUT -V
4	DC OUTPUT +V



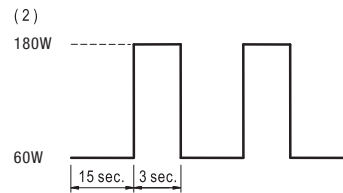
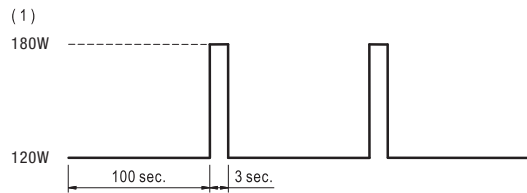
## DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop below 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

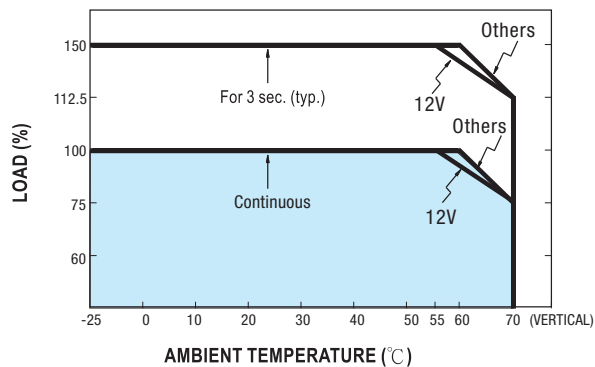
## Block Diagram



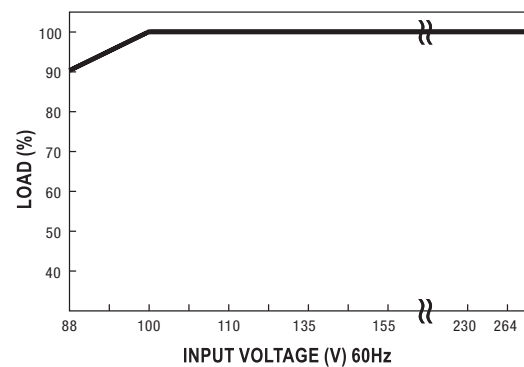
## Peak Loading



## Derating Curve



## Output Derating VS Input Voltage





# PS-C240 Series Specifications



## Features:

- High efficiency 94% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.93
- Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- DIN rail mountable
- UL 508 (industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 year warranty

## OUTPUT

Cat. No.	PS-C24024	PS-C24048
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DC VOLTAGE	24V	48V
RATED CURRENT	10A	5A
CURRENT RANGE	0 ~ 10A	0 ~ 5A
RATED POWER	240W	240W
PEAK CURRENT	15A	7.5A
PEAK POWER	360W (3 sec.)	
	3 seconds max., please refer to peak loading curves	
RIPPLE & NOISE (max)	100mVp-p	120mVp-p
	Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.	
VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.0%	±1.0%
	Tolerance: includes set up tolerance, line regulation and load regulation.	
LINE REGULATION	±0.5%	±0.5%
LOAD REGULATION	±1.0%	±1.0%
SETUP, RISE TIME	1500ms, 60ms / 230VAC	3000ms, 60ms / 115VAC at full load
HOLD UP TIME (Typ.)	20ms / 230VAC	20ms / 115VAC at full load

## INPUT

VOLTAGE RANGE	88 ~ 264VAC	124 ~ 370VDC
	Derating may be needed under low input voltages, please check the derating curve for more detail	
FREQUENCY RANGE	47 ~ 63Hz	
POWER FACTOR (Typ.)	0.93 / 230VAC	0.99 / 115VAC at full load
EFFICIENCY (Typ.)	94%	
	After 30 minutes of burn-in.	
AC CURRENT (Typ.)	2.6A / 115VAC	1.3A / 230VAC
INRUSH CURRENT (Typ.)	33A / 115VAC	65A / 230VAC
LEAKAGE CURRENT	≤ 1 mA / 240VAC	

## PROTECTION

OVERLOAD	Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down overvoltage with auto-recovery	
	≥ 150% rated power, constant current limiting with auto-recovery within 2 seconds and shut down overvoltage after 2 seconds	
OVERVOLTAGE	29 ~ 33V	56 ~ 65V
	Protection type: Shut down overvoltage with auto-recovery	
OVERTEMPERATURE	95°C ± 5°C (TSW: detect on heat sink of power switch)	
	Protection type: Shut down overvoltage, re-power automatically after temperature goes down	

## ENVIRONMENT

DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A	30VDC / 1A	30VAC / 0.5A
WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)		
	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.		
WORKING HUMIDITY	20 ~ 95% 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		
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC	I/P-FG: 1.5KVAC	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 (25°C; 70% RH)		
EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B		
HARMONIC CURRENT	Compliance to EN61000-3-2, -3		
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024; EN61000-6-2; (EN50082-2), EN61204-3; heavy industry level; criteria A, SEMI F47, GL approved		
	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.		

## OTHERS


MTBF	169.3K hrs min.	MIL-HDBK-217K (25°C)
DIMENSION	63x125.2x113.5mm (WxHxD)	
PACKING	1.03Kg; 12pcs / 13.4Kg / 1.06CUFT	

All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.



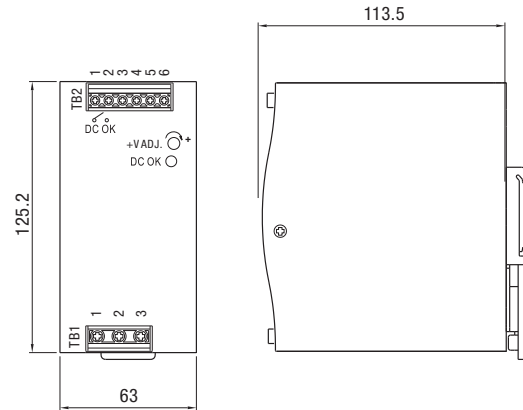
## Mechanical Specification

Terminal Pin No. Assignment (TB1)

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

Terminal Pin No. Assignment (TB2)

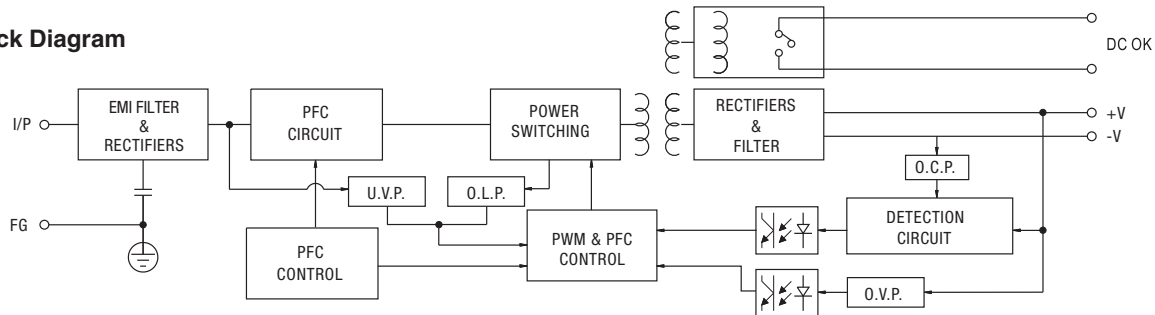
Pin No.	Assignment
1,2	Relay Contact
3,4	DC OUTPUT +V
5,6	DC OUTPUT -V



## DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop below 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

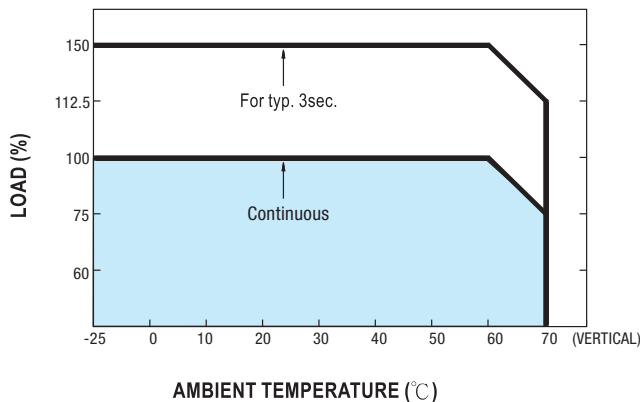
## Block Diagram



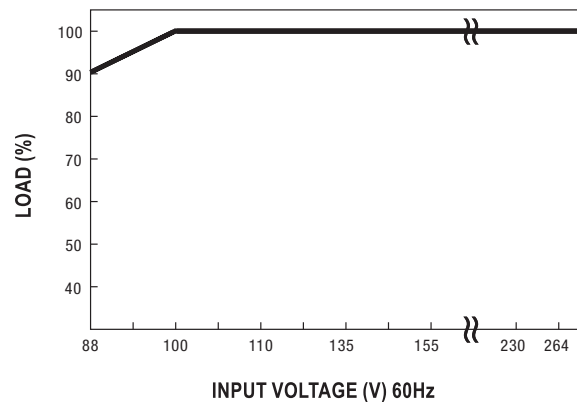
## Peak Loading



## Derating Curve



## Output Derating VS Input Voltage







# PS-C480 Series Specifications



## Features:

- High efficiency 94% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.94
- 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
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 year warranty

## OUTPUT

Cat. No.	PS-C48024	PS-C48048
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DC VOLTAGE	24V	48V
RATED CURRENT	20A	10A
CURRENT RANGE	0 ~ 20A	0 ~ 10A
RATED POWER	480W	480W
PEAK CURRENT	30A	15A
PEAK POWER	720W (3 sec.)	
	3 seconds peak power max. and the average output power should not exceed the rate power	
RIPPLE & NOISE (max)	100mVp-p	120mVp-p
	Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.	
VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.2%	±1.0%
	Tolerance: includes set up tolerance, line regulation and load regulation.	
LINE REGULATION	±0.5%	±0.5%
LOAD REGULATION	±1.0%	±1.0%
SETUP, RISE TIME	1500ms, 150ms / 230VAC	3000ms, 150ms / 115VAC at full load
HOLD UP TIME (Typ.)	14ms / 230VAC at full load	

## INPUT

VOLTAGE RANGE	90 ~ 264VAC	127 ~ 370VDC
	Derating may be needed under low input voltages, please check the derating curve for more detail	
FREQUENCY RANGE	47 ~ 63Hz	
POWER FACTOR (Typ.)	0.94 / 230VAC	0.99 / 115VAC at full load
EFFICIENCY (Typ.)	94%	
	After 30 minutes of burn-in	
AC CURRENT (Typ.)	5A / 115VAC	2.5A / 230VAC
INRUSH CURRENT (Typ.)	40A / 115VAC	80A / 230VAC
LEAKAGE CURRENT	≤ 0.8 mA / 240VAC	

## PROTECTION

OVERLOAD	Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down overvoltage with auto-recovery ≥ 150% rated power, constant current limiting with auto-recovery within 2 seconds and shut down overvoltage after 2 seconds	
OVERVOLTAGE	29 ~ 33V	56 ~ 65V
	Protection type: Shut down overvoltage with auto-recovery on re-power on to recovery	
OVERTEMPERATURE	105°C ± 5°C (TSW: detect on heat sink of power switch)	
	Protection type: Shut down overvoltage, re-power automatically after temperature goes down	

## ENVIRONMENT

DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A; 30VDC / 1A; 30VAC / 0.5A resistive load
WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)
	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.
WORKING HUMIDITY	20 ~ 95% 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
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC 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 (25°C; 70% RH)
EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B
HARMONIC CURRENT	Compliance to EN61000-3-2,-3
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024; EN61000-6-2; (EN50082-2), EN61204-3; heavy industry level; criteria A, SEMI F47, GL approved

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.

## OTHERS

MTBF	112.9K hrs min. MIL-HDBK-217K (25°C)
DIMENSION	85.5x125.2x128.5mm (WxHxD)
PACKING	1.6Kg; 8pcs / 13.8Kg / 0.9CUFT

All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.

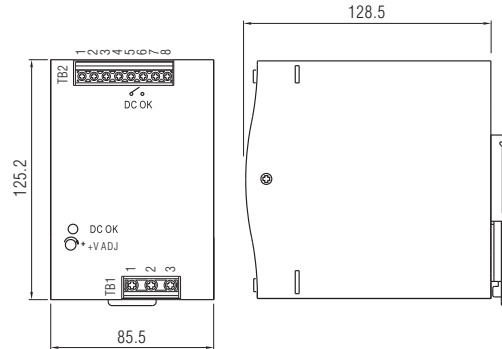
## Mechanical Specification

Terminal Pin No. Assignment (TB1)

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

Terminal Pin No. Assignment (TB2)

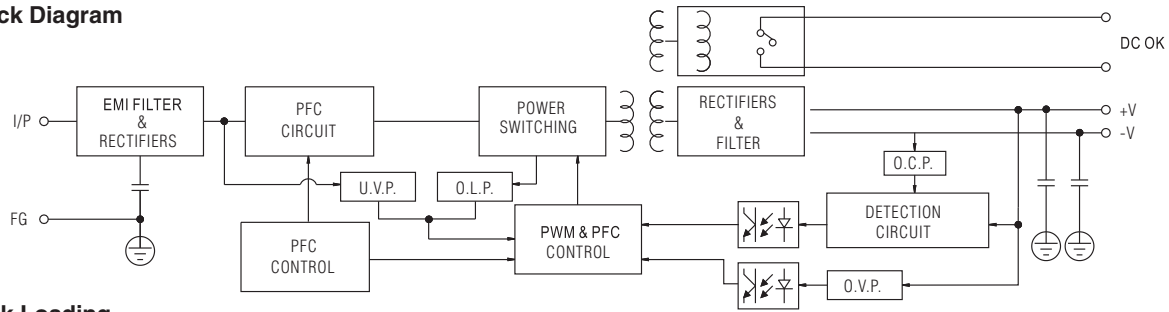
Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7,8	NC



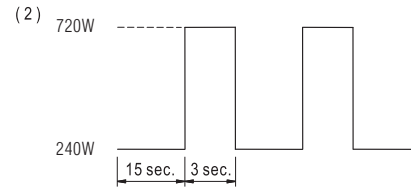
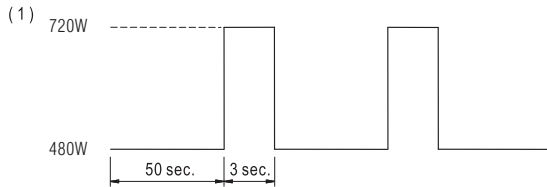
## DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop below 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

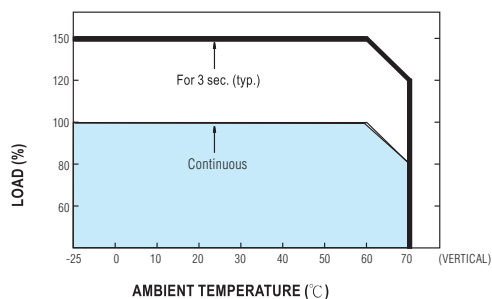
## Block Diagram



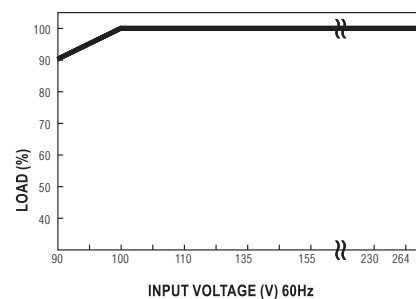
## Peak Loading



## Derating Curve



## Output Derating VS Input Voltage





# PS-C480P Series With Parallel Function Specifications



**PARALLEL**

## Features:

- High efficiency 94% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.94
- Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- DIN rail mountable
- Current sharing up to 380W (1+7)
- UL 508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 year warranty

## OUTPUT

Cat. No.	PS-C480P24	PS-C480P48
DC VOLTAGE	24V	48V
RATED CURRENT	20A	10A
CURRENT RANGE	0 ~ 20A	0 ~ 10A
RATED POWER	480W	480W
PEAK CURRENT	30A	15A
PEAK POWER	720W (3 sec.)	

3 seconds peak power max. and the average output power should not exceed the rate power		
3000ms, 150ms / 115VAC at full load		
100mVp-p		120mVp-p
Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.		
VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
VOLTAGE TOLERANCE	±1.2%	±1.0%
Tolerance: includes set up tolerance, line regulation and load regulation.		

## INPUT

LINE REGULATION	±0.5%	±0.5%
LOAD REGULATION	±1.0%	±1.0%
SETUP, RISE, HOLD UP TIME	1500ms, 150ms, 14ms / 230VAC	3000ms, 150ms / 115VAC at full load

## PROTECTION

VOLTAGE RANGE	90 ~ 264VAC	127 ~ 370VDC
Derating may be needed under low input voltages, please check the derating curve for more detail		
FREQUENCY RANGE	47 ~ 63Hz	
POWER FACTOR (Typ.)	0.94 / 230VAC	0.99 / 115VAC at full load
EFFICIENCY (Typ.)	94%	
After 30 minutes of burn-in.		
AC CURRENT (max.)	5A / 115VAC	2.5A / 230VAC
INRUSH CURRENT (Typ.)	40A / 115VAC	80A / 230VAC
LEAKAGE CURRENT	≤ 0.6 mA / 240VAC	

## ENVIRONMENT

OVERLOAD	Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down overvoltage with auto-recovery	
	≥ 150% rated power, constant current limiting with auto-recovery within 2 seconds and shut down overvoltage after 2 seconds	
OVERVOLTAGE	29 ~ 33V	56 ~ 65V
Protection type: Shut down overvoltage with auto-recovery on re-power on to recovery		
OVERTEMPERATURE	105°C ± 5°C (TSW: detect on heat sink of power switch)	
Protection type: Shut down overvoltage, re-power automatically after temperature goes down		
CURRENT SHARING	Please see function diagram	
DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A; 30VDC / 1A; 30VAC / 0.5A resistive load	

## SAFETY & EMC

WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)	
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.		
WORKING HUMIDITY	20 ~ 95% 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	

## OTHERS

SAFETY STANDARDS	UL508 EN60950-1 compliant		
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC	I/P-FG: 1.5KVAC	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 (25°C; 70% RH)		
EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B		
HARMONIC CURRENT	Compliance to EN61000-3-2, -3		
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024; EN61000-6-2; (EN50082-2), EN61204-3; heavy industry level; criteria A, SEMI F47, GL approved		
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.			

MTBF	112.9K hrs min. MIL-HDBK-217K (25°C)	
DIMENSION	85.5x125.2x128.5mm (WxHxD)	
PACKING	1.6Kg; 8pcs / 13.8Kg / 0.9CUFT	

All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.

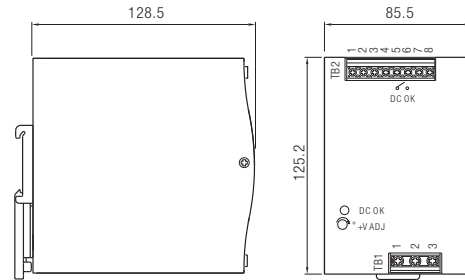
## Mechanical Specification

Terminal Pin No. Assignment (TB1)

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

Terminal Pin No. Assignment (TB2)

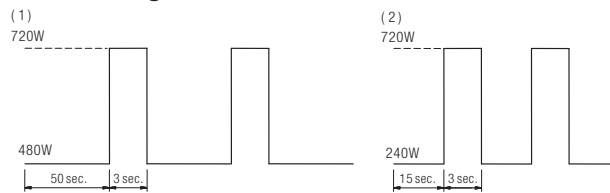
Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7	P+ (current share)
8	P- (current share)



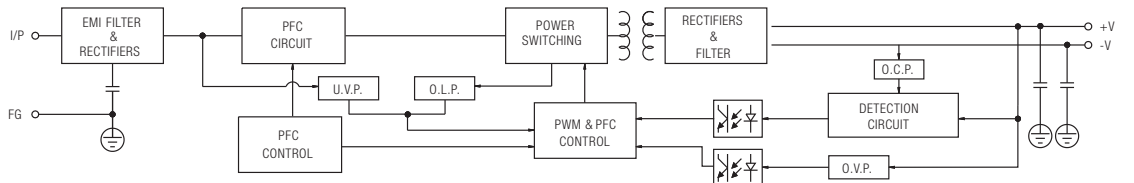
## DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop below 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

## Peak Loading



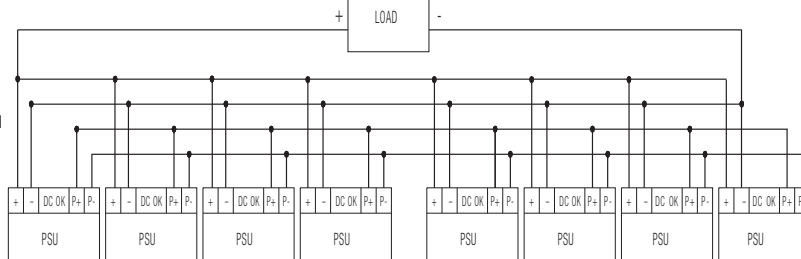
## Block Diagram



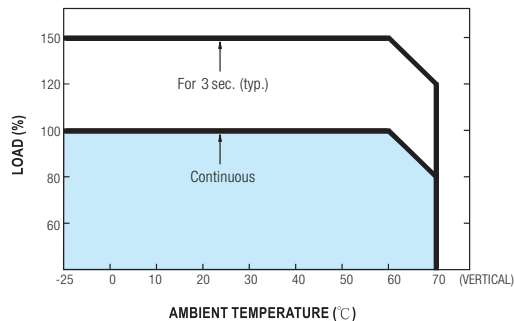
## Function Diagram

### 1. Current sharing

- (1) Parallel operation is available by connecting the units shown as below (P+, P- are connected mutually in parallel):
- (2) The voltage difference among each output should be minimized that less than 2% is required.
- (3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation) = (The rated current per unit) x (Number of unit) x 0.9.
- (4) In parallel operation 8 units is the maximum, please consult the manufacture for other applications.
- (5) When in parallel operation, the minimum output load should be greater than 3% of total output load. (Min. load > 3% rated current per unit x number of unit)



## Derating Curve



## Output Derating VS Input Voltage

