

ES-AC Series

The perfect storage solution for
new and existing PV systems



Colour graphic display



Portal for monitoring
incl. free APP



Emergency power capable



Compact dimensions

More. Future.

Technical data

	2300 ES-AC	3000 ES-AC	4500 ES-AC
Battery charge			
Battery type	Lead-acid / Lithium		
Battery voltage range	40 V - 65 V		
Battery current range	35 A (programmable)	66 A	100 A
Maximum charging / discharging power	1.5 kW ⁽¹⁾	3.0 kW ⁽¹⁾	4.5 kW ⁽¹⁾
Discharge strategy	3-stage, adaptive with maintenance		
Temperature compensation	As standard		
AC inputs			
Mains connection	Single-phase		
AC voltage range	230 Vac ± 15 % ^(*)		
Mains frequency	50 Hz		
Maximum input current	32 A		
AC output			
Mains connection	Single-phase		
Sn nominal power	1.7 kVA	3 kVA	4.5 kVA ^(?)
P maximum active power	2.2 kW	3 kW	4.5 kW ^(?)
Q maximum reactive power	2.2 kVA	3 kVA	4.5 kVA ^(?)
AC voltage range	230 Vac ± 15 % ^(?)		
Output nominal current	7.4 A	13 A	19.6 A
Contribution to the short-circuit current	32 A		
Mains nominal frequency	50 Hz		
Frequency range	47 Hz - 53 Hz ^(?)		
Cos φ	1 (adj ± 0.80)		
Maximum smax power in BACKUP	2.2 kVA	3 kVA ^(?)	4.5 kVA ^(?)
Intervention time	< 5 sec ^(?)		
THD	< 3 %		
Operating performance			
Maximum efficiency	97 %		
European efficiency	96 %		
Battery typical efficiency	94 %		
Protective devices			
Battery polarity reversal	As standard		
Battery overload protection	As standard		
Safety interlock	Integrated		
AC short-circuit protection	As standard		
Interface protection and anti-islanding	In compliance with local legislation		
RCMU (Residual Current Monitoring Unit)	As standard		
Battery galvanic isolation	As standard		
AC Overvoltage protective device (MOV + SURGE PROTECTOR)	As standard		
Battery overvoltage protection (MOV)	As standard		
Equipment			
AC connector	Screw terminal strip, M25 cable gland		
Battery connection	Screw terminal strip, M25 cable gland		
Battery automatic isolator	Integrated		
Circuit breaker AC inputs	As standard		
Circuit breaker AC output	As standard		
AC-BY-PASS switch	As standard		
Display	Graphic Touch Screen 4.3" colour LCD		
Interface	USB, CAN Bus, Ethernet, RS485, WLAN (optional via USB-Stick)		
External alarm signal	As standard		
Data logger	Integrated		
Standard warranty	5 years / optional 10 years		



The quality management system of SOLARMAX GmbH is certified according to ISO 9001:2015.

(1) Charging and discharging capacity can vary greatly depending on the temperature and state of charge of the battery.

(2) The range is based on the grid connection standard applicable in the country of installation.

All rights, modifications and errors excepted.

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and start directly!



Until
10 YEARS
Warranty

Technical data

	2300 ES-AC	3000 ES-AC	4500 ES-AC
Ambient conditions			
Ambient temperature		- 20 °C ... + 60 °C	
Power derating temperature range		+ 40 °C ... + 60 °C	
Storage temperature		- 30 °C ... + 70 °C	
Relative humidity		5 % ... 95 % without condensation	
Noise levels		< 50 dB(A) @ 1 m	
Maximum operating altitude without derating		2,000 m	
Classification of the degree of pollution		PD 3	
Category of the installation environment		Interiors without air conditioning	
Standard data			
Protection rating		IP21	
Overvoltage category (IEC 62109-1)		II (Battery input), III (AC input and output)	
Ventilation		I-cool	
Dimensions (W x H x D)	476 mm x 730 mm x 160 mm	710 mm x 650 mm x 150 mm	
Weight	20 kg		< 30 kg
Fitting system		Wall bracket	
Safety			
Protection class		I	
Insolation level battery - AC		Safety transformer	
Certifications		CE	
EMC and Safety standards	EN 62109-1; EN C-2; EN 61000-6-2; EN 61000-6-3; EN 61000-3-2; EN 61000-3-3; EN 61000-3-11; EN 61000-3-12		
Mains connection standards	CEI 0-21; VDE 0-126-1-1; VDE AR-N 4105		
Other features			
BACKUP/OFF-GRID mode operation		Yes, with integrated lock (²)	
ON-GRID/BACKUP/OFFGRID selection mode		Yes, automatically	
Network support (network service)		Yes, if the norm requires it	
Management of residential loads		Yes, with home automation board (optional)	



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Lithium-ion batteries

Pylontech US2000 Plus

LiFePO4 Modular batteries of the latest generation

The Pylontech US2000 Plus lithium-battery represents the latest technological frontier for storage applications for photovoltaic systems and offers an extended 10-year warranty. The simplicity and modularity of the US2000 Plus (capacity of 2.4 kWh) makes it suitable for the implementation of small and large capacity energy storage systems that can be expanded to meet current and future energy needs.

LiFePO4 lithium technology also offers the following advantages:

- Expandable at any time, as each unit has its own BMS.
- The internal molecular structure of LiFePO4 batteries is more stable and therefore safer.
- Scalable from 2.4 kWh to 19.2 kWh.



Tested and certified for the perfect operation with the Storage system ES compact and the ES-AC series from SOLARMAX

Technical data*



US2000 Plus

Exit	
Nominal voltage	48 V
Rated current	50 A
Capacity	2.4 kWh
Operating voltage	45 V - 54 V
Charging voltage	52.5 V - 54 V
Maximum peak discharge current	100 A per 1 minute
Maximum peak charging current	100 A per 1 minute
DOD	90 %
Data bus	
Communication bus	RS232, RS485, CAN
Communication protocol	YD/T 1363.3-2005
Environment & dimensions	
Number of cycles	> 6.000 with 90 % DOD
Dimensions	440 mm x 89 mm (2U) x 410 mm
Weight	24 kg
Discharge temperature range	- 10 °C ... 50 °C
Charging temperature range	0 °C ... 50 °C
Storage temperature range	- 40 °C ... 80 °C
Rules in force	Transport: UN3090 / EMC: IEC 61000, EN 55022 / surrounding: GB/T 2423 / Seismik: GR-1089
Markings	TÜV, CE, UN38.3, TLC



(*) All data of the battery manufacturer can be found on the internet. Subject to change without notice.

The US2000 Plus lithium-ion battery is a product of from Pylontech.