

400Hz Static Frequency Converters

PXe-330000-400-F Series | 0.5kVA to 200kVA | Larger models on request

PXe 400Hz static frequency converters generate controlled aircraft-standard AC power from a conventional 50Hz or 60Hz supply. They are used in avionics laboratories, MRO facilities, production test, aircraft equipment validation and defence support applications.

The range provides stable three-phase 400Hz output, transformer isolation, low-distortion sine-wave power, front-panel metering and configurable aircraft connectors, remote controls and mobile or fixed enclosures.



Typical 400Hz SFC cabinet.

Where this product fits

Best suited where aircraft, avionics or specialist 400Hz equipment must be powered from a normal facility supply. The converter is configured around the required 115/200V or 120/208V output, kVA rating, cable and connector arrangement, duty cycle and installation method.

Typical applications

Avionics laboratories, aircraft equipment testing, aerospace production, MRO hangars, defence workshops, test cells and specialist 400Hz power systems.

Aircraft power output

Common outputs are 115/200V or 120/208V, three phase, 400Hz. Alternative voltages and adjustable output options are available.

Fixed or mobile installation

Rack, trolley and floor-standing formats can be supplied with aircraft cables, interlocks, remote controls and suitable connector arrangements.

Rated range

0.5kVA to 200kVA

Larger models

Available on request

Output

Three-phase 400Hz

Common voltage

115/200V or 120/208V

Selection starting point

Confirm the available facility supply, 400Hz output voltage, kVA rating, load power factor, phase imbalance, duty cycle, aircraft cable length, connector type, interlock requirement and whether the unit is fixed or mobile.

Configuration and model selection

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

1. Facility supply Voltage, phase and 50/60Hz input	2. Aircraft load kVA, PF, unbalance and duty	3. 400Hz output Voltage, cable and connector	4. Installation Fixed/mobile, control and FAT
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Typical rating bands

Rating band	Typical format	Common use	Selection note
0.5-3kVA	Rack / bench	Avionics modules, instruments and small test equipment	Confirm load current and connector type
5-15kVA	Rack / trolley	Workshop equipment and aircraft component testing	Review cable length and voltage drop
20-45kVA	Trolley / cabinet	Hangar support, production and medium aircraft loads	Confirm aircraft interlock requirement
60-100kVA	Floor cabinet	Larger MRO and facility ground-power applications	Review phase unbalance and remote control
150-200kVA	Project cabinet	High-power test facilities and major aircraft support loads	Project FAT and commissioning recommended

Initial sizing guidance

Select the rating from the maximum continuous 400Hz load, permissible phase imbalance, load power factor, overload demand and expected cable voltage drop. Motor, transformer and rectifier-fed aircraft loads should be reviewed before the kVA rating is confirmed.

Output voltage and regulation

Standard outputs are 115/200V or 120/208V. Steady-state regulation is typically +/-2%, with dynamic regulation typically +/-5% for a 0-100% load step.

Aircraft cables and connectors

Hard-wire, EN60309, MIL-STD and customer-specified connectors can be supplied. Aircraft interlock and project-specific cable assemblies are available.

Remote operation

Remote control panels, RS485 Modbus monitoring, volt-free status contacts and control up to 200m can be supplied where required.

Power quality and standards

THDv is better than 3% at linear load. Configurations can be reviewed against MIL-STD-704, MIL-STD-461, STANAG 1008 and DFS400 requirements.

Order code example

Example: PXe-330045-400-F-3P400V50-3P200V400-45KVA-IP22-RS485. 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; larger models on request	Supply phase	Three-phase input typical; other arrangements on request
Output phase	Three phase 400Hz	Common voltages	400V or 440V +/-10%; 220V and 480V options; user-specified inputs available
Conversion method	Solid-state AC-DC-AC conversion using IGBT PWM	Input frequency	50Hz or 60Hz +/-6%
Isolation	Integrated output transformer isolation	Input tolerance	Confirmed for selected voltage and rating
Construction	Rack, trolley, floor cabinet or project cabinet	Power factor	>0.98 at full load for standard aviation configuration
Cooling	Variable-speed forced-air cooling	EMC susceptibility	Designed with EN 61000-4-4 and EN 61000-4-5 considerations
3. Output performance		4. Protection, control and environment	
Output voltage	115/200V or 120/208V three phase; alternative voltages on request	Protection	Input MCB, phase loss, over/under-voltage, over-current, over-temperature and short circuit
Output frequency	400Hz +/-0.1% under all conditions	Interfaces	RS485 Modbus, volt-free contacts, remote control panel and optional Ethernet
Voltage regulation	+/-2% steady state; +/-5% at 0-100% load step	Display / metering	L-L and L-N voltage, current, power, frequency and power factor; Class 0.25 option
Phase / waveform	Pure sinusoid; phase-angle accuracy better than 1%	Enclosure	IP22 or IP31 standard options; IP54 available
THD / load PF	THDv better than 3% at linear load; 0.6 leading to 0.6 lagging	Environment	-10C to 50C operation; acoustic noise typically <50dB(A) at 1m
Overload / unbalance	110% for 30 min, 200% for 5 sec, 300% for 1 sec; up to 70% phase unbalance	Efficiency / construction	Mild-steel cabinet, painted finish, castors or feet according to rating
Specification basis		Documentation and compliance	
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.		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.

Aircraft connection options

Aircraft-standard cable assemblies, MIL-STD connectors, EN60309, hard-wire outputs, interlock circuits, customer-defined terminations and cable lengths selected for voltage drop.

Mechanical and environmental options

IP54 enclosures, conformal coating, rack construction, trolley or mobile bases, tow bars, anti-vibration mounts, special cooling and project-specific cabinet formats.

Control and monitoring options

Remote panel, RS485 Modbus, volt-free contacts, Ethernet, remote watchdog monitoring, status indication, data logging and automatic restart subject to site requirements.

Testing and documentation options

Optional FAT, load-step and overload testing, harmonic measurement, customer or third-party witness testing, drawings, manuals, Certificate of Conformity and commissioning support.

Project support

FAT

Optional 400Hz load and regulation testing

Witness testing

Customer or third-party attendance

Commissioning

Available for hangar and larger systems

After-sales

Seven-day technical support where required

Information required to prepare a quotation

Supply

Input voltage, phase and frequency

Output

115/200V, 120/208V or alternative

Load

kVA, PF, unbalance and overload

Cable

Length, connector and interlock

Installation

Fixed/mobile, IP rating and access

Controls

Remote panel, comms and monitoring

Lead times, dimensions and weight

Standard products are typically 3-5 weeks. Customer-defined, larger or multi-unit 400Hz 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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