

PS SERIES 400 Hz - 60 Hz FREQUENCY CONVERTER



MODEL NUMBER: PS-94-444-12
U.S. PATENT NO. 6,178,101

INPUT:

Voltage Range	115/200 VRMS $\pm 10\%$
Configuration	3-Phase, wye, grounded neutral
Frequency Range***	30 to 600 Hz
Power Factor	≥ 0.99
Input Current Distortion	$\leq 5\%$ at nominal input voltage and full rated load
Protection	Circuit breaker, over/undervoltage, loss of phase, overcurrent
Phase Rotation	Any

OUTPUT:

Power*	3.5 kVA continuous
Overload	125% for 5 minutes, 175% for 10 seconds
Configuration	Single phase
Voltage	115 VRMS $\pm 1.0\%$
Frequency	60 Hz $\pm 0.1\%$
Distortion	2% THD maximum
Power Factor Range	0.8 lagging to 0.8 leading (not damaged by any power factor load)
Efficiency	89% typical at full load rating
Protection	Over/undervoltage, overload, short circuit

ISO 9001



Registered to ISO 9001:2000

APPLICATION:

Since its beginning in 1960, Unitron has focused on the design and development of reliable solid-state power systems. The PS Series is the sixth generation in a family of frequency converters, which has seen extensive military and commercial use. The product line is used in research laboratories, production line testing, onboard aircraft and ships, and in many other applications where precise AC power is required. The series is unique in its ability to operate from any standard worldwide power source.

FEATURES:

Low Input Current Distortion • High Input Power Factor • StopLite BITE™ Self-Diagnostic System • Paralleling Option for Power Grid Expansion • High Reliability • Small Size and Light Weight • Remote Control • 36 Month Warranty

MECHANICAL:

Size	6" height, 9" width, 18" depth
Weight	30 lbs. dependent on options selected
Mounting	Hard mount or ARINC mount
Connectors	Input: MS3102R18-11P Output: MS3102R18-13S
Cooling	Self-contained fan (slow speed for low ambient noise)

ENVIRONMENTAL:

Temperature	MIL-STD-810E, Method 501.3, 502.3 (-25°C to +55°C operating; -40°C to +71°C storage)
Altitude	MIL-STD-810E, Method 500.3 (15,000 ft. operating, 45,000 ft. rapid decompression)
Explosion-Proof	MIL-STD-810E, Method 511.3
Shock	MIL-STD-810E, Method 516.4 (10g operational, 20g crash)
Vibration	MIL-STD-810E, Method 514.4
Humidity	MIL-STD-810E, Method 507.3 (95% RH max at 30°C)
EMI**	RTCA DO-160D, Section 20, 21

* Paralleling options available for power grid expansion.

** EMI option available IAW MIL-STD-461D/MIL-STD-462D.

*** Input frequency up to 800 Hz available upon request.

ADDITIONAL PS SERIES CONFIGURATIONS

INPUT FREQUENCY	OUTPUT FREQUENCY (Hz)			OUTPUT VOLTAGE		EMI		PARALLEL OPTION	NOTES	MODEL NUMBER
	50	60	400	VOLTS	CONFIG.	MIL-STD-461D	RTCA/DO-160D			
30 Hz to 600 Hz***	X	X	X	Selectable		X		X	1,2,3	PS-94-444-16
	X	X	X	Selectable		X		X	1,2,3,7	PS-94-444-21
	X	X	X	Selectable			X	X	1,2,3	PS-94-444-14
	X	X	X	Selectable		X		X	1,2	PS-94-444-18
	X	X	X	Selectable			X	X	1,2	PS-94-444-17
	X			115/230	1Ø		X			PS-94-444-7
		X		100	1Ø	X				PS-94-444-11
		X		115	1Ø	X				PS-94-444-12
		X		115	1Ø		X			PS-94-444-2
		X		115	1Ø	X		X	4	PS-94-444-4
		X		115	1Ø	X		X	5	PS-94-444-15
		X		115	1Ø		X	X	4	PS-94-444-10
		X		115	1Ø		X	X	5	PS-94-444-13
		X		115	1Ø	X			6	PS-95-448-1
		X		115/200	3Ø	X				PS-94-444-20
		X		115/200	3Ø		X			PS-94-444-5
		X		115/230	1Ø		X			PS-94-444-8
			X	115	1Ø		X			PS-94-444-3
			X	115/200	3Ø		X			PS-94-444-6
		X	115/200	3Ø		X	X		PS-94-444-19	

NOTES:

1. Programming plug (PP Series) or parallel cable (PPC Series) required to determine output frequency, voltage, configuration, and ground connection.
2. Two paralleled units require one PPC Series cable only. Three or more paralleled units require a parallel box (PB Series) in addition to one parallel cable for each unit.
3. Unit does not include circuit breaker.
4. Requires one PC-P1 type parallel cable for each unit.
5. Requires one PC-P3 type parallel cable for each unit. (Limit 3 units.)
6. Portable medevac configuration.
7. May be used with a programming paralleling control box (PCB Series) as an N+1 redundant system, or a power grid rated up to 17.5 kVA.

