THE HYBRID SYSTEM WITH INVERTER FOR NEW TRIPHASE PHOTOVOLTAIC INSTALLATIONS

- Ra.Store-**3** **is** a hybrid system with inverter for **new three-phase photovoltaic plants**
- Ra.Store-**3** **is** suitable for both the industrial and residential sectors
- Ra.Store-**3** **is** The solution for storing the energy to use it during the evening, at night, or during the day instead of injecting it into the network, thus **maximizing the consumption**
- Ra.Store-**3** **is** an **all-in-one integrated system** in which all elements are contained in a single elegant cabinet available in different colours
- Ra.Store-**3** **is** equipped with **Lithium-Iron-Phosphate batteries, scalable** to 21.6 kWh with deliverable power of 6000 to 10,000 W
- Ra.Store-**3** **is** able to power consumers in case of blackout (**EPS mode**) and gives continuity to photovoltaic production
- Ra.Store-**3** **is** equipped with a **free monitoring system** for the lifetime of the device
- Ra.Store-**3** **is** designed and manufactured in **Italy**
- Ra.Store-**3** **is** compliant UK regulations (see datasheet)
- Dimensions (WxHxD – mm): 1045x1245x545

ATON S.R.L. The legal address: Via Nuova Circonvallazione, 57/B - 47923 Rimini RN
Sede Operativa: Via Guido Rossa, 5-41057 Spilamberto (MO)-Tel: + 39 059/783939 Fax: + 39 059/784323
Email: Info@atonstorage.com Web site: Www.atonstorage.com

The system includes

Teleassistance - System of Telecontrol Via web **Free** for the lifespan of the device

Monitoring system Via **App**, viewable on PC, Tablet and Smartphone either for installer or for the user **Free** for the lifespan of the device

Warranty 10 years on the complete machine Linked to Telecontrol via web

Colour Available Colours:

Red RAL3002; Yellow RAL 1023; Black RAL 9005; Light Gray RAL9006

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Technical Data Sheet

Model - Ra. Store-3	5K	6K	8K	10K
DC input				
Max input power DC W	6000	8000	10000	12000
Max input Voltage Vmax PV (Absolute Maximum DC [V])	1000	1000	1000	1000
Input Voltage Range DC [V]	200 ÷ 950	200 ÷ 950	200 ÷ 950	200 ÷ 950
MPP Voltage Range (full Load) [V]	230 ÷ 800	230 ÷ 800	370 ÷ 800	370 ÷ 800
No. Independent Regulators MPP	2	2	2	2
No. Strings to Input MPP	1/1	1/1	1/1	½
Max input current (per string/for MPP) A	11/11	11/11	11/11	11/20
Max Short Circuit Current (per String/for MPP) [A]	14/14	14/14	14/14	14/23
Compatible With modules in amorphous silicone	Not	Not	Not	Not
Security Certificate of the photovoltaic module connected to the storage system	IEC 61730	IEC 61730	IEC 61730	IEC 61730
N° DC Inputs other than PV	0	0	0	0
AC (On-Grid) Output/input				
N° Inputs/Outputs “On-grid”	1	1	1	1
Type of power supply	Sinusoidal Three Phase	Sinusoidal Three Phase	Sinusoidal Three Phase	Sinusoidal Three Phase
Max active Power at output @ Cosϕ= 1 [W]	5000	6000	8000	10000
Max calculated power output VA	5000	6000	8000	10000
Voltage range [V]	342 ÷ 440	342 ÷ 440	342 ÷ 440	342 ÷ 440
Nominal Frequency [Hz]	50/60	50/60	50/60	50/60
Nominal current at the output A	7.2	8.7	11.6	14.5
Max current at the output A	8.0	9.6	12.8	16.0
Max short-circuit current Inverted (AC exit On-Grid to the PV) [MA]	0	0	0	0

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Startup Max Current from the output AC On-Grid) [A]	27	27	27	27
Max default output current A	9.0	10.6	13.8	17.0
Adjustable phasing Selector	0.8 over-excited 0.8 under-excited	0.8 over-excited 0.8 under-excited	0.8 over-excited 0.8 under-excited	0.8 over-excited 0.8 under-excited
Distortion factor THDi	< 2%	< 2%	< 2%	< 2%
Nominal current at the input A	7.2	8.7	10.1	10.5
Max current at the input A	8.0	9.6	11.2	11.2
AC output (EPS-Back up)				
Type of power supply	Three-phase sinusoidal	Three-phase sinusoidal	Three-phase sinusoidal	Three-phase sinusoidal
Nominal calculated power [VA]	5000	6000	8000	10000
Peak calculated power (60 sec)	10000	12000	14000	14000
Nominal Voltage [V]	400	400	400	400
Nominal Frequency [Hz]	50/60	50/60	50/60	50/60
Nominal output current A	7.2	8.7	11.6	22.8
Max short circuit current Inverted (from the exit AC EPS-Back up to the panels) [MA]	0	0	0	0
Connection of the neutral conductor	Connected to ground	Connected to ground	Connected to ground	Connected to ground
Battery				
Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4
Nominal Battery Voltage (V)	48	48	48	48
Nominal Battery Voltage in Min Configuration [V]	192	192	192	240
Voltage Range V	170 ÷ 500	170 ÷ 500	170 ÷ 500	170 ÷ 500
Max charging voltage (Referred to a configuration of 8 battery module) [V]	500	500	500	500
Max charging Voltage (Referred to a Standard configuration Battery Modules)	Self-regulating by BMS	Self-regulating by BMS	Self-regulating by BMS	Self-regulating by BMS

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[V]				
Max charging current A	25	25	25	25
Max discharging current A	25	25	25	25
Max Stored Energy For each battery pack KWh	2.4	2.4	2.4	2.4
Rated Calculated Power In	4800	4800	4800	6000 charge/discharge VA
N° of Battery Modules in Standard config	4	4	4	5
Max Storable Energy KWh	9.6	9.6	9.6	12
Max usable energy KWh	7.68	7.68	7.68	9.8
Usable energy (DoD 90% EPS Mode) KWh	8.64	8.64	8.64	10.8
Dod	80%	80%	80%	80%
DoD in EPS mode	90%	90%	90%	90%
N ° of Working Cycles min	>4500->8000, for details please refer to the Pylontech battery datasheet			
Maintenance required	No Maintenance required	No Maintenance required	No Maintenance required	No Maintenance required
Battery Ra. Store-3 options				
N° of Additional/Total Modules	1 ÷ 4/5 ÷ 8	1 ÷ 4/5 ÷ 8	1 ÷ 4/5 ÷ 8	1 ÷ 3/6 ÷ 8
Max Storable Energy KWh	19.2	19.2	19.2	19.2
Max Usable energy KWh	15.36	15.36	15.36	15.36
Storable energy KWh	2.4 KWh * N ° Modules	2.4 KWh * N ° Modules	2.4 KWh * N ° Modules	2.4 KWh * N ° Modules
Usable energy KWh	1.92 KWh * N ° Modules	1.92 KWh * N ° Modules	1.92 KWh * N ° Modules	1.92 KWh * N ° Modules
Usable energy (DoD 90% EPS Mode) KWh	2.16 KWh * N ° Modules	2.16 KWh * N ° Modules	2.16 KWh * N ° Modules	2.16 KWh * N ° Modules
Min power in charge/discharge VA	1200 VA * N ° Modules	1200 VA * N ° Modules	1200 VA * N ° Modules	1200 VA * N ° Modules
Nominal Voltage Battery Groups (Vdc)	48 V * N ° Modules	48 V * N ° Modules	48 V * N ° Modules	48 V * N ° Modules
Battery Ra. Store-3B plus options				
N° min additional modules	4	4	4	4
N ° max additional modules	16	16	16	16
Max Storable Energy KWh	57.6	57.6	57.6	57.6
Max Usable energy KWh	48	48	48	48

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Protections				
Surge Protection	yes	yes	yes	yes
Overheating Protection	yes	yes	yes	yes
Line Protection Ac	Switch Autom. Magneto-Thermal	Switch Autom. Magneto-Thermal	Switch Autom. Magneto-Thermal	Switch Autom. Magneto-Thermal
Protection Batteries	Switch Autom. Magneto-Thermal	Switch Autom. Magneto-Thermal	Switch Autom. Magneto-Thermal	Switch Autom. Magneto-Thermal
Protection Line DC-PV	Circuit breakers + SPD	Circuit breakers + SPD	Circuit breakers + SPD	Circuit breakers + SPD
Protection Line DC-PV To Installer before the accumulation system	Circuit breakers + FUSE HOLDER	Circuit breakers + FUSE HOLDER	Circuit breakers + FUSE HOLDER	Circuit breakers + FUSE HOLDER
Switch time Mode Eps	5 S	5 S	5 S	5 S
General data				
Normal working temperature [°c]	From 0 to + 50	From 0 to + 50	From 0 to + 50	From 0 to + 50
Relative humidity	0% ÷ 95% Noncondensing	0% ÷ 95% Noncondensing	0% ÷ 95% Noncondensing	0% ÷ 95% Noncondensing
Installation	Indoor	Indoor	Indoor	Indoor
Degree of pollution of the installation environment	2	2	2	2
Weight [kg] (standard battery number)	85	85	109	109
Dimensions [L. x H x D] [mm]	1045x1245x545	1045x1245x545	1045x1245x545	1045x1245x545
Montage	On the ground	On the ground	On the ground	On the ground
Grade of Protection	IP20	IP20	IP20	IP20
Class of Insulation	I	I	I	I
Interface				
GPRS (Standard)	2g Dual Band	2g Dual Band	2g Dual Band	2g Dual Band
Wi-Fi Optional	2.4 GHz IEEE STD. 802.11 b/g	2.4 GHz IEEE STD. 802.11 b/g	2.4 GHz IEEE STD. 802.11 b/g	2.4 GHz IEEE STD. 802.11 b/g
LAN (optional)	EnOcean 868 MHz	EnOcean 868 MHz	EnOcean 868 MHz	EnOcean 868 MHz
Certifications and standards				

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Certifications	VDE0126-1-1a1:2012/VDE-AR-N4105/G59-3/AS4777/EN50438/IEC 0-21/IEC62619/ISO13849-2/SN29500/IEC615086/IEC 62109-1/ -2	VDE0126-1-1a1:2012/VDE-AR-N4105/G59-3/AS4777/EN50438/IEC 0-21/IEC62619/ISO13849-2/SN29500/IEC615086/IEC 62109-1/ -2	VDE0126-1-1a1:2012/VDE-AR-N4105/G59-3/AS4777/EN50438/IEC 0-21/IEC62619/ISO13849-2/SN29500/IEC615086/IEC 62109-1/ -2	VDE0126-1-1a1:2012/VDE-AR-N4105/G59-3/AS4777/EN50438/IEC 0-21/IEC62619/ISO13849-2/SN29500/IEC615086/IEC 62109-1/ -2

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