# PXe-FVS Series Pure Sine Wave Inverters

## DC to AC conversion for battery, renewable, backup and mobile power systems | 300W to 6000W

PXe-FVS pure sine wave inverters convert battery or DC-bus power into stable 110V or 220V AC output. The series is intended for off-grid systems, renewable energy installations, backup duties, mobile equipment and remote sites where a clean mains-style waveform is required.

Models are available for 12V, 24V, 48V, 60V and 72V DC systems. The pure sine-wave output supports resistive, inductive, capacitive and mixed loads, provided continuous power and start-up demand are properly allowed for.

*Typical PXe-FVS front and rear enclosure views.*

### Where this product fits

A compact DC-to-AC source for defined AC loads where utility mains are unavailable, unsuitable or reserved for backup operation.

### Off-grid and remote power

AC output from a suitable battery bank or regulated DC source.

### Backup systems

Defined AC loads powered from stored DC energy during supply interruptions.

### Renewable and mobile systems

Battery systems charged by solar, wind, vehicle or portable DC sources.

| Rated range | DC inputs | AC output | Waveform |
|---|---|---|---|
| 300W to 6000W | 12, 24, 48, 60 or 72Vdc | 110Vac or 220Vac | Pure sine wave, <=3% THD |

## Typical applications

### Monitoring and control

Communication, sensing and control equipment where waveform quality matters.

### Office and household loads

Electronics, appliances, tools and small systems within the verified rating.

### Industrial and service equipment

Portable tools, pumps, fans and mixed loads after surge-current review.

### Renewable battery installations

Solar or wind battery systems with suitable charging, protection and DC isolation.

## Selection starting point

| | |
|---|---|
| **Confirm before sizing** | State the DC source voltage, AC output voltage and frequency, continuous wattage, load type, power factor where known, and the start-up or surge demand. Battery capacity, DC cable size and protective devices must be checked alongside the inverter rating. |

# Configuration and model selection

**A practical route from the DC source and connected load to the correct inverter model.**

| 1. DC source | 2. AC load | 3. Output | 4. Installation |
|---|---|---|---|
| Nominal voltage, operating range and available battery current. | Continuous watts, load type and start-up demand. | 110V or 220V AC, 50Hz or 60Hz. | Cable length, ventilation, protection and access. |

## Typical rating bands

| Rating band | Typical format | DC input availability | Selection note |
|---|---|---|---|
| **300-600W** | Compact desktop | 12, 24, 48, 60 or 72Vdc | Small electronic, monitoring and light-duty backup loads. |
| **1000-2000W** | Compact fan-cooled | 12, 24, 48, 60 or 72Vdc | General appliances, office equipment and mixed AC loads. |
| **2500-3000W** | Higher-current compact | Input options depend on rating; 24Vdc and above preferred | Check battery current, cable length and starting demand carefully. |
| **4000-6000W** | Extended power range | 24, 48, 60 or 72Vdc | Industrial, mobile and multi-load systems; use a suitably engineered DC source. |

## Initial sizing guidance

### Continuous load

The sum of all loads intended to run together must remain within the inverter continuous output rating.

### Starting demand

Motors, pumps, compressors, transformers and capacitive loads can draw several times their running power at start.

## DC system considerations

### Battery-bank voltage

The inverter input must match the nominal DC system. Higher-power models are generally better suited to higher battery voltages.

### Battery capacity

Confirm usable energy, permitted depth of discharge, duty duration and recharge method.

### DC cables and isolation

High input current requires short, correctly sized cables, sound terminations, suitable fusing and a DC isolator.

### Charging and wider system

Solar, wind or vehicle systems need suitable charge control, battery protection and source coordination.

## Output and load behaviour

### Pure sine wave

Suitable for sensitive electronics and mixed loads that may operate poorly from modified-sine-wave inverters.

### Inductive loads

Allow for starting current and verify that the inverter can support the transient without nuisance shutdown.

### Capacitive and rectifier loads

Check peak current and crest factor, not only the nameplate running wattage.

### Multiple loads

Sequence starts where possible and avoid starting several high-inrush devices at the same time.

## Order code example

| | |
|---|---|
| **PXe-FVS-48-2000W** | PXe-FVS series \| 48Vdc nominal input \| 2000W output rating. The AC output voltage, frequency, outlet or terminal arrangement and any project accessories are confirmed in the quotation. |

# Technical specification

**Series data from the supplied product range. Final values are confirmed for the selected model and DC input voltage.**

| 1. Range and construction | | 2. DC input and protection | |
|---|---|---|---|
| **Rated output** | 300W to 6000W | **Nominal DC inputs** | 12V, 24V, 48V, 60V or 72Vdc; availability depends on rating |
| **Model bands** | 300-2000W compact range; 2500-6000W extended range | **Operating input range** | 12V: 10-15V; 24V: 20-30V; 48V: 40-60V; 60V: 50-75V; 72V: 60-90V |
| **Conversion** | DC to AC inverter with pure sine-wave output | **Under-voltage trip** | 10.0, 20.0, 40.0, 50.0 or 60.0V +/-0.3V by nominal input |
| **Display** | LED or LCD status indication, model dependent | **Over-voltage trip** | 15.0, 30.0, 60.0, 75.0 or 90.0V +/-0.3V by nominal input |
| **Cooling** | Fan cooling | **Recovery voltage** | 12.8, 25.6, 51.0, 65.0 or 78.0V +/-0.3V by nominal input |
| **Load types** | Resistive, inductive, capacitive and mixed loads when correctly sized | **No-load current** | 0.35A to 1.2A typical across listed models |
| **3. AC output performance** | | **4. Protection and model data** | |
| **Output voltage** | 110Vac +/-10% or 220Vac +/-10% | **Protection** | Input over-voltage, input under-voltage, overload, over-temperature and output short circuit |
| **Output frequency** | 50Hz +/-1Hz or 60Hz +/-1Hz | **Overload threshold** | Published protection threshold: <=130% |
| **Waveform** | Pure sine wave | **Over-temperature trip** | 80C +/-5C |
| **Waveform THD** | <=3% THD | **Efficiency** | Approximately 90% |
| **Output suitability** | Sensitive electronics, controls, appliances and motor-driven loads subject to surge review | **Construction** | Compact fan-cooled enclosure; dimensions vary by power rating |
| **Frequency selection** | Specified at order as 50Hz or 60Hz | **Model nomenclature** | PXe-FVS-[DC input]-[output power] |

## Dimensions and model data

| Model rating | Typical weight | Dimensions (L x W x H) | Display / range note |
|---|---|---|---|
| **300W** | 1.0kg | 183 x 110 x 60mm | Compact LED model |
| **600W** | 2.0kg | 228 x 173 x 76mm | Compact range |
| **1000W** | 3.0kg | 300 x 173 x 76mm | LCD on selected models |
| **1500W / 2000W** | 3.5kg / 4.0kg | 360 x 173 x 76mm | Compact higher-power range |
| **2500W** | 4.0kg | 360 x 173 x 76mm | Extended series |
| **3000W / 4000W** | 7.5kg / 8.0kg | 400 x 242 x 88mm | 24Vdc and above preferred |
| **5000W / 6000W** | 9.0kg / 10.0kg | 420 x 242 x 88mm | 24, 48, 60 or 72Vdc |

### Specification basis

Input and protection values are tied to the selected nominal DC voltage. Model availability should be confirmed at quotation stage.

### Load sizing

Motor-driven and high-crest-factor loads may require a larger inverter than the simple running wattage suggests.

### Dimensions and weight

Published dimensions are typical for the listed ratings. Connectors and minor construction details may change by build.

# System integration, support and quotation information

**The inverter, battery bank, DC protection and connected AC load must be treated as one power system.**

### DC input arrangement
Nominal input voltage, battery chemistry, battery capacity, cable length, fuse rating, isolator and terminal arrangement.

### AC output arrangement
110V or 220V output, 50Hz or 60Hz, outlet or hard-wire termination and protective earthing.

### Load and starting behaviour
Continuous load, motor starting, transformer energisation, compressor duty and any simultaneous load changes.

### Renewable and backup integration
Charging source, controller, DC bus protection, transfer arrangement and expected backup duration.

## Project support

### Application review
Sizing support for unusual loads, high inrush and mixed equipment.

### Model selection
Input voltage, output rating and AC configuration checked before quotation.

### Documentation
Datasheet, operating information and Certificate of Conformity supplied as applicable.

### After-sales
Technical support available for installation and operating queries.

## Information required to prepare a quotation

### DC source
Nominal voltage, operating range and source type.

### AC output
110V or 220V; 50Hz or 60Hz.

### Load
Continuous watts, load type and starting current.

### Duty
Continuous, backup, mobile or intermittent operation.

### Installation
Cable length, ventilation, enclosure and access.

### Connections
DC terminals, AC outlet or hard-wire requirements.

## Installation and safety considerations

### Ventilation
Maintain clear airflow around the fan inlet and exhaust. Do not install in an enclosed space without adequate cooling.

### DC protection
Fit correctly rated over-current protection close to the battery or DC source and provide a suitable isolation method.

### Earthing and AC protection
Use the protective-earth and output protection arrangement required by the application and local installation rules.

## Availability and lead time

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|---|---|
| **Model availability** | PXe-FVS inverters are supplied to the selected DC input, AC output and power rating. Confirm model availability, connector arrangement and lead time at quotation stage, particularly for the extended 2500W to 6000W range. |

**Discuss your requirement**
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