



Storage Systems

PSEC – Pramac Smart Energy Controller



- Optimised energy management for maximum efficiency
- Improved safety and stability
- Always accessible via cloud-based digital twin
- Mobile App for iOS/Android

High adaptability for wide range of applications



- **Commercial and Industrial buildings:**
Peak shaving, Self-consumption optimization, Time-of-Use
- **Buffer storage for EV fast charging:**
Increasing usable power output
- **Urban storage or new buildings:**
Reducing the load on the transformer
- **Energy trading:**
Open interfaces for participation in the energy market



- Continuous over-the-air (OTA) updates
- All functionalities included ex works - no license model
- New features at no additional cost

Hardware

Technical specification		Pramac Smart Energy Controller
Power supply		• 24 Vdc • UPS for controlled shutdown and recovery
Current input		1.5 A
CPU		• Raspberry Pi CM4 Modul • ARM v8 quad-core 1.5 GHz CPU up to 32 GB eMMC Flash Memory
Working temperature range		+10...+40°C
Humidity range		0-90 % (non-condensing)
Connectors	USB	• V 2.0 Micro-USB AB (OTG-Flash-Port) • V 2.0 USB-A (Host Port)
	LAN	• 10/100 Mbit/s • Dedicated MAC addresses for OT/IT use
	IoT	• 4x internal bus connection module (RS485, RS232, Digital-IO)
Specifications	RTC	Battery-buffered system time
		Battery life: 3 years
	LED	Mains LED – green
		Status LED – multicoloured
		Activity LED (8x) - multicoloured
	Handling	Reset button (push)
		Programmable button (push)
	Security	Dedicated security chip on board (TPM)
	Temperature	I2C temperature sensor
Mounting		DIN-Rail (6 units / DIN 43880)
Dimensions (WxDxH)		106x63x90 mm

Software

Basic functionalities



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



Local & Cloud access



Operations management



Peak shaving



Self-consumption optimization



Time-of-Use



Multi-Use

Advanced functionalities



Load management for charging infrastructure



External control



PV grid feed-in limitation



Remote PV integration

Interfaces



Modbus TCP



REST local



REST Cloud

Supported Third-Party Devices

• AC charging stations

- Mennekes
- Cubos
- ABL

• DC charging stations

- Wallbox
- Alpitronic
- EnerCharge
- i-Charging

• GenSets

- Pramac

• Energy meters

- Acrel
- Janitza
- Carlo Gavazzi
- Siemens

• PV data loggers

- SMA
- SolarLog
- SunGrow