PXe-R Series 19-Inch Rack Mount Static Frequency Converters

0.5-5kVA | 50Hz, 60Hz & 400Hz | single-phase and three-phase configurations

PX Electronics **PXe-R Series 19-Inch Rack Mount Static Frequency Converters** provide compact AC voltage and frequency conversion for integration into equipment racks, laboratory systems, production test installations and specialist electrical equipment.

Available from **0.5kVA to 5kVA**, the R-Series is intended for applications where the functionality of a conventional Static Frequency Converter is required within a standard 19-inch rack installation. Systems can be configured for 50Hz to 60Hz, 60Hz to 50Hz and 50/60Hz to 400Hz conversion, with output voltage and phase arrangement selected around the connected equipment.

Single-phase and three-phase input and output combinations are available, including 1-phase to 1-phase, 1-phase to 3-phase, 3-phase to 1-phase and 3-phase to 3-phase conversion. RS232 communication is fitted as standard, with RS485, GPIB or Ethernet available as options.

PXe-R SERIES

AC INPUT	19-INCH RACK SFC	AC OUTPUT
50Hz or 60Hz 1-phase or 3-phase	Voltage, frequency & phase conversion Control, monitoring & protection	50Hz, 60Hz or 400Hz 1-phase or 3-phase

Where this product fits
The PXe-R Series is intended where a Static Frequency Converter must be integrated directly into a standard 19-inch rack. It suits laboratory, production test, avionics, defence and specialist equipment installations where rack space, repeatable power conversion and remote control are part of the system design.

Dedicated 19-Inch Rack Format
Purpose-built rack-mount SFC family rather than a floor-standing converter adapted for rack installation.

0.5kVA to 5kVA
Five standard power ratings with chassis sizes from nominal 3U to 5U.

Flexible Phase Conversion
110, 130, 310 and 330 configurations support single-phase and three-phase input/output combinations.

Remote Integration
RS232 standard, with RS485, Ethernet or GPIB optional for automated and remotely controlled systems.

Power range	Output frequency	Phase options	Standard comms
0.5kVA to 5kVA	50Hz / 60Hz / 400Hz	1P / 1P, 1P / 3P, 3P / 1P, 3P / 3P	RS232

Selection starting point
Confirm the available input supply, required output voltage, output phase arrangement and frequency, continuous load, load type, known starting or inrush current, rack-space limits and communications requirements. PX can then confirm the appropriate R-Series model and configuration.

Example rack mount SFC formats

Example 19-inch rack format

Higher-power rack configuration example

System Configuration and Popular Models

Representative PXe-R Series arrangements and rack sizes

PXe-R Series converters are configured around the site supply and the electrical requirements of the connected equipment. The examples below show common arrangements across the 0.5kVA to 5kVA family. Alternative voltages, frequencies and phase combinations can be specified where required.

1. Input supply	2. Output duty	3. Load	4. Rack & control
Voltage, phase and frequency	Voltage, phase and frequency	Continuous kVA and inrush	Space, connections and comms

Popular Configurations

Model	Capacity	Input	Output	Dimensions
PXe-110000.5-R	0.5kVA	230V 50Hz 1-phase	115V 60Hz 1-phase	430 x 380 x 133mm
PXe-110001-R	1kVA	230V 50Hz 1-phase	115V 60Hz 1-phase	430 x 380 x 133mm
PXe-110002-R	2kVA	115V 60Hz 1-phase	230V 50Hz 1-phase	430 x 450 x 178mm
PXe-110003-R	3kVA	230V 50Hz 1-phase	115V 400Hz 1-phase	430 x 450 x 178mm
PXe-330005-R	5kVA	400V 50Hz 3-phase	115/200V 400Hz 3-phase	430 x 550 x 222mm

Configuration note: These examples are representative rather than limiting configurations. PXe-R systems can also be configured for single-phase to three-phase or three-phase to single-phase conversion, together with alternative voltages and 50Hz, 60Hz or 400Hz outputs.

Phase Configuration

Phase code	Configuration
110	Single-phase input / Single-phase output
130	Single-phase input / Three-phase output
310	Three-phase input / Single-phase output
330	Three-phase input / Three-phase output

Rack Integration

Capacity	Dimensions	Nominal rack height
0.5kVA / 1kVA	430 x 380 x 133mm	3U
2kVA / 3kVA	430 x 450 x 178mm	4U
5kVA	430 x 550 x 222mm	5U

Voltage and frequency conversion
The R-Series can provide frequency conversion and voltage transformation in the same rack-mounted system. Typical duties include 50Hz to 60Hz, 60Hz to 50Hz, 50Hz to 400Hz and 60Hz to 400Hz.

Rack installation
Allow sufficient rack depth, ventilation and access for cabling and service. Chassis dimensions shown are the converter body dimensions; final installation clearances depend on the selected electrical and connection arrangement.

High-inrush loads
Where the connected equipment contains transformers, motors, large input capacitors or other loads with significant start-up demand, provide the expected inrush current and duration at quotation. The converter should be selected against the actual start-up requirement rather than steady-state kVA alone.

Control, Interfaces and Application Integration

Communications, phase conversion and rack-system integration

The R-Series is intended to become part of a wider equipment rack or test system, so communications and connection requirements are considered alongside the electrical conversion duty.

Family Specification

Specification	PXe-R Series
Product type	19-inch rack mount Static Frequency Converter
Power range	0.5kVA, 1kVA, 2kVA, 3kVA and 5kVA
Phase arrangements	110, 130, 310 and 330 configurations
Frequency conversion	50Hz, 60Hz and 400Hz configurations
Voltage conversion	Step-up or step-down according to application
Standard interface	RS232
Optional interfaces	RS485, Ethernet or GPIB
Installation	Standard 19-inch equipment rack
Connections	Hard-wired terminals, industrial connectors, application-specific sockets or cable assemblies
Factory testing	Functional testing as standard; application-specific and witnessed FAT available

RS232 Standard

Provides a direct communications interface for computer-controlled and external control applications.

RS485 Optional

Useful for longer communication distances and integration into industrial or multi-device systems.

Ethernet Optional

Supports network-connected laboratories, production test systems and remote installations.

GPIB Optional

Available for integration with established laboratory instrumentation and automated test environments.

Application Integration

Application	Typical use
Laboratory and R&D; racks	Controlled 50Hz, 60Hz or 400Hz supply for development, verification and imported equipment testing.
Production test systems	Rack-mounted frequency and voltage conversion integrated into end-of-line or automated test equipment.
Avionics and aerospace	Compact 400Hz power conversion for rack-based avionics and aerospace test installations.
Defence and specialist systems	Application-specific AC conversion where rack format, communications and configured interfaces are required.
Equipment integration	Power conversion built into OEM, service or specialist electrical equipment rather than installed as a separate floor-standing unit.

Communications selection
RS232 is fitted as standard. Specify RS485, Ethernet or GPIB where required by the host control system. Where remote write commands, measurement readback or automated sequences are required, provide the control requirement at quotation so the appropriate interface and controller configuration can be confirmed.

Connection selection
Input and output connections can be arranged around the rack and connected equipment. Define the preferred terminal, socket or connector type, cable length and current rating when ordering. This avoids treating the power cabling as an afterthought once the rack is built.

Specification basis
Electrical performance, protection functions, cooling arrangement, detailed measurements and model-specific interface commands depend on the selected R-Series configuration. Final guaranteed values are confirmed in the configured product specification and quotation rather than assumed across the complete family.

Ordering and Model Number Structure

Phase configuration, capacity and application-specific ordering details

PXe-R Series model numbers identify the basic phase arrangement and power rating. The complete system is then defined by the required input voltage and frequency, output voltage and frequency, communications interface and connection options.

Model Number Format

PXe-[PHASE CONFIGURATION][CAPACITY]-R
Example: **PXe-110003-R** identifies a 3kVA PXe-R Series unit with single-phase input and single-phase output. A 5kVA three-phase input / three-phase output model is **PXe-330005-R**.

Code	Function	Meaning
110	Phase configuration	Single-phase input / Single-phase output
130	Phase configuration	Single-phase input / Three-phase output
310	Phase configuration	Three-phase input / Single-phase output
330	Phase configuration	Three-phase input / Three-phase output
000.5	Capacity	0.5kVA
001	Capacity	1kVA
002	Capacity	2kVA
003	Capacity	3kVA
005	Capacity	5kVA
R	Series	19-inch rack mount construction

Available Models

Capacity	Example 1P / 1P model	Dimensions
0.5kVA	PXe-110000.5-R	430 x 380 x 133mm
1kVA	PXe-110001-R	430 x 380 x 133mm
2kVA	PXe-110002-R	430 x 450 x 178mm
3kVA	PXe-110003-R	430 x 450 x 178mm
5kVA	PXe-110005-R	430 x 550 x 222mm

Ordering Examples

PXe-110003-R
3kVA, single-phase input / single-phase output.

Typical duty:
230V 1-phase 50Hz input
115V 1-phase 400Hz output

PXe-330005-R
5kVA, three-phase input / three-phase output.

Typical duty:
400V 3-phase 50Hz input
115/200V 3-phase 400Hz output

Ordering note
The model number identifies the basic converter family, phase configuration and capacity. The complete input voltage, input frequency, output voltage, output frequency, communications interface, connection arrangement and project-specific requirements are confirmed in the quotation and configured product specification.

Options, Application Review and Quotation Information

Defining the complete rack-mounted converter requirement

Available Options

Option	Description
Frequency options	50Hz, 60Hz and 400Hz output configurations.
Voltage conversion	Input and output voltages can be selected independently for step-up or step-down conversion.
Phase conversion	1P/1P, 1P/3P, 3P/1P and 3P/3P configurations.
Communications	RS232 standard; RS485, Ethernet or GPIB optional.
Connections	Hard-wired terminals, industrial connectors, application-specific sockets and customer-defined cable assemblies.
Factory testing	Application-specific voltage, frequency and load points can be included in the factory test procedure.
Witnessed FAT	Customer or third-party witnessed Factory Acceptance Testing available where required.
Documentation	Configured specification, factory test records, Certificate of Conformity and project-specific documentation.

Information Required for Quotation

Requirement	Information to provide
Input supply	Available voltage, phase arrangement and frequency
Output requirement	Required voltage, phase arrangement and frequency
Continuous load	VA, kVA or amps
Load type	Electronic equipment, transformer, motor, power supply, instrumentation or mixed load
Starting demand	Known inrush or start-up current and expected duration
Operating duty	Continuous operation, laboratory test, production test or repeated duty
Rack installation	Available rack height, depth, ventilation and service-access constraints
Communications	RS232, RS485, Ethernet or GPIB requirement
Connections	Terminal, socket, connector and cable requirements
Testing / documentation	Any witnessed FAT, agreed test points, certificates or project records

Project Support

Application Review
PX reviews the electrical duty, phase arrangement, continuous load, inrush demand and rack restrictions before confirming the selected converter.

Factory Verification
Agreed voltage, frequency and load points can be incorporated into the factory test procedure before shipment.

Integration
Communications, connectors, cable assemblies and rack-installation requirements can be defined as part of the supplied system.

Documentation
Configured specifications, test records, Certificates of Conformity and project-specific documentation are available.

Model-specific confirmation
Because the R-Series supports several phase, voltage and frequency combinations, final electrical performance, connections, protection, cooling and interface details are confirmed for the selected configuration. Where the load has significant transformer inrush, motor starting demand or other high peak-current behaviour, advise PX at enquiry stage so the converter can be sized against the real application.

Discuss your requirement
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