

INTEGRATED SOLAR STORAGE SYSTEM

Model: PES1



PROVEN, RELIABLE, COST EFFECTIVE.

HIGH CAPACITY SOLAR STORAGE.

AC CONNECTION READY.

PES1 is a truly complete AC output fully integrated solar storage system with excellent power characteristics that is reliable, flexible, scalable and suitable for a multitude of off-grid and on-grid applications, from remote communities to facilities with high power needs.

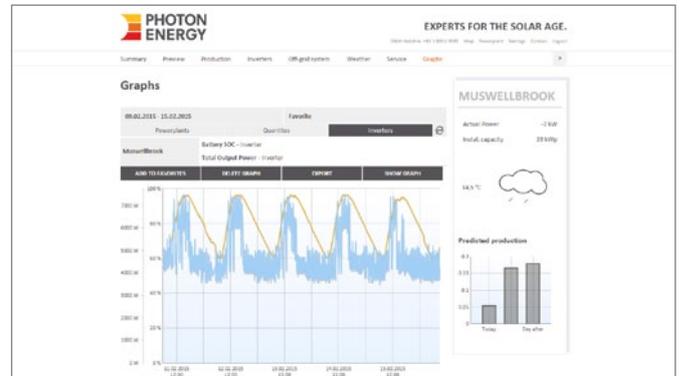
Single and multiple containers can be integrated flexibly within a single SCADA controlled and supported energy system in the following configurations:



PES1 Possibilities

Nominal power AC	6 kW–300 kW
Maximum power 5 min	8 kW–390 kW
Energy storage capacity	100 kWh–2.1 MWh
Nominal PV Power DC	18 kWp–1 MWp
On-Grid	AS 4777 compliant
Off-Grid	AS 4509 compliant

PES1 is the conclusion of many years of development work and full scale reference deployment data to find an optimal solution using readily available tried and tested technologies in one integrated system. The system is built around our professional supervisory control and data acquisition SCADA controls which are highly reliable and use smart algorithms to optimise performance and extend battery life. The whole system is remote monitored and controlled with a manned control room and technical support 24 hours a day. The system uses top quality maintenance free Valve Regulated Lead Acid sealed batteries combining extreme current capacity, long design life, deep cycling and inherent reliability and safety. Battery charging and AC power is delivered through tried and tested island and grid-tied inverters that supply high quality true sinewave, low THD power.



PES1 is delivered in special tempered insulated 20 foot containers, pre-configured and tested and ready to install with minimum on-site works even in hard to reach locations.



AC Output (load)	Nominal power	12000 W
	Maximum power 5 min	18000 W
	Number of phases	3
	Rated output voltage	400 V
	Frequency	50 Hz
	Maximum efficiency	96%
	Waveform	True sine THD < 4%
DC Input PV array	Nominal PV power	39000 Wp
	Max. input voltage	150 V
	Max. input current	780 A
	Number of MPPT's	13
	Inputs per MPPT	1
AC Input backup generator	Nominal input power	11500 W
	Number of phases	3
	Rated input voltage	400 V ±15%
	Frequency	50 Hz ±20%
Battery bank	Energy storage capacity	216 kWh
	Battery type	VRLA-GEL
	Charging stages	Bulk, Absorption, Float, Equalize
Protective devices	AC output short circuit	Yes
	AC output overload	Yes
	AC output overvoltage protection	Class II
	AC input short circuit	Yes
	AC input overload	Yes
	PV array short circuit	Yes
	PV array overload	Yes
	PV array disconnection	Yes
	PV array overvoltage protection	Class II
	Battery deep discharge	Yes
	Battery earth fault	Yes
	Over temperature	Yes
	Controls	Solar irradiance sensor
Wind speed sensor		Yes
3G modem		Yes
Ethernet		Yes
RS485		Optional
Relay outputs		8
Web-based dash-board		Yes
General data	Dimensions (L × W × H)	6055 × 2435 × 2590 mm
	Gross weight	9750 kg
	Operating temperature range	-10°C–45°C
	Protection rating	IP54 Outdoor
Compliance	CE	
	IEC 62109	
	AS 4086.2	
	AS 4509	
	AS 4777	