Amphenol SOCAPEX



The PSMDPCBU48P175-X is a series of mechanically robust, high performance, power supplies, designed for Ground Mobile (MIL-STD-1275), Airborne (MIL-STD-704) and other Hi-Reliability applications where 28VDC has to be converted to a tightly regulated, filtered and protected DC outputs.

Standard Models List (for other voltages - consult factory)

	Input	Output 1		Output 2	
Part number	Voltage range	Voltage	Current	Voltage	Current
PSMDPCBU48P175-2	18 to 48 V _{DC}	$12 V_{\text{DC}}$	10 A	$5.5 V_{\text{DC}}$	10 A

- Additional standard configurations available. Contact factory for more details.
- All of our products can be configured to comply with EU REACH regulations. **Contact factory** for more details.

THE MAIN FEATURES OF THE PSMDPCBU48P175-X ARE:

- > DC/DC Dual outputs power supply up to 175W
- > 18 to 48 VDC Standard Input version
- > Miniature size
- High efficiency
- Wide input range
- Input / Output isolation
- > I2C temperature reading
- External On/Off Inhibit
- > Fixed switching frequency (250 kHz)
- > External synchronization capability

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- > EMI/RFI filters included
- > Reverse Polarity Protection
- > Indefinite short circuit protection with auto-recovery
- > Over-voltage shutdown with auto-recovery
- > Over temperature shutdown with auto-recovery

Markets & Applications





Telecom, Industrial

PS SERIES: PSMDPCBU48P175-X

SPECIFICATIONS:

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DC Input	Voltage Range	DC Input range: 18 to 48 VDC per MIL-STD-704F No damage for: MIL-STD-1275A (100V for 50mSec) MIL-STD-704A (80V for 0.1 Sec) For extended input version - Please contact factory for more details		
	Isolation	200V between Input and Output 200V between Input and Case		
	Inrush Current Limiter	peak value of 5 x lin for less than 50µSec		
	Under voltage protection	unit protects itself (no damage) below 16.5Vdc		
	Load Transient Overshoot and undershoot	Output resistance at load change of 50%-100% is 30-120mOhm (depending on output voltage). Output back to steady stated within 300-500µSec		
	Turn on Transient	Voltage overshoot during power on is less than 3% nominal voltage		
	Rating	See table Outputs Range on page 6		
	Voltage Regulation	Less than 2% (no load to full load, –55°C to +85°C).		
	Ripple	Less than 50mVp-p, typical (max. 1%) @ Input Voltage of 18V-30 without external capacitance. When connected to system capacitance ripple drops significantly.		
DC	Isolation	100V between Output and Case		
Output	Current Limit & Overload	Continuous protection (10-30% above maximum current) for unlimited time (Hiccup).		
	Efficiency	84% - Typical (full load, room temperature)		
	Overvoltage Protection	Passive transorb on outputs – 20% above nominal voltage and or active protection		
	Over Temp. Protection	Shutdown at internal temperature of +95°C (±5°C) Automatic recovery at baseplate temperature lower than +85°C (±5°C)		

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Specifications (Cont.):

	INHIBIT Input	The INHIBIT signal is used to turn the power supply ON and C TTL "1" or OPEN – will turn on the power supply. (For norma operation leave the signal not connected.) TTL "0" – will turn the power supply.		
Control & Indication	SYNC IN signal	 The SYNC IN signal is used to allow the power supply frequence to sync with the system frequency. The system frequency should be 250 kHz ± 10 kHz. When not connected the power supply will work at 250 kHz Referrer to 12V RTN 		
	Communication and control	I2C		
Environment Designed to meet MIL- STD-810F	Temperature	Operating: –55°C to +85°C (baseplate) Storage: –55°C to +125°C		
	Humidity	Method 507.4 - Up to 95%		
	Salt-fog	Method 509.4		
	Altitude	Method 500.4, Procedure I & II, 40,000 ft. and 70,000 ft. Operational		
	Mechanical Shock	Shock - Saw-tooth, 20g peak, 11mS		
	Vibration	Vibration - Figure 514.5C-17. General minimum integrity exposure. (1 hour per axis.)		
	Fungus	Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4.		
EMI	MIL-STD-461F	Design to meet or exceed* MIL-STD-461F CE102, CS114, CS115, CS116, RS101, RS103		
Reliability	150,000 hours, calculated per MIL-STD-217F at +85°C baseplate, Ground fixed.			
Form factor	46" wide, 22" high and 127" deep. For detailed dimensions and tolerances see Drawing: MSCD000725			
Weight	Type: 254 gram			
Connectors	See table PIN ASSIGNMENT on page 6			

* Compliance achieved with 5μ H LISN, shielded harness and static resistive load.

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PIN ASSIGNMENT:

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Pin Number	Function
Output 1	12V
Output 1 RTN	12V RTN
Output 2	5.5V
Output 2 RTN	5.5V RTN
SYNC	External clock
SDA	Temperature DATA
SCL	Temperature CLOCK

Pin Number	Function
INHIBIT	Normally Open
Vin	Power Vin
Vin RTN	Power RTN

FUNCTIONS AND SIGNALS

SDA -I2C DATA LINE, Referrer to 12V RTN SCL -I2C CLK LINE, Referrer to 12V RTN

DC OUTPUTS RANGE:

Output #	Voltage Range	Current Range	Power Range
1	3.3-12 VDC	Max 10A	120W
2	1.2-5.5 VDC	Max 10A	55W
Total			175W

OUTLINE DRAWING:

For detailed dimensions and tolerances see Drawing: MSCD000725



PS SERIES: PSMDPCBU48P175-X

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HEAT DISSIPATION:

Heat Dissipation Area 5550 mm²

Notes

- Dimensions are in inches [mm]
 Tolerance is:
 - .XX ±0.01 IN .XXX ±0.005 IN
- 3. Weight: Approx. 254 g (8.96 oz)

Note: Specifications are subject to change without prior notice by the manufacturer.

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