WATTSTOR™

WattEMS

Measuring

Electricity consumption of household / specific devices / RES generation

Analyzing

Behavior of home electrical appliances

Optimization

Prediction of demand side management, RES generation, self-learning algorithm

Control

- Renewable energy sources
- Grid use
- Thermal accumulation
- Electrical energy accumulation
- Heating/Cooling systems
- Home appliances
- Electric vehicle charger

Integration

- Share energy - peer to peer
- Virtual power plant
- Smart grid ready
- Grid services

Values

Economical
- Energy bill reduction
- Energy efficiency improvement

Ecological
- CO 2 reduction – eco friendly

Independent
- Higher standard of living

Under control
- Energy monitoring

Technical Data	WattEMS
Energy manager	
Connection to the local router	via Ethernet or Wi-Fi 802.11n
PV inverter	via Ethernet or Wi-Fi (SMA, Fronius, SolarEdge)
Energy meter	Direct data connection (ModBus RTU) Carlo Gavazzi EM24 - three-phase measuring (2 unit recommended for measuring consuption and production) - one-phase measuring (production/consumption in one unit)
Interfaces for energy management Appliances	- Direct connection (Modbus RTU/TCP) - Wi-Fi - Expandable RF module (ZigBee, Z-Wave) * - 2x relay outputs (direct switching) - 2x voltage reference 0-10V - 2x PWM
Victron Energy devices	Direct data connection (VE.Can, VE.Direct) MPPT Solar charger, Invertor/Charger(VE.Bus) and CCGX (Modbus TCP)
Battery management system	- Direct data connection (RS485, CAN bus) - via VE CCGX - Compatible with BYD, PYLONTECH, Victron Energy, BMZ, LG chem RESU
Measuring device	
Temperature sensor input	128 x digital 1-Wire temperature sensor (DS18B20)
Input (voltage and current)	
Voltage range	24-60 V
Power supply	External source or battery
Self-consumption	200mA (less than 5W)
General Data	
Dimension (WxHxD)	161,6x90x60mm
Weight	0,3 kg
Mounting location	Switch cabinet or distribution board
Mounting type	DIN rail
User interfaces	
Status display	Monochrome 128x64 OLED
LED indicator	4 x LED
Button	4x buttons
Online Interface	Online dashboard and control panel
Mobile App	Android and IOS compatible applications
Ambient conditions in operation	
Ambient temperature	–25°C to +40°C
Storage temperature range	–25°C to +70°C
Protection class (according to IEC 62103)	II
Degree of protection (according to IEC 60529)	IP2X
Max. permissible value for relative humidity (noncondensing)	5% to 90%
Features	
External display *	Output for external 128x128 OLED display
External IO unit *	6x on/off control, 6x one wire temperature sensor
SSR driver *	Solid state relay proportional controller

*optional