Pixii **OEM Inverter Kit**

Flexible on-grid and off-grid inverter solution for OEM's

The Pixii OEM Inverter kit is a rack mountable bi-directional inverter shelving kit that provides OEM manufacturers with a modular and scalable inverter, designed for use by manufacturers of small- and large-scale Battery Energy Storage Systems (BESS).

There are six OEM Kits available in 10kW increments up to 60kW (1RU to 6RU). Each 19inch mount Kit includes Powershelves, Pixii Gateway Controller and PixiiBox inverter modules to achieve the Kit Power Capacity (e.g. 3 x PixiiBox modules = 10kW, 18 x PixiiBox modules = 60kW).

For larger power capacity applications, multiple OEM Kits can be AC coupled to provide an Inverter BESS solutions up to 1MW and beyond.

The 48V ELVDC operating voltage ensures safe operation across a range of battery models from several manufacturers. More information about this in the installation manual.

Included with the OEM Kit, the Pixii Gateway is a multi-protocol controller that facilities and monitoring, control and data acquisition of a complete BESS solution.

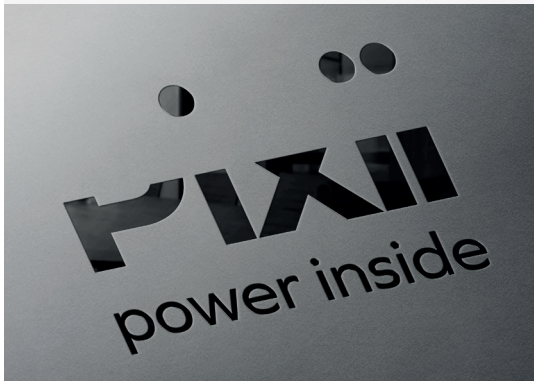
Various i/o are included within the Pixii Gateway for system monitoring including: door operation, temp and humidity sensing and aircon operation. Ehternet, Wi-Fi. 4G modem connectivity to the gateway, facilitates external network connectivity and integration to 3rd party management/orchestration platforms.

For on-grid applications the Pixii Inverter OEM Kit also supports all demand response modes as specified in AS/NZS 4777.2.

In order to achieve AS4777.2-2020 compliance, all grid-connected inverters with an aggregated capacity of 10 kVA and above require an approved demand response device (DRM), the Pixii DRM Interface PCB is available as an option.

Highlights

- Modular and scalable
- Compact energy storage
- Fast response (EV charging support, frequency response etc.)
- Wide range of functions
- Galvanically isolated AC to DC
- 48V battery voltage for ease of service
- AS4777.2-2020 compliance (with optional DRM Interface)
- Configurable to 1ph or 3ph
- Battery agnostic



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PixiiBox 48/3300		PixiiShelf						
Model number	12000	48/3300	48/10000	48/20000	48/30000	48/40000	48/50000	48/60000
Active power (kW)	3.33	3.33	10	20	30	40	50	60
Apparent power (kVA)	3.33	3.33	10	20	30	40	50	60
No. of Pixii shelves	NA	1	1	2	3	4	5	6
Height (mm)	42	44.45	44.45	88.5	133.1	177.35	221.6	266.2
Depth (mm)	145	360	360	360	360	360	360	360
Width (mm)	339	482.1	482.1	482.1	482.1	482.1	482.1	482.1
Weight w/o PixiiBox (Kg)	2kg (PixiiBox)	3.5	3.5	7	10.5	14	17.5	21
Weight w/ PixiiBox (Kg)		5.5	9.5	19	28.5	38	47.5	57
No. of PixiiBox inverters	NA	1	3	6	9	12	15	18
No. of Pixii Gateway Controllers	NA	1	1	1	1	1	1	1
Grid voltage range (VAC)	207-260Vac [1)]	207-260V (Nominal 230V)						
Dynamic regulation	10-90% / 90-10%, (5% within 80msec)							
AC current max (A)	16.6	1 x 16.6	3 x 16.6	3 x 33.2	3 x 49.8	3 x 66.4	3 x 83	3 x100
AC nominal (A)	14.4	1 x 14.4	3 x 14.4	3 x 28.8	3 x 43.2	3 x 57.6	3 x 72	3 x 86.4
Rectifier mode - DC voltage (Vdc)	44-58V							
Inverter mode - DC voltage (Vdc)	44-58V							
DC start up voltage (Vdc)	42V							
DC input current (A)	70	70	210	420	630	840	1050	1260
DC output current (A)	69	69	207	414	621	828	1035	1242
Output short circuit current (A)	50	50	150	300	450	600	750	900
Battery chemistry (compatibility)	NA	LFP/NMC/LTO/Flow/VRLA						
Battery BMS integration	NA	Compatible with managed and unmanaged BMS [2)]						
Ingress protection rating	IP20	IP00 (For indoor and outdoor cabinets, an IP54 rated cabinet must be used)						
External communications	NA	Modbus and MQTT (Pixii Gateway to 3rd party Edge device)						
Inverter active anti islanding	Active frequency shift							
Protection port AC	Fuse (25A) mechanical relays with basic isolation and anti islanding							
Protection port DC	Fuse (2x50A) overvoltage shutdown, shortcircuit protection, hot plug in Inrush current limitation (In each PixiiBox module)							
Inverter/kit efficiency (max)	96.50%							
Grid frequency (Hz)	45-66							

1) Full power from 207Vac (Subject to grid code)
2) Batteries with managed BMS may require Pixii Gateway integration. Please talk to your Pixii representative

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	PixiiBox 48/3300	PixiiShelf					
Model number	12000	48/10000	48/20000	48/30000	48/40000	48/50000	48/60000
Operating temperature range	-20°C to + 65°C						
Humidity	95% (non condensing)						
Maximum altitude	3 000 m						
Internal communication	CAN bus						
Complies with the EN standards	ETSI EN300 019:2-2 (class 2.3), ETSI EN300 019-2-3 (class 3.2)						
Certificates safety, grid and EMC	IEC 62477-1:2012, IEC/EN 62109-1:2010, IEC/EN 62109-2:2011, VDE-AR-N-4105, EN 50549-1, AS/NZS 4777.2:2020, IEC/EN 61000-6-1. IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4						
Protective class	AC: Class I DC: Class III						
Over Voltage Category	AC: OVC II DC: OVC II						
Warranty	5 years (warranty extension to 10 years available as option)						
Design/manufacture	Norway/PRC						
Inverter type	Isolated inverters						

Pixii Gateway Controller

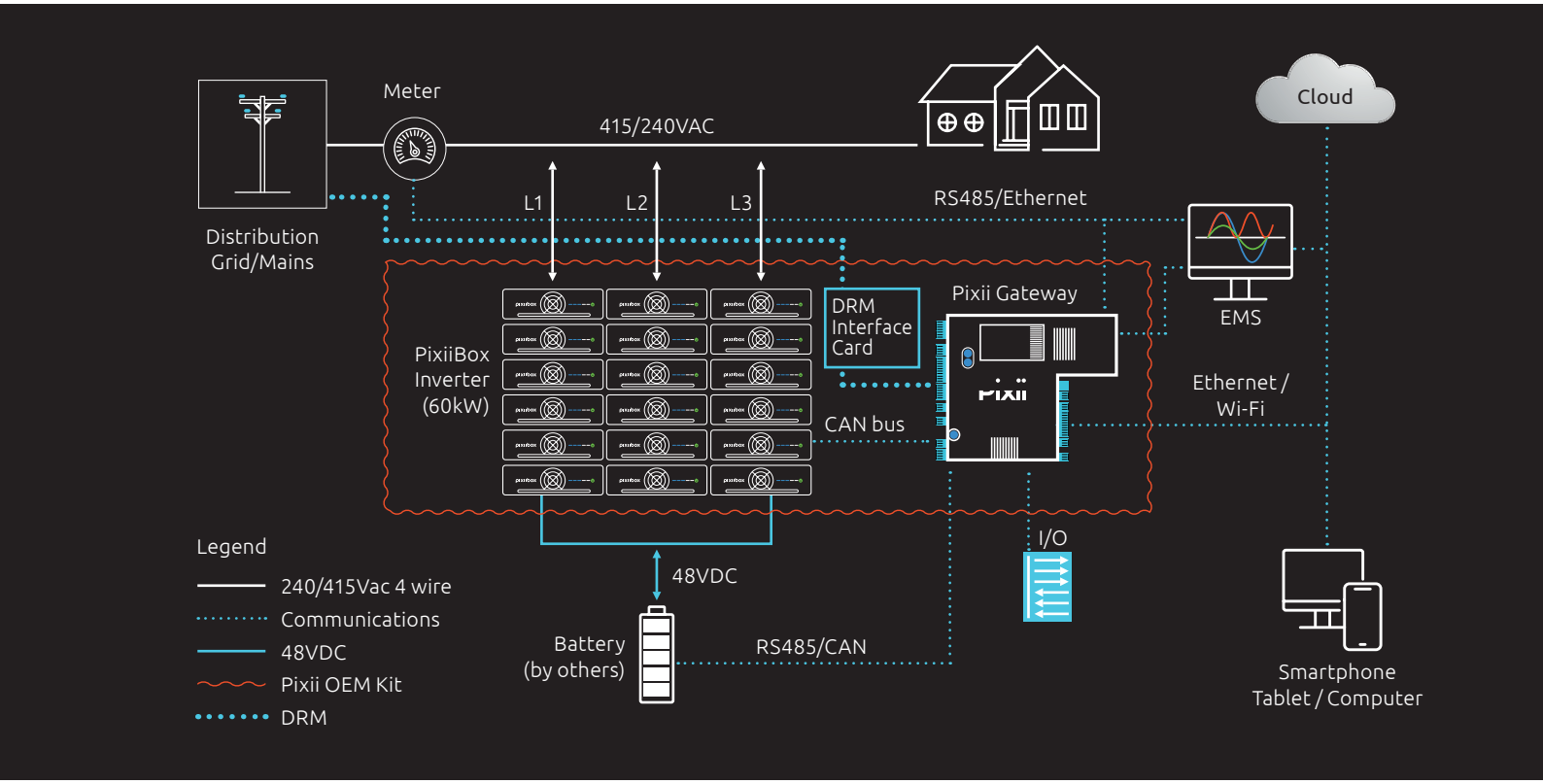
DC input voltage	30 - 60Vdc	Operating temp. range	-20°C to + 60°C
Max DC input current	5A	Dimensions (Hx W x D)	265 x 213 x 45 mm
Communication protocols	Modbus/RTU, TCP/IP, MQTT, HTTPS and CAN bus	Maximum operating humidity	95% (non condensing)
Applicable standards	EN61010-1 IEC 61010-1	Weight (Kg)	0.96

DRM Interface PCB

Model number	13590 - DRM Interface Card (optional)		
Demand Response Mode[4)]	Response	Enabled by shorting pins	
DRM 0 Mode	Disconnect the system from the grid	5	6
DRM 1 Mode	Active power consumption limited to 0%	1	6
DRM 2 Mode	Active power consumption limited to 50%	2	6
DRM 3 Mode	Active power consumption limited to 75% Reactive power set to max sourcing (capacitively)	3	6
DRM 4 Mode	Increase power consumption	4	6
DRM 5 Mode	Active power generation limited to 0%	1	5
DRM 6 Mode	Active power generation limited to 50%	2	5
DRM 7 Mode	Active power generation limited to 75% Reactive power set to max sinking (inductively)	3	5
DRM 8 Mode	Increase power generation	4	5

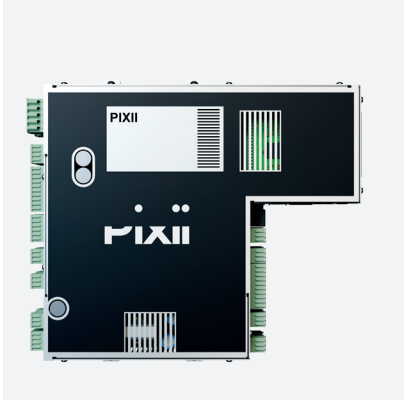
4) The PixiiBox OEM Kit supports all Demand Response Modes specified in AS/NZS 4777.2 with the responses shown in the table.
Note - External contactor is needed for multimode operation.

Typical Pixii BESS topology



PixiiBox bi-directional AC/DC converter, 48/3300

DRM interface card



Pixii Gateway Controller

Pixii Power Shelves - Illustration showing 30kW 3RU'