



Storage Systems

BATTERY STORAGE SYSTEM OUTDOOR BSO 50-88/109



- **All-in-one battery storage system for outdoor use**
- **Outdoor cabinet with protection type IP65 / IP54**
- **Easy & quick installation** – components pre-installed
- **High safety standard** – Gas & smoke sensors, fire protection system
- **Heating & cooling included**



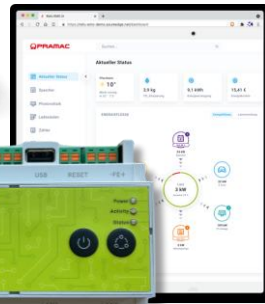
- **Commercial and Industrial Buildings** – Peak shaving, Self-consumption, Time of Use, Multi-Use, Energy Trading
- **Buffer storage for EV fast charging** – Increasing the usable output
- **Agricultural buildings** – Use of PV electricity after end of subsidies
- **Urban storage or new buildings** – Reducing the load on the transformer



- **Pramac Storage Systems** – leading supplier of power electronics
- **Proven technology** – For a wide range of battery applications
- **Strong team** – With a global partner
- **Reliable energy storage solutions** – Indoor / Outdoor / Container



BATTERY STORAGE SYSTEM OUTDOOR BSO



TECHNICAL DATA OUTDOOR SYSTEM	BSO 50/109	BSO 88/109
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Battery data		
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Total capacity (kWh)		109
Rated capacity (kWh) (90% DoD)		98
Rated voltage (Vdc)		736
Max. Charge/discharge current (A)		148
Cell type		Li-Ion (LFP) Pouch
Cycles @ 90% DoD 65% SoH 1C/1C		7.300

Battery Inverter	PBI 50K-PC	PBI 88K-PC
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Rated apparent power (kVA)	50	88*
Rated voltage (Vac)		380 / 400 / 415
Maximum AC current (A)		128
AC grid connection		3P, PE / TT / TN-C / TN-C-S
Rated frequency (Hz)		50
THDi (%)		< 3
AC power factor / range		1 / 0,3i ... 0,3c
Max. Efficiency (%)		98,6
Topology		Transformerless

*Power reduction from 33 °C ambient temperature

Safety devices System		
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Safety devices	Active devices	Permanent monitoring of the Battery cells
		CO sensor
		H ₂ sensor
		Smoke sensor
		Exhaust fan
	Passive devices	Extinguishing system with Novec 1230
		Overpressure flap

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General data			
Operating temperature range (°C)		-20 to +50	
Cooling/heating concept	Battery room	Cooling power 2 kW Heating power 1 kW	
	Inverter room	Smart active cooling	
Dimensions (W×D×H, mm)		1500×1108×2320	
Total weight (kg) Incl. Batteries and Inverter		2.100	
Protection type		IP 65 (Battery room) / IP 54 (Inverter room)	
Max. permissible installation height (m)		2.000	
Corrosion resistance of the housing		C3	
Colour housing		RAL9016 / Pantone 382 C	
Interfaces		RJ45 (Ethernet)	
Certification / Approvals*	Battery system	CE / UN 38.3 / UN 3481 / IEC 62619 / IEC 63056 / UL 1973 / UL 9540A / VDE 2510-50 / EN 61000-6-2 / EN 61000-6-4	
		EU Directives	2014/30/EU / 2014/35/EU / 2011/65/EU / 2015/863/EU
	Battery Inverter	Product Safety	IEC 62109-1 / IEC 62109-2 / IEC 62116 / IEC 61727 / IEC 62477-1 / IEC 61439-1 / IEC 61439-2 / EN 61000-6-2 / EN 61000-6-4
		Grid connection conditions	DIN VDE V 0126-1-1 / VDE AR-N 4105:2018 / VDE AR-N 4110:2018 / TOR Stromerzeugungsanlagen Typ A/B / C10/11 / G99 / CEI 0-16, CEI 0-21 / AS4777.2 / NTS 631, UNE 217002 / EN 50549-1/-2
Warranty**		5 years product warranty 10 years performance warranty	

* All certificates are available online at www.pramac.com

** For details, see current warranty conditions at www.pramac.com

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Pramac Smart Energy Controller (PSEC) PSEC-DMXX

Basic functions



Monitoring – visualization of energy flows & 24/7 historical data



Local & Cloud access



Operations management



Peak shaving



Self-consumption optimization



Time-of-Use



Multi-Use

Interfaces



REST (Cloud & Local), Modbus TCP

Compatible with

Charging stations

EnerCharge | Wallbox | Alpitronic | Mennekes | ABL | Cubos | i-charging

Energy meter / Data logger

Janitza | Acrel | Carlo Gavazzi / SMA | Solar-Log | SunGrow

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