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PowerNode AC Combiner

AC distribution cabinet

Enables no-break ultra fast power transfer and synchronisation between grid, PV and genset

Supports hybrid and microgrid systems with integrated AC distribution and bypass functionality

Intelligent AC distribution & transfer cabinet

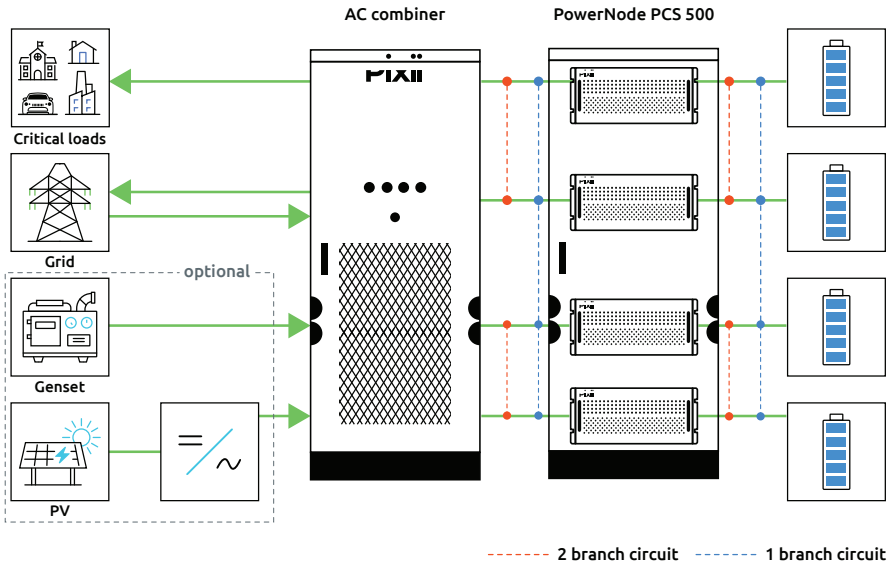
The Pixii AC Combiner brings grid, BESS, PV and genset connections together in one cabinet, providing AC distribution, automatic source transfer and synchronisation for hybrid energy systems and microgrids.

Multiple sources. One AC bus

Grid, PCM/PV and genset inputs connect to a common 1MW AC bus, supporting simultaneous source and load operation while reducing the need for external switchgear.

Fast automatic source transfer

Automatic transfer and synchronisation between power sources supports reliable operation, with ultra fast no-break transition and an integrated bypass function.



Highlights

- 800kW AC distribution
- 1MW common AC bus
- Ultra fast no-break transition
- Integrated bypass function
- Grid, PV and genset inputs
- Black start islanding

Key functions

- Automatic source transfer
- Grid synchronisation
- AC power distribution
- Hybrid power integration



A typical system configuration including the PowerNode AC combiner

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AC specifications (grid)

Grid connection type	TN-S/TN-C/IT/TN
Phase config.	3ph
Wiring method	3 ph. 4-wire
AC voltage (-10/+15%)	400V
Nominal frequency	50/60Hz
Nominal AC current[1)]	1155A
Rated AC power	800kVA
THDi	<3%
Grid MCCB	4P 1600A

1. 1155A@400V

AC bus specifications

Rated AC bus power[1)]	1MW
Rated AC bus current	1443A
Nominal AC bus voltage	400VAC

1. 500kW PV charging plus BESS discharging. Truth table for configuration details - available on request.

Critical load specifications

AC voltage	400V
Phase config.	3ph
Wiring method	3 ph. 4-wire
Rated AC power	800kVA
Rated AC current	1155A
Nominal frequency	50/60Hz
Load MCCB	4P 1600A

PowerNode PCS 500 input

Voltage	400V
Phase config.	3ph
Wiring method	3 ph. 4-wire
Rated AC power	500kW
Rated AC current	720A
Nom. frequency	50/60Hz
MCCB	4P 800A

PV input

AC voltage	400V
Phase config.	3ph
Wiring method	3 ph. 4-wire
Rated AC power	4x125kW
Rated AC current	4x200A
Nom. frequency	50/60Hz
PV MCCB	4x4P 250A

Genset input

AC Voltage	400V
Phase config.	3ph
Wiring method	3 ph. 4-wire
Rated AC power	500kW
Rated AC current	720A
Nominal frequency	50/60Hz
Genset controller[1)]	Optional
Genset MCCB[2)]	4P 800A

1. AGC 150
2. Motor operated

Transfer specifications

Transfer type	Contactor
Switching time	<20ms
Bypass function	Yes
Bypass MCCB	4P 1600A

Efficiency and performance

Contactor efficiency[1)]	99.95%

1. At full load. Transfer switch efficiency.

Auxiliary and control

UPS supply	1kVA
Nominal voltage	230VAC
UPS backup duration	12 min

Communication and connectivity

Wired interfaces	Ethernet LAN
Internal comm. protocols	CAN bus, Modbus TCP/IP
External comm. protocols	MQTT
EMS compatibility	Optional
Power meter[1)]	Optional

1. Load and grid

Safety

Ingress Protection (IP)	IP55
Overvoltage category (OVC)	III

Operating conditions

Operating environment	Outdoor
Thermal management	Fan-filter
Acoustic noise 1m distance	<75dB(A)
Operating amb. temp. range[1)]	-30°C ~ +55°C
Storage temp. range[2)]	-15°C ~ +55°C
Operating relative humidity[3)]	5% ~ 95% NC
Max. operating altitude[4)]	4000m

1. Derating from >45°C.
2. Without battery installed. With battery -15°C ~ +40°C Limited by UPS.
3. Non-condensing.
4. Pollution level II. Derating >2000m

Physical specifications

Dimensions (HxWxD)(mm)	2300x900x1100
Net. weight (equipped)	500kg
Color	RAL 7035
Status indicator (type)	LED

Warranty and compliance

Security and safety standards[1)]
EN IEC 60947-4-1:2025

Warranty (years/cycles)[2)]	See note

1. Transfer switch complies with the low voltage directive (LVD).
*2. Warranty terms may vary based on your SLA agreement. Please review the **warranty document** for details.*

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