



PARTNER

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Xpower ESS

3.8kW / 5.0kW / 6.0kW / 7.6kW
10kWh~20kWh

All-in-One Residential Energy Storage Solution

Xpower ESS FEATURES & COMPONENTS

Safe & Reliable

- Integrated ARC fault protection and rapid shutdown transmitter
- NEMA 4X protection level^①
- Automatic black start function

Superior Performance

- Stacked installation, saving installation costs
- Up to 3 MPPTs
- Up to 200% oversizing allowed
- Maximum 16A PV input current, support high power solar panel
- Peak efficiency: 98%
- Up to 4 ESS in parallel
- Support Maximum 200A main panel
- Compatible with 120/208V grid systems

Multi-function Integrated

- Max. 100A generator supported, depending on different BI Version
- Smart load management
- Micro-grid ready, supporting real-time power balance
- Support multiple power distribution solutions (Partial or Whole Home)
- VPP ready, SolaX cloud support resource aggregator (IEEE 2030.5, OpenADR)

AC/DC
coupled
inverter
3.8kW / 5kW
6kW / 7.6kW

BMS
controller

Battery
module
10kWh
15kWh
20kWh

Battery
base

SOLAX
POWER

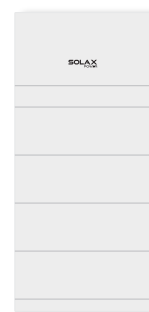
BI

BI PRO

① For inverters and batteries.

Xpower SYSTEM OVERVIEW

System schematic



Rated Output Power [kW]	3.8 / 5.0 / 6.0 / 7.6		
Components (Hybrid Inverter / Battery Management System / Battery)	A1-G2 + TBMS-MCS60060 + 2*TP-HS50	A1-G2 + TBMS-MCS60060 + 3*TP-HS50	A1-G2 + TBMS-MCS60060 + 4*TP-HS50
Nominal Capacity [kWh] ^①	10	15	20
Usable Energy [kWh] ^②	9	13.5	18
Degree of Protection	NEMA 4X		
Net Weight [lb/kg]	345 / 156.5	464 / 210.5	583.1 / 264.5
Dimension (W x H x D) [in / mm]	33.5 x 49.7 x 5.8 / 850 x 1263 x 148	33.5 x 61.5 x 5.8 / 850 x 1563 x 148	33.5 x 73.3 x 5.8 / 850 x 1863 x 148
Altitude [ft / m]	9843 / 3000 MAX		
Cooling	Natural convection		
Topology	Transformerless		
Communication interfaces	RS485, CAN, WIFI (optional) / 4G (optional), Dry Contact		
Warranty	12 years ^③		

① Test Conditions: 0.2C charge & discharge at + 25 °C

② Usable system energy may vary with different inverter settings

③ The 12-year warranty is standard and valid only in North America and can be extended to 15 years.

DC/AC Coupled Inverter

A1-HYB/AC-3.8k-G2

A1-HYB/AC-5.0k-G2

A1-HYB/AC-6.0k-G2

A1-HYB/AC-7.6k-G2

INPUT PV (HYB only)

Maximum recommended PV power [W]	7600	10000	10000	15200
Maximum DC voltage [V] ^①		550		
Maximum operating voltage [V] ^②		500		
Nominal DC operating voltage [V]		360		
Maximum input current [A]		A: 16 / B: 16		A: 16 / B: 16 / C: 16
Maximum short circuit current [A]		A: 20 / B: 20		A: 20 / B: 20 / C: 20
MPPT voltage range [V] ^③		90-500		
Start-up voltage [V]		120		
No. of MPP trackers, Strings per MPP tracker		2, 1 / 1		3, 1 / 1 / 1
DC disconnection switch		YES		

INPUT/OUTPUT AC

Nominal / Maximum apparent AC power @240V [VA]	3816 / 3816	5016 / 5016	6000 / 6000	7608 / 7608
Nominal / Maximum apparent AC power @208V [VA]	3307 / 3307	4347 / 4347	5200 / 5200	6594 / 6594
Peak apparent AC power [VA] (10s, off-grid/backup) ^④	7632	10032	12000	13680
Maximum Load Start Capability ^⑤	50 LRA	60 LRA	70 LRA	100 LRA
Nominal AC voltage [V] / Nominal AC frequency [Hz]		208, 240 / 50, 60		
Nominal AC current [A]	15.9	20.9	25	31.7
Displacement power factor		0.8 leading to 0.8 lagging		
Total harmonic distortion (THD, rated power)		< 3%		

INPUT/OUTPUT BAT

Maximum output power [W]	3816	5016	6000	7600
Maximum charge / discharge current [A]		54		
Reverse-polarity protection		YES		

ADDITIONAL FEATURES

AFCI [®]	YES
Revenue Grade Metering, ANSI C12.20	0.5% revenue grade (optional)
Rapid shutdown transmitter [®]	Integrated PLC controller to RSD

EFFICIENCY

CEC weighted efficiency [®]	97.50%
Maximum inverter efficiency	98.00%

POWER CONSUMPTION

Nighttime power consumption [W]	< 3
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STANDARD

Safety	UL 1741, UL 1741 SA, UL 1741 SB, UL 1741 PCS, UL 1699B, UL 1998, UL 991, CSA C22.2 No.1071-16, CSA C22.2 No.292-18, CSA C22.2 No.330-17, IEEE Std 1547-2018, IEEE 1547-2019, IEEE Std 1547.1-2020, Rule 21, HECO SRD V2.0
Emissions	FCC Part 15 Class B
Grid connection standards	IEEE1547, Rule 21, Rule14 (HI)

INSTALLATION SPECIFICATIONS

Protection class	NEMA 4X
Operating temperature range [°F / °C]	-13 to +140 / -25 to +60
De-rating start temperature [°F / °C]	113 / 45 or above
Storage temperature range [°F / °C]	-13 to +167 / -25 to +75
Relative humidity [%]	0 to 95
Typical noise emission [dBA]	< 30
Over voltage category	IV (electric supply side), II (PV side) ^⑥

GENERAL

Dimensions (W x H x D) [in / mm]	33.5 x 17.9 x 5.8 / 850 x 455 x 148
Weight [lb / Kg]	75 / 34
Communication interfaces	RS485, CAN, WIFI (optional) / 4G (optional), Dry Contact

① The maximum input voltage is the upper limit of the DC voltage. Any higher DC input voltage will potentially result in damage to the inverter

② Input voltage exceeding the operating voltage range may trigger inverter protection

③ Any DC input voltage beyond the MPPT voltage range may result in inverter improper operation

④ It is necessary to use the V2 version of the inverter and battery, and with different numbers of batteries, the peak power is also different

⑤ Load Start Capability may vary under different operating conditions

⑥ The parameters on the PV side take effect only for HYB models

Stackable Batteries

T-BAT H 10.0

T-BAT H 15.0

T-BAT H 20.0

MODEL	100Ah Lithium (LFP)		
Battery type			
Component	TBMS-MCS60060 + 2*TP-HS50	TBMS-MCS60060 + 3*TP-HS50	TBMS-MCS60060 + 4*TP-HS50
NOMINAL CHARACTER			
Voltage [V]	102.4	153.6	204.8
Operating voltage range [V]	90 - 116	135 - 174	180 - 232
Total energy [kWh]	10	15	20
Usable energy [kWh] ^①	9	13.5	18
Battery roundtrip efficiency [%] ^②	95%		
Maximum power [kW]	5.5	8.3	11.1
Maximum charge / discharge current [A]	54		
Cycle life (90% DOD)	6000 cycles		
INSTALLATION SPECIFICATIONS			
Charge / Discharge temperature range [°F / °C]	Charge: 32 to 127.4 / 0 to 53, Discharge: 14 to 127.4 / -10 to 53		
Charge / Discharge temperature range with battery heating [°F / °C]	Charge: -22 to 127.4 / -30 to 53, Discharge: -22 to 127.4 / -30 to 53		
Storage temperature range [°F / °C]	6 months: 86 to 122 / 30 to 50, 1 year: -4 to 86 / -20 to 30		
Relative humidity [%]	0 to 100		
STANDARD			
Certification	UN38.3, UL1973, UL9540, UL9540A		
Hazardous materials classification	Class 9		
GENERAL			
Dimensions (WxHxD) [in / mm] - MCS60060 (BMS)	33.5 x 5.2 x 5.8 / 850 x 133 x 148		
Dimensions (WxHxD) [in / mm] - TP-HS50(BAT)	33.5 x 23.6 x 5.8 / 850 x 600 x 148	33.5 x 35.4 x 5.8 / 850 x 900 x 148	33.5 x 47.2 x 5.8 / 850 x 1200 x 148
Dimensions (WxHxD) [in / mm] - Base	33.5 x 3.0 x 5.8 / 850 x 75 x 148		
Weight [lb / kg]	TBMS-MCS60060: 22 / 10 +2*TP-HS50: 238 / 108 +Base: 10 / 4.5	TBMS-MCS60060: 22 / 10 +3*TP-HS50: 357 / 162 +Base: 10 / 4.5	TBMS-MCS60060: 22 / 10 + 4* TP-HS50: 476 / 216 +Base: 10 / 4.5

① Test Conditions: 90% DOD, 0.2C charge & discharge at + 25 °C

② Maximum Charge/Discharge power may vary with different inverter models

Backup Interface

A1-BI-200

GRID INPUT		
Nominal AC voltage [V]	120 / 208, 120 / 240	
Nominal AC frequency [Hz]	50 / 60	
Maximum continuous AC input current [A]	160	
OUTPUT TO MAIN PANEL IN GRID TIED OPERATION		
Nominal AC output voltage [V]	120 / 208, 120 / 240	
Maximum continuous AC output current [A]	160	
OUTPUT TO MAIN PANEL IN BACKUP OPERATION		
Nominal AC output voltage [V]	120 / 208, 120 / 240	
Imbalance compensation in backup operation [VA]	5000	
Split phase imbalance output current [A]	41.7	
Maximum output current [A]	160	
INPUT FROM INVERTER		
Maximum input overcurrent protection device [A]	200 x 1, 125 x 2	
INPUT FROM 3RD PARTY INVERTER		
Port connected	ESS port on BI or back up panel	
Maximum input current	Depends on battery capacity and A1-G2 inverter power size	
GENERATOR		
Maximum AC power @240V [W]	15000	
Maximum AC power @208V [W]	13104	
Maximum continuous input current [A]	63	
Auto generator start	Yes	
Support charging the battery	Yes	
GENERAL		
Maximum Supply Short Circuit Current [kA]	22	
Busbar Rating [A]	200	
Dimensions (H x W x D) [in / mm]	27.8 x 17.7 x 5.9 / 706 x 450 x 151	
Weight [lb / kg]	69.4 / 31.5	

A1-BI-200

Energy meter accuracy	1%
Communication interfaces	RS485, CAN, Dry Contact
Cooling	Fan
Warranty	12 years
STANDARD	
Safety	UL1741,UL67,UL869A,CSA 22.2 NO.107
Emissions	FCC part 15 Class B, ICES 003
INSTALLATION SPECIFICATIONS	
Altitude [ft / m]	9842 / 3000 MAX
Operating temperature range [°F / °C]	-4 to +140 / -20 to +60
Protection class	NEMA 3R
Typical noise emission [dB]	< 50

Backup Interface Pro

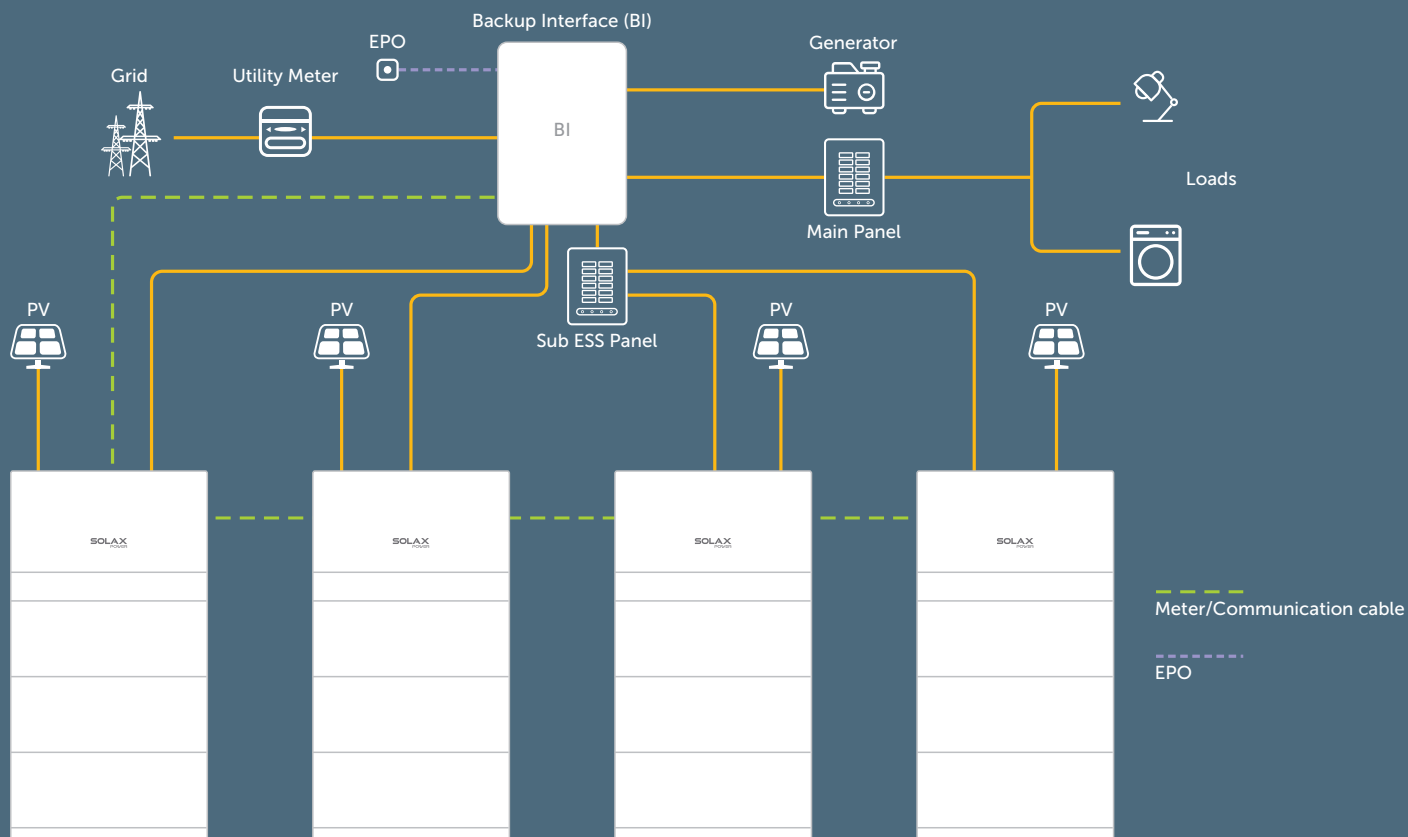
A1-BI-Pro-200

GRID INPUT	
Nominal AC voltage [V]	120 / 208, 120 / 240
Nominal AC frequency [Hz]	60
Maximum continuous input current rating [A]	160
OUTPUT TO MAIN PANEL IN GRID TIED OPERATION	
Nominal AC output voltage [V]	120 / 208, 120 / 240
Nominal AC frequency [Hz]	60
Maximum continuous output current rating [A]	160
OUTPUT TO MAIN PANEL IN BACKUP OPERATION	
Nominal AC output voltage [V]	120 / 208, 120 / 240
Nominal AC frequency [Hz]	60
Split phase imbalance output current [A]	41.7
Maximum output current [A]	160
INPUT FROM A1-G2 INVERTER	
Max. number of inverter	4
Maximum input overcurrent protection device ^① [A]	200
INPUT FROM 3RD PARTY INVERTER	
Solar inverter production meter	Optional
Port connected	Solar port on BI Pro or back up panel
Maximum input current	Solar port :64A ; Back up panel: Depends on battery capacity and A1-G2 inverter power size
GENERATOR	
Maximum AC power @240V [W]	24000
Maximum AC power @208V [W]	20800
Maximum input overcurrent protection device ^① [A]	125
Maximum continuous input current [A]	100
Auto generator start	Yes
Support charging the battery	Yes
SMART LOAD	
Number of "Maximum Smart Load 80A" branch [120V]	2
Number of "Maximum Smart Load 50A" branch [120V]	4
Combine 120V branches to 240V / 208V branch	Yes
GENERAL INFO	
Maximum Supply Short Circuit Current [kA]	22
Busbar Rating [A]	280
Number of dry contact	4
Number of communication RS485 ports	4
LED display	3
Weight [lbs / kg]	100.3 / 45.5
Maximum elevation [feet / m]	9842 / 3000
Noise [dB]	< 40
Operating temperature range [°F / °C]	-4 to +113 / -20 to +45
Protection rating	NEMA 3R
Dimensions [H x W x D] [in / mm]	32 x 22 x 7.3 / 813 x 559 x 185
Warranty [years]	12
STANDARD COMPLIANCE	
Safety	UL1741, UL67, UL869A, CSA 22.2 NO.107
Emissions	FCC part 15 Class B

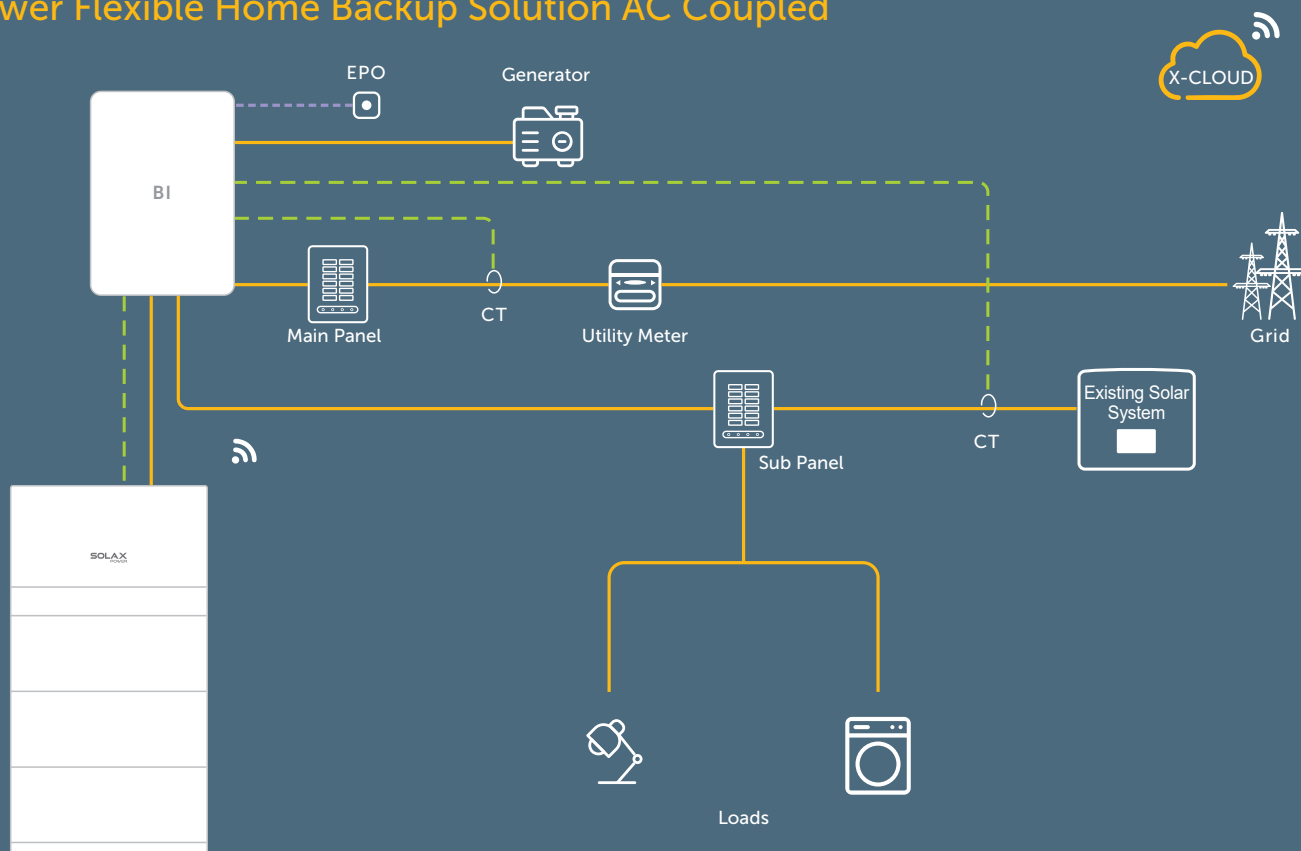
① Not included. Installer must provide correctly rated breaker as per circuit breaker list above

Xpower Energy Storage System (Parallel Operation)

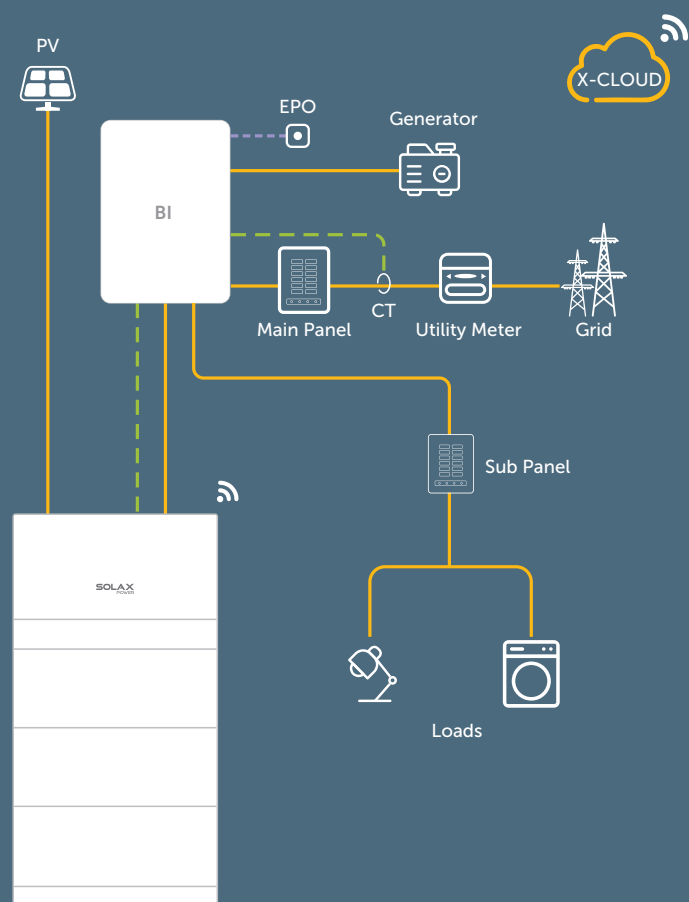
- Compatible with existing PV system
- Up to 4 battery modules stackable, 20kWh each system
- Up to 4 systems in parallel, 7.6kW *4 =30.4kW, 20kWh*4=80kWh
- 160A BI supported



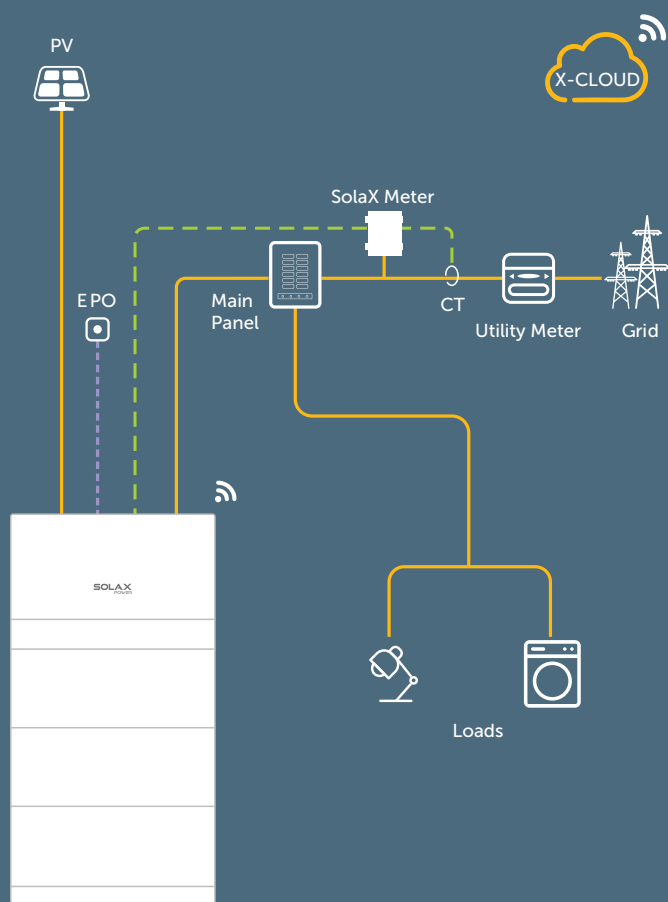
Xpower Flexible Home Backup Solution AC Coupled



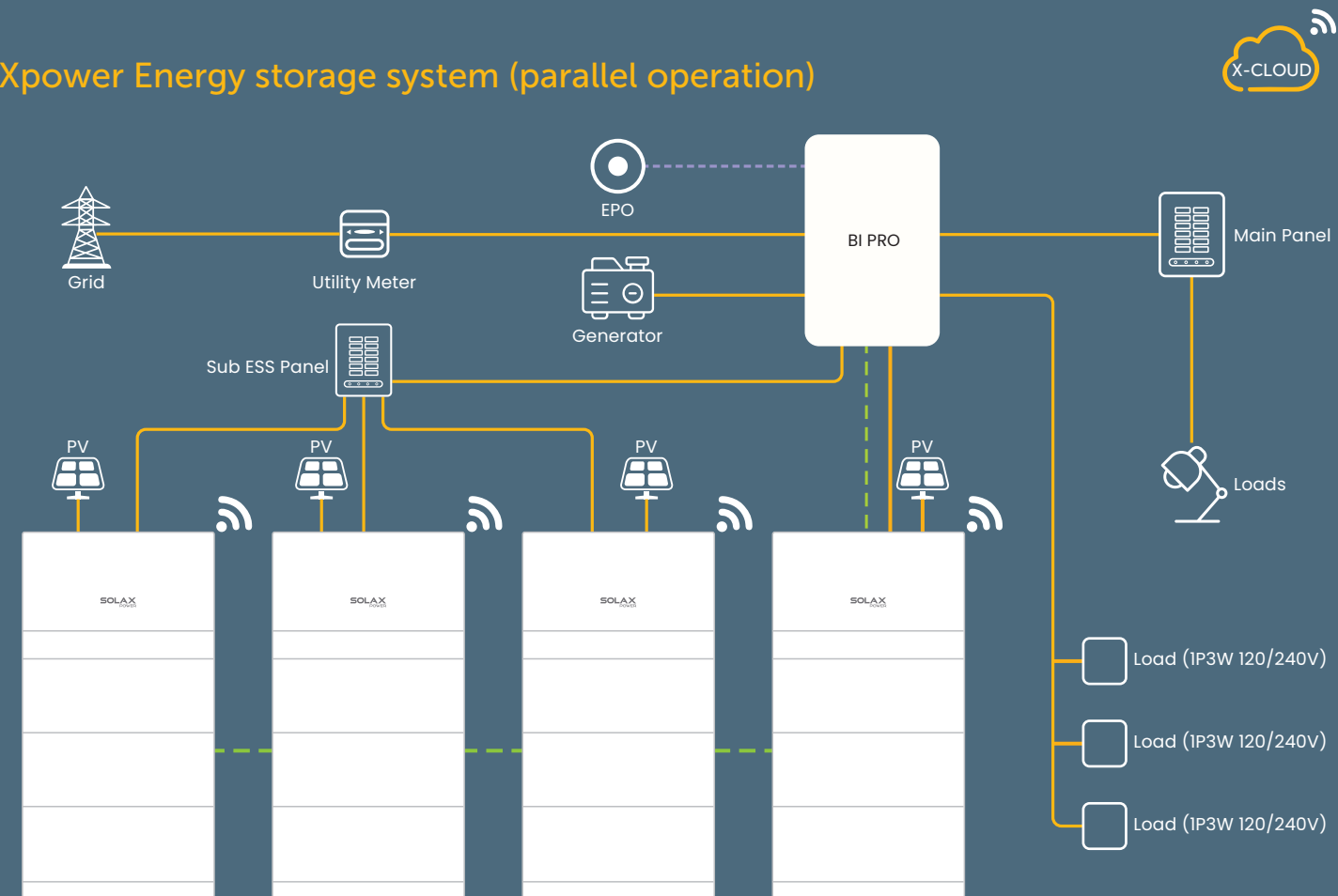
Xpower Flexible Home Backup Solution



Xpower Flexible Home On-grid Solution



Xpower Energy storage system (parallel operation)





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