

PXe-BLS Series

Rack-mounted dual-input pure sine wave inverter

The PXe-BLS Series supplies regulated pure sine wave AC power from a DC source, with an AC bypass input available for automatic transfer. It is designed for critical telecoms, data, railway, SCADA, utility, marine and industrial loads where continuity and remote status indication are important.

The range covers 1 to 10kVA in standard 19-inch rack formats. Nominal DC input families include 24, 48, 110 and 220Vdc, with 110 or 220Vac output and 50/60Hz operation. Available DC input combinations vary by power rating.



Compact rack-mounted inverter for critical AC loads.

1 to 10kVA

Eight standard power ratings support compact control, telecoms and infrastructure loads.

24 to 220Vdc input

Nominal 24, 48, 110 and 220Vdc families are available, subject to output rating.

110 or 220Vac output

Regulated pure sine wave output with 50/60Hz operation and bypass synchronisation.

Transfer in 5ms or less

Automatic transfer between the selected primary source and the alternative supply.

Pure sine wave

Output THD is specified at 3% or less for suitable loads.

Rack integration

2U chassis for 1 to 6kVA and 4U chassis for 8 to 10kVA.

Remote visibility

RS232, RS485 and five dry-contact alarm outputs are standard.

Automatic recovery

Power-on self-test, soft start, automatic restart and temperature-controlled cooling.

Typical applications

Telecoms and data

Base stations, cable equipment, data centres, distributed antenna systems and monitoring rooms.

Rail and transport

Railway and metro control, station equipment, emergency communications and wayside systems.

Utilities and SCADA

Power stations, substation control, system monitoring, fire alarm and building management.

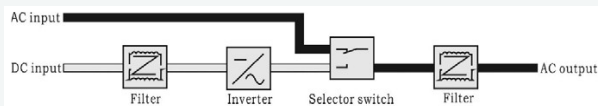
Marine and renewables

Marine and offshore systems, solar installations, wind energy and remote infrastructure.

Dual-input operation for critical AC loads

The BLS Series can be configured around AC-priority or DC-priority operation, allowing the preferred source to supply the load while the alternative input remains available for rapid transfer.

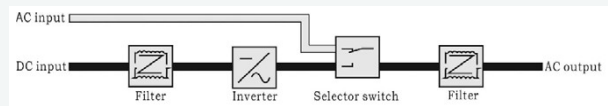
AC-priority operating mode



When a healthy AC bypass supply is present, the load is fed from the mains path. If the AC supply becomes abnormal, the inverter transfers the load to the DC-fed inverter output. The system can return automatically when the bypass supply recovers.

AC supply used normally, DC inverter used during an AC fault.

DC-priority operating mode



In DC-priority mode, the inverter normally supplies the load from the DC source. If the DC input is lost or moves outside the permitted range, the load transfers to the AC bypass path. This arrangement suits sites where the DC system is the preferred source.

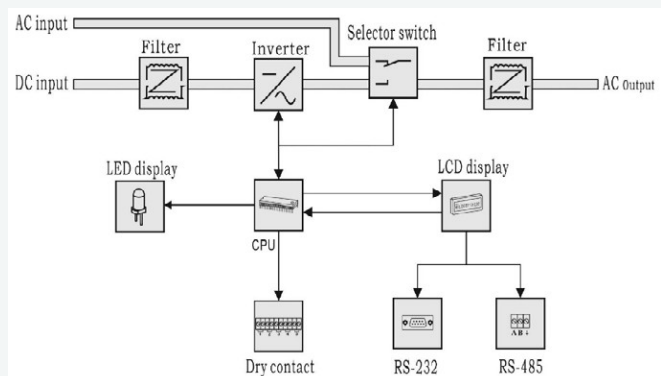
DC inverter used normally, AC bypass used during a DC fault.

Supervised system architecture

Power path and source selection

The AC input passes through the bypass filter, while the DC input is conditioned and converted by the inverter stage. A supervised selector connects the chosen source to the output filter and critical load.

- Automatic source transfer with no static switch required.
- Output filter maintains a clean sine-wave supply.
- System control manages self-test, alarms and restart.



CPU-supervised power path, display and communications architecture.

Fast transfer

Bypass transfer time is specified at 5ms or less.

Unattended operation

The system changes source automatically without operator intervention.

Source recovery

Automatic restart is available when the AC or DC source returns.

Maintenance provision

Maintenance bypass and DC isolation can be specified for service access.

COMPLIANCE AND ELECTRICAL SAFETY

Safety	LVD EN 60950-1
EMC / EMI	EN 61000-6-3; EN 61000-6-1; IEC 61000-6-2; IEC 61000-6-4
Dielectric strength	3500Vdc input-output; 3500Vdc input-chassis; 750Vdc output-chassis; 1500Vac input-output hipot, 1 minute

PXe-BLS Series specification

Model availability and exact input current depend on the selected DC voltage and power rating. Final configuration is confirmed at quotation stage.

Parameter	1kVA	2kVA	3kVA	4kVA	5kVA	6kVA	8kVA	10kVA
Rated power	0.8kW	1.6kW	2.4kW	3.2kW	4.0kW	4.8kW	6.4kW	8.0kW
Output current @ 220Vac	3.6A	7.3A	11A	14.5A	18.2A	21.8A	29A	36.3A
Chassis	2U	2U	2U	2U	2U	2U	4U	4U

INPUT AND BYPASS		AC OUTPUT AND PERFORMANCE	
DC input options	24 / 48 / 110 / 220Vdc nominal	Output voltage	110Vac or 220Vac; adjustable
24Vdc range	22 to 28Vdc; to 3kVA	Voltage accuracy	+/-1.5%
48Vdc range	45.5 to 57Vdc	Output frequency	50 / 60Hz; bypass synchronised
110Vdc range	104 to 131Vdc	Waveform / THD	Pure sine wave; <=3%
220Vdc range	208 to 260Vdc	PF / efficiency	PF >0.8; efficiency >=85%
AC bypass	90-132Vac or 180-260Vac, 50/60Hz	Overload	100-120% 60s; 121-150% 10s
Transfer time	5ms or less	Dynamic response	<5% Vnom; recovery <5ms
CONTROL, COMMUNICATIONS AND PROTECTION		MECHANICAL, ENVIRONMENT AND COMPLIANCE	
Display / status	LCD, LEDs, V, f, I, temperature and load	1-3kVA dimensions	482 x 347 x 88mm; 2U
Alarm history	Up to 1,000 events; model dependent	4-6kVA dimensions	482 x 430 x 88mm; 2U
Interfaces	RS232 and RS485	8-10kVA dimensions	482 x 470 x 176mm; 4U
Dry contacts / network	5 relays; optional SNMP/TCP-IP	Colour	Black; custom finish available
Protection	Overload; overtemperature; short circuit; output overcurrent; AC-input voltage limit; DC-input over/undervoltage alarm; DC reverse polarity.	Temperature / noise	-20 to +50C; <=40dB at 1m
Automatic functions	Self-test, soft start, restart and fan control	Humidity / altitude	0-90% RH, non-condensing. Full power to 2,000m; derate 2%/100m to 5,000m max.

Operating visibility and remote status

Front-panel information, alarm records and standard communications provide the information needed for local operation and integration into supervised infrastructure.



Inverter management software for live status and data review.

Monitoring and software

The management interface can display DC input voltage, AC bypass status, output voltage, frequency, current, power, operating mode and internal temperature. Alarm conditions and operating history can be reviewed without opening the equipment.

- 128 x 64 LCD with four LED status indicators.
- Audible and visual alarm indication.
- Historical alarm record for fault investigation.
- RS232 and RS485 for remote operation and monitoring.
- Optional SNMP or TCP/IP network connectivity.

Five dry-contact outputs

Remote indication for DC input fault, AC input fault, overload, bypass status and output fault.

Comprehensive protection

Overload, overtemperature, short circuit, output overcurrent, AC input voltage-limit protection, DC input over-/under-voltage alarm and reverse polarity protection on the DC input side.

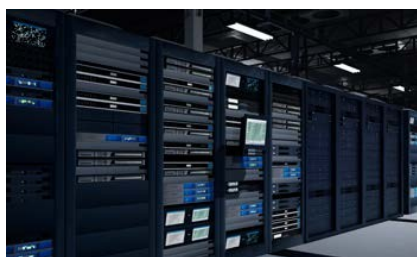
Controlled cooling

Temperature-controlled fans reduce unnecessary fan operation while maintaining thermal protection.

Serviceability

Rack mounting, clear terminal access and optional maintenance bypass support practical installation and service.

Deployment examples



Data and communications

Critical networking, monitoring, base-station and communications loads.

Industrial and utility control

SCADA, power system control, building management and infrastructure systems.

Rail and transport

Railway, metro, station control and emergency communications equipment.

Selection and service options

Confirm output rating, preferred DC input, AC output voltage, source-priority mode, communications and any maintenance-bypass or DC-isolation requirements.

Documentation and support

PX can provide application review, quotation-stage drawings, operating documentation, commissioning assistance and responsive after-sales support.