

Three-Phase Static Frequency Converters

PXe-330000-C Series | 1kVA to 500kVA | Larger models on request

PXe three-phase static frequency converters provide stable 50Hz to 60Hz and 60Hz to 50Hz conversion for industrial machinery, production equipment, marine systems, export testing and specialist electrical loads.

The series uses IGBT PWM double conversion and transformer isolation to deliver controlled three-phase power for continuous-duty operation. Systems can be configured around the site supply, connected load, neutral arrangement, enclosure and control requirements.



Typical three-phase SFC cabinet.

Where this product fits

Best suited for three-phase machinery and facility loads that must operate from a supply frequency or voltage different to the available mains. Particular attention is given to motor starting current, load imbalance, neutral requirements and protection coordination.

Typical applications

Industrial machinery, pumps, compressors, HVAC systems, production lines, marine shore power, export equipment testing and defence-related loads.

Conversion duties

Standard duties include 400/415V 50Hz to 480V 60Hz, 480V 60Hz to 400/415V 50Hz and project-specific three-phase voltage matching.

Installation formats

Floor-standing cabinets are typical. Rack and trolley formats are available at lower ratings, with IP54 and special mechanical construction available.

Rated range

1kVA to 500kVA

Larger models

Available on request

Output phase

Three phase, 3-wire or 4-wire

Duty

Continuous industrial operation

Selection starting point

Confirm the site voltage and neutral arrangement, required output voltage and frequency, connected load kVA, motor or transformer starting current, duty cycle, phase imbalance and installation environment.

Configuration and model selection

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

1. Supply Voltage, phase, neutral and frequency	2. Load kVA, motors, inrush and imbalance	3. Output L-L/L-N voltage and frequency	4. Project IP rating, controls, FAT and commissioning
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Typical rating bands

Rating band	Typical format	Common use	Selection note
1-9kVA	Rack / trolley	Small test systems, laboratory loads and specialist machinery	Confirm phase current and neutral requirement
15-45kVA	Trolley / cabinet	Motors, pumps, compressors and production equipment	Review starting current and soft-start method
60-150kVA	Floor cabinet	Industrial plant, marine and manufacturing loads	Harmonic mitigation may be appropriate
200-300kVA	Project cabinet	Large machinery and facility conversion systems	FAT and site integration review recommended
400-500kVA	Multi-section cabinet	High-power operational loads and major test facilities	Project-specific design and commissioning plan

Initial sizing guidance

As initial guidance, allow approximately 1.5 times the connected load where effective soft starting is present and approximately 2 times the connected load where no soft start is fitted or starting current is uncertain. Final sizing is based on load data and duty cycle.

Voltage and neutral arrangement

Common outputs include 115/200V, 120/208V, 230/400V, 240/415V and 277/480V. Three-wire or four-wire output is selected to suit the load.

Motor and inductive loads

Starting current, acceleration time, simultaneous starts and load cycling can determine the converter rating and overload requirement.

Power quality

Optional 12-pulse and 18-pulse rectifier arrangements can reduce input current harmonics on larger systems or where site limits apply.

Controls and metering

Front-panel metering, HMI, RS232, RS485, Ethernet, external energy metering, volt-free contacts and watchdog monitoring are available.

Order code example

Example: PXe-330200-C-3P415V50N-3P208V60N-200KVA-IP22-MC. 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	1kVA to 500kVA; larger models on request	Supply phase	Single-phase input at selected lower ratings; three-phase input typical
Output phase	Three phase, 3-wire or 4-wire	Common voltages	200-220V, 380-415V, 440V, 480V or 690V three phase; other voltages on request
Conversion method	Solid-state AC-DC-AC double conversion using IGBT PWM	Input frequency	50Hz or 60Hz; other inputs on request
Isolation	Integrated output transformer isolation	Input tolerance	Typically +/-5% to +/-10%, confirmed for selected model
Construction	Rack, trolley, floor cabinet or multi-section cabinet	Power factor	Typically >=0.8 standard; >=0.9 optional
Cooling	Filtered 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	Common fixed three-phase voltages from 115/200V to 400/690V; adjustable ranges available	Protection	Over-current, overload, over-voltage, over-temperature, phase loss and short-circuit protection
Output frequency	50Hz, 60Hz and 45-200Hz adjustable; specialist outputs on request	Interfaces	RS232, RS485, Ethernet, GPIB, volt-free contacts, external metering and watchdog 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 special project enclosures 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, multi-section cabinets, mobile bases, anti-vibration mounts, special cable entry, gland plates and customer-defined terminal arrangements.

Control and monitoring options

RS232, RS485, Ethernet, HMI, volt-free contacts, external energy metering, remote panels, watchdog monitoring, data logging, SMS notifications and automated restart.

Electrical and power-quality options

Alternative voltage and phase configurations, adjustable output, 12-pulse or 18-pulse rectifiers, harmonic mitigation, protection coordination and project-specific EMC filtering.

Testing and site support

Optional FAT, customer or third-party witness testing, load-step testing, commissioning visits, engineer training, drawings, manuals, Certificate of Conformity and support records.

Project support

FAT

Optional load and functional testing

Witness testing

Customer or third-party attendance

Commissioning

Available for larger and commercial systems

After-sales

Seven-day technical support where required

Information required to prepare a quotation

Supply

Input voltage, neutral and frequency

Output

L-L/L-N voltage and frequency

Load

kVA, motors, inrush and imbalance

Duty

Continuous, cyclic and starting sequence

Installation

IP rating, cooling and cable access

Controls

Interfaces, interlocks and monitoring

Lead times, dimensions and weight

Standard products are typically 3-5 weeks. Customer-defined, larger-kVA or multi-unit systems 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

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