# ALTECH DIN-Rail Power Supplies

# Altech Corp."

			E.C.
	Choose your product from a wide range of features and options, suitable for almost all applications.		sing e p
	<ul> <li>Slimline</li> <li>Small in size - narrow footprint</li> <li>Powerful with generous power reserves</li> <li>Simple usage</li> </ul>	6-19	Profile s phase
	<ul> <li>10W to 100W</li> <li>Single Phase Low Profile</li> <li>Installs in seconds</li> </ul>	. 20-33	Low
	<ul><li>Simple usage</li><li>Robust plastic case</li><li>15W to 100W</li></ul>		<b>letal Case</b> phase
	<ul> <li>Industrial Metal Case Single Phase</li> <li>Single Phase Power Supply (75 to 480W)</li> <li>Rugged metal case</li> </ul>	34-43	Industrial A single
21.8	<ul> <li>Industrial Metal Case Three Phase</li> <li>Three Phase Power Supply (240 to 960 W)</li> <li>Rugged metal case</li> </ul>	44-59	tal Case
	High Efficiency Compact Housing Universal input voltage	. 60-71	istrial Me three ph
	• 150% peak load capacity Wide input voltage	. 72-81	je B
	<ul><li>Rugged metal case</li><li>120W to 480W</li></ul>		liciency housin
	Accessories • Redundancy Buffer Module • UPS Module	. 82-91	High Eff compact

Frequently Asked Questions	
Selection Guide	
Index	
Terms and Conditions	

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822 • Phone (908)806-9400

# **DIN Rail Power Supplies**







Din Rail mount,

US

- Wide Power Range (10W-960W)
- Wide Adjustment Range
- Rugged for Industrial Use
- High Efficiency
- Lightweight and compact Design
- 3 year warranty

- Short circuit Protection
- Overvoltage Protection
- Overload Protection
- Overtemperature Protection
- Cooling by free air convection
- Worldwide approvals
- UL508 Listed and/or UL60950-1 recognized



# Altech Corp.

# Altech Power Supplies ... ...Easy to Use & Reliable!



## **SPECIFICATIONS**

## Input

- Input Voltage
  - 90-264V AC for single phase
  - 100-550V AC for wide input
  - 340-550V AC for three phase
- Input Frequency: 47-63 Hz
- Input Current: 0.6 A to 8A
- Inrush Current: cold start up to 60 A max
- Power Factor: All units are EN61000-3-2 compliant

## General

- Efficiency: 72-94% (see data sheets)
- Isolation: 3000V AC Input to Output 1500V AC Input to Ground 500V AC Output to Ground

## Environmental

Power supplies can run at 100% capacity inside the panel, there is no need for oversizing. See derating curves for more information.

- Operating Temperature:
- -20 to +60°C (-4° to +140°F)
- Operating Humidity: 90% RH, non-condensing
- Storage Temperature: -20 °C to +85 °C (-4° to +185°F)
- Vibration: 2G, 10 Hz to 500 kHz, 10 min/cycle for 60 minutes each axis

## Output

- Output Voltage: 5V; 12V; 15V; 24V; 48V
- Output Voltage Adjustment Range: ±10%
- Initial Set Accuracy: ±2% max
- Ripple & Noise: See data sheet
- Over-voltage Protection: 115-135%
- Overload Protection: 105-150%, constant current with auto recovery

## EMC & Safety

- Emissions: EN55022/55011, Class B
- EN61000-3-2, -3
- Voltage Flicker: EN61000-3-3
- ESD Immunity: EN61000-4-2, level 3
- Radiated Immunity: EN61000-4-3, 10 V/m
- EFT/Burst: EN61000-4-4, level 3
- Surge: EN61000-4-5, level 3
- Conducted Immunity: EN61000-4-6, 10 V rms,
- Safety Approvals: EN60950 UL508 UL60950
  - CE marked
- Military Standard
   MIL-HDBK-217F

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490



# Slimline Single Phase Power Supply

ALTECH's slim type DIN rail switching power supply, PS-S Series designed for the fast growing demand of low wattage DIN rail applications. These 10W to 100W models are enclosed with fully isolated plastic case to prevent users from hazardous shock. The design complies with the slim trend that the precious space on the industrial rail can be saved effectively. Featuring up to 84% of efficiency, this series is cooled by only free air convection up to 70°C that significantly increase the reliability and lifetime of the power supply. Another important feature of PS-S Series is its low power consumption (<0.75W). This unique characteristic can significantly expand the application of PS-S series beyond just heavy industrial field, but can also be implied to datacom or IT applications that require green power to save the energy and to obey the anticipated government laws in the near future!

Short circuit protection, overload protection, over voltage protection, and the DC OK signal for monitoring the status of power supply are standard functions for the PS-S Series. Typical applications includes factory automation, process control, electro-mechanical industry, datacom and IT.

- Input voltage range:
- AC inrush current (max): Cold start:
- DC adjustment range:
- Overload protection:
- Over-voltage protection:
- Setup, rise, time (max):
- Withstand voltage:
- Working temperature:
- Safety standards:
- EMC standards:

85-264V AC; 120-370V DC

20A at 115V AC,; 40A at 230V DC  $\pm$ 10% rated output voltage 105%-160% constant current limiting (auto- recovery) 115%-135% rated output voltage 500ms, 30ms/230V AC 1000ms, 30ms/115V AC, at full load I/P-0/P: 3KV AC, I/P-FG:1.5KV AC, 0/P-FG:0.5KV AC -20 to +70°C (-4° to +158°F), refer to output derating curve UL508, EN60950-1 EN55022 class B EN61000-4-2,3,4,5,6,8,11 ENV50204; EN55024; EN61000-6-1; EN61204-3; Light Industry Level criteria A MIL-HDBK-217F

Military Standard

PS-S Series		Altech Corp."	<mark>Slimline</mark> gle phase
		Y	sin
<ul> <li>Features:</li> <li>Universal AC input/Full range</li> <li>Protections: Short circuit / Overload / Overvolation</li> <li>Cooling by free air convection</li> <li>DIN rail mountable</li> <li>NEC class 2 / LPS compliant (12V,24V,48V on</li> <li>LED indicator for power on</li> <li>DC OK relay contact</li> <li>No load power consumption&lt;0.75W</li> <li>100% full load burn-in test</li> </ul>			Low Profile single phase
• 3 year warranty	9 9 9 +V -V DC OK	Multiple output connector for easy wiring on PS-S40, PS-S60 and PS-S100 models	Industrial Metal Case single phase
35mm DIN Rail Mounting	SV/3.0A DC OK + +V ADJ	DC on LED signal	Industrial Metal Case three phase
Robust plastic housing	100-240VAC 0.55A 50/50Hz () N L	Easy to understand layout panel CE Compliance UL508 Listed Universal Input	<b>High Efficiency</b> compact housing
Slim Series - narrow for maximized panel space			<i>"</i>

# 10-100W Slimline POWER SUPPLIES

# **10W Single Output Industrial DIN Rail Power Supply**

Cat. No.	Out	put	Tol.	Ripple &	Efficiency	NOTES
	V DC	A	%	Noise	Emolency	NOTES
PS-S1005	5V DC	2A	±5%	80 mVp-p	77%	
PS-S1012	12V DC	0.84A	±3%	120 mVp-p	81%	
PS-S1015	15V DC	0.67A	±3%	120 mVp-p	81%	
PS-S1024	24V DC	0.42A	±2%	150 mVp-p	84%	

## 20W Single Output Industrial DIN Rail Power Supply

Cat. No.	Out V DC	put A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S2005	5V DC	3A	±2%	80 mVp-p	76%	
PS-S2012	12V DC	1.67A	±1%	120 mVp-p	80%	
PS-S2015	15V DC	1.34A	±1%	120 mVp-p	81%	
PS-S2024	24V DC	1A	±1%	150 mVp-p	84%	

## 40W Single Output Industrial DIN Rail Power Supply

Cat. No.	Outr V DC	out A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S4005	5V DC	6A	±2%	80 mVp-p	78%	
PS-S4012	12V DC	3.33A	±1%	120 mVp-p	86%	
PS-S4024	24V DC	1.7A	±1%	150 mVp-p	88%	
PS-S4048	48V DC	0.83A	±1%	200 mVp-p	88%	

## 60W Single Output Industrial DIN Rail Power Supply

Cat. No.	Out V DC	put A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S6005	5V DC	10A	±2%	80 mVp-p	78%	
PS-S6012	12V DC	5A	±1%	120 mVp-p	86%	
PS-S6024	24V DC	2.5A	±1%	150 mVp-p	88%	
PS-S6048	48V DC	1.25A	±1%	200 mVp-p	87%	

## 100W Single Output Industrial DIN Rail Power Supply

Cat. No.	Outp V DC	out A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S10012	12V DC	7.5A	±1%	120 mVp-p	85%	
PS-S10024	24V DC	4A	±1%	150 mVp-p	86%	
PS-S10048	48V DC	2A	±1%	200 mVp-p	88%	

...

сe

## **SPECIFICATIONS**



#### Terminal Pin. No Assign. (TB1)

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

#### Terminal Pin. No Assign. (TB2) Pin No. Assignment

	· · · · · · · · · · · ·
4	DC OUTPUT +V
5	DC OUTPUT -V
6	DC OK SIGNAL

Altech Corp.

Universal Input: 85-264V AC, 120-370V DC full range; 0.33A @ 110V AC; 0.21A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, single screw terminal Size (WxHxD): 22.5x90x100mm (0.89x3.54x3.94 inches) Packaging: 1/box; 0.37lbs / 0.17Kg

#### Terminal Pin. No Assign. (TB1)

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

## Terminal Pin. No Assign. (TB2)

	÷ ,
Pin No.	Assignment
4	DC OUTPUT +V
5	DC OUTPUT -V
6	DC OK SIGNAL

Universal Input: 85-264V AC, 120-370V DC full range; 0.55A @ 110V AC; 0.35A @ 230V AC Connection: Input - 2 poles, Output – 2 poles, single screw terminal Size (WxHxD): 22.5x90x100mm (0.89x3.54x3.94 inches) Packaging: 1/box; 0.42lbs / 0.19Kg

#### 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	DC OK Relay Contact

Universal Input: 85-264V AC, 120-370V DC full range; 1.1A @ 115V AC, 0.7A @ 370V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal Size (WxHxD): 40x90x100mm (1.57x3.54x3.94 inches) Packaging: 1/box; 0.66lbs / 0.3Kg

#### 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	DC OK Relay Contact	

Terminal Pin. No Assign. (TB2)

DC OUTPUT -V

DC OK Relay Contact

Assignment DC OUTPUT +V

Universal Input: 85-264V AC, 120-370V DC full range; 1.8A @ 115V AC, 1A @ 370V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal Size (WxHxD): 40x90x100mm (1.57x3.54x3.94 inches) Packaging: 1/box; 0.73lbs / 0.33Kg

#### Terminal Pin. No Assign. (TB1)

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

Universal Input: 85-264V AC, 120-370V DC full range; 1.3A @ 115V AC, 0.8A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal Size (WxHxD): 55x90x100mm (2.17x3.54x3.94 inches) Packaging: 1/box; 0.93lbs / 0.42Kg

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Pin No.

1/2

3/4

5/6

Slimline single phase

# **PS-S10 Series Specifications**

.... +V -V DC

SV 3.0A DC OK

0.55A 50/60Hz

⊕ N L



## Features:

- Universal AC input / full range
- . Protections: Short Circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- NEC class 2 / LPS compliant
- Built in DC OK active signal
- LED indicator for power on
- No load power consumption < 0.75W • 100% full load burn-in test
- 3 year warranty

OUTDUT	Cat. No.	PS-S1005	PS-S1012	PS-S1015	PS-S1024
OUTPUT	DC VOLTAGE RATED CURRENT CURRENT RANGE	5V 2A 0~2A	12V 0.84A 0~0.84A	15V 0.67A 0~0.67A	24V 0.42A 0~0.42A
	RATED POWER RIPPLE & NOISE (max)	0~2A 10W 80mVp-p	10W 120mVp-p	10W 120mVp-p	10W 150mVp-p
	VOLTAGE TOLERANCE	±5.0%	±3.0%	twisted pair-wire terminated with a ±3.0%	0.1µF & 47µF parallel capacito
	LINE REGULATION LOAD REGULATION SETUP, RISE TIME	±1.0% ±5.0% 500ms, 30ms/230VAC; Length of set up time is measu	-	±1.0% ±3.0%	±1.0% ±2.0%
INPUT —	HOLD UP TIME (Typ.)	120ms/230VAC; 25ms/			
	VOLTAGE RANGE FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT (max.) INRUSH CURRENT (Typ.) LEAKAGE CURRENT	85~264VAC; 120~370\ 47~63Hz 77% 0.33A/115VAC; 0.21A/2 COLD START: 35A/115V <1mA/ 240VAC	81% 230VAC	81%	84%
PROTECTION	OVERLOAD PROTECTION	Above 105% rated outp	out power		
	OVERVOLTAGE PROTECTION	5.75~6.75V	recovers automatically after faul	17.25~20.25V	27.6~32.4V
	OVER TEMPERATURE PROTECTION			<sup>r</sup> ent limiting / output voltage	e goes to 0;
	DC OK AKTIV SIGNAL (max.)	3.75~6V (50mA)	9~13.5V (40mA)	11.5~16.5V (40mA)	18~27V (20mA
VIRONMENT	WORKING TEMP. WORKING HUMIDITY STORAGE TEMP. / HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING	20 ~ 90% RH non-cond -40 ~ +85°C; 10 ~ 95% ±0.03% °C (0 ~ 50°C)	% RH Iz, 2G 10min. / 1cycle, 6	60 min. each long X,Y, Z ay	ies
FETY & EMC	SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT EMS IMMUNITY	light industry level; crite	G: 1.5KVAC 0/P-FG: 0 100M 0hms/500VDC 1 0-3-2,-3 0-4-2,3,4,5,6,8,11; EN5 eria A	0.5KVAC 5024; ENV50204; EN6100 ed into a final equipment. The final	
OTHERS	MTBF DIMENSION PACKING	that is still meets EMC directive 584K hrs min. MIL-H 22.5x90x100mm (WxH 0.17Kg; 72pcs / 13.2Kg	DBK-217K (25°C) xD)		
				AC input, rated load and 25°C of a	mbient temperature

# Altech Corp."

Slimline

Ф

## **Mechanical Specification**



AMBIENT TEMPERATURE (℃)

#### Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

**INPUT VOLTAGE (VAC) 60Hz** 

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

	PS-S20 Ser	ries 🗸 🗸			
	Specificatio			al AC input / full range ions: Short Circuit / Ove	rload / Overvolta
			<ul> <li>Cooling</li> <li>DIN rail</li> <li>NEC classification</li> </ul>	by free air convection mountable ass 2 / LPS compliant	
-1E			LED inc	DC OK active signal dicator for power on	
	pull.			l power consumption < ( ull load burn-in test warranty	0.75W
DUT	Cat. No.	PS-S2005	PS-S2012	PS-S2015	PS-S2024
PUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	3A	1.67A	1.34A	1A
	CURRENT RANGE	0~3A	0~1.67A	0~1.34A	0~1A
	RATED POWER	15W	20W	20W	24W
	RIPPLE & NOISE (max)	80mVp-p	120mVp-p	120mVp-p	150mVp-p
1.1				2" twisted pair-wire terminated with a 0	.1µF & 47µF parallel capaci
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%
			rance, line regulation and load r		
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
		±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		; 1000ms, 30ms/115VA0		
				N/OFF the power supply may lead to	increase of the set up time
	HOLD UP TIME (Typ.)	50ms/230VAC; 20ms/1	15VAC at full load		
		85~264VAC 120~3			
	VOLTAGE RANGE		10000		
	FREQUENCY RANGE	47~63Hz			
	EFFICIENCY (Typ.)	76%	80%	81%	84%
	AC CURRENT (max.)	0.55A/115VAC; 0.35A/			
	INRUSH CURRENT (Typ.)	COLD START: 20A/115	vac; 40a/230vac		
	LEAKAGE CURRENT	≤1mA/ 240VAC			
N		1050/ 1000/ waterd a			
	OVERLOAD PROTECTION	105% ~ 160% rated o			
				Ily after fault condition is removed	
	OVERVOLTAGE PROTECTION	5.75~6.75V	13.8~16.2V	17.25~20.25V	27.6~32.4V
			ervoltage, re-power on to recove		
	OVER TEMPERATURE PROTECTION	Power supply shut dov	vn at 70°C constant curr	ent limiting / output voltage	goes to 0;
		re-power on to recover	r		
	DC OK AKTIV SIGNAL (max.)	3.75~6V (50mA)	9~13.5V (40mA)	11.5~16.5V (40mA)	18~27V (20mA
Π -	WORKING TEMP.	-20 ~ +70°C (Refer to	output load derating cur	ve)	
	WORKING HUMIDITY	20 ~ 90% RH non-con			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95°	•		
	TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)			
	VIBRATION	. ,	Hz 2G 10min / 1ovole 6	60 min. each long X,Y, Z axes	
	MOUNTING	Compliance to IEC6006			
		•			
10	SAFETY STANDARDS	UL508			
		EN60950-1approved	- I' 4		
		NEC class2 / LPS com			
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-F		0.5KVAC	
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG	: 100M 0hms/500VDC		
	EMI CONDUCTION & RADIATION	Compliance to EN5501	1		
		EN55022 (CISPR22)			
		EN61204-3 Class B			
	HARMONIC CURRENT	Compliance to EN6100	0-3-23		
	EMS IMMUNITY			5024; ENV50204; EN61000	-6-1.EN61204-3.
				, LINU 1000	5 I,LINUI204-0,
		light industry level; crit		led into a final antiana 171 di t	a inmentt t
				led into a final equipment. The final e	quipment must be re-conf
		that is still meets EMC directiv			
	MTBF	236.9K hrs min. MIL	-HDBK-217K (25°C)		
	DIMENSION	22.5x90x100mm (WxH	IxD)		
	DIVILIVOIDIN				
	PACKING	0.19Kg; 72pcs / 14.7K	,		

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

# Altech Corp."

Slimline

Φ

## **Mechanical Specification**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

3



EN/	/IRON	IMEN	

WORKING TEMP.

WORKING HUMIDITY STORAGE TEMP., HUMIDITY

TEMP. COEFFICIENT

SAFETY STANDARDS

WITHSTAND VOLTAGE

HARMONIC CURRENT

EMS IMMUNITY

MTBF

DIMENSION

PACKING

ISOLATION RESISTANCE

EMI CONDUCTION & RADIATION

VIBRATION

MOUNTING

**SAFETY & EMC** 

**OTHERS** 

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

-20 ~ +70°C (Refer to output load derating curve)

NEC class2 / LPS compliant (12V, 24V, 48V only)

I/P-O/P: 3KVAC I/P-FG: 1.5KVAC 0/P-FG: 0.5KVAC

I/P-O/P, I/P-FG, O/P-FG: ≥100M Ohms/500VDC (25°C; 70% RH)

Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes

Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024; ENV50204 ; EN61000-6-2; EN61204-3;

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

The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed

 $20 \sim 90\%$  RH non-condensing

-40 ~ +85°C, 10 ~ 95% RH

Compliance to IEC60068-2-6

Compliance to EN55011 EN55022 (CISPR22) EN61204-3 Class B

Compliance to EN61000-3-2,-3

301.7K hrs min. MIL-HDBK-217K (25°C)

0.3Kg; 42pcs / 13.6 Kg / 0.82CUFT

light industry level; criteria A

that is still meets EMC directives.

40x90x100mm (WxHxD)

±0.03% °C (0 ~ 50°C)

UL508

UL60950-1 EN60950-1approved

# Altech Corp.

### **Mechanical Specification**

FG⊕

AC/N

AC/L 3

2

3,4

5,6





100

**Block Diagram** 



#### **DC OK Relay Contact**

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

### **Derating Curve**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

**Output Derating VS Input Voltage** 

Slimline Ф



# **PS-S60 Series Specifications**



## Features:

- Universal AC input/full range
  Protections: Short Circuit / Overload / Overvoltage
- Cooling by free air convection ٠
- ٠ DIN rail mountable
- NEC class 2 / LPS compliant (24V,48V only) ٠
- LED indicator for power on
- No load power consumption < 0.75W •
- 100% full load burn-in test
- 3 year warranty

	Cat. No.	PS-S6005	PS-S6012	PS-S6024	PS-S6048
OUTPUT	DC VOLTAGE	5V	12V	24V	48V
	RATED CURRENT	10A	5A	2.5A	1.25A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 2.5A	0 ~ 1.25A
	RATED POWER	50W	60W	60W	60WRIPPLE &
	NOISE (max)	80mVp-p	120mVp-p	150mVp-p	200mVp-p
		Ripple & noise are measured at	20MHz of bandwidth by using a 1	2 twisted pair-wire terminated with a	0.1µF & 47µF parallel capacitor
	VOLTAGE ADJ. RANGE	5 ~ 6V	12 ~ 15V	24 ~ 30V	48 ~ 56V
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%
		Tolerance: includes set up tole	erance, line regulation and load	regulation.	
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±1.5%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 30ms/230VAC	; 500ms, 30ms/115VAC	at full load	
	, -			N/OFF the power supply may lead	to increase of the set up time.
	HOLD UP TIME (Typ.)	50ms/230VAC / 20ms/	•		
INPUT	VOLTAGE RANGE	85 ~ 264VAC 120 ~	~ 370VDC		
	FREQUENCY RANGE	47~63Hz	- 5/0000		
			0.00/	000/	070/
	EFFICIENCY (Typ.)		86%	88%	87%
	AC CURRENT (max)	1.8A/115VAC; 1A/230\			
	INRUSH CURRENT (Typ.)	COLD START: 60A/230	VAC		
PROTECTION	LEAKAGE CURRENT	≤1mA/ 240VAC			
FROIEGIION	OVERLOAD PROTECTION	105% ~ 150% rated o	output power		
		Protection type: Constant curr	ent limiting, recovers automatic	ally after fault condition is removed	
	OVERVOLTAGE PROTECTION	6.25 ~ 7.25V	15.6 ~ 18V	31.2 ~ 36V	57.6 ~ 64.8
		Protection type: Shut down ov	vervoltage, re-power on to recov	er	1
	OVER TEMPERATURE PROTECTION	Power supply shut dov	wn at 70°C constant curr	ent limiting / output voltag	e goes to 0;
		re-power on to recover			•
	DC OK AKTIV SIGNAL (max.)	Relay contact rating (n	nax.): 30V/1A resistive		
NVIRONMENT	WORKING TEMP.	-20 ~ +70°C (Refer to	output load derating cu	rve)	
	WORKING HUMIDITY	20 ~ 90% RH non-con	Idensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95	% RH		
	TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)			
	VIBRATION	. ,	Hz 2G 10min / 1cvcle (	60 min. each long X,Y, Z av	(es
	MOUNTING	Compliance to IEC600			
AFETY & EMC		•	00-2-0		
	SAFETY STANDARDS	UL508			
		UL60950-1			
		EN60950-1approved			
		NEC class2 / LPS com	pliant (24V, 48V only)		
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-I	FG: 1.5KVAC 0/P-FG:	0.5KVAC	
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG	i: ≥100M 0hms/500VDC	(25°C; 70% RH)	
	EMI CONDUCTION & RADIATION	Compliance to EN5501	11		
		EN55022 (CISPR22)			
		EN61204-3 Class B			
	HARMONIC CURRENT	Compliance to EN6100	10-3-2 -3		
	EMS IMMUNITY			55024; ENV50204; EN6100	0 6 2 ENG1204 2
				JJUZ4, LINVJUZU4, LINUTU	$10^{-0-2}$ , LINO 1204-3,
	10	light industry level; crit		lled into a final equipment. The fina	l equinment must be re-confirm
		that is still meets EMC directiv		поо пло а ппа едиртеть. Пе Ша	։ օգարուծու ուսծւ մե լե-օմուլու
OTHERS	MTRE	200 2K hrs min MII	-HDBK-217K (25°C)		
OTHERS	MTBF	299.2K hrs min. MIL			
OTHERS	DIMENSION	40x90x100mm (WxHxl	D)		
OTHERS		40x90x100mm (WxHxl 0.33Kg; 42pcs / 14.8K	D) (g / 0.82CUFT	V AC innut rated load and 25°C of	ambient temperature
OTHERS	DIMENSION	40x90x100mm (WxHxl 0.33Kg; 42pcs / 14.8K	D) (g / 0.82CUFT	V AC input, rated load and 25°C of a	ambient temperature
OTHERS	DIMENSION	40x90x100mm (WxHxl 0.33Kg; 42pcs / 14.8K	D) (g / 0.82CUFT	V AC input, rated load and 25°C of a	ambient temperature

## **Mechanical Specification**



## **Block Diagram**



#### **DC OK Relay Contact**

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

#### **Derating Curve**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Altech Corp."

# PS-S100 Series **Specifications**



#### Features:

- Universal AC input / full range
  Protections: Short Circuit / Overload / Overvoltage / Over temperature
- ZCS/ZVS technology to reduce power dissipation
  Cooling by free air convection
- DIN rail mountable
- DC OK relay contact
- No load power consumption < 1W</li>
  LED indicator for power on
- 100% full load burn-in test
- 3 year warranty

	Cat. No.	PS-S10012	PS-S10024	PS-S10048		
DUTPUT	DC VOLTAGE	12V	24V	48V		
	RATED CURRENT	7.5A	4A	2A		
	CURRENT RANGE	0 ~ 7.5A	0 ~ 4A	0 ~ 2A		
	RATED POWER	90W	96W	96W		
	RIPPLE & NOISE (max)	120mVp-p	150mVp-p	200mVp-p		
	THIT LE & NOISE (ITAX)					
		Ripple & holse are measured at 2000 $12 \sim 15V$	$12 \text{ or bandwidth by using a 12 twisted pair-wire } 24 \sim 30 \text{V}$	e terminated with a 0.1μF & 47μF parallel capaci 48 ~ 56V		
	VOLTAGE ADJ. RANGE					
	VOLTAGE TOLERANCE	±1.0%	±1.0%	±1.0%		
			e, line regulation and load regulation.			
	LINE REGULATION	±1.0%	±1.0%	±1.0%		
	LOAD REGULATION	±1.0%	±1.0%	±1.0%		
	SETUP, RISE TIME	3000ms, 50ms/230VAC; 3	000ms, 50ms/115VAC at full load	1		
INDUT	HOLD UP TIME (Typ.)	Length of set up time is measured 50ms/230VAC; 20ms/115		r supply may lead to increase of the set up tin		
INPUT —	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 37	OVDC			
		Deating maybe needed under low i	nput voltages, please check the derating cu	rve for more detail		
	FREQUENCY RANGE	47~63Hz				
	POWER FACTOR (Typ.)	$PF \ge 0.95/230VAC; PF \ge 0$	.98/115VAC at full load			
	EFFICIENCY (Typ.)	85%	86%	88%		
	AC CURRENT (max)	1.3A/115VAC; 0.8A/230VA				
	INRUSH CURRENT (Typ.)	COLD START: 30A/115VAC				
	LEAKAGE CURRENT	≤1mA/ 240VAC	, 0011200110			
OTECTION	OVERLOAD	105% ~ 150% rated output	ut power			
	0.12.120.12		miting, recovers automatically after fault cor	udition is removed		
	OVERVOLTAGE	15.6 ~ 18V	31.2 ~ 36V	57.6 ~ 64.8V		
	OVENVOEIAGE			57.0 ~ 04.00		
		Protection type: Shut down overvol				
	OVERTEMPERATURE	· · · ·	on heat sink of power transistor			
		Protection type: Shut down overvol				
	SHORT CUIRCUIT PROTECTION	Power supply shut down at 70°C constant current limiting / output voltage goes to 0;				
		re-power on to recover				
IDONIMENT	DC OK AKTIV SIGNAL (max.)	Relay contact rating (max.	): 30V/1A resistive			
IRONMENT	WORKING TEMP.	$-10 \sim +60^{\circ}$ C (Refer to output load derating curve)				
	WORKING HUMIDITY	20 ~ 90% RH non-conden	<b>e</b> ,			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH				
	TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)				
	VIBRATION	±0.03% C (0 ~ 30 C) Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes				
	MOUNTING	Compliance to IEC60068-2		1011g X, 1, 2 axes		
ETY & EMC		•				
	SAFETY STANDARDS	UL508				
		EN60950-1 compliant				
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG:1	.5KVAC 0/P-FG:0.5KVAC			
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: ≥1	00M 0hms/500VDC/25°C/70% R	H		
	EMI CONDUCTION & RADIATION	Compliance to EN55011				
		EN55022 (CISPR22)				
		EN61204-3 Class B				
	HARMONIC CURRENT	Compliance to EN61000-3	-2 -3			
	EMS IMMUNITY	•	-	0204; EN61000-6-2; EN61204-3;		
				5204, EN01000-0-2, EN01204-3,		
		light industry level; criteria	t A component which will installed into a final ed	uninment The final equipment must be		
		re-confirmed that is still meets EM		anpinent. The final equipinent must be		
DTHERS	-					
	MTBF	346K hrs min. MIL-HDBI	K-217K (25°C)			
	DIMENSION	55x90x100mm (WxHxD)				
	PACKING	0.42Kg; 30pcs / 13.6Kg /				
			ioned are measured at 230V AC input, rated			

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

# Altech Corp.

## **Mechanical Specification**





## **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		





Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Slimline Ф

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

# Low Profile Single Phase Power Supply (Class II)

The Low Profile Single Phase Power Supplies are 15W to 100W single output Class II DIN rail switching power supplies. They are designed for the fast growing demand of the DIN rail application with limited enclosure height. With Class II of protection level, low profile series provide users a safer operating environment since the whole plastic case is free from hazardous leakage current. Featuring up to 89% of high efficiency, this series can be cooled by only free air convection that significantly increase the reliability and lifetime of the power supply. Complying with the safety of the UL508 and EMC requirements of EN50178 which is mainly for power distribution aspects, the low profile switching power supplies are suitable to be installed in a power distribution box or a control cabinet and the major application fields are building automation and household appliance control.

- Input voltage range:
- AC inrush current:
- DC adjustment range:
- Overload protection:
- Over-voltage protection:
- Setup, rise, hold up time:
- Withstand voltage:
- Working temperature:
- Safety standards:
- EMC standards:

85-264V AC; 120-370V DC

- Cold start: 15A at 115V AC, 30A at 230V DC (PS-30xx)
- $\pm 10\%$  rated output voltage
- 105%-160% constant current limiting, auto-recovery
- 115%-135% rated output voltage
- 100ms, 30ms, 100ms at full loadand 230V AC (PS-30xx) I/P-0/P:3KV AC, I/P-FG:1.5KV AC
- -20 to +50°C (-4° to +122°F) at 100%
- and  $+60^{\circ}C$  (+140°F) at 80% load
- UL60950-1, UL508 EN55022 class B EN61000-4-2,3,4,5,6,8,11

ENV50204 EN61204-3

MIL-HDBK

Military Standard:

0.0

# **PS Series - Low Profile**



## Features:

- Universal AC input/Full range
- Protections: Short circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- Isolation class II
- LED indicator for power on
- 100% full load burn-in test
- 3 year warranty



Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

# 15-100W Low Profile POWER SUPPLIES



...

...

....

CE -

....

0.9

STATISTICS.

# 15W Single Output Class II DIN Rail Power Supply



Cat. No.	Output V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-1505	5V DC 2.4A	±2%	80 mVp-p	77%	
PS-1512	12V DC 1.25A	±1%	120 mVp-p	84%	
PS-1515	15V DC 1A	±1%	120 mVp-p	83.5%	
PS-1524	24V DC 0.63A	±1%	150 mVp-p	85%	

## 30W Single Output Class II DIN Rail Power Supply

Cat. No.	Output V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-3005	5V DC 3A	±2%	80 mVp-p	74%	
PS-3012	12V DC 2A	±1%	120 mVp-p	81%	
PS-3015	15V DC 2A	±1%	120 mVp-p	82%	
PS-3024	24V DC 1.5A	±1%	150 mVp-p	83%	

## 45W Single Output Class II DIN Rail Power Supply

Cat. No.	Output V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-4505	5V DC 5A	±2%	100 mVp-p	72%	
PS-4512	12V DC 3.5A	±1%	200 mVp-p	77%	
PS-4515	15V DC 2.8A	±1%	240 mVp-p	77%	
PS-4524	24V DC 2A	±1%	480 mVp-p	80%	

## 60W Single Output Class II DIN Rail Power Supply

Cat. No.	Output V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-6005	5V DC 6.5A	±2%	80 mVp-p	76%	
PS-6012	12V DC 4.5A	±1%	120 mVp-p	82%	
PS-6015	15V DC 4.0A	±1%	120 mVp-p	83%	
PS-6024	24V DC 2.5A	±1%	150 mVp-p	84%	

## 100W Single Output Class II DIN Rail Power Supply

ENERGY	
SAVER	

Cat. No.	Outp V DC	out A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-10012	12V DC	7.5A	±2%	120 mVp-p	87%	
PS-10015	15V DC	6.5A	±1%	120 mVp-p	87%	
PS-10024	24V DC	4.2A	±1%	150 mVp-p	89%	

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

## SPECIFICATIONS

**PS-15** 

**Series** 

PS-30 Series

PS-45 Series *g*3

# Altech Corp.

Simline single phase

ustrial Metal Cas

dustrial Metal Case three phase



Accessories



Pin No.	Assignment	Pin No.	Assignment
1	AC/L	3	-V
2	AC/N	4	+V

# Universal Input: 85-264V AC, 120-370V DC full range; 0.88A @ 115V AC; 0.48A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, single screw terminal Size (WxHxD): 25x93x56mm (0.98x3.66x2.20 inches) Packaging: 1/box; 0.22lbs / 0.1Kg

#### Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5,6	-V
2	AC/N	7	LED
3,4	+V	8	+V ADJ.

Universal Input: 85-264V AC, 120-370V DC full range; 0.88A @ 115V AC; 0.48A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal Size (WxHxD): 78x93x56mm (3.07x3.66x2.20 inches) Packaging: 1/box; 0.60lbs / 0.27Kg

#### Terminal Pin. No Assignment

Pin	Assignment	Pin	Assignment
1	AC/L	6,7	DC OUTPUT+V
2	AC/N	8	LED
3	FG 🖶	9	+V ADJ.
4,5	DC OUTPUT-V		

Universal Input: 85-264V AC, 120-370V DC full range; 1.5A @ 115V AC, 0.75A @ 230V AC

Connection: Input - 3 poles, Output - 2 poles, double screw terminal Size (WxHxD): 78x93x67mm (3.07x3.66x2.64 inches) Packaging: 1/box; 0.68lbs / 0.31Kg

#### Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5,6	-V
2	AC/N	7	LED
3,4	+V	8	+V ADJ.

Universal Input: 88-264V AC, 124-370V DC full range; 1.2A @ 115V AC, 0.8A @ 230V AC Connection: Input - 2 poles, Output – 2 poles, double screw terminal Size (WxHxD): 78x93x56mm (3.07x3.66x2.20 inches) Packaging: 1/box; 0.66lbs / 0.30Kg

#### Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5,6	-V
2	AC/N	7	LED
3,4	+V	8	+V ADJ.

Universal Input: 88-264V AC, 124-370V DC full range; 3A @ 115V AC, 1.6A @ 230V AC Connection: Input - 2 poles, Output - 2 poles, double screw terminal Size (WxHxD): 100x93x56mm (3.94x3.66x2.20 inches)

Packaging: 1/box; 0.77lbs / 0.35Kg

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.



PS-60 Series



PS-100 Series



23

# **PS-15 Series** Specifications

0.0



## Features:

- Universal AC input / full range
- Protections: Short Circuit / Overload / Over Voltage •
- Cooling by free air convection DIN rail mountable
- ٠
- Isolation class II .
- LED indicator for power on • No load power consumption<0.5W
- 100% full load burn-in test
- 3 year warranty

	Cat. No.	PS-1505	PS-1512	<b>PS-1515</b>	<b>PS-1524</b>
	DC VOLTAGE	5V	12V	15V	24V
- 1	RATED CURRENT	2.4A	1.25A	1A	0.63A
	CURRENT RANGE	0 ~ 2.4A	0 ~ 1.25A	0 ~ 1A	0 ~ 0.63A
- 18	RATED POWER	12W	15W	15W	15.2W
- 81	RIPPLE & NOISE (max)	80mVp-p	120mVp-p	120mVp-p	150mVp-p
- 8		Ripple & noise are measured a	t 20MHz of bandwidth by usir	ng a 12 twisted pair-wire terminated	with a 0.1µF & 47µF parallel
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%
		Tolerance: includes set up toler	ance, line regulation and load	l regulation.	
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	1000ms, 50ms / 230VA	C 1000ms, 50ms	/ 115VAC at full load	
	HOLD UP TIME (Typ.)	70ms / 230VAC	16ms / 115VA0	C at full load	
	VOLTAGE RANGE	85 ~ 264VAC	120 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	77%	84%	83.50%	85%
	AC CURRENT (max.)	0.88A / 115VAC	0.48A / 230VAC		
	INRUSH CURRENT (Typ.)	COLD START 35A / 115			
	OVERLOAD	105 ~ 160% rated out			
	OVERLOAD			ally after fault condition is removed (	lliagun mada)
		Constant current operation regi	•	,	niccup mode)
	OVERVOLTAGE	$5.75 \sim 6.75V$	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V
	OVERVOLIAGE	Protection type: Shut down ove			27.0 ~ 32.40
-					
NMENT	WORKING TEMP.	-20 ~ +60°C (Refer to c	· ·	urve)	
	WORKING HUMIDITY	20 ~ 90% RH non-cond	0		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95%	% KH		
	TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)			
	VIBRATION			60 min. each long X,Y, Z ax	es
	MOUNTING	Compliance to IEC6006	8-2-6		
	SAFETY STANDARDS	UL60950-1			
- 10		EN60950-1approved			
16		Design refer to EN5017	'8		
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC			
	ISOLATION RESISTANCE	I/P-0/P: 100M 0hms/50	00VDC (25°C; 70% RH)	)	
	EMI CONDUCTION & RADIATION	Compliance to EN5501	1		
- 1		EN55022 (CISPR22); EN	161204-3 Class B		
- 1	HARMONIC CURRENT	Compliance to EN6100			
	EMS IMMUNITY	•		I55024; ENV50204; EN6100	0-6-2: EN61204-3:
- 1		heavy industry level; cr		,,	,,
- 1		The power supply is considered		talled into a final equinment	
		The final equipment must be re			
	MTDE			unouroo.	
	MTBF	1172.3K hrs min. MIL	. ,		
	DIMENSION	25x93x56mm (WxHxD)			
	DAOI/INIO				
	PACKING	0.1Kg; 140pcs / 15Kg /		OV AC input, rated load and 25°C of a	

# Altech Corp."

## **Mechanical Specification**





 Terminal Pin. No Assignment

 Pin No.
 Assignment

 1
 AC/L
 3

 2
 AC/N
 4

## **Block Diagram**







Output Derating VS Input Voltage



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

# **PS-30 Series** Specifications



## Features:

- Universal AC input/ full range
  Protections: Short Circuit / Overload / Over Voltage
  Cooling by free air convection
- DIN rail mountable
- Isolation class II
- LED indicator for power on •
- 100% full load burn-in test
- 3 year warranty

OUTDUT	Cat. No.	PS-3005	PS-3012	PS-3015	PS-3024
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	3A	2A	2A	1.5A
	CURRENT RANGE	0 ~ 3A	0 ~ 2A	0 ~ 2A	0 ~ 1.5A
	RATED POWER	15W	24W	30W	36W
	RIPPLE & NOISE (max)	80mVp-p	120mVp-p	120mVp-p	150mVp-p
		Ripple & noise are measured at	20MHz of bandwidth by using	a 12 twisted pair-wire terminated v	with a 0.1µF & 47µF parallel cap
	VOLTAGE ADJ. RANGE VOLTAGE TOLERANCE	4.75 ~ 5.5V ±2.0%	10.8 ~ 13.2V ±1.0%	13.5 ~ 16.5V ±1.0%	21.6 ~ 26.4V ±1.0%
INPUT	LINE REGULATION LOAD REGULATION SETUP, RISE TIME HOLD UP TIME (Typ.)	Tolerance: includes set up tolera ±1.0% ±1.0% 100ms, 30ms / 230VAC 100ms / 230VAC	±1.0% ±1.0%	$\pm 1.0\%$ $\pm 1.0\%$ VAC at full load	±1.0% ±1.0%
	VOLTAGE RANGE FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (Typ.)	85 ~ 264VAC 47 ~ 63Hz 74% 0.88A / 115VAC COLD START 15A / 115V	120 ~ 370VDC 81% 0.48A / 230VAC /AC; 30A / 230VAC	82%	83%
ROTECTION —	OVERLOAD	105 ~ 160% rated outp	ut power		
VIRONMENT -	OVERVOLTAGE		t limiting recovers automatica 13.8 ~ 16.2V	Ily after fault condition is removed 17.25 ~ 20.25V	27.6 ~ 32.4V
FETY & EMC	WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING	-20 ~ +60°C (Refer to or 20 ~ 90% RH non-cond -40 ~ +85°C, 10 ~ 95% ±0.03% / °C (0 ~ 50°C) Component: 10 ~ 500Hz Compliance to IEC60068	ensing RH z, 2G 10min. / 1cycle, (	rve) 60 min. each long X,Y, Z ax	es
	SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT EMS IMMUNITY	heavy industry level; crit	00VDC ss B -3-2,-3 -4-2,3,4,5,6,8,11; ENS eria A a component which will insta	55024; ENV50204; EN6100 Iled into a final equipment. The final	
OTHERS	MTBF DIMENSION PACKING	441.5K hrs min. MIL-H 78x93x56mm (WxHxD) 0.27Kg; 48pcs / 14Kg / All parameters NOT specially me	1.02CUFT	V AC input, rated load and 25°C of a	mbiant tomperature

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

...

....

an Add Share

U U

CE

# Altech Corp."

45 68

56 47

## **Mechanical Specification**



#### Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5,6	-V
2	AC/N	7	LED
3,4	+V	8	+V ADJ.





**Derating Curve** 



Output Derating VS Input Voltage



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.<sup>®</sup> • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

# **PS-45 Series Specifications**



### Features:

- Universal AC input / full range Protections: Short Circuit / Overload / Over Voltage/ • Overtemperature
- Cooling by free air convection
- DIN rail mountable
- UL508 approved •
- LED indicator for power on •
- Fix switching frequency at 100kHz •
- 100% full load burn-in test
- 3 year warranty

	Cat. No.	PS-4505	PS-4512	<b>PS-4515</b>	<b>PS-4524</b>		
OUTPUT	DC VOLTAGE	5V	12V	15V	24V		
	RATED CURRENT	5A	3.5A	2.8A	2A		
	CURRENT RANGE	0 ~ 5A	0 ~ 3.5A	0 ~ 2.8A	0 ~ 2A		
	RATED POWER	25W	42W	42W	48W		
	RIPPLE & NOISE (max)	100mVp-p	200mVp-p	240mVp-p	480mVp-p		
		Ripple & noise are measure	ed at 20MHz of bandwidth by using	g a 12 twisted pair-wire terminated	with a 0.1 $\mu\text{F}$ & 47 $\mu\text{F}$ parallel capa		
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V		
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%		
			olerance, line regulation and load	regulation.			
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%		
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%		
	SETUP, RISE TIME	800ms, 60ms / 230					
INPUT	HOLD UP TIME (Typ.)	60ms / 230VAC at fu	III load				
	VOLTAGE RANGE	85 ~ 264VAC	120 ~ 370VDC				
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	72%	77%	77%	80%		
	AC CURRENT (max.)	1.5A / 115VAC	0.75A / 230VAC				
	INRUSH CURRENT (Typ.)	COLD START 28A / 1	15VAC; 56A / 230VAC				
OTECTION	LEAKAGE CURRENT	≤1mA / 240VAC					
OTECTION	OVERLOAD	105 ~ 160% rated o	utput power				
		Protection type: Constant c	urrent limiting recovers automatica	ally after fault condition is removed			
	OVERVOLTAGE	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V		
			overvoltage, clamping by zener di				
	OVERTEMPERATURE	Tj 135°C typically (U	<ol> <li>detect on heat sink of p</li> </ol>	ower transistor			
IRONMENT		Protection type: Shut down	overvoltage, re-power on to recov	er			
	WORKING TEMPERATURE	-10 ~ +50°C (Refer	to output load derating cu	rve)			
	WORKING HUMIDITY	20 ~ 90% RH non-c	ondensing				
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 9	95% RH				
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50	°C)				
	VIBRATION	Component: 10 ~ 50	0Hz, 2G 10min. / 1cycle,	60 min. each long X,Y, Z a	xes		
Y & EMC —	MOUNTING	Compliance to IEC60	068-2-6				
	SAFETY STANDARDS	UL508					
		EN60950-1 approve	d				
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC //F	P-FG:1.5KVAC 0/P-FG:0.5	5KVAC			
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-	FG: 100M Ohms / 500VD	C (25°C; 70% RH)			
	EMI CONDUCTION & RADIATION	Compliance to EN55	011; EN55022 (CISPR22)	Class B			
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3					
	EMS IMMUNITY	Compliance to EN61	000-4-2,3,4,5,6,8,11; EN	V50204; EN55024; EN610	00-6-2;		
		heavy industry level;	criteria A				
		The power supply is consid	ered a component which will insta	alled into a final equipment.			
OTHERS		The final equipment must t	e re-confirmed that it still meets E	EMC directives.			
JIILNO	MTBF	364.6K hrs min. N	IIL-HDBK-217K (25°C)				
	DIMENSION	93x78x67mm (LxWx					
	PACKING	0.31Kg; 48pcs / 16.	1Kg / 1.3CUFT				
1		All parameters NOT special	ly mentioned are measured at 230	IV AC input, rated load and 25°C of	ambient temperature		

## **Mechanical Specification**

Terminal Pin. No Assignment							
Pin	Assignment	Pin	Assignment				
1	AC/L	6,7	DC OUTPUT+V				
2	AC/N	8	LED				
3	FG 🖶	9	+V ADJ.				
4,5	DC OUTPUT-V						





**Block Diagram** 



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

# Altech Corp."

1858

Accessories

OUTPUT RIPPLE (mVp-p)

# **PS-60 Series** Specifications



....

12

61

.....

66

...

## Features:

- Universal AC input / full range Protections: Short Circuit / Overload / Over Voltage Cooling by free air convection DIN rail mountable •
- •
- Isolation class II •
- LED indicator for power on . • 100% full load burn-in test
- 3 year warranty

OUTPUT	Cat. No.	PS-6005	PS-6012	<b>PS-6015</b>	<b>PS-6024</b>			
UUIPUI	DC VOLTAGE	5V	12V	15V	24V			
	RATED CURRENT	6.5A	4.5A	4A	2.5A			
	CURRENT RANGE	0 ~ 6.5A	0 ~ 4.5A	0 ~ 4A	0 ~ 2.5A			
	RATED POWER	32.5W	54W	60W	60W			
	RIPPLE & NOISE (max)	80mVp-p	120mVp-p	120mVp-p	150mVp-p			
		Ripple & noise are measured at	20MHz of bandwidth by usin	g a 12 twisted pair-wire terminate	d with a 0.1µF & 47µF parallel ca			
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	11.1 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V			
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%			
		Tolerance: includes set up tolera	nce, line regulation and load					
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%			
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%			
	SETUP, RISE TIME	100ms, 30ms / 230VAC						
	HOLD UP TIME (Typ.)	100ms / 230VAC	23ms / 115VAC at 1					
INPUT —								
	VOLTAGE RANGE	85 ~ 264VAC	124 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	76%	82%	83%	84%			
	AC CURRENT (max.)	1.2A / 115VAC	0.8A / 230VAC					
PROTECTION	INRUSH CURRENT (Typ.)	COLD START 18A / 115V	/AC; 36A / 230VAC					
	OVERLOAD	105 ~ 160% rated outp	ut power					
		Protection type: Constant curren	t limiting recovers automatic	ally after fault condition is remove	d			
	OVERVOLTAGE	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V			
		Protection type: Shut down over	voltage, re-power on to reco	ver	1			
NVIRONMENT -	WORKING TEMP.	-20 ~ +60°C (Refer to o	utput load derating ci	irve)				
	WORKING HUMIDITY	20 ~ 90% RH non-cond						
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95%	0					
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)						
	VIBRATION	$\pm 0.03\%$ / C (0 ~ 50 C) 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes						
	MOUNTING	Compliance to IEC60068		11 1011g X, 1, 2 0X03				
AFETY & EMC		·	5-2-0					
	SAFETY STANDARDS	UL60950-1						
		EN60950-1approved						
		Design refer to EN50178	3					
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC						
	ISOLATION RESISTANCE	I/P-0/P: 100M 0hms/50		)				
	EMI CONDUCTION & RADIATION	EMI CONDUCTION & RADIATION Compliance to EN55011						
		EN55022 (CISPR22) Clas	ss B					
	HARMONIC CURRENT Compliance to EN61000-3-2,-3							
	EMS IMMUNITY	NITY Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024; EN61000-6-2; EN61204-3;						
		heavy industry level; crit	teria A					
		The power supply is considered	a component which will inst	alled into a final equipment. The fi	nal equipment must be re-confirm			
		that is still meets EMC directives	3.					
OTHERS	MTBF	216.2K hrs min. MIL-H	HDBK-217K (25°C)					
	DIMENSION	78x93x56mm (WxHxD)						
	PACKING	0.3Kg; 48pcs / 15.4Kg /	1.02CUFT					
		0, 1 0		OV AC input, rated load and 25°C o	f amhiant tamparatura			

# Altech Corp.

#### **Mechanical Specification**

Terminal Pin. No Assignment

5,6 -V

7

8

LED

+V ADJ

AC/L

AC/N

+V





**Block Diagram** 

1

2

3,4



**Derating Curve** 



**Output Derating VS Input Voltage** 



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

nase Profile

# PS-100 Series Specifications

....

Altech Cor

UL

RI

CE

...

CAUTION

MARKAGE TO



#### Features:

- Universal AC input / full range
   Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- DIN rail mountable
- Isolation class II
- LED indicator for power on
- No load power consumption<1W
- 100% full load burn-in test
- 3 year warranty

	Cat. No.	PS-10012	PS-10015	<b>PS-10024</b>
OUTPUT	DC VOLTAGE	12V	15V	24V
	RATED CURRENT	7.5A	6.5A	4.2A
	CURRENT RANGE	0 ~ 7.5A	0 ~ 6.5A	0 ~ 4.2A
	RATED POWER	90W	97.5W	100.8W
	RIPPLE & NOISE (max)	120mVp-p	120mVp-p	150mVp-p
		Ripple & noise are measured at 20MH	Iz of bandwidth by using a 12 twisted pair-wir	e terminated with a 0.1µF & 47µF parallel capacitor
	VOLTAGE ADJ. RANGE	12 ~ 15V	15 ~ 18V	24 ~ 29V
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%
		Tolerance: includes set up tolerance, I	ine regulation and load regulation.	
	LINE REGULATION	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	2700ms, 80ms / 230VAC	2700ms, 80ms / 115VAC at full lo	ad
	HOLD UP TIME (Typ.)	50ms / 230VAC	18ms / 115VAC at full load	
INPUT	VOLTAGE RANGE	88 ~ 264VAC	124 ~ 370VDC	
		47 ~ 63Hz	124 ~ 570000	
	FREQUENCY RANGE		070/	89%
	EFFICIENCY (Typ.)	87%	87%	09%
	AC CURRENT (max.)	3A / 115VAC	1.6A / 230VAC	
PROTECTION	INRUSH CURRENT (Typ.)	COLD START 30A / 115VAC;	45A / 230VAC	
	OVERLOAD	105 ~ 135% rated output po		
			ing recovers automatically after fault condition	
			% conditions, output voltage may shut down fo	or 5 sec. and then go into constant
		current protection mode	10 221/	20 251/
	OVERVOLTAGE	16 ~ 20V	19 ~ 23V	30 ~ 35V
		Protection type: Shut down overvoltag		
	OVERTEMPERATURE		n heat sink of power transistor	_
NVIRONMENT —		Protection type: Shut down of	overvoltage, re-power on to recove	r
	WORKING TEMP.	-20 ~ +60°C (Refer to output	<b>e</b> ,	
	WORKING HUMIDITY	20 ~ 90% RH non-condensi	ng	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min. / 1c	ycle, 60 min. each long X,Y, Z axes	
AFETV & FMO	MOUNTING	Compliance to IEC60068-2-	6	
AFETY & EMC –	SAFETY STANDARDS	UL60950-1		
		EN60950-1compliant		
		Design refer to EN50178		
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC		
	ISOLATION RESISTANCE	I/P-0/P: 100M 0hms/500VD		
			· · · ·	
	EMI CONDUCTION & RADIATION		. ,	
	HARMONIC CURRENT	Compliance to EN61000-3-2	2,-3	
		Harmonic current test @ 90% load		4. ENC1000 C 0. ENC1004 0.
	EMS IMMUNITY		2,3,4,5,6,8,11; ENV50204; EN5502	4; EN61000-6-2; EN61204-3;
		heavy industry level; criteria		
		that is still meets EMC directives.	nponent which will installed into a final equiph	nent. The final equipment must be re-confirmed
OTHERS	МТРЕ			
	MTBF	486K hrs min. MIL-HDBK-	217K (25 C)	
	DIMENSION	100x93x56mm (WxHxD)		
	PACKING	0.35Kg; 36pcs / 13.6Kg / 0.	89CUF1	
	NOTE		ed are measured at 230V AC input, rated load	

# Altech Corp.

### **Mechanical Specification**

100	
5 64.75 5 5 5 7	5
- 0 w4 20 0	
07	93
<u> </u>	



Pin No Assignment Pin No Assignment

Terminal Pin. No Assignment

T III NO.	Assignment	T III NO.	Assignment
1	AC/L	5,6	-V
2	AC/N	7	LED
3,4	+V	8	+V ADJ.

**Block Diagram** 



**Derating Curve** 



**Output Derating VS Input Voltage** 



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

# Industrial Metal Case Single Phase and Three Phase Power Supply

The Altech Industrial metal case power supplies have been optimized for use in practically any DC power applications, with a wide range of AC/DC inputs and an extended temperature range of  $-20^{\circ}$  C up to  $+70^{\circ}$  C. These metal case power supplies feature a small housing design and high power reserve. Excellent electrical specifications and high immunity against fluctuations in input voltage make these metal case modules the best choice to industrial automation. Altech's metal case power supplies are available in six single-phase and four three-phase models with 12VDC (75W and 120W), 24 VDC and 48VDC output voltages, and up to 40A output currents. This voltage range enables the Industrial metal case supplies to be used in virtually any single-phase or three-phase application. The Industrial metal case power supply series offers users easy wiring with screw terminal blocks and snap-on DIN-rail mounting. Designed for use in numerous applications around the world, this power supplies are UL and CSA approved, CE marked and ROHS compliant. They feature a rugged metal housing, vibration- and shock-proof construction and provide a cost-effective power delivery solution for basic functionality requirements.

Single Phase Power Supply:

- Input voltage range:
- AC inrush current: Cold start:
- Overload voltage protection:
- Over-voltage protection:
- Setup, rise, hold up time:
- Working temperature:

**Three Phase Power Supply:** 

- Three phase input
- Input voltage range:
- AC inrush current:
- Overload voltage protection:
- Over-voltage protection:
- Setup, rise, hold up time:
- Working temperature:
- EMC standards:

85-264V AC / 120-370V DC

- 20A at 115V AC, 40A at 230V AC 105%-160% constant current limiting auto-recovery 115%-135% rated output voltage 500ms; 70ms; 30ms at full load and 230V AC -20 to +50°C (-4° to +122°F) at 100% +60°C (+140°F) at 80% load
- 340-550V AC / 480-760V DC Cold start: 50A 105%-150% constant current limiting auto-recovery 115%-135% rated output voltage 1200ms, 40ms, 20ms @ 400V AC 800ms, 40ms, 20ms @ 500V AC full load -20 to +70°C (-4 to +158°F) at 100% EN61000-6-2 (EN50082-2) Heavy Industrial Level; criteria A

## Single Phase

pages 36-45
pages 46-51
1
pages 52-59

# **PS Series - Metal Case**



#### **Features:**

- Universal AC input / Full range
- Single phase or Three phase
- Built in active PFC function
- Protections: Short circuit / Overload / Overvoltage / Over temperature
- Cooling by free air convection
- DIN rail mountable
- UL 508 (industrial control equipment) approved
- LED indicator for power on
- 100% full load burn-in test
- 3 year warranty



Accessories

Altech Corp.

# 75-240W Single Phase Power Supplies

## 75W Single Output DIN Rail Power Supply

R 💀 🚇 🚫 CE

Cat. No.	Outp V DC	ut A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-7512	12V DC	6.3A	±2%	100 mVp-p	76%	
PS-7524	24V DC	3.2A	±1%	150 mVp-p	80%	
PS-7548	48V DC	1.6A	±1%	240 mVp-p	81%	

## 120W Single Output DIN Rail Power Supply

Cat. No.	Cat. No. Output		ıtput Tol. Ripple &		Efficiency	NOTES
	V DC	Α	%	Noise		
PS-12012	12V DC	10A	±2%	80 mVp-p	80%	
PS-12024	24V DC	5A	±1%	80 mVp-p	84%	
PS-12048	48V DC	2.5A	±1%	100 mVp-p	85%	

## 120W High Input Single Output DIN Rail Power Supply

Cat. No.	Cat. No. Output		Tol.	Ripple &	Efficiency	NOTES
	V DC	Α	%	Noise		
PSH-12024	24V DC	5A	±1%	80 mVp-p	85%	
PSH-12048	48V DC	2.5A	±1%	80 mVp-p	86%	

## 240W Single Output DIN Rail Power Supply with PFC Function

Cat. No.	Outp V DC	ut A	Tol. %	Ripple & Noise	Efficiency	NOTES
PSP-24024	24V DC	10A	±1%	80 mVp-p	84%	
PSP-24048	48V DC	5A	±1%	150 mVp-p	85%	



HIGH INPUT

## **SPECIFICATIONS**

**PS-75** 

**Series** 

**PS-120** 

**Series** 

## Altech Corp.

Terminal Pin. No Assign. (TB2)

DC OUTPUT +V DC OUTPUT -V

Assignment

Pin No.

1,2

3,4

85-264V AC, 120-370V DC full range,

1.6A @ 115V AC, 0.96A @ 230V AC

Connection: Input - 3 poles, Output - 4 poles screw terminal

T a d)

Accessories

#### Size (WxHxD): 55.5x125x100mm (2.20x4.95x3.95 inches) Packaging: 1/box; 1.35lbs / 0.60Kg Terminal Pin. No Assign. (TB1) Terminal Pin. No Assign. (TB2) Pin No. Assignment Pin No. Assignment DC OUTPUT +V FG⊕ 1,2 1 (Switch Select) 2 AC/N 3,4 DC OUTPUT -V 125.2 AC/L 3 Switch select Input: 88-132V AC / 176-264 V AC, 248-370V DC range, 2.6A @ 115V AC, 1.6A @ 230V AC Connection: Input - 3 poles, Output - 4 poles screw terminal Size (WxHxD): 65.5x125x100mm (2.56x4.95x3.95 inches) 100 Packaging: 1/box; 1.75lbs / 0.79Kg Terminal Pin. No Assign. (TB1) Terminal Pin. No Assign. (TB2) Pin No. Assignment Pin No. Assignment FG 🕀 DC OUTPUT +V 1,2 1 2 AC/N(L2) DC OUTPUT -V 3,4 AC/L(L1) 3 125.2 Universal Input: 340-550V AC, 480-780V DC range, 0.65A @ 400V AC, 0.6A @ 500V AC Connection: Input - 3 poles, Output - 4 poles screw terminal Size (WxHxD): 65.5x125x100mm (2.56x4.95x3.95 inches) 100 Packaging: 1/box; 1.65lbs / 0.75Kg Terminal Pin. No Assign. (TB1) Terminal Pin. No Assign. (TB2) Pin No. Pin No. Assignment Assignment FG 🕀 1,2 DC OUTPUT +V DC OUTPUT -V AC/N 2 3.4 3 AC/L

Terminal Pin. No Assign. (TB1)

Assignment

FG

AC/N

AC/L

Pin No.

1

2

3

Universal Input:

Universal Input: 85-264V AC, 120-370V DC full range, 2.8A @ 115V AC, 1.4A @ 230V AC Built in active Power Factor Correction function. PF>0.95 Connection: Input - 3 poles, Output - 4 poles screw terminal Size (WxHxD): 125x125x100mm (4.95x4.95x3.95 inches) Packaging: 1/box; 2.7lbs / 1.2Kg

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

100

125.2

# **PSH-120 High Input Series**

**PSP-240 Series** 



Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

# **PS-75 Series** Specifications



CE

## Features:

- Univers al AC input / full range
  - Protections: Short Circuit / Over load /
  - Overvoltage / Over temperature Cooling by free air convection
- ٠
- DIN rail mountable
- UL508 (industrial control equipment) approved •
- LED indicator for power on
- 100% full load burn-in test
- Fix switching frequency at 50KHz
- 3 year warranty

	Cat. No.	PS-7512	PS-7524	<b>PS-7548</b>			
OUTPUT	DC VOLTAGE RATED CURRENT	12V 6.3A	24V 3.2A	48V 1.6A			
	CURRENT RANGE	0 ~ 6.3A	0 ~ 3.2A	0 ~ 1.6A			
	RATED POWER	76W	76.8W	76.8W			
	RIPPLE & NOISE (max)	100mVp-p	150mVp-p	240mVp-p			
			bandwidth by using a 12 twisted pair-wire terminat				
	VOLTAGE ADJ. RANGE	12 ~ 14V	24 ~ 28V	48 ~ 53V			
	VOLTAGE TOLERANCE	±2.0% Tolerance: includes set up tolerance, line re	±1.0%	±1.0%			
	LINE REGULATION	$\pm 0.5\%$	±0.5%	±0.5%			
	LOAD REGULATION	±1.0%	±1.0%	±1.0%			
	SETUP, RISE TIME	1000ms, 60ms / 230VAC 1800ms, 60ms / 115VAC at full load					
	HOLD UP TIME (Typ.)	60ms / 230VAC 12ms / 115VAC at full load					
INPUT —	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 370\	/DC				
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	76%	80%	81%			
	AC CURRENT (max.)	1.6 A / 115VAC 0.96A / 230		1			
	INRUSH CURRENT (Typ.)	COLD START 20A / 115VAC 40A / 230VAC					
DOTECTION	LEAKAGE CURRENT	$\leq$ 1mA / 240VAC					
ROTECTION —	OVERLOAD	105 ~ 150% rated output powe	r				
		Protection type: Constant current limiting,	recovers automatically after fault condition is remov	ved			
	OVERVOLTAGE	15 ~ 16.5V	29 ~ 34V	58 ~ 65V			
		Protection type: Shut down overvoltage, re	-power on to recover				
	OVERTEMPERATURE	$85^{\circ}C \pm 5^{\circ}C$ (TSW1) detect on heat sink of power transistor					
VIRONMENT -		Protection type: Shut down overvoltage, recovers automatically after temperature goes down					
VINONIVILINI	WORKING TEMP.	$-10 \sim +60^{\circ}$ C (Refer to output load derating curve)					
	WORKING HUMIDITY	$20 \sim 90\%$ RH non-condensing					
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	$\pm 0.03\%$ / °C (0 ~ 50°C)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. each long X,Y, Z axes					
FETY & EMC -	MOUNTING	Compliance to IEC60068-2-6					
	SAFETY STANDARDS	UL508					
		EN60950-1 approved					
	WITHSTAND VOLTAGE ISOLATION RESISTANCE	I/P-0/P: 3KVAC I/P-FG: 1.5KVAC 0/P-FG: 0.5KVAC I/P-0/P, I/P-FG, 0/P-FG: 100M 0hms / 500VDC					
	EMI CONDUCTION & RADIATION	Compliance to EN55011; 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)					
	heavy industry level; criteria A						
			ent which will installed into a final equipment. The	final equipment must be re-confirm			
OTHERS		that it still meets EMC directives.					
	MTBF	123.1K hrs min. MIL-HDBK-2 <sup>-</sup>	17K (25°C)				
	DIMENSION	55.5x125.2x100mm (WxHxD)	_				
	PACKING	0.6Kg; 20pcs / 13Kg / 1.29CUFT					
		of ambient temperature.					
	1						
## Altech Corp."

#### **Mechanical Specification**



Terminal	Pin. No Assignme	nt (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

#### **Block Diagram**



#### **Derating Curve**



#### **Output Derating VS Input Voltage**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Simline

Low Profile single phase

Accessories

## PS-120 Series Specifications

110/220\



#### Features:

- Universal AC input / full range
- Protections: Short Circuit / Over load / Overvoltage/Over temperature
- Cooling by free air convection
- DIN rail mountable TS-35/ 7.5 or 1 5
- UL 508 (industrial control equipment) approved
- LED indicator for power on
  - 100% full load burn-in test
- Fix switching frequency at 50KHz
- 3 year warranty

OUTDUT	Cat. No.	PS-12012	PS-12024	PS-12048
OUTPUT	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
	RIPPLE & NOISE (max)	80mVp-p	80mVp-p	100mVp-p
			ndwidth by using a 12 twisted pair-wire terminated	
	VOLTAGE ADJ. RANGE	$12 \sim 14V$	$24 \sim 28V$	48 ~ 53V
	VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line regu	-	
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 70ms / 230VAC 500ms	s, 70ms / 115VAC at full load	
	HOLD UP TIME (Typ.)	36ms / 230VAC 32n	ns / 115VAC at full load	
INPUT –			11 L 0 40 070VD0	
	VOLTAGE RANGE	88 ~ 132VAC / 176 ~ 264VAC by	switch 248 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	EFFICIENCY (Typ.)	80%	84%	85%
	AC CURRENT (max.)	2.6 A / 115VAC 1.6A / 230VAC	)	
	INRUSH CURRENT (Typ.)	COLD START 20A / 115VAC	40A / 230VAC	
	LEAKAGE CURRENT	$\leq$ 3.5mA / 240VAC		
PROTECTION -				
	OVERLOAD	105 ~ 150% rated output power		
		Protection type: Constant current limiting, rec	overs automatically after fault condition is removed	
	OVERVOLTAGE	15 ~ 16.5V	29 ~ 33V	58 ~ 65V
		Protection type: Shut down overvoltage, re-po	ower on to recover	1
	OVERTEMPERATURE	85°C ± 5°C (TSW1)	$90^{\circ}C \pm 5^{\circ}C (TSW1)$	90°C ± 5°C (TSV
			vers automatically after temperature goes down	
ENVIRONMENT -				
	WORKING TEMP.	-10 ~ +60°C (Refer to output load	derating curve)	
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-20 ~ +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 7 axes	
	MOUNTING	Compliance to IEC60068-2-6		
SAFETY & EMC				
	SAFETY STANDARDS	UL508		
		UL60950-1		
		EN60950-1 approved		
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5KVAC	0/P-FG: 0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Oh		
	EMI CONDUCTION & RADIATION	Compliance to EN55011; EN55022		
			2 (CISPRZZ) CIASS D	
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5	5,6,8,11; ENV50204; EN55024; EN6100	00-6-2; (EN50082-2);
		heavy industry level; criteria A		
		The power supply is considered a component	which will installed into a final equipment. The final	al equipment must be re-confirmed
		that it still meets EMC directives.		
OTHERS	MTDE			
	MTBF	136.8K hrs min. MIL-HDBK-217	K (25 C)	
	DIMENSION	65.5x125.2x100mm (WxHxD)		
	PACKING	0.79Kg; 20pcs / 16.5Kg / 1.29CUF	т	
		All parameters NOT specially mentioned are r	neasured at 230V AC input, rated load and $25^\circ$ C of a	ambient temperature.

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

## Altech Corp."

#### **Mechanical Specification**



Terminal	Pin. No Assignme	nt (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

1 111110.	rosigninene
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V





#### **Derating Curve**



Static Characterisitcs (24V)



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

etal Case

æ

g

## PSH-120 High Input Series

### Specifications



HIGH INPUT

#### Features:

- Universal AC input / full range
- Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- DIN rail mountable
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- Fixed switching frequency at 70KHz
- 3 year warranty

OUTDUT	Cat. No.	PSH-12024	PSH-12048
OUTPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	5A	2.5A
	CURRENT RANGE	0 ~ 5A	0 ~ 2.5A
	RATED POWER	120W	120W
	RIPPLE & NOISE (max)	80mVp-p	80mVp-p
			dth by using a 12 twisted pair-wire terminated with a 0.1μF & 47μF parallel capa
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line regulatio	
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%
	SETUP, RISE, HOLD UP TIME	1700ms, 120ms, 16ms / 400VAC	1000ms, 120ms, 30ms / 500VAC at full load
INPUT -			
	VOLTAGE RANGE	340 ~ 550VAC 480 ~ 780VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	85%	86%
	AC CURRENT (max.)	0.65A / 400VAC 0.6A / 500VAC	
	INRUSH CURRENT (max.)	COLD START 50A	
	LEAKAGE CURRENT	$\leq$ 3.5 mA / 530VAC	
PROTECTION -	OVERLOAD	105 ~ 160% rated output power	
		Protection type: Constant current limiting, recovers	s automatically after fault condition is removed
	OVERVOLTAGE	30 ~ 36V	59 ~ 66V
		Protection type: Shut down overvoltage, re-power	on to recover
	OVERTEMPERATURE	$85^{\circ}C \pm 5^{\circ}C$ (TSW: detect on heat sink	of power switch)
		Protection type: Shut down overvoltage, recovers a	automatically after temperature goes down
INVIRONMENT	WORKING TEMP.	-20 ~ +60°C (Refer to output load der	rating curve)
	WORKING HUMIDITY	$20 \sim 90\%$ RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)	
	VIBRATION	$10 \sim 500$ Hz, 2G 10min./1cycle, 60 mi	in each long X X 7 avec
			III. Each Iony A, I, Z axes
AFETY & EMC	MOUNTING	Compliance to IEC60068-2-6	
	SAFETY STANDARDS	UL60950-1 approved	
		IEC60950-1 CB approved by SIQ	
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5KVAC	O/P-FG: 0.5KVAC
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: 100M 0hms	/ 500VDC (25°C; 70% RH)
	EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11); E	N55022 (CISPR22); EN61204-3 Class B
	EMS IMMUNITY		8,11; ENV50204; EN61204-3; EN61000-6-2; (EN50082-2),
		heavy industry level; criteria A	-, -, -, -, -, -, -, -, -, -, -, (, -, , , _, ,, -, , , , ,, -, , , ,, -, , , ,
			ch will installed into a final equipment. The final equipment must be re-confirmed
		that it still meets EMC directives.	
OTHERS	MTBF	178.7K hrs min. MIL-HDBK-217K (2	25°C)
	DIMENSION	65.5x125.2x100mm (WxHxD)	
	PACKING	0.75Kg; 20pcs / 16Kg / 1.29CUFT	
	AUNING		ured at 2201/ AC input roted load and 25°C of ambient temperature
		An parameters NOT specially mentioned are meas	ured at 230V AC input, rated load and 25°C of ambient temperature.

## Altech Corp."

## Simine singie prase

## High Efficiency compact housing

Accessories





Terminal	Pin No. Assignment (	TB1)
Pin No.	Assignment	
1	FG 🕀	

1	FG 🖶
2	AC/L2
3	AC/L1

Terminal	Pin No. Assignme	nt (TB2)
Pin No.	Assignment	
1,2	DC OUTPUT +V	
3,4	DC OUTPUT -V	

#### **Block Diagram**



#### **Derating Curve**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

### PSP-240 Series Specifications



#### Features:

- Universal AC input / full rangeBuilt in active PFC function
- Built in active PFC function Protections: Short Circuit / Overload / Overvoltage /
- Over temperature
- Cooling by free air convection
- DIN rail mountable
- UL 508(industrial control equipment)approved
- LED indicator for power on
- 100% full load burn-in test
- Fixed switching frequency at 100KHz
- 3 year warranty

TDUT	Cat. No.	PSP-24024	PSP-24048
ITPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	10A	5A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A
	BATED POWER	240W	240W
	RIPPLE & NOISE (max)	80mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted p $24 \sim 28V$	$48 \sim 53V$
	VOLTAGE TOLERANCE	±1.0%	±1.0%
	VULIAGE I ULENANGE		±1.0%
		Tolerance: includes set up tolerance, line regulation and load regulation.	0.5%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE TIME	800ms, 40ms / 230VAC 800ms, 40ms / 115VAC at fu	ll load
IDUT	HOLD UP TIME (Typ.)	24ms / 230VAC 24ms / 115VAC at full load	
IPUT –	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 370VDC	
_		Derating may be needed under low input voltages, please check the derating	curve for more detail
	FREQUENCY RANGE	$47 \sim 63$ Hz	
	POWER FACTOR (Typ.)	0.96 / 230VAC 0.99 / 115VAC at full load	
			050/
	EFFICIENCY (Typ.)		85%
	AC CURRENT (max.)	2.8A / 115VAC; 1.4A / 230VAC	
	INRUSH CURRENT (Typ.)	COLD START 27A / 115VAC 45A / 230VAC	
FION -	LEAKAGE CURRENT	$\leq$ 3.5mA / 240VAC	
	OVERLOAD	105 ~ 150% rated output power	
		Protection type: Constant current limiting, recovers automatically after fault of	ondition is removed
	OVERVOLTAGE	30 ~ 36V	54 ~ 60V
		Protection type: Shut down overvoltage, re-power on to recover	
	OVERTEMPERATURE	$100^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (TSW: detect on heat sink of power transistor	)
		Protection type: Shut down overvoltage, recovers automatically after tempera	,
AENT -	WORKING TEMP.	$-10 \sim +70^{\circ}$ C (Refer to output load derating curve)	
-			
		$20 \sim 90\%$ RH non-condensing	
	STORAGE TEMP., HUMIDITY	-20 ~ +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 a	xes
EMC	MOUNTING	Compliance to IEC60068-2-6	
EIVIC	SAFETY STANDARDS	UL508	
		EN60950-1	
		EN60950-1 approved	
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5KVAC 0/P-FG: 0.5KVAC	
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: 100M 0hms / 500VDC	
	EMI CONDUCTION & RADIATION	Compliance to EN55011; 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; EN	55024; EN61000-6-2; (EN50082-2);
		heavy industry level; criteria A	
		The power supply is considered a component which will installed into a final that it still meets EMC directives.	equipment. The final equipment must be re-confirmed
RS	MTBF	289.9K hrs min. MIL-HDBK-217K (25°C)	
	DIMENSION	125.5x125.2x100mm (WxHxD)	
	PACKING	1.2Kg; 12pcs / 15.5Kg / 1.29CUFT	
		All parameters NOT specially mentioned are measured at 230V AC input, rate	d load and 25°C of ambient temperature

## Altech Corp."

#### **Mechanical Specification**



Terminal Pin Number Assignment (TB1)

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

|--|

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

#### **Block Diagram**









Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Accessories

Case

## 480W Single Phase Power SUPPLIES

220V ONLY

110/220V SWITCH SELEC

#### 480W 220V AC Single Output DIN Rail Power Supply with PFC Function

Cat. No.	Outp V DC	ut A	Tol. %	Ripple & Noise	Efficiency	NOTES
PSP-48024	24V DC	20A	±1%	120 mVp-p	89%	
PSP-48048	48V DC	10A	±1%	120 mVp-p	89%	

#### 480W Switch Select 110/220V AC Single Output DIN Rail Power Supply with PFC Function

Cat. No.	Outp	ut	Tol.	Ripple &	Efficiency	NOTES
	V DC	Α	%	Noise		
PSP-480S24	24V DC	20A	±1%	120 mVp-p	89%	
PSP-480S48	48V DC	10A	±1%	120 mVp-p	89%	

#### **SPECIFICATIONS**



# single phase

## Low Profile ingle phase

dustrial Metal Cas single phase

#### PSP-480 Series (220V AC input only)



1	TB1 Tern	ninal Pin. No Assignment
	Pin No.	Assignment
	1	AC/L
	2	AC/N
	3	FG

B2 Terminal Pin. No Assignmen		
Pin No.	Assignment	
1,2	DC OUTPUT +V	
3,4	DC OUTPUT -V	

Wide range Input: 180-264V AC only, 250-370V DC, 4A @ 230V AC Built in passive Power Factor Correction function compliance to EN61000-3-2, PF>0.7

Connection: Input - 3 poles, Output - 4 poles screw terminal Size (WxHxD): 227x125x100mm (8.95x4.95x3.95 inches) Packaging: 1/box; 5.3lbs / 2.4Kg

## PSP-480 with Switch Series (110V AC and 220V input AC)



TB1	Terminal	Pin.	No	Assignme	n

I DT TOIL	intai i inte i to i toolgrintoitte
Pin No.	Assignment
1	AC/L
2	AC/N
3	FG⊕
-	

TB2 Terminal Pin. No Assignment

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

Switch select Input: 90-132V AC / 180-264 V AC, 254-370V DC range 8A @ 115V AC, 3.2A @ 230V AC

Built in passive Power Factor Correction function compliance to EN61000-3-2,  $\ensuremath{\mathsf{PF}}\xspace{\mathsf{PS0.7}}\xspace{\mathsf{P$ 

Connection: Input - 3 poles, Output - 4 poles screw terminal Size (WxHxD): 227x125x100mm (8.95x4.95x3.95 inches) Packaging: 1/box; 5.8lbs / 2.6Kg

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

## PSP-480 Series Specifications

#### Features:

- Built-in passive PFC function compliance to EN61000-3-2
- 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
- 3 year warranty

	Cat. No.	PSP-48024	PSP-48048
OUTPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	20A	10A
	CURRENT RANGE	0 ~ 20A	0 ~ 10A
	RATED POWER	480W	480W
	RIPPLE & NOISE (max)	120mVp-p	120mVp-p
			bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capa
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 53V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
	LINE REGULATION	Tolerance: includes set up tolerance, line r $\pm 0.5\%$	egulation and load regulation. $\pm 0.5\%$
	LOAD REGULATION	±1.0%	±1.0%
	SETUP. RISE TIME	1200ms, 40ms / 230VAC at full	
	HOLD UP TIME (Typ.)	16ms / 230VAC	louu
INPUT —			
	VOLTAGE RANGE	,	50 ~ 370VDC
	FREQUENCY RANGE	47 ~ 63Hz >0 7	
	POWER FACTOR (Typ.) EFFICIENCY (Typ.)	≥0.7 89%	
	AC CURRENT (Typ.)	4A / 230VAC	
	INRUSH CURRENT (Typ.)	COLD START 27A / 115VAC	45A / 230VAC
	LEAKAGE CURRENT	$\leq$ 3.5mA / 240VAC	
PROTECTION -			-
	OVERLOAD	105 ~ 150% rated output powe	
	OVERVOLTAGE	$30 \sim 36V$	recovers automatically after fault condition is removed 54 ~ 60V
	OVERVOEIAGE	Protection type: Shut down overvoltage, re	
	OVERTEMPERATURE	$100^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (TSW: detect on he	
			covers automatically after temperature goes down
INVIRONMENT -	WORKING TEMP.	-20 ~ +70°C (Refer to output loa	ad derating curve)
	WORKING HUMIDITY	$20 \sim 95\%$ RH non-condensing	
	STORAGE TEMP., HUMIDITY	-20 ~ +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	
		EN60950-1 approved	
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5KV	AC 0/P-FG: 0.5KVAC
1	ISOLATION RESISTANCE		Ohms / 500VDC (25°C; 70% RH)
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPF	
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3	
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4	4,5,6,8,11; ENV50204; EN61000-6-2 (EN50082-2);
		heavy industry level; criteria A	
		The power supply is considered a compon that it still meets EMC directives.	ent which will installed into a final equipment. The final equipment must be re-confirmed
OTHERS	MTBF	180.9K hrs min. MIL-HDBK-2	17K (25°C)
	DIMENSION	227x125.2x100mm (WxHxD)	
	PACKING	2.4Kg; 6pcs / 15Kg / 1.75CUFT	
		0, 1 0	re measured at 230V AC input, rated load and 25°C of ambient temperature.
		All parameters not specially mentioned a	
			e measureu at 2500 Ao mput, rateu ioau anu 25 6 or ambient temperature.

## Altech Corp.

#### **Mechanical Specification**



TB1 Tern	ninal Pin. No	Assignment
Pin No.	Assignment	
1	AC/L	
2	AC/N	
3	FG 🖶	

TB2 Terminal Pin. No Assignment				
Pin No.	Assignment			
1,2	DC OUTPUT +V			
3,4 DC OUTPUT -V				

**Output Derating VS Input Voltage** 

#### **Block Diagram**



**Derating Curve** 



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.<sup>®</sup> • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Accessories

etal Case

ase

e Ö

er)

6u

## PSP-480S Series Specifications



#### Features:

- AC input range selectable by switch
- Built-in passive PFC function compliance to EN61000-3-2
- 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
- 3 year warranty

GE JRRENT RANGE DWER NOISE (max) ADJ. RANGE TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	24 ~ 28V ±1.0% Tolerance: includes set up tolerance, line m ±0.5% ±1.0% 1200ms, 40ms / 230VAC 1 23ms / 230VAC 23ms / 115VA 90 ~ 132VAC / 180 ~ 264 VAC	±0.5% ±1.0% 200ms, 40ms / 115VAC at full load
RANGE DWER NOISE (max) ADJ. RANGE TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	$\begin{array}{c} 0 \sim 20A \\ 480W \\ 120mVp-p \\ Ripple & noise are measured at 20MHz of \\ 24 \sim 28V \\ \pm 1.0\% \\ Tolerance: includes set up tolerance, line m \\ \pm 0.5\% \\ \pm 1.0\% \\ 1200ms, 40ms / 230VAC  1 \\ 23ms / 230VAC  23ms / 115V/ \\ 90 \sim 132VAC / 180 \sim 264 VAC \\ \end{array}$	$\begin{array}{c} 0 \sim 10A \\ 480W \\ 120mVp-p \end{array}$ bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacit 48 ~ 55V $\pm 1.0\%$ egulation and load regulation. $\pm 0.5\% \\ \pm 1.0\%$ 200ms, 40ms / 115VAC at full load
DWER NOISE (max) ADJ. RANGE TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	$\begin{array}{c} 480W \\ 120mVp-p \\ \text{Ripple & noise are measured at 20MHz of} \\ 24 \sim 28V \\ \pm 1.0\% \\ \text{Tolerance: includes set up tolerance, line m} \\ \pm 0.5\% \\ \pm 1.0\% \\ 1200ms, 40ms / 230VAC  1 \\ 23ms / 230VAC  23ms / 115V/ \\ 90 \sim 132VAC / 180 \sim 264 VAC \\ \end{array}$	$ \begin{array}{c} 480W \\ 120mVp-p \\ \text{bandwidth by using a 12 twisted pair-wire terminated with a 0.1 \mu F & 47 \mu F parallel capaci \\ & 48 \sim 55V \\ \pm 1.0\% \\ \text{egulation and load regulation.} \\ & \pm 0.5\% \\ \pm 1.0\% \\ 200ms, 40ms / 115VAC at full load \\ \end{array} $
NOISE (max) ADJ. RANGE TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	$\begin{array}{c} 120mVp-p\\ Ripple & noise are measured at 20MHz of 24 ~ 28V \\ \pm 1.0\%\\ Tolerance: includes set up tolerance, line m \\ \pm 0.5\%\\ \pm 1.0\%\\ 1200ms, 40ms / 230VAC 1 \\ 23ms / 230VAC 23ms / 115V/\\ 90 ~ 132VAC / 180 ~ 264 VAC \\ \end{array}$	$ \begin{array}{ c c c c c } 120mVp-p \\ \mbox{bandwidth by using a 12 twisted pair-wire terminated with a 0.1 $\mu$F & 47$\mu$F parallel capacities \\ & 48 \sim 55V \\ & \pm 1.0\% \\ \mbox{egulation and load regulation.} \\ & \pm 0.5\% \\ & \pm 1.0\% \\ \mbox{200ms, 40ms / 115VAC at full load} \\ \end{array} $
ADJ. RANGE TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE ICY RANGE ACTOR (Typ.) CY (Typ.)	Bipple & noise are measured at 20MHz of           24 ~ 28V           ±1.0%           Tolerance: includes set up tolerance, line r           ±0.5%           ±1.0%           1200ms, 40ms / 230VAC           123ms / 230VAC           23ms / 115VA           90 ~ 132VAC / 180 ~ 264 VAC	bandwidth by using a 12 twisted pair-wire terminated with a $0.1\mu$ F & $47\mu$ F parallel capaci 48 ~ 55V ±1.0% egulation and load regulation. ±0.5% ±1.0% 200ms, 40ms / 115VAC at full load
TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE ICY RANGE ACTOR (Typ.) CY (Typ.)	24 ~ 28V ±1.0% Tolerance: includes set up tolerance, line m ±0.5% ±1.0% 1200ms, 40ms / 230VAC 1 23ms / 230VAC 23ms / 115VA 90 ~ 132VAC / 180 ~ 264 VAC	$ \begin{array}{c} 48 \sim 55V \\ \pm 1.0\% \\ \text{egulation and load regulation.} \\ \pm 0.5\% \\ \pm 1.0\% \\ \text{200ms, 40ms / 115VAC at full load} \end{array} $
TOLERANCE ULATION GULATION SE TIME TIME (Typ.) RANGE ICY RANGE ACTOR (Typ.) CY (Typ.)	±1.0%           Tolerance: includes set up tolerance, line r           ±0.5%           ±1.0%           1200ms, 40ms / 230VAC           23ms / 230VAC           23ms / 230VAC           90 ~ 132VAC / 180 ~ 264 VAC	$\begin{array}{c} \pm 1.0\% \\ \mbox{egulation and load regulation.} \\ \pm 0.5\% \\ \pm 1.0\% \\ \mbox{200ms, 40ms / 115VAC at full load} \end{array}$
ULATION GULATION SE TIME TIME (Typ.) RANGE ICY RANGE ACTOR (Typ.) CY (Typ.)	Tolerance: includes set up tolerance, line r           ±0.5%           ±1.0%           1200ms, 40ms / 230VAC           23ms / 230VAC           23ms / 230VAC           90 ~ 132VAC / 180 ~ 264 VAC	egulation and load regulation. ±0.5% ±1.0% 200ms, 40ms / 115VAC at full load
GULATION SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	±0.5% ±1.0% 1200ms, 40ms / 230VAC 1 23ms / 230VAC 23ms / 115V 90 ~ 132VAC / 180 ~ 264 VAC	±0.5% ±1.0% 200ms, 40ms / 115VAC at full load
GULATION SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	±1.0% 1200ms, 40ms / 230VAC 1 23ms / 230VAC 23ms / 115VA 90 ~ 132VAC / 180 ~ 264 VAC	±1.0% 200ms, 40ms / 115VAC at full load
SE TIME TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	1200ms, 40ms / 230VAC 1 23ms / 230VAC 23ms / 115VA 90 ~ 132VAC / 180 ~ 264 VAC	200ms, 40ms / 115VAC at full load
TIME (Typ.) RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	23ms / 230VAC 23ms / 115V/ 90 ~ 132VAC / 180 ~ 264 VAC	-
RANGE CY RANGE ACTOR (Typ.) CY (Typ.)	90 ~ 132VAC / 180 ~ 264 VAC	
CY RANGE ACTOR (Typ.) CY (Typ.)		ac al iuli iuau
CY RANGE ACTOR (Typ.) CY (Typ.)		by switch 254 ~ 370VDC
ACTOR (Typ.) CY (Typ.)	47 ~ 63Hz	
CY (Typ.)	≥0.7 / 230VAC only	
	89%	
ENT (Typ.)	8A / 115VAC 3.2A / 230VA0	0
URRENT (Typ.)	COLD START 27A / 115VAC	45A / 230VAC
CURRENT	$\leq$ 3.5mA / 240VAC	
D	105 150% rated output powe	
U	105 ~ 150% rated output powe	
TAGE	$30 \sim 36V$	recovers automatically after fault condition is removed 59 ~ 66V
IAUL	Protection type: Shut down overvoltage, re	
IPERATURE	$100^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (TSW: detect on he	
		covers automatically after temperature goes down
		, , ,
TEMP.	$-20 \sim +70^{\circ}$ C (Refer to output loa	ad derating curve)
HUMIDITY	20 ~ 95% RH non-condensing	
TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
EFFICIENT	±0.03% / °C (0 ~ 50°C)	
N	10 ~ 500Hz, 2G 10min./1cycle,	60 min. each long X, Y, Z axes
IG	Compliance to IEC60068-2-6	
STANDARDS	UL508	
	EN60950-1	
	EN60950-1 approved	
ND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5KV	
N RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: 100M 0	Dhms / 500VDC / 25°C / 70% RH
DUCTION & RADIATION		R11); EN55022 (CISPR22); EN61204-3 Class B
IC CURRENT	Compliance to EN61000-3-2,-3	
IUNITY	Compliance to EN61000-4-2,3,4	4,5,6,8,11; ENV50204; EN61204-3; EN61000-6-2 (EN50082-2);
	heavy industry level; criteria A	
	The power supply is considered a compon	ent which will installed into a final equipment. The final equipment must be re-confirmed
	that it still meets EMC directives.	
	187.9K hrs min. MIL-HDBK-2	17K (25°C)
)N	2.6Kg; 6pcs / 16.6Kg / 1.75CUF	Т
)N	0, 1 0	re measured at 230V AC input, rated load and 25°C of ambient temperature.
)N		
_	ON	187.9K hrs min. MIL-HDBK-2 ON 227x125.2x100mm (WxHxD) 2.6Kg; 6pcs / 16.6Kg / 1.75CUF

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

## Altech Corp."

#### **Mechanical Specification**



TB1 Terminal Pin. No Assignment Pin No. Assignment

	J	
1	AC/L	
2	AC/N	
3	FG 🖨	

TB2 Terminal Pin. No Assignment				
Pin No.	Assignment			
1,2	DC OUTPUT +V			
3,4	DC OUTPUT -V			

. . . . .

. .

#### **Block Diagram**





Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.<sup>®</sup> • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

## 240-960W Three Phase Power Supplies

FL ... 🔁 🖑 ... 🚫 CE



#### 240W Three Phase Industrial DIN Rail Power Supply

Cat. No.	Outp V DC	ut A	Tol. %	Ripple & Noise	Efficiency	NOTES
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 V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
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 V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
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)

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

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

PARALLEL

#### **SPECIFICATIONS**

### Altech Corp."

#### **PST-240 Series**



TB1 Te	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	DC OUTPUT +V
3,4	DC OUTPUT -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. N	lo Assignment
--------------	--------	---------------

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



		Assistant
Т	B1 Te	erminal Pin. No Assignment

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

#### TB2 Terminal Pin. No Assignment

		le el gi ment
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

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

## **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
UUIPUI	DC VOLTAGE RATED CURRENT	24V 10A	48V 5A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A
	RATED POWER	240W	240W
	RIPPLE & NOISE (max)	80mVp-p	80mVp-p
	VOLTAGE ADJ. RANGE	Rippie & noise are measured at 20MF $24 \sim 28V$	Hz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1 $\mu$ F & 47 $\mu$ F parallel capace   48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
		Tolerance: includes set up tolerance,	
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%
	SETUP, RISE, HOLD UP TIME	1200ms, 40ms, 20ms / 400	VAC; 800ms, 40ms, 40ms / 500VAC at full load
INPUT –	VOLTAGE RANGE	Three Phase 340 550\/AC	(Dual Phase operation possible) 480 ~ 780VDC
		Dual phase operation: derati	
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	89%	
	AC CURRENT	0.95A / 400VAC; 0.75 / 500	VAC
	INRUSH CURRENT (Typ.)	COLD START 50A	
DOTECTION	LEAKAGE CURRENT	$\leq$ 3.5 mA / 530VAC	
PROTECTION -	OVERLOAD	105 ~ 150% rated output p	nwer
			ting, recovers automatically after fault condition is removed
	OVERVOLTAGE	30 ~ 36V	59 ~ 66V
		Protection type: Shut down overvoltag	ge, re-power on to recover
	OVERTEMPERATURE	$100^{\circ}C \pm 5^{\circ}C$ (TSW) detect or	n heat sink of power switch
		Protection type: Shut down overvoltag	ge, re-power automatically after temperature goes down
NVIRONMENT -	WORKING TEMP.	-20 ~ +70°C (Refer to outpu	it load derating curve)
	WORKING HUMIDITY	20 ~ 90% RH non-condensi	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)	
	VIBRATION		cle, 60 min. each long X,Y, Z axes
	MOUNTING	Compliance to IEC60068-2-	6
AFETY & EMC	SAFETY STANDARDS	UL508	
		EN60950-1 approved	
		UL60950-1	
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.	
104	ISOLATION RESISTANCE		M Ohms / 500VDC (25°C; 70% RH)
	EMI CONDUCTION & RADIATION		SPR11), EN55022 (CISPR22) Class B
	EMS IMMUNITY		2,3,4,5,6,8,11; ENV50204; EN61000-6-2; (EN50082-2), EN61204-3;
		heavy industry level; criteria	
			nponent which will installed into a final equipment. The final equipment must be re-confirmed
OTHERS		that it still meets EMC directives.	
Official	MTBF	114.6K hrs min. MIL-HDB	
	DIMENSION	125.5x125.2x100mm (WxHx	
	PACKING	1.3Kg; 12pcs / 16.6Kg / 1.2	
		All parameters NOT specially mention	ed are measured at 400VAC input, rated load and 25°C of ambient temperature.

## Altech Corp."

#### **Mechanical Specification**



TB1 Terminal Pin. No Assignment

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

TB2 Terminal Pin. No Assignment					
Assignment					
DC OUTPUT +V					
3,4 DC OUTPUT -V					
	Assignment DC OUTPUT +V				

#### **Block Diagram**





#### Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Case

dD

**d**D

ĝ

### **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

	Cat. No.	PST-48024	PST-48048
OUTPUT	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
			of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capa
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line	
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%
	SETUP, RISE, HOLD UP TIME		AC; 800ms, 40ms, 35ms / 500VAC at full load
INPUT —			
	VOLTAGE RANGE	Three Phase 340 ~ 550VAC (	Dual Phase operation possible) 480 ~ 780VDC
		Dual phase operation: derating	g of 20% is required
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	89%	90%
	AC CURRENT	1.7A / 400VAC; 1.3A / 500VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A	
DOTECTION	LEAKAGE CURRENT	$\leq$ 3.5mA / 530VAC	
PROTECTION —	OVERLOAD	105 150% rated output pow	Ior
	UVERLUAD	105 ~ 150% rated output pov	
	OVERVOLTAGE		g, recovers automatically after fault condition is removed $59 \sim 66V$
	OVERVOLIAGE	30 ~ 36V	
	OVERTEMPERATURE	Protection type: Shut down overvoltage, $110^{\circ}C \pm 5^{\circ}C$ (TSW) detect on h	
	OVENTENTERATORE		
NVIRONMENT -		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	e, 60 min. each long X,Y, Z axes
	MOUNTING	Compliance to IEC60068-2-6	, , , , , , , , , , , , , , , , , , , ,
AFETY & EMC			
	SAFETY STANDARDS	UL508	
		EN60950-1approved	
		UL60950-1	
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5k	
	ISOLATION RESISTANCE		Ohms / 500VDC (25°C: 70% RH)
1	EMI CONDUCTION & RADIATION		PR11), EN55022 (CISPR22), EN61204-3 Class B
1	HARMONIC CURRENT	Compliance to EN61000-3-2,-	
	EMS IMMUNITY		3,4,5,6,8,11; ENV50204; EN61204-3; EN61000-6-2; (EN50082-2),
		heavy industry level; criteria A	
		The power supply is considered a comp	onent which will installed into a final equipment. The final equipment must be re-confirmed
OTHERS		that it still meets EMC directives.	
UTILING	MTBF	91.1K hrs min. MIL-HDBK-2	17K (25°C)
	DIMENSION	227x125.2x100mm (WxHxD)	
	PACKING	2.5Kg; 6pcs / 16Kg / 1.75CUF	т
	TAORING	•· · ·	are measured at 400VAC input, rated load and 25°C of ambient temperature.
		An parameters not specially metholied	מיט וווטמשטרטע מו אטטאאט ווווטען, ומנכע וטמע מווע 20 ט טו מוווטופווג נפווווופומנעופ.

## Altech Corp.

#### **Mechanical Specification**



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	DC OUTPUT +V				
3,4	DC OUTPUT -V				

**Block Diagram** 







#### **Output Derating VS Input Voltage**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Case

ase

dD

## PST-960 Series Specifications



#### 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

UTPUT	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
			, using a 12 twisted pair-wire terminated with a 0.1 $\mu\text{F}$ & 47 $\mu\text{F}$ parallel capacitor.
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line r	· ·
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%
	SETUP, RISE, HOLD UP TIME	200ms, 60ms, 14ms / 400VAC 200m	ns, 60ms, 30ms / 500VAC at full load
	VOLTAGE RANGE	Three Phase 340 ~ 550VAC (Dual Phase	operation possible in connecting L1, L3, FG)
			under certain derating to output load. Please refer to the derating curves for detai
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	91%	92%
	AC CURRENT	2A / 400VAC; 1.6A / 500VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A	
	LEAKAGE CURRENT	$\leq$ 3.5 mA / 530VAC	
	OVERLOAD	105 125% rated output power	
	OVERLOAD	105 ~ 125% rated output power	
	OVERVOLTAGE	Protection type: Constant current limiting, unit will shut	
	OVERVOLIAGE	30 ~ 36V Protection type: Shut down overvoltage, re-power on to	59 ~ 66V
	OVERTEMPERATURE	$110^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (TSW1) detect on heat sink of	
		$85^{\circ}C \pm 5^{\circ}C$ (TSW2) detect on heat sink of	1
			ecovers automatically after temperature goes down
			, , , , , , , , , , , , , , , , , , , ,
	WORKING TEMP.	$-20 \sim +60^{\circ}$ C (Refer to output load derating	g curve)
	WORKING HUMIDITY	20 ~ 90% RH non-condensing	
1.00	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	$\pm 0.03\%$ / °C (0 ~ 50°C)	
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. ea	ach long X,Y, Z axes
	MOUNTING	Compliance to IEC60068-2-6	
	SAFETY STANDARDS	UL508	
		EN60950-1 approved	
		UL60950-1	
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC 0/P-	-FG: 0.5KVAC
- 1	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: 100M 0hms / 500	
- 1	EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11), EN55	5022 (CISPR22), EN61204-3 Class B
- 18	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	
		The power supply is considered a component which wil	l installed into a final equipment. The final equipment must be re-confirmed
		that it still meets EMC directives.	
	MTBF	122.5K hrs min. MIL-HDBK-217K (25°C)	
	DIMENSION	276x125.2x100mm (WxHxD)	
2		( )	
		3.3Ka: 4pcs / 14.2Ka / 1.14CUFT	
	PACKING	3.3Kg; 4pcs / 14.2Kg / 1.14CUFT All parameters NOT specially mentioned are measured a	at 400VAC input rated load and 25°C of ambient temperature
		0, 1 0	at 400VAC input, rated load and 25°C of ambient temperature.
		0, 1 0	at 400VAC input, rated load and 25°C of ambient temperature.
		0, 1 0	at 400VAC input, rated load and 25°C of ambient temperature.

\*Special order required.

Red TEL

## Altech Corp.

#### **Mechanical Specification**



 TB1 Terminal Pin. No Assignment

 Pin Nb.
 Assignment

 1
 AC/L1

 2
 AC/L2

AC/L3

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)

3

4



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.



Accessories

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

## 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  $110 \sim 150\%$  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:
- AC inrush current (typical):Cold start:
- DC adjustment range (typical):
- Overload protection (typical):
- Overvoltage protection (typical):
- Over temperature protection:

• Withstand voltage: Working temperature:

Safety standards: EMC standards: 88-264V AC; 124-370V DC 65A at 230V AC (PSC-240) 12V: 12-14V, 24V: 24-28V, 48V: 48-55V, 110%-150% rated output power 14-17V for 12V model (PSW-120), 29-33V for 24V model 56-65V for 48V model  $95^{\circ}C \pm 5^{\circ}C$  (PSC-120/240):  $105^{\circ}C \pm 5^{\circ}C$ I/P-0/P:3KV AC, I/P-FG:1.5KV AC, 0/P-FG:0.5KV AC, -25 to +70°C (-4° to +158°F), refer to output derating curve UL508; EN60950-1 compliant 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

### **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 &	Efficiency	NOTES
	V DC A	%	Noise		
PS-C12012	12V DC 10A	±1%	100 mVp-p	89%	
PS-C12024	24V DC 5A	±1%	100 mVp-р	91%	
PS-C12048	48V DC 2.5A	±1%	120 mVp-p	91%	

#### 240W Single Output DIN Rail Power Supply

Cat. No.	Outpu V DC	t A	<b>Tol.</b> %	Ripple & Noise	Efficiency	NOTES
PS-C24024	24V DC	10A	±1%	100 mVp-р	94%	
PS-C24048	48V DC	5A	±1%	120 mVp-p	94%	

#### 480W Single Output DIN Rail Power Supply

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

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

PARALLEL

#### **SPECIFICATIONS**

### Altech Corp."

#### **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		

#### For Parallel Model

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. (TB2)

	<b>3</b> ( )
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 terr

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

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

## **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

DUT	Cat. No.	PS-C12012	PS-C12024	PS-C12048
PUT	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 pea	k loading curves	
	RIPPLE & NOISE (max)	100mVp-p	100mVp-p	120mVp-p
		Ripple & noise are measured at 20MHz of bandy	width by using a 12 twisted pair-wire termi	inated with a 0.1µF & 47µF parallel cap
	VOLTAGE ADJ. RANGE	12 ~ 14V	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%	±1.0%
	VULIAGE I ULENANGE			±1.0%
		Tolerance: includes set up tolerance, line regulat		
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	1500ms, 60ms / 230VAC 3000m	ns, 60ms / 115VAC at full load	
	HOLD UP TIME (Typ.)		s / 115VAC at full load	
- TU				
	VOLTAGE RANGE		~ 370VDC	
		Deating may be needed under low input voltage	es, please check the derating curve for mol	re detail
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	0.93 / 230VAC 0.96 / 115VAC a	t full load	
	EFFICIENCY (Typ.)	89%	91%	90.50%
	AC CURRENT (Typ.)	1.4A / 115VAC 0.7A / 230VAC	1	
	INRUSH CURRENT (Typ.)	35A / 115VAC 70A / 230VAC		
	LEAKAGE CURRENT	$\leq 1 \text{ mA} / 240 \text{VAC}$		
CTION -				
	OVERLOAD	Normally works within 110 ~ 150%	rated output power for more the	an 3 seconds and then shut
		down overvoltage		
		$\geq$ 150% rated power, constant curre	nt limiting with auto-recovery w	/ithin 3
		• •	0 ,	·
		seconds and shut down overvoltage		EG GEV
	OVERVOLTAGE	14 ~ 17V	29 ~ 33V	56 ~ 65V
		14 ~ 17V Protection type: Shut down overvoltage, re-power	29 ~ 33V er on to recover	56 ~ 65V
	OVERVOLTAGE	14 ~ 17V	29 ~ 33V er on to recover	56 ~ 65V
		14 ~ 17V Protection type: Shut down overvoltage, re-power	29 ~ 33V er on to recover ik of power switch)	
		$14 \sim 17V$ Protection type: Shut down overvoltage, re-powe $95^{\circ}C \pm 5^{\circ}C$ (TSW: detect on heat sin	29 ~ 33V er on to recover ik of power switch)	
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.)	$\begin{array}{l} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-pown} \\ 95^{\circ}C \pm 5^{\circ}C \ (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown} \\ 60VDC / 0.3A \qquad 30VDC / 1A \end{array}$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD	
NMENT	OVERTEMPERATURE	$\begin{array}{c} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-power } \\ 95^{\circ}C \pm 5^{\circ}C \ (TSW: detect on heat sin \\ \mbox{Protection type: Shut down overvoltage, re-power } \\ 60VDC / \ 0.3A \qquad 30VDC / \ 1A \\ \ -25 \sim +70^{\circ}C \ (Refer to output load d \\ \end{array}$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD erating curve)	wn
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.)	$\begin{array}{l} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-power 95°C \pm 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-power 60VDC / 0.3A 30VDC / 1A \\ \mbox{-}25 \sim +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on top$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP.	$\begin{array}{c} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-power 95 °C \pm 5 °C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-power 60VDC / 0.3A 30VDC / 1A \\ \mbox{-}25 \sim +70 °C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY	$\begin{array}{c} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-power 95°C \pm 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-power 60VDC / 0.3A 30VDC / 1A \\ -25 \sim +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 \sim 95% RH non-condensing \\ \end{array}$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP.	$\begin{array}{c} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-power 95 °C \pm 5 °C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-power 60VDC / 0.3A 30VDC / 1A \\ \mbox{-}25 \sim +70 °C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY	$\begin{array}{c} 14 \sim 17V \\ \mbox{Protection type: Shut down overvoltage, re-power 95°C \pm 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-power 60VDC / 0.3A 30VDC / 1A \\ -25 \sim +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 \sim 95% RH non-condensing \\ \end{array}$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT	$\begin{array}{c} 14 \sim 17V \\ \hline \\ Protection type: Shut down overvoltage, re-pown \\ 95 ^{\circ}C \pm 5 ^{\circ}C (TSW: detect on heat sin \\ Protection type: Shut down overvoltage, re-pown \\ 60VDC / 0.3A & 30VDC / 1A \\ \hline -25 \sim +70 ^{\circ}C (Refer to output load d \\ Installation clearances: 40mm on top, 20mm on \\ permanently with full power. In case the adjacer \\ 20 \sim 95\% RH non-condensing \\ -40 \sim +85 ^{\circ}C, 10 \sim 95\% RH \\ \pm 0.03\% / ^{\circ}C (0 \sim 50 ^{\circ}C) \end{array}$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION	$\begin{array}{c} 14 \sim 17V \\ \hline \\ Protection type: Shut down overvoltage, re-pown \\ 95°C \pm 5°C (TSW: detect on heat sin \\ Protection type: Shut down overvoltage, re-pown \\ 60VDC / 0.3A & 30VDC / 1A \\ \hline -25 \sim +70°C (Refer to output load d \\ Installation clearances: 40mm on top, 20mm on \\ permanently with full power. In case the adjacer \\ 20 \sim 95\% RH non-condensing \\ -40 \sim +85°C, 10 \sim 95\% RH \\ \pm 0.03\% / °C (0 \sim 50°C) \\ 10 \sim 500Hz, 2G 10min./1cycle, 60 r \end{array}$	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance	wn e are recommended when loaded
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING	14 ~ 17V Protection type: Shut down overvoltage, re-powe 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-powe 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance	wn e are recommended when loaded
NMENT	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION	14 ~ 17V Protection type: Shut down overvoltage, re-powe 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-powe 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 m Compliance to IEC60068-2-6 UL508	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance	wn e are recommended when loaded
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) it the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) it the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP, HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC I/P-O/P, I/P-FG, 0/P-FG: $\geq$ 100M Ohr	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH)	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC I/P-O/P, I/P-FG, 0/P-FG: $\geq$ 100M Ohr Compliance to EN55022 (CISPR22) (0	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH)	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP, HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC I/P-O/P; J/P-FG, 0/P-FG: $\geq$ 100M Ohr Compliance to EN55022 (CISPR22) (Compliance to EN61000-3-2,-3	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) it the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC I/P-O/P, I/P-FG, 0/P-FG: $\geq$ 100M Ohr Compliance to EN55022 (CISPR22) (0	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) it the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B	wn e are recommended when loaded e is recommended
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C $\pm$ 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH $\pm$ 0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC I/P-O/P; J/P-FG, 0/P-FG: $\geq$ 100M Ohr Compliance to EN55022 (CISPR22) (Compliance to EN61000-3-2,-3	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) it the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN	wn e are recommended when loaded e is recommended IK: 0.5KVAC I61000-6-2; (EN50082-2);
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C ± 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-O/P: 3KVAC I/P-FG: 1.5KVAC I/P-O/P: 3KVAC I/P-FG: ≥100M Ohr Compliance to EN55022 (CISPR22) (Compliance to EN61000-3-2,-3 Compliance to EN61000-4-2,3,4,5,6 EN61204-3; heavy industry level; cr	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN iteria A, SEMI F47, GL approved	wn e are recommended when loaded e is recommended K: 0.5KVAC I61000-6-2; (EN50082-2);
& EMC	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C ± 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P; J/P-FG, 0/P-FG: ≥100M Ohr Compliance to EN55022 (CISPR22) (Compliance to EN61000-3-2,-3 Compliance to EN61000-4-2,3,4,5,6	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN iteria A, SEMI F47, GL approved	wn e are recommended when loaded e is recommended W: 0.5KVAC 161000-6-2; (EN50082-2);
	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP, HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT EMS IMMUNITY	14 ~ 17V Protection type: Shut down overvoltage, re-pown 95°C ± 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-pown 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P: 3KVAC I/P-FG: 2100M 0hr Compliance to EN61000-3-2,-3 Compliance to EN61000-4-2,3,4,5,6 EN61204-3; heavy industry level; cr The power supply is considered a component w that it still meets EMC directives.	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN riteria A, SEMI F47, GL approved rhich will installed into a final equipment. Th	wn e are recommended when loaded e is recommended K: 0.5KVAC I61000-6-2; (EN50082-2);
& EMC	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP, HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT EMS IMMUNITY MTBF	14 ~ 17V Protection type: Shut down overvoltage, re-powe 95°C ± 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-powe 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P; J/P-FG, 0/P-FG: 2100M 0hr Compliance to EN61000-3-2,-3 Compliance to EN61000-4-2,3,4,5,6 EN61204-3; heavy industry level; cr The power supply is considered a component w that it still meets EMC directives. 289.9K hrs min. MIL-HDBK-217K	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN riteria A, SEMI F47, GL approved rhich will installed into a final equipment. Th	wn e are recommended when loaded e is recommended IK: 0.5KVAC I61000-6-2; (EN50082-2);
& EMC	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP, HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT EMS IMMUNITY MTBF DIMENSION	14 ~ 17V Protection type: Shut down overvoltage, re-powe 95°C ± 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-powe 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-0/P: J/P-FG, 0/P-FG: 1.5KVAC I/P-0/P: J/P-FG, 0/P-FG: 2100M 0hr Compliance to EN61000-3-2,-3 Compliance to EN61000-3-2,-3 Compliance to EN61000-3-2,-3 Compliance to EN61000-4-2,3,4,5,6 EN61204-3; heavy industry level; cr The power supply is considered a component w that it still meets EMC directives. 289.9K hrs min. MIL-HDBK-217K 40x125.2x113.5mm (WxHxD)	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN riteria A, SEMI F47, GL approved thich will installed into a final equipment. Th (25°C)	wn e are recommended when loaded e is recommended K: 0.5KVAC I61000-6-2; (EN50082-2);
& EMC	OVERTEMPERATURE DC OK RELAY CONTACT RATINGS (max.) WORKING TEMP. WORKING HUMIDITY STORAGE TEMP, HUMIDITY TEMP. COEFFICIENT VIBRATION MOUNTING SAFETY STANDARDS WITHSTAND VOLTAGE ISOLATION RESISTANCE EMI CONDUCTION & RADIATION HARMONIC CURRENT EMS IMMUNITY MTBF	14 ~ 17V Protection type: Shut down overvoltage, re-powe 95°C ± 5°C (TSW: detect on heat sin Protection type: Shut down overvoltage, re-powe 60VDC / 0.3A 30VDC / 1A -25 ~ +70°C (Refer to output load d Installation clearances: 40mm on top, 20mm on permanently with full power. In case the adjacer 20 ~ 95% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60 r Compliance to IEC60068-2-6 UL508 EN60950-1 compliant I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P: 3KVAC I/P-FG: 1.5KVAC I/P-0/P; J/P-FG, 0/P-FG: 2100M 0hr Compliance to EN61000-3-2,-3 Compliance to EN61000-4-2,3,4,5,6 EN61204-3; heavy industry level; cr The power supply is considered a component w that it still meets EMC directives. 289.9K hrs min. MIL-HDBK-217K	29 ~ 33V er on to recover ik of power switch) er automatically after temperature goes do 30VAC / 0.5A RESISTIVE LOAD lerating curve) the bottom, 5mm on the left and right side nt device is a heat source, 15mm clearance min. each long X,Y, Z axes 0/P-FG: 0.5KVAC 0/P-DC 0 ms/500VDC (25°C; 70% RH) Class B 5,8,11; ENV50204; EN55024; EN riteria A, SEMI F47, GL approved thich will installed into a final equipment. Th (25°C)	wn e are recommended when loaded e is recommended K: 0.5KVAC I61000-6-2; (EN50082-2);

## Altech Corp."

#### **Mechanical Specification**

Assignment

FG 🕀

AC/N

AC/L

Pin No.

1

2

3

Terminal Pin No. Assignment (TB1)	Terminal Pin No. Assignment (TB2)

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



#### **DC OK Relay Contact**

60

-25

10

0

20

30

AMBIENT TEMPERATURE (°C)

40

50 55 60

70 (VERTICAL)

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



High Efficiency mpact housing

00

Accessories

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

40

88

100

110

135

**INPUT VOLTAGE (V) 60Hz** 

65

ťť

230 264

155

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

	PS-C240 Se	ries	Features: • High efficie	ncy 94% and low power dissipation
Refer	<b>Specifications</b>	$\sim$	• 150% peak	load capability
553				ve PFC function, PF>0.93 : Short Circuit / Overload / Over Voltage /
		ΥΥΥ	Overtempe	
1				free air convection
		SAVER	DIN rail mo     JIL 508 (inc	untable lustrial control equipment) approved
	M		• EN61000-6 • Built-in DC	-2(EN50082-2) industrial immunity level OK relay contact bad burn-in test
			• 3 year warr	anty
1	Cat. No.	PS-C24024		PS-C24048
1	DC VOLTAGE	24V		48V
	RATED CURRENT	10A		5A
	CURRENT RANGE	0 ~ 10A		0 ~ 5A
	RATED POWER	240W		240W
	PEAK CURRENT PEAK POWER	15A		7.5A
	PEAR POWER	360W (3 sec.) 3 seconds max., pleas	se refer to neak loa	ding curves
	RIPPLE & NOISE (max)	100mVp-p	o i ei ei i u heak 10a	120mVp-p
			at 20MHz of bandwidth h	y using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capaci
	VOLTAGE ADJ. RANGE	24 ~ 28V		$  48 \sim 55V$
	VOLTAGE TOLERANCE	±1.0%		±1.0%
		Tolerance: includes set up to	lerance, line regulation an	
	LINE REGULATION	±0.5%		±0.5%
	LOAD REGULATION	±1.0%		±1.0%
	SETUP, RISE TIME	1500ms, 60ms / 230	AC 3000ms, 60	ms / 115VAC at full load
	HOLD UP TIME (Typ.)	20ms / 230VAC	20ms / 115	SVAC at full load
	VOLTAGE RANGE	88 ~ 264VAC	124 ~ 370	/DC
		Deating may be needed unde	er low input voltages, plea	se check the derating curve for more detail
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)		9 / 115VAC at full I	oad
	EFFICIENCY (Typ.)	94%		
		After 30 minutes of b		
	AC CURRENT (Typ.)		3A / 230VAC	
	INRUSH CURRENT (Typ.)		5A / 230VAC	
_	LEAKAGE CURRENT	$\leq$ 1 mA / 240VAC		
	OVERLOAD			d output power for more than 3 seconds and then shut
		down overvoltage wit		atting with auto
		$\geq$ 150% rated power,		n overvoltage after 2 seconds
	OVERVOLTAGE	29 ~ 33V	unus anu shut uuwi	$56 \sim 65V$
	OVERVOEIAde	Protection type: Shut down o	vervoltage with auto-reco	
	OVERTEMPERATURE	$95^{\circ}C \pm 5^{\circ}C$ (TSW: dete	•	•
		Protection type: Shut down o	vervoltage, re-power auto	matically after temperature goes down
	DC OK RELAY CONTACT RATINGS (max.)			0.5A RESISTIVE LOAD
	WORKING TEMP.	$-25 \sim +70^{\circ}$ C (Refer to		
				IG CUIVE) ttom, 5mm on the left and right side are recommended when loaded
				te is a heat source, 15mm clearance is recommended.
	WORKING HUMIDITY	20 ~ 95% RH non-co	-	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95		
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°		
	VIBRATION	10 ~ 500Hz, 2G 10mi	,	each long X,Y, Z axes
	MOUNTING	Compliance to IEC600	68-2-6	
1	SAFETY STANDARDS	UL508		
1		EN60950-1 compliant	t	
1	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-		P-FG: 0.5KVAC 0/P-DC 0K: 0.5KVAC
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-F	G: ≥100M 0hms / 8	500VDC (25°C; 70% RH)
	EMI CONDUCTION & RADIATION	Compliance to EN550	22 (CISPR22) Class	В
	HARMONIC CURRENT	Compliance to EN610	00-3-2,-3	
	EMS IMMUNITY	Compliance to EN610	00-4-2,3,4,5,6,8,11	I; ENV50204; EN55024; EN61000-6-2; (EN50082-2),
		EN61204-3; heavy in	dustry level; criteria	A, SEMI F47, GL approved
				ill installed into a final equipment. The final equipment must be
		re-confirmed that it still mee	-	
	MTBF	169.3K hrs min. MI		)
	DIMENSION	63x125.2x113.5mm (	, ,	
	PACKING	1.03Kg; 12pcs / 13.4	•	
		all nerometers NOT enseight	montioned are measured	at 230V AC input, rated load and 25°C of ambient temperature.

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

#### **Mechanical Specification**

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

Terminal	Pin No. Assignme	nt (TB2)
Pin No.	Assignment	
1,2	Relay Contact	
3.4	DC OUTPUT +V	

DC OUTPUT -V

	- 0 m 4 m 9	
125.2	2 ΔC OK +V ADJ. COK DC OK O	
ļ		

Ø

## Altech Corp.\*

N

## housing 2

00

Accessories

Block Diagram	с ок
I/P O EMI FILTER RECTIFIERS FG O FFC CONTROL FG O FFC CONTROL	RECTIFIERS FILTER O.C.P. O.C.P. DETECTION CIRCUIT O.V.P.
Peak Loading	
(1) 360W	(2) 360W
240W 3 sec.	120W 3 sec.
Derating Curve Output D	erating VS Input Voltage
(%) QVOT 112.5- For typ. 3sec. (%) QVOT 75- 60- Continuous	
-25 0 10 20 30 40 50 60 70 (VERTICAL)	88 100 110 135 155 ( 230 264
AMBIENT TEMPERATURE (°C)	INPUT VOLTAGE (V) 60Hz Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.
Altech Corp. <sup>®</sup> • 35 Royal Road • Flemington, NJ 08822-	6000 • Phone (908)806-9400 • FAX (908)806-9490

## **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

5,6

	<b>'S-C480 Se</b>		<ul> <li>High efficience</li> <li>150% peak location</li> </ul>	cy 94% and low power dissipation bad capability
S	pecifications	YY	<ul> <li>Built-in active</li> </ul>	PFC function, PF>0.94 Short Circuit / Overload / Over Voltage /
1		$\sim$	Overtempera	ture
				ee air convection
Ro	🖻 🕕 🚫 CE CB		Built-in consta     DIN rail mour	ant current limiting circuit
	USTED US CALD HAR	SAVER		strial control equipment) approved
-				2(EN50082-2) industrial immunity level
				K relay contact
B.			• 100% full load	
Cat. N	0	PS-C48024	• 3 year warrar	PS-C48048
DC VOL		24V		48V
	CURRENT	20A		10A
	IT RANGE	0 ~ 20A		0 ~ 10A
RATED I		480W		480W
PEAK C		30A		15A
PEAK P	JWER	720W (3 sec.)	war may and the average	a output nower abould not evened the rate newer
	& NOISE (max)	3 seconds peak por 100mVp-p	wei max. and the averag	ge output power should not exceed the rate power 120mVp-p
NIFFLE			red at 20MHz of bandwidth by u	sing a 12 twisted pair-wire terminated with a 0.1μF & 47μF parallel capacit
	E ADJ. RANGE	$24 \sim 28V$	at Lowing of Danuwidur Dy U	$48 \sim 55V$
	E ADJ. RANGE E TOLERANCE	24 ~ 28V ±1.2%		$48 \sim 55V$ ±1.0%
VOLIAU			tolerance, line regulation and lo	
LINE RE	GULATION	±0.5%	tooranoo, mio rogulation and io	±0.5%
LOAD R	EGULATION	±1.0%		±1.0%
	RISE TIME	1500ms, 150ms / 2		50ms / 115VAC at full load
	P TIME (Typ.)	14ms / 230VAC at 1	full load	
VOLTAG	ERANGE		27 ~ 370VDC	
EDEOUE			nder low input voltages, please o	check the derating curve for more detail
	NCY RANGE FACTOR (Typ.)	47 ~ 63Hz 0.94 / 230VAC (	).99 / 115VAC at full load	Ч
	NCY (Typ.)	94%	J.997 TTOVAG AL IUN IOA	u
		After 30 minutes of burn-	in	
AC CUR	RENT (Typ.)		2.5A / 230VAC	
	CURRENT (Typ.)		0A / 230VAC	
LEAKAG	e current	$\leq$ 0.8 mA / 240VAC		
OVERLO	AD			output power for more than 3 seconds and then shut
		down overvoltage v		ing with outs, resource within 9 seconds and shut
		down overvoltage a		ing with auto-recovery within 2 seconds and shut
OVERVO	LTAGE	$29 \sim 33V$		56 ~ 65V
			n overvoltage with auto-recovery	
OVERTE	MPERATURE		detect on heat sink of po	
		**		tically after temperature goes down
	RELAY CONTACT RATINGS (max.)		DC / 1A; 30VAC / 0.5A re	
WORKIN	g temp.		to output load derating	
				m, 5mm on the left and right side are recommended when loaded s a heat source, 15mm clearance is recommended.
WORKIN	g humidity	20 ~ 95% RH non-		
	E TEMP., HUMIDITY	-40 ~ +85°C, 10 ~		
	OEFFICIENT	±0.03% / °C (0 ~ 5	0°C)	
VIBRATI			min./1cycle, 60 min. eac	ch long X,Y, Z axes
MOUNT		Compliance to IEC6	0068-2-6	
SAFETY	STANDARDS	UL508 EN60950-1 complia	ant	
WITHST	and voltage	I/P-0/P: 3KVAC		G: 0.5KVAC 0/P-DC 0K: 0.5KVAC
	ON RESISTANCE		-FG: $\geq 100M$ Ohms/500V	
	NDUCTION & RADIATION		5022 (CISPR22) Class B	· · · · · · · · · · · · · · · · · · ·
	NIC CURRENT	Compliance to EN6	. ,	
EMS IM	MUNITY	•		ENV50204; EN55024; EN61000-6-2; (EN50082-2),
			industry level; criteria A,	
				nstalled into a final equipment. The final equipment must be
МТОГ		re-confirmed that it still n	-	
MTBF DIMENS	ION	112.9K hrs min. 1 85.5x125.2x128.5r	MIL-HDBK-217K (25°C) nm (WyHyD)	
PACKIN		1.6Kg; 8pcs / 13.8	. ,	
	~			

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

## Altech Corp.

#### **Mechanical Specification**

Terminal Pin No. Assignment (TB1) Pin No Assignment

FILINO.	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		





128.5

#### **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**



125.2

#### **Peak Loading**



#### **Derating Curve**



#### **Output Derating VS Input Voltage**

15 sec. 3 sec.

(2) 720W ---

240W



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

5

Accessories

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

YY	<b>PS-C480P S</b>	eries	tures: igh efficiency 94% and low power dissipation
	With Parallel Fu	nction •1	50% peak load capability
			uilt-in active PFC function, PF>0.94
	Specification	5 ·F	rotections: Short Circuit / Overload / Over Voltage /
100			vertemperature
			ooling by free air convection uilt-in constant current limiting circuit
1			IN rail mountable
80	C LISTED US COMP		urrent sharing up to 380W (1+7)
DAD	ALLEL		L 508(industrial control equipment)approved
PAR	ALLEL CAR DATA AND AND AND		N61000-6-2(EN50082-2) industrial immunity level
			uilt-in DC OK relay contact
			00% full load burn-in test year warranty
	Cat. No.	PS-C480P24	PS-C480P48
1			
	DC VOLTAGE	24V	48V
P	RATED CURRENT	20A	10A
	CURRENT RANGE	0 ~ 20A	0 ~ 10A
		480W	480W
	PEAK CURRENT PEAK POWER	30A 720W (3 sec.)	15A
		( )	erage output power should not exceed the rate power
	RIPPLE & NOISE (max)	100mVp-p	120mVp-p
			of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacit
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.2%	±1.0%
	LINE REGULATION	Tolerance: includes set up tolerance, lir ±0.5%	e regulation and load regulation. $\pm 0.5\%$
	LOAD REGULATION	±0.5% ±1.0%	±0.3% ±1.0%
	SETUP, RISE, HOLD UP TIME	1500ms, 150ms, 14ms / 230	
-			
	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370	
	FREQUENCY RANGE	Deating may be needed under low inpu 47 ~ 63Hz	t voltages, please check the derating curve for more detail
	POWER FACTOR (Typ.)		/AC at full load
	EFFICIENCY (Typ.)	94%	יריט מו ומוו וטמע
		94 70 After 30 minutes of burn-in.	
	AC CURRENT (max.)	5A / 115VAC 2.5A / 230	AC
	INRUSH CURRENT (Typ.)	40A / 115VAC 80A / 230V	
	LEAKAGE CURRENT	$\leq 0.6 \text{ mA} / 240 \text{VAC}$	
-	OVERLOAD		150% rated output power for more than 3 seconds and then shut dow
		overvoltage with auto-recove	
			t current limiting with auto-recovery within 2 seconds and shut down
		overvoltage after 2 seconds	
	OVERVOLTAGE	29 ~ 33V	56 ~ 65V
		1 Contraction of the second	with auto-recovery on re-power on to recovery
	OVERTEMPERATURE	$105^{\circ}C \pm 5^{\circ}C$ (TSW: detect on	
		Protection type: Shut down overvoltage	re-power automatically after temperature goes down
1	CURRENT SHARING	Please see function diagram	
	DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A; 30VDC / 1A; 3	VAC / 0.5A resistive load
	WORKING TEMP.	-25 ~ +70°C (Refer to output	
		Installation clearances: 40mm on top, 2	Omm on the bottom, 5mm on the left and right side are recommended when loaded
			adjacent device is a heat source, 15mm clearance is recommended.
		20 ~ 95% RH non-condensin	J
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH ±0.03% / °C (0 ~ 50°C)	
	TEMP. COEFFICIENT		e, 60 min. each long X.Y. Z axes
	VIBRATION MOUNTING	Compliance to IEC60068-2-6	t, ou mint. Each lung A, T, Z axes
		•	
	SAFETY STANDARDS	UL508	
		EN60950-1 compliant	
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG: 1.5	
	ISOLATION RESISTANCE		M Ohms/500VDC (25°C; 70% RH)
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISI	
		Compliance to EN61000-3-2,	
	EMS IMMUNITY	•	3,4,5,6,8,11; ENV50204; EN55024; EN61000-6-2; (EN50082-2), vel; criteria A, SEMI F47, GL approved
		re-confirmed that it still meets EMC dir	onent which will installed into a final equipment. The final equipment must be ctives.
	MTBF	112.9K hrs min. MIL-HDBK	217K (25°C)
	DIMENSION	85.5x125.2x128.5mm (WxHx	. ,
			)

## Altech Corp.

DC OK

0

Accessories

#### **Mechanical Specification**

Terminal	Pin No. Assignmer	it (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)

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

8



#### **Block Diagram**



9

E z ş

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**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

## Wide Input Compact Housing Power Supply

With the PSW family, AC/DC compact DIN rail switching power supplies with single phase wide input range, Altech further expanded the power supply line. Built-in active PFC function, these high efficient power units meet the harmonic current limitation per EN61000-3-2. Equipped with 180 to 550Vac single phase wide input range, they can be used in general power system applications with single phase 230Vac input or can capture two phases from the 220~550Vac three-phase power system, which can greatly increase the flexibility of system deployment.

With up-to-date circuit design PSW series possess up to 93% of extremely high efficiency and can provide 100% power continuously at 50\*C by only free air convection, or operate under 70\*C ambient temperature by suitable power derating. The compact design in width helps save the precious space on the rail and also makes it up to 50% smaller in size compare to its predecessor models. Meanwhile, with wider input range the PSW series also has 3% higher efficiency than corresponding models, which response to the trend of green power with energy saving concept. Other standard functions include DC OK relay contact alarm signal output, front panel DC voltage adjustment , as well as protection for short-circuit, overload (constant current mode, shut down if over 3 seconds), over voltage, and over temperature. The PSW series comply with UL508, IEC60950-1 (CB), and CE certificates and also meet the EMC requirements of heavy industrial immunity level (EN61000-6-2). Suitable applications include industrial control system, semi-conductor fabrication equipment, factory automation, electromechanical applications, and marine related installation.

- Input voltage range: 180~550V AC; 254-780V DC
- AC inrush current (typical):Cold start: 50A at 400V AC
- DC adjustment range (typical): 12V: 12-15V, 24V: 24-29V, 48V: 48-58V,
- Overload protection (typical): 105%-130% rated output
  Over-voltage protection (typical): 16-18V for 12V model (PSW-120),

31-37V for 24V model; 60-67V for 48V model

-20 to +70°C (-4° to +158°F),

UL508 (PSW-240 pending)

refer to output derating curve (PSW-120)

2000ms, 70ms at full load and 230V AC (PSW-120) 2000ms, 150ms at full load and 230V AC (PSW240/480)

I/P-0/P:3KV AC, I/P-FG:1.5KV AC, 0/P-FG:0.5KV AC,

Compliance to EN55011 (CISPR11), EN55022 class B, EN61000-4-2,3,4,5,6,8,11, ENV50204, EN55024,

EN61000-6-2, EN61204-3, heavy Industry Level criteria A

- Setup, rise, time (typical):
- Withstand voltage:
- Working temperature:
- DC OK signal
- Safety standards:
- EMC standards:
- Military standard:
  - For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

MIL-HDBK-217K

Relay contact

### **PSW Series**



- Single and two phase wide input range 180~550VAC
- Universal AC Input / Full Range
- High efficiency up to 93% and low power dissipation
- Protections: Short circuit / Overload / Overvoltage / Over temperature
- 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



<u>Altech Corp.</u>®

Accessories

## 120-480W Single Phase

WIDE INPUT POWER SUPPLIES



#### **120W Single Output DIN Rail Power Supply**

Cat. No.	Output V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
PSW-12012	12V DC 10A	±1.5%	120 mVp-p	89.5%	
PSW-12024	24V DC 5A	±1%	120 mVp-p	91%	
PSW-12048	48V DC 2.5A	±1%	150 mVp-p	92%	

#### 240W Single Output DIN Rail Power Supply

Cat. No.	Outpu V DC	ut A	Tol. %	Ripple & Noise	Efficiency	NOTES
PSW-24024	24V DC	10A	±1%	120 mVp-p	90%	
PSW-24048	48V DC	5A	±1%	120 mVp-p	90%	

#### 480W Single Output DIN Rail Power Supply

(Also available with Optional Parallel Function (7+1))

Cat. No.	Output V DC A	Tol. %	Ripple & Noise	Efficiency	NOTES
PSW-48024	24V DC 20A	±1%	100 mVp-р	94%	
PSW-48048	48V DC 10A	±1%	120 mVp-p	94%	

Itech Corp.
## <u>Altech Corp.</u>°

## **SPECIFICATIONS**

## **PSW-120 Series**



Terminal Pin. No Assign. (TB1)				
Pin No. Assignment				
1	FG⊜			
2	AC/L2			
3	AC/L1			

Ferminal Pin. No Assign. (TB2)			
Pin No. Assignment			
1,2	Relay Contact		
3 DC OUTPUT -V			
4	DC OUTPUT +V		

Universal Input: 180-550V AC, 254-780V DC full range, 0.55A/400V AC, 1.2A/230V AC Connection: Input - 3 poles, Output - 4 poles screw terminal Size (WxHxD): 40x125.2x113.5mm (1.57x4.93x4.47 inches) Packaging: 1/box; 1.433lbs / 0.65Kg

## **PSW-240 Series**



Terminal Pin. No Assign. (TB1)		
Pin No.	Assignment	
1	FG⊜	
2	AC/L2	
3	AC/L1	

Terminal Pin. No Assign. (TB2)			
Pin No. Assignment			
1,2	Relay Contact		
3,4	DC OUTPUT -V		
5,6 DC OUTPUT +V			

Universal Input: 180-550V AC, 254-780V DC full range, 1A/400V AC, 2A/230V AC

Connection: Input - 3 poles, Output - 6 poles screw terminal Size (WxHxD): 63x125.2x113.5mm (2.48x4.93x4.47 inches) Packaging: 1/box; 2.337lbs / 1.06Kg

## **PSW-480 Series**



Terminal Pin. No Assign. (TB1)		
Pin No.	Assignment	
1	FG⊕	
2	AC/N	

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

AC/L

3

Pin No.	Assignment	
1	FG⊜	
2	AC/L2	
3	AC/L1	

Ferminal Pin. No Assign. (TB2)			
Pin No. Assignment			
1,2	2 DC OUTPUT +V		
3,4	DC OUTPUT -V		
5,6 Relay Contact			

#### 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			
	* Only parallel function.		

Universal Input: 180-550V AC, 254-780V DC full range, 1.6A/400V AC, 4A/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; 3.748lbs / 1.7Kg

Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Accessories

al Case

ciency nousi

cu

## **PSW-120 Series Specifications**



## Features:

- Single and two phase wide input range 180 ~ 550VAC
   Protections: Short Circuit / Overload / Over Voltage / Overtemperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- DIN rail mountable
- UL508 (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

	Cat. No.	PSW-12012	PSW-12024	<b>PSW-12048</b>
OUTPUT	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
	RIPPLE & NOISE (max)	120mVp-p	120mVp-p	150mVp-p
1				erminated with a $0.1\mu$ F & $47\mu$ F parallel capacitor.
	VOLTAGE ADJ. RANGE	$12 \sim 15V$	$124 \sim 29V$	$  48 \sim 58V$
	VOLTAGE TOLERANCE	±1.5%	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line regu	-	
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%
	SETUP, RISE HOLD UP TIME	2000ms, 70ms, 50ms / 400VAC	2000ms, 70ms, 10ms / 230	
		Length of set up time is measured at cold firs	t start. Turning ON/OFF the power supply	very quick may lead to increase of the set up time
INPUT —	VOLTAGE RANGE	180 ~ 550VAC 25	4 ~ 780VDC	
	FREQUENCY RANGE	47 ~ 63Hz	1 100120	
	EFFICIENCY (Typ.)	89.5% / 400V	91% / 400V	92% / 400V
	AC CURRENT	0.55A / 400VAC 1.2A / 230VA		32/07 4000
			6	
	INRUSH CURRENT (Typ.)	COLD START 50A < 3.5 mA / 530VAC		
PROTECTION	LEAKAGE CURRENT	≤ 3.5 IIIA / 530VAC		
NOTECTION	OVERLOAD	105 ~ 130% rated output power		
	OVERECAD	Protection type: Constant current limiting, reco	ouere outematically ofter foult condition is	removed
	OVERVOLTAGE	$16 \sim 18V$	$31 \sim 37V$	60 ~ 67V
	OVERVOLIAGE			00~07V
		Protection type: Shut down overvoltage, re-po		<i>c</i>
	OVERTEMPERATURE	$105^{\circ}C \pm 5^{\circ}C$ (12V), $110^{\circ}C \pm 5^{\circ}C$ (24)	, , ,	of power switch transistor;
		$100^{\circ}C \pm 5^{\circ}C$ (48V) (TSW1) detect of		
		Protection type: Shut down overvoltage, re-po		s down
NVIRONMENT -	DC OK SIGNNAL	Relay contact rating (max.): 30V /	1A resistive	
NVIRUNIVIEN I	WORKING TEMP.	-25 ~ +70°C (Refer to output load	derating curve)	
	WORKING HUMIDITY	20 ~ 90% RH non-condensing	<b>o</b> ,	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	$\pm 0.03\%$ / °C (0 ~ 50°C)		
	VIBRATION	,	) min_each long X V 7 aves Mo	unting clip: Compliance to IEC60068-2
AFETY & EMC				
	SAFETY STANDARDS	UL508 approved		
		IEC60950-1 compliant		
	WITHSTAND VOLTAGE	I/P-0/P: 3KVAC I/P-FG:1.5KVAC	0/P-FG:0.5KVAC 0/P-DC	OK:0.5KVAC
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: 100M Ohm	ns/500VDC (25°C; 70% RH)	
	EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11	I), EN55022 (CISPR22), EN6120	04-3 Class B
	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,		
		The power supply is considered a component	which will installed into a final equipmer	t. The final equipment must be
OTHERS		re-confirmed that it still meets EMC directives		
	11705		-	
	MTBF	268K hrs min. MIL-HDBK-217K	(25°C)	
	DIMENSION	40x125.2x113.5mm (WxHxD)		
	PACKING	0.65Kg; 20pcs / 14Kg / 1.16CUFT		
		All parameters NOT specially mentioned are n	neasured at 230V AC input, rated load an	d 25°C of ambient temperature.

## <u>Altech Corp.</u>°

## **Mechanical Specification**



### TerminaPinNo. Assignment (TB1)

PinNo. Assignment		
1	FG 🖶	
2	AC/L2	
3	AC/L1	

TerminaPinNo. Assignment (TB2)				
PinNo.	Assignment			
1,2	RelayContact			
3	DCOUTPUT-V			
4	DCOUTPUT+V			



## **Derating Curve**



### Static Characteristics



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

tal Case

ā

nas

housing

iciency

11

Accessories

## **PSW-240 Series** Specifications



## Features:

- Single and two phase wide input range 180~550VAC
- High efficiency 91% and low power dissipation
   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

PUT	Cat. No.	PSW-24024	PSW-24048
	DC VOLTAGE	24V	48V
	RATED CURRENT	10A	5A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A
	RATED POWER	240W	240W
	RIPPLE & NOISE (max)	150mVp-p	150mVp-p
		Ripple & noise are measured at 20MHz of bandwid	th by using a 12 twisted pair-wire terminated with a 0.1μF & 47μF parallel capa
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line regulatio	
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE, HOLD UP TIME		1500ms, 150ms, 18ms / 230VAC at full load
	VOLTAGE RANGE	180 ~ 550VAC 254 ~ 780VDC	
		Derating may be needed under low input voltage.	Please check the derating curve for more details
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	91%	
	AC CURRENT	1A / 400VAC 2A / 230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A	
	LEAKAGE CURRENT	$\leq$ 3.5 mA / 530VAC	
	OVERLOAD	105 ~ 130% rated output power	
			shut down after 3 sec.; auto recovery after 1 minute if the fault condition is rem
	OVERVOLTAGE	29 ~ 33V	56 ~ 65V
		Protection type: Shut down overvoltage, re-power	
		Under over-voltage condition, If input voltage $\leq$ 20	OVAC, the power supply will shut down and then may have auto-recovery
		after several seconds	
	OVERTEMPERATURE	$90^{\circ}C \pm 5^{\circ}C$ (TSW) detect on heat sink	
		Protection type: Shut down overvoltag	e, recovers automatically after temperature goes down
	DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A; 30VDC / 1A; 30VAC /	0.5A resistive load
	WORKING TEMP.	-30 ~ +70°C (Refer to output load der	ating curve)
		· ·	e bottom, 5mm on the left and right side are recommended when loaded
		permanently with full power. In case the adjacent	levice 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 mi	n. each long X,Y, Z axes
	MOUNTING	Compliance to IEC60068-2-6	
	SAFETY STANDARDS	UL508 approved	
	SALETT STANDARDS	IEC 60950-1 compliant	
		•	
	WITHSTAND VOLTAGE	Design refer to GL I/P-O/P: 3KVAC I/P-FG: 1.5KVAC	0/P-FG :0.5KVAC 0/P-DC 0K: 0.5KVAC
	ISOLATION RESISTANCE	$I/P-O/P$ , $I/P-FG$ , $O/P-FG$ : $\geq 100M$ Ohms	57 500VDG (25 G; 70% RH)
	EMI CONDUCTION & RADIATION	EN55022 (CISPR22), Class B	
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3	
	EMS IMMUNITY		3,11; ENV50204; EN 55024; EN61000-6-2; (EN50082-2);
		EN61204-3; heavy industry level; crite	
		The power supply is considered a component white	
		equipment must be re-confirmed that is still meets	
	MTBF	141.1K hrs min. MIL-HDBK-217K (2	5°C)
	DIMENSION	63x125.2x113.5mm (WxHxD)	
	PACKING	1.06Kg; 12pcs / 13.7Kg / 1.06CUFT	

## **Mechanical Specification**

## Altech Corp.



Terminal	Pin No. Assignment (TB2)	
Pin No.	Assignment	

O

Pin No.	Assignment	
1	FG 🖶	
2	AC/L2	
3	AC/L1	

Terminal Pin No. Assignment (TB1)

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

0

113.5

### **Block Diagram**



## **DC OK Relay Contact**

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

### **Derating Curve**



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

**iciency** housing

tal Case

ā

as

Accessories

## **PSW-480 Series Specifications**

Altech Corp.



## Features:

• Single and two phase wide input range 180~550VAC

- High efficiency 93% and low power dissipation 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

UTPUT	Cat. No.	PSW-48024	PSW-48048
	DC VOLTAGE	24V	48V
	RATED CURRENT	20A	10A
	CURRENT RANGE	0 ~ 20A	0 ~ 10A
10 million (1990)	RATED POWER	480W	480W
	RIPPLE & NOISE (max)	100mVp-p	150mVp-p
		Ripple & noise are measured at 20MHz of bandwidth by us	sing a 12 twisted pair-wire terminated with a $0.1\mu$ F & $47\mu$ F parallel capacito
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE	±1.0%	±1.0%
		Tolerance: includes set up tolerance, line regulation and lo	ad regulation.
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE, HOLD UP TIME	800ms, 150ms, 18ms / 400VAC 2000n	ns, 150ms, 16ms / 230VAC at full load
	VOLTAGE RANGE	180 ~ 550VAC 254 ~ 780VDC	
		Derating may be needed under low input voltage. Please c	heck the derating curve for more details
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	92%	93%
	AC CURRENT	1.6A / 400VAC 4A / 230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A	
	LEAKAGE CURRENT	$\leq$ 3.5 mA / 530VAC	
	OVERLOAD	105 ~ 130% rated output power	
		Protection type: Constant current limiting, unit will shut do	wn after 3 sec.; auto recovery after 1 minute if the fault condition is remove
	OVERVOLTAGE	29 ~ 33V	56 ~ 65V
		Protection type: Shut down overvoltage; auto recovery after	r 1 minute if the fault condition is removed
			e power supply will shut down and then may have auto-recovery after
		several seconds.	
	OVERTEMPERATURE	$95^{\circ}C \pm 5^{\circ}C$ (TSW) detect on heat sink of power of the second sec	
		Protection type: Shut down overvoltage, recovers automati	
	DC OK RELAY CONTACT RATINGS (max.)	60VDC / 0.3A; 30VDC / 1A; 30VAC / 0.5A r	
	WORKING TEMP.	-30 ~ +70°C (Refer to output load derating	
			n, 5mm on the left and right side are recommended when loaded
	WORKING HUMIDITY	permanently with full power. In case the adjacent device is $20 \sim 95\%$ RH non-condensing	a neat source, 15mm clearance is recommended.
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C; 10 ~ 95% RH	
	TEMP. COEFFICIENT	$\pm 0.03\%$ / °C (0 ~ 50°C)	
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. eac	h long X,Y, Z axes
	MOUNTING	Compliance to IEC60068-2-6	
	SAFETY STANDARDS	•	
	SAFETT STANDARDS	UL508 approved IEC 60950-1 compliant	
		-	
	WITHSTAND VOLTAGE	Design refer to GL I/P-0/P: 3KVAC I/P-FG:1.5KVAC 0/P-FG	:0.5KVAC 0/P-DC 0K:0.5KVAC
	ISOLATION RESISTANCE	I/P-0/P, I/P-FG, 0/P-FG: 100M 0hms / 500VI	
	EMI CONDUCTION & RADIATION	EN55022 (CISPR22), EN61204-3 Class B	
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3	
	EMS IMMUNITY		:NV50204; EN 55024; EN61000-6-2; (EN50082-2);
ENG1204-3; heavy industry level; criteria A approved;			
			istalled into a final equipment. The final equipment must be
		re-confirmed that is still meets EMC directives.	staleu into a intal equipment. The intal equipment must be
	MTBF	112.8K hrs min. MIL-HDBK-217K (25°C)	
	DIMENSION	85.5x125.2x128.5mm (WxHxD)	
	PACKING	1.7Kg; 8pcs / 14.6Kg / 0.9CUFT	
		All parameters NOT specially mentioned are measured at	100\/AC input rated load and 25°C of ambient temperature

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.



## Accessories

## Power Supply Redundancy Buffer Module

PS-RDN20 is a 20A redundancy (decoupling) module for the 24V DC power system. Containing 2 sets of 20A Or-ing diodes with wonderful heat dissipation deployment, PS-RDN20 give you a new option for safe connection of 1+1 redundant set-up. Not only perfectly decouple power sources from each other as well as from the load, PS-RDN20 also provides users monitoring signals for both input channels through the built-in relays. Since there's no switching components inside the module, PS-RDN20 will not arise additional EMI issues and should provide you a worry-free application platform!

DC input voltage range Reverse voltage DC output current DC output voltage drop Input voltage alarm Relay contact rating Working Temperature EMC standards Connection 21~28V, 20A max. x 2 channels 30V 20A max. 0.5V max. When input is > 20V( $\pm$ 5%) or <30V( $\pm$ 5%), relay contacts 30VDC, 1A -20~+70°C EN55022 class B, EN61000-4-2,3,4,5,6,8, ENV50204 I/P: 4 poles, 0/P: 2 poles screw DIN terminal, Single output: 4 poles

## **UPS Battery Module**

PS-UPS40 is a 40A max. DC UPS (battery control) module for the 24 V DC power system. Accompany with external batteries, it can back-up up to 40A of current to critical loads for certain period of time depending on the capacity of batteries. With complete monitoring signals and LED indicators for DC BUS OK, Battery Fail, Battery Discharge and the repeated Battery Test function to check the situation of external batteries. Users can customize their own DC UPS system to back up critical loads and capture the status of the whole system easily.

DC input / DC bus	24~29V, 40A max.
Battery inout voltage	21~29V
Battery input current	0~40A
Charge current (typ.)	2A
External battery (typ.)	24V, 4AH / 7AH / 12AH
DC bus ok	Relay status: Short when DC voltage between 21~29V(±3%), relay contacts
Battery fail	Relay status: Short when battery failure is observed through the battery test function, relay contacts
	LED (red): Battery over-discharge warning or battery broken: light; battery OK: dark
Battery discharge	Relay status: Short when battery in discharge condition, relay contacts
	LED (yellow): Battery discharging: light; battery is not discharging or discharging current <2A: dark
Working temperature	-20~+70°C
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, ENV50204
Connection	I/P: 2 poles, O/P: 2 poles screw DIN terminal, Single output: 6 poles

## Redundancy Buffer Module UPS Battery Module



## **Redundancy Buffer Module Features:**

- Suitable for redundant operation of 24V system
- Installed on 35 x 7.5 mm or 35 x 15 mm DIN Rail
- Relay contact signal output and LED indicator for input failure alarm
- Cooling by free air convection
- 3 year warranty

## **UPS Battery Module Features:**

- Battery controller for DIN Rail UPS system
- Installed on 35 x 7.5 mm or 35 x 15 mm DIN Rail
- Parallel connection to DC BUS
- Suitable for 24V system up to 40A
- Built-in battery test function
- Battery polarity protection
- Relay contact signal output and LED indicator for DC BUS OK, battery fail and battery discharge
- Cooling by free air convection
- 3 year warranty



Similine single plias

Altech Corp.

Ľ.

## Accessories

• REDUNDANCY BUFFER MODULE

UPS MODULE

RoHS DE CE

## **Power Supply Redundancy Buffer Module**

PS-RDN20 is a 20A redundancy (decoupling) module for the 24V DC power system. Containing 2 sets of 20A Oring diodes with excellent heat dissipation deployment. PS-RDN20 give you a new option for safe connection of 1+1 redundant set-up. Not only perfectly decouple power sources from each other as well as from the load, PS-RDN20 also provides users monitoring signals for both input channels through the built-in relays. Since there's no switching components inside the module, PS-RDN20 will not arise additional EMI issues and should provide you a worry-free application platform!

Cat. No.	Voltage Range	Current Range	NOTES
PS-RDN20	21-28V DC	0-20A	
Connection: Te	rminal 1 - 4 poles Termir	al 2 - 6 poles	

Connection: Terminal 1 - 4 poles, Terminal 2 - 6 poles Size (WxHxD): 55.5x125x100mm (2.19x4.95x3.95 inches) Packaging: 1/box; 1.1lbs / 0.5Kg

DC Fail Block Diagram



## 40 AMP UPS Battery Controller

PS-UPS40 is a 40A max. DC UPS (battery control) module for the 24 V DC power system. Accompany with external batteries, it can back-up up to 40A of current to critical loads for certain period of time depending on the capacity of batteries. With complete monitoring signals and LED indicators for DC BUS OK, Battery Fail, Battery Discharge and the repeated Battery Test function to check the situation of external batteries. Users can customize their own DC UPS system to back up critical loads and capture the status of the whole system easily.

Cat. No.	Voltage Range	Current Range	NOTES
PS-UPS40	21-29V (Battery) 24-29V (DC)	0 - 40A	
Connection: To	rminal 1 / nolos Tormin	al 2 6 polos	

Connection: Terminal 1 - 4 poles, Terminal 2 - 6 poles Size (WxHxD): 55.5x125x100mm (2.19x4.95x3.95 inches) Packaging: 1/box; 1.21lbs / 0.55Kg

## **SPECIFICATIONS**



## **PS-RDN20** Series



#### Terminal Pin. No Assign. (TB1) Pin No. Assignment 1 Vout+ 2 Vout-Vin-3,4 5 Vin B+ 6 Vin A+

Terminal Pin. No Assign. (TB2) Pin No. Assignment Alarm B1 1 Alarm B2 2 3 Alarm A1 Alarm A2 4

#### Applications:

1.1+1 Redundancy Using 1 more PSU as the redundant unit



Vin A



2. 1+N Redundancy: Using more PSUs as the redundant units to increase the reliability



50

70

60

(VERTICAL)



## **PS-UPS40 Series**



Terminal Pin. No Assign. (TB1) Pin No. Assignment BATTERY INPUT + 1 2 BATTERY INPUT -DC INPUT -3 4

Terminal Pin. No Assign. (TB2) Pin No. Assignment BAT DISC 1 1 2 BAT DISC 2 3 BAT OK 1

DC OK 2

6

#### 1. Backup connection for AC interruption



DC INPUT +

4 BAT OK 2 5 DC OK 1

## 2. Combine redundancy module (PS-RDN20) to back up AC interruption or failure of PSU

20

30

AMBIENT TEMPERATURE (°C)

40

50

60



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

20

**Derating Curve** 

100

80

60

40

-10

PSU

Vin A

0

PSU

¥

Vout

¥

**Derating Curve** 

100

80

40

20

-10

0 10

LOAD (%) 60 Vin B

10

20

30

AMBIENT TEMPERATURE (°C)

40

LOAD (%)

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

Accessories



70 (VERTICAL)

Iciency housing

## PS-RDN20 Specifications

V

RoHS

CE



- Suitable for redundant operation of 24V system
- Installed on DIN Rail TS35 / 7.5 or 15
- Relay contact signal output and LED indicator for input failure alarm
- Cooling by free air convection
- 3 year warranty
- **PS-RDN20** Cat. No. **OUTPUT REVERSE VOLTAGE (max.)** 30V OUTPUT CURRENT (max.) 20A **VOLTAGE DROP** 0.5V LED INDICATORS Two green LED's indicating each input is OK or fail INPUT INPUT VOLTAGE RANGE 21 ~ 28V NUMBER OF INPUTS Two INPUT CURRENT (max.) 20A per input **FUNCTION** INPUT VOLTAGE ALARM When input is  $\geq$  20V (±5%) or  $\leq$  30V (±5%) relay contacts **RELAY CONTACT RATING (max.)** 30VDC, 1A **ENVIRONMENT** WORKING TEMP. -20 ~ +70°C WORKING HUMIDITY 20 ~ 90% RH non-condensing STORAGE TEMP., HUMIDITY -40 ~ +85°C, 10 ~ 95% RH VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, 60 min. each long X,Y, Z axes MOUNTING Compliance to IEC60068-2-6 **SAFETY & EMC** WITHSTAND VOLTAGE Terminal- Chassis: 0.5KVAC, Relay Contacts- Terminal: 0.5KVAC ISOLATION RESISTANCE Terminal- Chassis: ≥100M Ohms / 500VDC (25°C; 70% RH) EMI CONDUCTION & RADIATION Compliance to EN55022 (CISPR22) Class B EMS IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8; ENV50204; heavy industry level; criteria A, **OTHERS** MTBF 996.8Khrs min. MIL-HDBK-217K (25°C) DIMENSION 55.5x125.2x100mm (WxHxD) PACKING 0.5Kg; 20pcs / 11Kg / 1.29CUFT All parameters NOT specially mentioned are measured at 24V DC input, rated load and 25°C of ambient temperature.

## Altech Corp."

### **Mechanical Specification**



Terminal	Pin. No Assignment (	TB1)
Pin No.	Assignment	
1	Vout+	
2	Vout-	
3,4	Vin-	
5	Vin B+	
6	Vin A+	

Terminal	Pin. No Assignment (	ГВ2)
Pin No.	Assignment	
1	Alarm B1	
2	Alarm B2	
3	Alarm A1	
4	Alarm A2	

**Block Diagram** 



**Derating Curve** 



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.

Accessories

## PS-UPS40 Specifications

No

RoHS

Œ

### Features:

- Battery controller for DIN Rail UPS system
- Parallel connection to DC BUS
- Suitable for 24V system up to 40A
- Installed on DIN Rail TS35/ 7.5 or 15
- Built-in battery test function
- Battery polarity protection
- Relay contact signal output and LED indicator for DC BUS OK,
- Battery fail, and battery discharge
- Cooling by free air convection
- 3 year warranty

DC INPUT /	Cat. No.	PS-UPS40
DC BUS	DC VOLTAGE (Typ.) RATED CURRENT	24 ~ 29V 40A
BATTERY		
OUTPUT	VOLTAGE RANGE (Typ.) CURRENT RANGE	21 ~ 29V 0 ~ 40A
_	CHARGE CURRENT (Typ.)	2A
- 1	EXTERNAL BATTERY (Typ.)	4 / 7 / 12AH / 24V
	RELAY CONTACT RATING (max.)	30VDC, 1A
	DC BUS OK	Relay contact: Short when DC voltage between 21 $\sim$ 29V (±3%), relay contacts
	BATTERY FAIL	LED (Green): DC BUS OK: light; DC BUS fail: dark Relay contact: Short when battery failure is observed through the battery test function, relay contacts
		LED (Red): Battery over- discharge warning or battery broken: light; Battery OK: dark Every 25 seconds, unit will send out test signal through Battery Fail relay contact and LED indicator
		once the battery is fail.
	BATTERY DISCHARGE	Relay contact: Short when battery in discharge condition, relay contacts LED (Yellow): Battery discharging: light; Battery is not discharging or discharging current $\leq$ 2.0A: dark
	WORKING TEMP.	-20 ~ +70°C
	WORKING HUMIDITY	20 ~ 90% RH
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60 min. each long X,Y, Z axes
	MOUNTING	Compliance to IEC60068-2-6
	WITHSTAND VOLTAGE	Terminal- Chassis: 0.5KVAC, Relay Contacts- Terminal: 0.5KVAC
	ISOLATION RESISTANCE	Terminal- Chassis: ≥100M Ohms / 500VDC (25°C; 70% RH)
1	EMI CONDUCTION & RADIATION EMS IMMUNITY	Compliance to EN55022 (CISPR22) Class B Compliance to EN61000-4-2,3,4,5,6,8; ENV50204; heavy industry level; criteria A
	MTBF	161.9Khrs min. MIL-HDBK-217K (25°C)
- 1	DIMENSION	55.5x125.2x100mm (WxHxD)
- 1	PACKING	0.55Kg; 20pcs / 12Kg / 1.29CUFT
		All parameters NOT specially mentioned are measured at rated load and 25°C of ambient temperature.

## Altech Corp."

### **Mechanical Specification**



Terminal Pin. No Assignment (TB1)

1         BATTERY INPUT +           2         BATTERY INPUT -           3         DC INPUT -           4         DC INPUT +	Pin No.	Assignment
3 DC INPUT -	1	BATTERY INPUT +
	2	BATTERY INPUT -
4 DC INPUT +	3	DC INPUT -
	4	DC INPUT +

Terminal Pin. No Assignment (TB2)						
Pin No.	Assignment					
1	BAT DISC 1					
2	BAT DISC 2					
3	BAT OK 1					
4	BAT OK 2					
5	DC OK 1					
6	DC OK 2					

### **Block Diagram**



**Derating Curve** 



Accessories

2

## Accessories POWER SUPPLIES

## **DIN MOUNTING RAILS**

Altech DIN Rails comply with DIN 50045, 50022 and 50035 Standards. The use of DIN Rails enhances design capabilities, saves space and reduces labor.

Standard rails are made of steel with zinc plating and chromate passivation and are available in various configurations.

DIN Rails are 35mm wide and available in 7.5 and 15mm depths. They are supplied in 1 m (3'3") and 2 m (6'6) lengths. Upon request they can be cut to custom lengths and punched with holes or perforations.



### SUPPORT BRACKETS

Support Brackets elevate DIN Rails away from the panel to facilitate component mounting and to increase wiring access. Angled brackets tilt the rail by 45° to improve visibility. Straight brackets are available in three heights for optimum positioning of the rail.

Brackets mount with 2 screws to any panel or flat surface and have tapped center holes for rail mounting. Bracket material is steel, zinc plated yellow chromate.



For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

## Altech Corp."

σ

## **END STOPS and SPACER**

End Stops prevent power supplies and other DIN Rail mount components and devices from moving laterally on the rail. They are available in polyamide 6.6 and metal configurations for 35mm DIN rails.

CA802 is a small endstop for the smaller power supplies. CA202 is a large endstop for larger power supplies. CA302 is used with 7.5mm deep DIN rail and the CA402 is used with 15mm deep rail.

DIN Rail mountable spacers (CASP and 15.960) are generally used to ensure cooling space for the small power supply.

C/	A202	CA802		CA	302	CA	402	CA	SP	15.960		
No. of Lot of Lo		Æ	-	J.	-	-		Ģ	7	D	t	
Polyamide	6.6	Polyamide	6.6	Steel		Steel		Polyamide 6	i.6	Polyamide 6	.6	
44.5 x 50 x	5 x 50 x 9.5 mm 32 x 45 x 8 mm 27 x 39.5 x 16 mm		27 x 39.5 x	16 mm	29 x 43 x 8	mm	69 x 55 x 9	mm				
Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. P	
CA202	50	CA802	50	CA302	50	CA402	50	CASP	50	15.960	10	

## **GROUND BLOCKS for DIN Rail**

Use ground blocks instead of grounding studs and wire lugs to terminate ground wires, saving installation and wiring time.

Ground blocks clamp mechanically onto the DIN Rail by tightening the center mounting screw, making a reliable electrical connection between the cage clamp terminals and the DIN Rail. The rail serves as a busbar and automatically distributes ground potential to all other ground terminals on the same rail.

Ground blocks can also be used as end stops, preventing other terminal blocks and components from moving laterally on the DIN Rail. They are supplied with a standard green/yellow housing for easy identification.	CGT4N	CGT6N	CGT10U
	CE	CE	CE AEx eII EEx eII
Terminal Width	6 mm	8 mm	10 mm
Height x Length	45.4 x 54.2 mm	47 x 54.5 mm	49.5 x 45 mm
Stripping Length	9 mm	12 mm	12 mm
Insulation Material	Polyamide 6.6	Polyamide 6.6	Polyamide 6.6
Type of Connection	2 screw clamps	2 screw clamps	2 screw clamps
Approvals			
Wire Range	22-10 AWG 0.5-4 sq.mm 22-10 AWG	22-8 AWG 1.5-6 sq.mm 22-8 AWG	22-6 AWG 1.5-10 sq.mm 16-8 AWG
Torque	7 lb-in 0.8 Nm 7 lb-in	14 lb-in 0.8 Nm 14 lb-in	14 lb-in 1.2 Nm 14 lb-in

# Frequently Asked Questions

#### Notes on choosing a switching power supply?

• To increase the reliability of the switching power supply, we suggest users choose a unit that has a rating of 30% more power than actual need. For example, if the system needs a 90W source, we suggest that users choose a switching power supply with 120W of output power or more. By doing this, you can effectively boost the reliability of the switching power supply in your system.

• We also need to consider about ambient temperature of the switching power supply and whether there is additional device for dissipating the heat. If the switching power supply is working in a high temperature environment, we need to make some derating to the output power. The derating curve of "ambient temperature" versus "output power" can be found on our spec sheets.

- · Choosing functions based on your application:
  - Protection function:
    - Overvoltage Protection (OVP)
    - Overtemperature Protection (OTP)
    - Overload Protection (OLP)
    - Short Circuit Protection (SCP)
  - Application function:
    - Signaling Function (Power Good, Power Fail)
    - DC OK Signal
  - · Special function:
    - Power Factor Correction (PFC)
    - Uninterruptible Power Supply (UPS) function
    - · Pick Load Capability
    - Make sure that the model qualifies for the safety standards and EMC regulations you need.

#### How do we choose a power supply to charge a battery?

ALTECH does not have power supplies designed for battery charging. If you like to choose a Power Supply as a battery charger, our advice is to pick a power supply with over load protection (OLP) which mode is constant current limiting. The models in this mode provide constant current even when the protection circuit is triggered. The second choice is fold-back current limiting or constant wattage model. In this model, when a battery is running low, the output current of the power supply will gently increase. The level of increase depends on battery's capacity and degree of exhaustion.

Hiccup or shut down model are not recommended because it will stop to generate current when OLP happens.

#### Does Altech carry class 2 power supplies?

Selected models of the Altech slim line series (PS-S...) is NEC class 2 / LPS compliant, but they are not UL1310 tested. More information can be found on the individual specification sheets.

#### Can ALTECH's power supply be used in the range of 45Hz ~ 440Hz? If YES, what will happen?

ALTECH's power supply can be used within this frequency range. But if the frequency is too low, the efficiency will also be lower. For example, when a PS-12024 is operated under 230VAC and rated load, if the frequency of AC input is 60 Hz, the efficiency is around 84%; however, if the frequency of AC input reduces to 50 Hz, the efficiency will be around 83.8%. If the frequency is too high, the power factor of the switching power supply with PFC (power factor correction) function will reduce and this also will cause higher leakage current. For example, when a PS-12024 is operated under 230VAC and rated load, if the frequency of AC input is 60 Hz, the power factor is 0.93 and the leakage current is around 0.7mA; however, if the frequency of AC input increase to 440 Hz, the power factor will decrease to 0.75 and the leakage current will rise to around 4.3mA.

## If we need a 24V output power supply, but ALTECH does not have this model, can we use two 12V power supplies connecting in series instead of one 24V power supply?

YES, basically you can do this to get the right output voltage, but be careful that the rated output current of the series system should be the rating of the minimum one in these series connected power supplies. Furthermore, we like you to parallel a diode at the output of power supply to prevent possible damage of internal capacitors.



#### Why I cannot turn on the power supply smoothly when the loads are motors, light bulbs or capacitive loads?

If you connect the switching power supply to motors, light bulbs, or high capacitive loads, you will have a high output surge current when you turn on the S.P.S. and this high surge current will cause failure of start up. We suggest using switching power supply with over load protection and constant current limiting protection to deal with these loads.

#### Why did the power supply shuts down during operation and after turning it off, I can restart the power supply again?

In general there are two circumstances that will cause the power supply to shut down. The first one is the activation of the over-load-protection (OLP). To deal with this situation, we suggest increasing the rating of the output power or modifying the OLP point. The second one is the activation of over-temperature protection (OTP) when the internal temperature reaches the pre-set value. All of these conditions will let the switching power supply enter protection mode and shut down. After these conditions are removed, the switching power supply will be back to normal.

#### The output ground (GND) and frame ground (FG) is the same point in my system, can ALTECH's power supplies be used in such system?

Yes. Since our products are designed based on isolation concept, it will be no problem that the output ground (GND) and frame ground (FG) is the same point in your system. But, EMI may be affect by this connection.

### During the operation of ALTECH power supply, there is some leakage current on the case. Is this normal? Will this leakage current hurt human body?

Due to the requirement of EMI, there will be some Y capacitors between line and neutral to the FG (case) to improve EMC. These Y capacitors will cause some leakage current flow from line or neutral to the case (normally case will be connected to earth ground). For example, IEC-60950-1 requires that this current should be less than 3.5mA for IT equipment, so basically the leakage current you find on the case will not hurt human body. Proper connection to Earth ground will solve the leakage current problem.

#### What should be noticed when installing a power supply in vertical and horizontal directions?

Most small wattage power supplies are mainly installed in the horizontal position. If you have to install it vertically because of mechanical limitation, you should consider the output derating due to the heat concern. The temperature derating curve can be found on the spec sheet.

### What is "Input - Inrush Current"? What will we notice?

At input side, there will be  $(1/2 \sim 1 \text{ cycle}, \text{ ex. } 1/120 \sim 1/60 \text{ seconds for 60 Hz AC source})$  large pulse current  $(20 \sim 60A \text{ based on the design of S.P.S.})$  at the moment of power on and then back to normal rating. This "Inrush Current" will appear every time you turn on the power. Although it will not damage the power supply, we suggest not turning the power supply ON/OFF very quickly within a short time. Besides, if there are several power supplies turning on at the same time, the circuit breaker of AC source may shut off and go into protection mode because of the huge inrush current. It is suggested that these power supplies start up one by one if possible.

#### What is PFC?

PFC stands for Power Factor Correction. The purpose of PFC is to improve the ratio of apparent power and real power. The power factor is only 0.4~0.6 in non-PFC models. In PFC models, the power factor can reach above 0.95. The calculation formulas are as below:

Apparent Power=Input Voltage x Input Current (VA)

### Real Power= Input Voltage x Input Current x Power Factor (W)

From the environment friendly point, the electric power plant needs to generate a power which is higher than apparent power in order to steadily provide electricity to the market. The real usage of electricity should be defined by real power. Assuming the power factor is 0.5, the power plant needs to produce more than 2VA to satisfy 1W real power. On the contrary, if the power factor is 0.95, the power plant only needs to generate more than 1.06VA to provide 1W real power need. It will be more effective.

#### What is the difference between -V, +V and COM which are marked on the output side? COM(COMMON) means common ground.

Single output: Positive pole (+V), Negative pole (-V)

+V; COM and -V can be attained by using two switching power supplies in series. Example: (2x PS-S2012)

### In ALTECH's catalog, we see AC and DC at input, what is it all about?

Due to different circuit designs, ALTECH power supply's input consists of three types as below:

 $(\sqrt{2}=1,414 \rightarrow 1.414 \text{ x AC} = \text{DC})$ A.85~264VAC;120~370VDC

B.176~264VAC;250~370VDC

C.85~132VAC/176~264VAC by Switch; 250~370VDC

- In the case of option A and B inputs models, power supply can work properly no matter under AC or DC input. Some models need correct connection of
  input poles, positive pole connects to AC/L; negative pole connects to AC/N. Others may require opposite connection, positive pole to AC/N; negative
  pole to AC/L. If customers make a wrong connection, the power supply will not be broken. You can just reverse the input poles and power supply will
  still work.
- In the case of option C input models, please make sure that you switch the 115/230V input correctly. If the switch is on the 115V side and the real
  input is 230V, the power supply will be damaged.



93

# **Frequently Asked Questions**

## Why the input voltage marked on the spec. sheet is 88~264 VAC while the label on the power supply says that it is 100~240VAC?

During safety verification process, the agency will use a stricter standard  $-\pm 10\%$  (IEC60950 uses +6%, -10%) of the input voltage range labeled on the power supply to conduct the test. So, operating at the wider input voltage range as specified on the spec. sheet should be fine. The narrower range of input voltage labeled on the power supply is to fulfill the test standard of safety regulation and make sure that users insert input voltage correctly.

### Will ALTECH's products with CE marking meet the EMC requirements after assembling into my system?

We cannot guarantee 100% that the final system can still meet the EMC requirements. The location, wiring and grounding of the switching power supply in the system may influence its EMC characteristics. In different environment or applications, the same switching power supply may have different outcomes. Our test results are based on setup shown in the EMC report.

#### What is different between information (EN60950-1) and medical (EN60601-1) safety standard?

According to safety standard, the leakage current in EN60950-1 Class I cannot exceed 3.5mA. Many of ALTECH's power supplies meet this requirement but may not meet the EN60601-1. Others criteria like safe distance and numbers of fuse are also different. Please consult the diagram below:

Subjects		IEC60950-1	IEC60601-	1		
Creepage distance/ Clearance distance	Basic Insulation	2.5mm/2mm	4mm/2.5mm			
Working Voltage: Max. 250Vrms	Supplementary Insulation	5mm/4mm	8mm/5mm			
	Basic Insulation	1500Vac	1500Vac			
Electric Strength Test	Supplementary Insulation	3000Vac	4000Vac			
		Handheld: 0.75mA	_			
	CLASS I		Leakage current of grounding	0.3mA		
Leakage Current		Others: 3.5mA	Leakage current of grounding	0.1mA		
	CLASS II	0.25mA	Leakage current of grounding	0.1mA		
Number of Fuse		1	2			
The Lowest Ambient Temperature		Refer to the definition of Manufacturer	40°C			

#### What is MTBF? Is it different from Life Cycle?

MTBF and Life Cycle are both indicators of reliability. Altech uses MIL-HDBK-217F as the core of MTBF. An expected reliability is forecasted through accounting component's number. The exact meaning of MTBF is after continuously using of power supply in a certain time, the probability of operating properly is 36.8% (e-1=0.368). If power supply is continuously used at double the MTBF time, the probability of operating properly becomes 13.5% (e-2=0.135). Life Cycle is found through using the temperature rise of electrolytic capacitor to estimate the approximate life of power supply. For example, PS-S10 series MTBF=584K hours; electrolytic capacitor C108 Life Cycle=202K hours (Ta=45° C).

### POWER SUPPLY LEGAL DISCLAIMER

Power supply data sheet specifies devices but can not promise to deliver any specific characteristics. No warranty or guaranty is given regarding performance or suitability. The customer shall test and ensure that each power supply would work for the anticipated use. Altech Corp. reserves the right to make modification to its power supply data sheets or specifications at any time without prior notice. Please visit www.altechcorp.com/power for more information.

## **Selection Guide**

## Altech Corp.®

										out	Pec Clas		npliar	<b>X</b>	Å	L.				e.
								input inch Se	508 L	sted .	Class Ct		¢۵ (	ach DC	nplian	ove ove	jii ,	er Volte	de a	perature CB
		Out	out v	oltag	е	ä	versa	itch	508	60950	CC12	mark	500 105	ach C	ot	Cill <sup>2</sup>	un on	ar Volt	ren	с <sub>А</sub>
	5	12	15	24	48		୍ୟୁ		\ ال ′	4	¥ی ک	\$°C	)	ς Ο				04		
PS-S10xx	X	X	X	X		X		Х		Х	Х	Х	X	SIG	Х	Х	Х		Х	X
PS-S20xx	X	X	X	X		X		Х		Х	Х	Х	X	SIG	Х	Х	Х		Х	X
PS-S40xx	X	X		X	X	X		Х	Х	Х*	Х	Х	X	Х	Х	Х	Х		Х	X
PS-S60xx	X	X		X	X	X		Х	Х	Х*	Х	Х	X	Х	Х	Х	Х		Х	X
PS-S100xx		X		X	X	Х		Х		Х*	Х	Х	X	Х	Х	Х	Х	Х	Х	Х
PS-15xx	X	X	X	X		Х			Х		Х	Х	X		Х	Х	Х		Х	X
PS-30xx	X	X	X	X		Х			Х		Х	Х	X		Х	Х	Х		Х	X
PS-45xx	X	X	X	X		Х		Х			Х	Х	X		Х	Х	Х	Х	Х	X
PS-60xx	X	X	X	X		Х			Х		Х	Х	X		Х	Х	Х		Х	X
PS-100xx		X	X	X		Х			Х		Х	Х	X		Х	Х	Х	Х	Х	X
PS-75xx		Х		X	X	Х		Х			Х	Х	X		Х	Х	Х	Х	Х	Х
PS-120xx		X		X	X		Х	Х	Х		Х	Х	X		Х	Х	Х	Х	Х	X
PSH-120xx				X	X	Х			Х		Х	Х	X		Х	Х	Х	Х	Х	X
PSP-240xx				X	X	Х		Х	Х		Х	Х	X		Х	Х	Х	Х	Х	X
PSP-480xx				X	Х	V		Х	Х		Х	Х	X		Х	Х	Х	Х	Х	Х
PSP-480Sxx				X	X		Х	Х	Х		Х	Х	X		Х	Х	Х	Х	Х	X
PST-240xx				X	Х	TP		Х	Х		Х	Х	Х		Х	Х	Х	Х	Х	Х
PST-480xx				X	X	TP		Х	Х		Х	Х	X		Х	Х	Х	Х	Х	X
PST-960xx				X	X	TP		Х	Х		Х	Х	X		Х	Х	Х	Х	Х	X
PST-960Pxx				X	X	TP		Х	Х		Х	Х	X		Х	Х	Х	Х	Х	X
PS-C120xx		Х		X	Х	Х		Х			Х	Х	X	Х	Х	Х	Х	Х	Х	Х
PS-C240xx				X	X	Х		Х			Х	Х	X	Х	Х	Х	Х	Х	Х	X
PS-C480xx				X	X	Х		Х			Х	Х	X	Х	Х	Х	Х	Х	Х	X
PS-C480Pxx				X	X	Х		Х			Х	Х	X	Х	Х	Х	Х	Х	Х	X
PSW-120xx		X		X	Х	WR		Х			Х	Х	X	Х	Х	Х	Х	Х	Х	Х
PSW-240xx				x	x	WR		х			х	Х	x	х	х	Х	Х	х	х	x
PSW-480xx				x	x	WR		х			х	Х	x	х	х	Х	Х	х	х	x
PS-RDN			ı 21-2								Х	Х	x						Х	
PS-UPS			21-2								Х	Х		DBO					Х	

TP = three phase inputWR = wide range input  $X^*$  = selected items, see data sheet SIG = DC OK signal

 $\label{eq:V} \begin{array}{l} V = 220V \text{ INPUT ONLY} \\ \text{DBO} = \text{DC bus OK} \end{array}$ 

95

## Part No.

Index

Page	
гаус	10

Fait NO.	Faye
PS-10012	
PS-10015	
PS-10024 PS-12012	
PS-12012	
PS-12024	
PS-1505	
PS-1512	
PS-1515	
PS-1524	
PS-3005	
PS-3012	
PS-3015	
PS-3024	
PS-4505	,
PS-4512	
PS-4515	
PS-4524	
PS-6005	
PS-6012	
PS-6015	
PS-6024	
PS-7512	
PS-7524	
PS-7548	
PS-C12012	62, 64
PS-C12024	62, 64
PS-C12048	62, 64
PS-C24024	62, 66
PS-C24048	62, 66
PS-C48024	62, 68
PS-C48048	62, 68
PS-C480P24	62, 70
PS-C480P48	
PS-RDN20	
PS-S10012	
PS-S10024	
PS-S10048	
PS-S1005	
PS-S1012	
PS-S1015	
PS-S1024	
PS-S2005	
PS-S2012	
PS-S2015	
PS-S2024	
PS-S4005	
PS-S4012	
PS-S4024 PS-S4048	
1 0-04040	0, 14

Part No.	Page	
PS-S6005		16
PS-S6012	8,	16
PS-S6048	8,	16
PSH-12024		42
PSH-12048		42
PSP-24024.		44
PSP-24048.		44
PSP-48024.	46, 4	48
PSP-48048.		48
PSP-480S24	446, 5	50
PSP-480S48	346, 5	50
PST-24024.		54
PST-24048.		54
PST-48024.		56
PST-48048.		56
PST-96024.		58
PST-96048.		58
PST-960P24		58
PST-960P48		58
PSW-12012	74, 1	76
PSW-12024	74, 1	76
PSW-12048	74, 1	76
PSW-24024	74, 1	78
PSW-24048	74, 1	78
PSW-48024	74, 8	80
PSW-48048	74, 8	80
Accessories		
	1	
2511120/1N	1	90
	M	
	5-2M	

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

uuuu	Altech Corp.
All of your Altech	
Altech	•v -v 85
POWER SUPPLY	BRANK STR
Information Online	Altech
visit	20-307-00 doctored_com Con-10-4 S_S-07-04
www.altechcorp.com/PC	WFR water
	© H 4
CREARED OF CREARE CONTENT         Image: Content of C	9 Specification sheet           9 roduct Photo           9 roduct Photo </th
Match Model Properties (1) (DENOTO In an Address of the Control of the Control (1) (DENOTO In an Address of the Control of the Control of the Control of the Control of the Contro	

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490