

xStorage Home



**EATON**  
*Powering Business Worldwide*

**NISSAN**  
MOTOR CORPORATION

# Technical specifications

## System overview

The following **Table 1** provides a general overview of battery capacity and inverter power range combinations that can be integrated together with the PV solar system. Physical properties of the system are included as well.

**Table 1 System combinations**

xStorage Home single phase system combinations overview						
Battery Capacity (nominal)	AC Inverter Power (nominal)			Recommended PV power range	Full system weight (appr.)	Full system dimensions (appr.) H x W x D
	3.6 kW	4.6 kW	6 kW			
4.2 kWh	3.6 kW	4.6 kW	6 kW	from 3 kWp to 7 kWp	135 kg	1230 mm x 890 mm x 220 mm
6 kWh						
10.08 kWh						

## Battery pack

The xStorage Home system offers a range of three battery capacities. Note that the 4.2 kWh which is the smallest in size represents the 2nd life batteries previously used in the Nissan Leaf electric vehicles while the 6 kWh and 10.08 kWh battery packs use new batteries. **Table 2** provides a technical specification for all three different battery packs.

**Table 2 xStorage Home battery pack technical specifications**

Battery pack	BATTERY TYPE		
	SECOND LIFE	NEW	
Nominal capacity	4.2 kWh	6 kWh	10.08 kWh
Cell chemistry	LMO (Lithium Manganese Oxide)		NMC (Lithium Nickel Manganese Cobalt)
DC battery voltage range	74.4 V to 98.4 V		
Battery nominal voltage rating	90 V		
Overcharge protection	Fuse + Contactor		
Depth of Discharge (DoD)	90 %		
Standards	EN 62619:2017; UN 34.81; UN 38.3; CE		
EMC/EMI standard	Class B (EN 61000-6-3:2007; EN 61000-6-1:2007)		
Physical properties			
Dimensions	442 mm x 781 mm x 175 mm (H x W x D)		
Weight	83 kg		

## Hybrid inverter

The xStorage Home system offers three different power inverter ranges. The following **Table 3** provides a technical specification for all three different hybrid inverters.

**Table 3 xStorage Home hybrid inverter technical specifications**

Hybrid inverter	POWER RANGE		
	3.6 kW	4.6 kW	6 kW
<b>PV INPUT (DC)</b>			
Recommended PV power range	from 3 kWp to 7 kWp		
Max. DC voltage	500 V		
Nominal DC operating voltage	100 V to 500 V		
MPPT max. voltage range	240 V to 500 V		
Max. input current	20 A		
Initial feeding voltage	150 V		
Max continuous current	70 A		
Isc PV	35 A		
Max inverter backfeed current to the array	0		
Number of MPPT Trackers	1		
DC insulation resistance	VDE0126 and VDE0126-1-1/A1: $R_{iso} > 1.5 \text{ M}\Omega$ , Others: $R_{iso} > 200 \text{ k}\Omega$		
<b>BATTERY INPUT/OUTPUT</b>			
Nominal capacity	4.2 kWh	6 kWh	10.08 kWh
Cell chemistry	LMO (Lithium Manganese Oxide) and NMC (Lithium Nickel Manganese Cobalt)		
Max C/D DC current	42 A	54 A	70 A
DC battery voltage range	74.4 V to 98.4 V		
Battery nominal voltage rating	90 V		
<b>LOAD/GRID OUTPUT (AC)</b>			
Nominal Output Power	3600 VA	4600 VA	6000 VA
Max. Critical Load	70 % of nominal output power		
Nominal AC Grid Voltage	230 V (Grid-Tie), 230 V $\pm$ 3 % (Off-Grid)		
Nominal frequency	AC Synchronized operation 50 Hz / 60 Hz $\pm$ 1 Hz		
Nominal AC output current	15.6 A	20 A	26 A
Max. AC current	17.4 A <sup>1</sup>	22.3 A	29 A
AC wiring systems	Single phase/N/PE, TN, TT, IT (additional fuse or CB required)		
Total Harmonic Distortion (THD)	< 3 %		
Power Factor	0.99 (Grid-Tie), 0.8 (ind) - 0.8 (cap) (Grid Tie-PF regulation, Off-Grid)		
Metering capability	Power metering of critical loads and PV production		
<b>EFFICIENCY</b>			
MPPT efficiency	> 99 %		
Max. efficiency (battery to AC)	> 90 %		
PV to grid max. efficiency	97 %		
Standby Losses	< 10 W		
<b>INTERFACE</b>			
Communication	LAN, RS-485, USB Host (with USB WIFI dongle)		
	USB: Type B receptacle for firmware upgrade		
	CAN BUS: Only for battery pack - inverter internal communications		
Communications protocols	HTTP, REST, API		
LED indicators	<b>Green (ON):</b> Normal status; <b>Red (ON):</b> Fault status. Inverter is unable to connect to the grid; <b>Green (Blinking):</b> Communication activity		
Display	LCM display: Character 16 words, 2 lines, 3 Function keys		
<b>STANDARDS</b>			
EMC/EMI standard	Class A IEC 61000-3-2; IEC 61000-3-3 (XSTH1P036P048V01); IEC 61000-3-12; IEC 61000-3-11 (XSTH1P046P048V01 and XSTH1P060P048V01)		
Standards	EN 62109 (part 1:2010, part 2:2011); DIN V VDE V0126-1:2013		
<b>PHYSICAL PROPERTIES</b>			
Dimensions	515 mm x 796 mm x 182 mm (H x W x D)		
Weight	37 kg		

1. For UK installations, as per G83 certification of the product, Maximum AC current is below 16 A via the product firmware.

## General specifications

Please find below an overview of the technical specifications applying to the fully integrated xStorage Home system.

**Table 4 General technical specifications**

General system specifications	XSTORAGE HOME SYSTEM	
	Applicable for all system combinations	
<b>SAFETY</b>		
Degree of protection	IP20 <sup>2</sup>	
Hazard substance restriction	Lead free, compliance with RoHS GP2	
Standards	CE - LVD: 2014/35/EU; EMCD: 2014/30/EU (EN 61000-6-3:2007+A1:2011; EN 61000-6-1:2007); RoHS: 2011/65/EU (EN 50581:2012)	
Protective Class	I	
<b>OPERATING CONDITIONS</b>		
Storage temperature range	from -10 °C to 40 °C	
Operating temperature	0 °C to 30 °C	
Humidity	5 % to 95 % Relative Humidity (Non condensing)	
Acoustic noise	35 dB (indoor application)	
Altitude	Elevation: max 2000 meters	
Cooling	Natural airflow	
<b>OTHERS</b>		
Solar DC Switch	Integrated	
Topology	Transformerless	
Grid integration	AC coupled	
Grid certificates	DE (VDE-AR-N 4105:2011-08; DIN VDE V 0124-100:2012-07); UK (G83/2, G59/3-2, G83-1 for Northern Ireland); FR (UTE C15-712-1, Enedis/ERDF-NOI-RES_13E:2016, SEI REF04_V6 for non interconnected area); IT (CEI 0-21); BE (C10-11); SP (RD 1699:2011); EU (EN 50438:2013)	
Common use cases	Grid tie: self-consumption; Off-grid: backup	
OV category	OVC II (PV and Battery), OVC III (AC grid/load)	
Degree of pollution	2	

2. Indoor, with all power cables connected

## Warranty

Please find below an overview of the warranty applying to the fully integrated xStorage Home system.

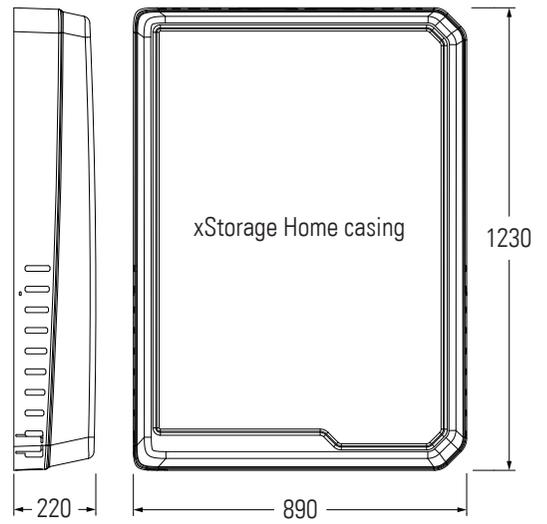
	3.6 kW	4.6 kW	6 kW
4.2 kWh	5 years <sup>3</sup>		
6 kWh	10 years <sup>3</sup>		
10 kWh			

3. full cycle per day i.e. one Charge/Discharge

The following images in **Figure 1** and **Figure 2** provide an external overview of the xStorage Home system.



**Figure 1: xStorage Home 3D casing model**



**Figure 2: xStorage Home casing dimensions**





*Powering Business Worldwide*

**Eaton**  
EMEA Headquarters  
Route de la Longeraie 7  
1110 Morges, Switzerland  
Eaton.eu

© 2018 Eaton  
All Rights Reserved  
Publication No. TD700001EN / CSSC-1300  
May 2018

Eaton is a registered trademark.  
All other trademarks are property  
of their respective owners.