



Storage Systems

BATTERY STORAGE SYSTEM OUTDOOR BSO PRO 90/109



- All-in-one outdoor battery storage system – ON/OFF-Grid capable
- On-Grid 90kVA / 75kVA backup power (120% overload)
- Phase unbalance up to 20kVA (transformerless)
- Black start capable
- Diode load (up to 1kW)
- On/off grid switching ≤ 5 s – Local switch box to ensure grid switching
- High HW safety standard – fire protection system, gas & smoke sensors
- High security due to state-of-the-art SW architecture – encrypted communication, digital cloud twin and 2-factor authentication

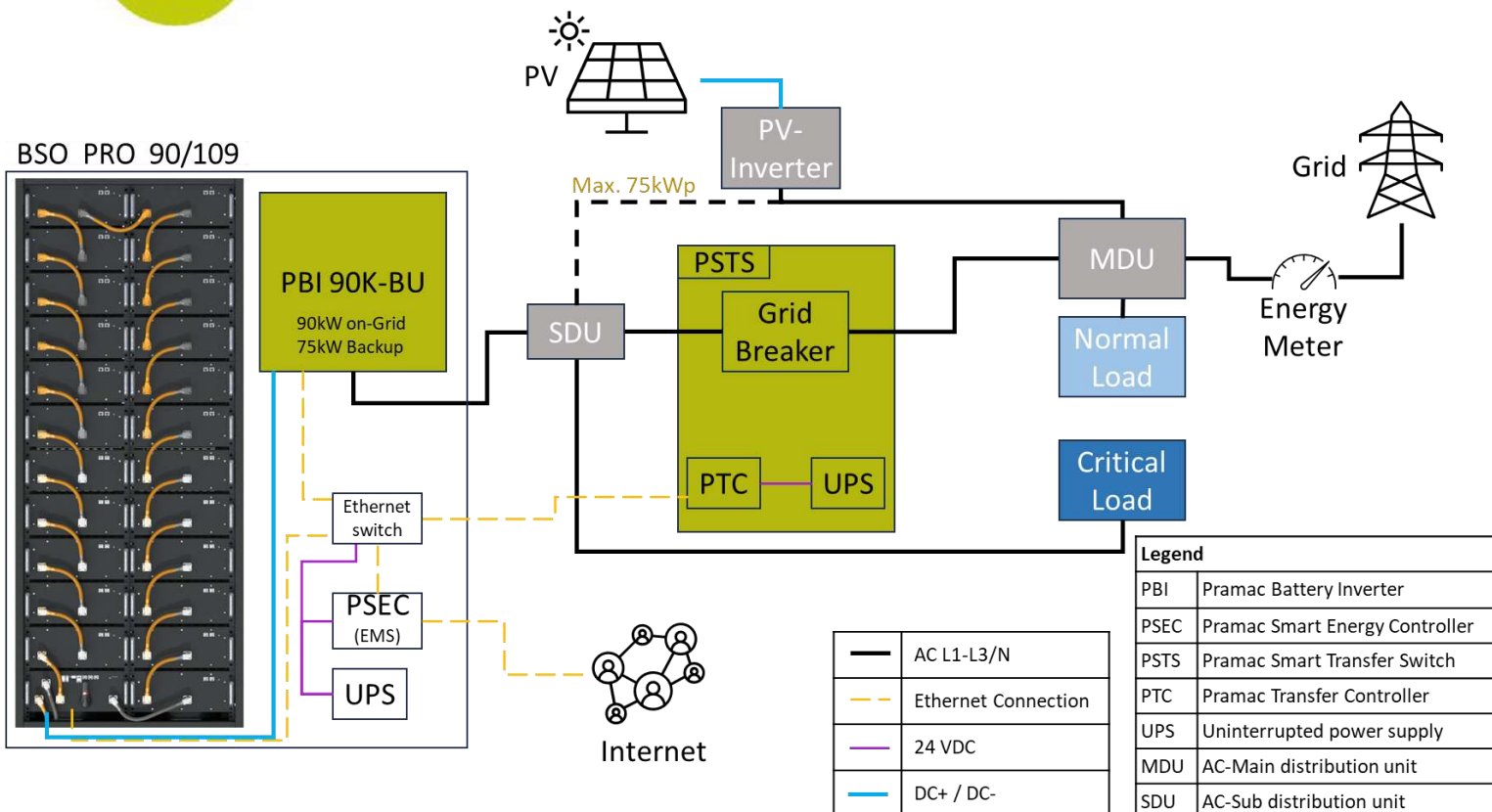


- Higher added value – by reducing operational downtimes
- Autonomous energy supply – supplying critical infrastructure
- Self-sufficiency in remote areas
- Supports the use cases – Self Consumption / Charging solutions / Energy Trading / Peak shaving / Time of Use (ToU) / Grid Services

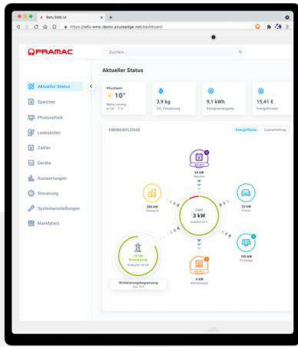


- Retrofitting of existing Pramac systems possible
- Simple integration of the grid control box
- PV installation up to 75kWp in SDU possible

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DATASHEET BSO PRO 90/109



TECHNICAL DATA OUTDOOR SYSTEM

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Battery data

Total capacity (kWh)	109
Rated capacity (kWh) (90% DoD)	98
Rated voltage (Vdc)	736
Cell type	Li-Ion (LFP) Pouch
Cycles @ 90% DoD 65% SoH 1C/1C	7.300

Battery Inverter

PBI 90K-BU

Rated power (kW)	90* (ON-Grid) / 75 (Backup)
Rated voltage (Vac)	380 / 400 / 415
Maximum AC current (A)	130
AC grid connection	3P, N, PE / TN-C-S
Rated frequency (Hz)	50
THDi (%)	< 3
AC power factor / range	1 / 0i ... 0c
Max. Efficiency (%)	98,6
Topology	Transformerless

*Power reduction from 33 °C ambient temperature

Safety devices System

Safety devices	Active devices	<ul style="list-style-type: none"> Permanent monitoring of the battery cells CO sensor H₂ sensor Smoke sensor Exhaust fan
	Passive devices	<ul style="list-style-type: none"> Extinguishing system with Novec 1230 Overpressure flap

DATASHEET BSO PRO 90/109

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		2.150	
Protection class		IP 65 (Battery room) / IP 54 (Inverter room)	
Max. permissible installation height (m)		3.000	
Corrosion resistance of the housing		C3	
Colour housing		RAL9016 Traffic White / 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
	Battery inverter	Product safety	IEC 62109-1 / IEC 62109-2 / IEC 62116 / IEC 61727 / IEC 62477-1 / IEC 61439-1 / IEC 61439-2 /
		Grid connection conditions	VDE AR-N 4105:2018 / VDE AR-N 4110:2018 / TOR Erzeuger Typ A/B / EN 50549-1/-2 More in progress (Q3-Q4/24)
Warranty		5 years product warranty 10 years performance guarantee	

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TECHNICAL DATA	PRAMAC SMART TRANSFER SWITCH (PSTS)
Dimensions (B×H×D)	600 × 1000 × 400 mm
Mounting / Assembly	Floor or wall (Indoor)
Number of poles	4-pole (L1-L3, N)
Rated operational current, AC-23A 400 V	315 A
Terminal bolt size	M10×30
Weight	80 kg

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

Interfaces



Local and Cloud-to-Cloud REST API

Compatible with

Charging stations

EnerCharge

Alpitronic

Energy meter

Janitza

Acrel

Carlo Gavazzi