

Single-Phase Static Frequency Converters

PXe-110000-S Series | 0.5kVA to 200kVA

PXe single-phase static frequency converters provide controlled AC voltage and frequency for laboratories, production test, imported equipment, export validation and specialist single-phase loads. Standard duties include 50Hz to 60Hz, 60Hz to 50Hz and selected 400Hz outputs.

The range uses solid-state AC-DC-AC conversion with IGBT PWM technology, transformer isolation, sine-wave output and front-panel monitoring. Compact units can be supplied for rack, bench or trolley use, while higher ratings are configured as floor-standing systems.



Typical compact single-phase SFC enclosure.

Where this product fits

Best suited where a single-phase load must be operated or tested at a voltage and frequency that do not match the available mains supply. The unit can also be specified with three-phase input where the rating or site arrangement makes this preferable.

Typical applications

Laboratory and bench testing, imported equipment operation, export validation, product compliance work, avionics workshops and specialist machinery.

Conversion duties

Common duties include 230V 50Hz to 115V 60Hz, 115V 60Hz to 230V 50Hz and 50/60Hz to selected 400Hz outputs.

Installation formats

Bench, 19-inch rack, trolley and floor-standing cabinet formats are available according to rating, protection level and site access.

Rated range

0.5kVA to 200kVA

Output phase

Single phase

Frequency options

50Hz, 60Hz, adjustable and specialist outputs

Control

Manual, RS232, RS485, Ethernet or GPIB

Selection starting point

Confirm the available input supply, required output voltage and frequency, continuous load rating, starting or inrush current, operating duty, installation format and any remote-control or test-automation requirements.

Configuration and model selection

A practical route from site supply and load data to the correct converter specification

1. Site supply Voltage, frequency and phase	2. Load kVA, load type and inrush	3. Output Voltage, frequency and adjustment	4. Installation Rack, trolley, cabinet and control
---	---	---	--

Typical rating bands

Rating band	Typical format	Common use	Selection note
0.5-3kVA	Bench / rack	Laboratory, small electronic loads and test benches	Confirm crest factor and transient demand
5-15kVA	Rack / trolley	Workshop equipment, imported machinery and validation rigs	Review motor or transformer starting current
20-50kVA	Trolley / cabinet	Production equipment and continuous technical loads	Three-phase input may be preferable
60-100kVA	Floor cabinet	Larger single-phase plant and facility test loads	Review cable entry, cooling and protection
150-200kVA	Project cabinet	High-power single-phase systems and multi-load test installations	Project-specific design and FAT recommended

Initial sizing guidance

Continuous electronic or resistive loads can usually be sized from the verified kVA requirement. Motors, compressors, transformers and rectifier-fed loads may require additional capacity. PX reviews starting current, duty cycle and transient demand before confirming the rating.

Voltage arrangement

Fixed outputs are available at common single-phase voltages. Adjustable 0-150Vac and 0-300Vac ranges can be supplied where variable test conditions are required.

Load behaviour

Provide power factor, crest factor and inrush information where available. Unknown starting current can materially affect the recommended converter rating.

Enclosure and mobility

IP22 is standard, with IP32, IP54, conformal coating, castors, lifting handles and project-specific cable entry available.

Interfaces and monitoring

Optional RS232, RS485, Ethernet, GPIB, LabVIEW support, volt-free contacts and remote watchdog monitoring can be included.

Order code example

Example: PXe-110010-S-1P230V50-1P115V60-10KVA-IP22-RS232. Final part number confirmed in the quotation.

Technical specification

Typical series values. Final values are confirmed in the quotation and project specification.

1. Range and construction		2. Input	
Rated output	0.5kVA to 200kVA	Supply phase	Single-phase or three-phase input, depending on rating and project
Output phase	Single phase	Common voltages	110-127Vac and 220-240Vac single phase; 200-240/380-415Vac, 440Vac, 480Vac or 690Vac three phase
Conversion method	Solid-state AC-DC-AC double conversion using IGBT PWM	Input frequency	50Hz or 60Hz; 400Hz input available on request
Isolation	Integrated output transformer isolation	Input tolerance	Typically +/-5% to +/-10%, confirmed for selected model
Construction	Bench, rack, trolley or cabinet according to rating	Power factor	Typically >=0.8 standard; higher-PF options available
Cooling	Forced-air cooling, arrangement confirmed by rating	Harmonic mitigation	Optional 12-pulse or 18-pulse rectifier arrangements
3. Output performance		4. Protection, control and environment	
Output voltage	Fixed 110V, 115V, 120V, 127V, 220V, 230V, 240V or 400V; adjustable ranges available	Protection	Over-current, overload, over-voltage, over-temperature and short-circuit protection
Output frequency	50Hz, 60Hz and 45-200Hz adjustable; other frequencies on request	Interfaces	RS232, RS485, Ethernet, GPIB, volt-free contacts and remote-control options
Voltage accuracy	Typically within +/-1% full scale	Display / metering	Voltage, current, frequency, power and power-factor indication
Frequency accuracy	Typically within +/-0.1% full scale	Enclosure	IP22 standard; IP32, IP54 and project-specific formats available
Waveform / THD	Pure sine wave; THD typically <=3% at linear load	Environment	-10C to 55C operation; 10-90% RH non-condensing; altitude typically <=1800m
Overload / crest	100% continuous; protection above rating; 3:1 crest factor	Efficiency / reliability	Efficiency typically >=85%; MTBF 50,000 hours
Specification basis		Dimensions and weight	
Values shown are typical for the PXe series. Exact tolerances, regulation, overload performance, interfaces and environmental limits are confirmed in the quotation and project specification after the connected load has been reviewed.		Dimensions and weight are issued at quotation stage because kVA rating, input and output voltage, phase arrangement, enclosure/IP rating, cooling, mobility, cable entry and selected options affect the final construction.	
		Documentation and compliance	
		Each system is supplied with a project specification, operating manual and Certificate of Conformity. Drawings and FAT records are supplied where included. Applicable standards are reviewed against the selected configuration and application.	

Options, project support and quotation information

Configuration choices are reviewed against the load, installation and project evidence required.

Mechanical and enclosure options

IP32 or IP54 construction, conformal coating, 19-inch rack formats, trolley or mobile bases, castors, lifting arrangements, special cable entry and customer-defined terminal layouts.

Control and communication options

RS232, RS485, Ethernet, GPIB, LabVIEW drivers, volt-free contacts, remote panels, remote watchdog monitoring, SMS notification and automated restart subject to project review.

Electrical configuration options

Alternative input or output voltages, adjustable voltage and frequency, 12-pulse or 18-pulse rectifiers, harmonic mitigation, project-specific protection and cable or connector assemblies.

Testing and documentation options

Optional Factory Acceptance Testing, customer-witnessed or third-party witnessed testing, drawings, test records, manuals, Certificate of Conformity and project-specific documentation packs.

Project support

FAT

Optional functional and load testing

Witness testing

Customer or third-party attendance

Commissioning

Available for larger, local and commercial systems

After-sales

Seven-day technical support where required

Information required to prepare a quotation

Supply

Input voltage, phase and frequency

Output

Required voltage, phase and frequency

Load

kVA, load type and starting current

Duty

Continuous, cyclic or test operation

Installation

Indoor/outdoor, IP rating and access

Controls

Manual, remote, communications and interlocks

Lead times, dimensions and weight

Standard products are typically 3-5 weeks. Customer-defined, larger or multi-unit projects are commonly 6-8 weeks, subject to quantity and specification. Dimensions and weights are issued at quotation stage for the exact configuration.

Discuss your requirement

PX Electronics Ltd | Unit 13B, Southview Park, Marsack Street, Reading RG4 5AF, United Kingdom | +44 118 206 7525 | info@pxelectronic.com | www.pxelectronic.com