PRAMAC



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

- **Continous 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 adresses 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