

# ENERGY MANAGEMENT ASSISTANT

Model: EMMA-A02



#### Unified management

One-stop management of inverters, ESS, optimizers, chargers and appliances



#### More intelligent

Peak shaving, PV preference, feed-in power limitation, and automatic start/stop of diesel generators.



#### More economical

Automatically connect to Nord Pool, supporting peak-valley price arbitrage and zero-power feed-in during negative price periods.



#### Open to 3rd parties

Supports Modbus-TCP and third-party VPP integration, enabling FCR-D frequency modulation.

# EMMA Technical Specifications

Technical Specification	EMMA-A02
General Data	
Dimension(W × H × D)	108 mm × 100 mm × 65 mm
Mounting type	DIN35 Rail
Height requirement of cabinet	≥ 47.5 mm
Weight	0.5 kg
Power Supply	
AC Voltage	1P2W: 100 ~ 240V, 50 / 60Hz    3P3W: 346 ~ 415V, 50 / 60Hz    3P4W: 346 ~ 415V, 50 / 60Hz
Typical power consumption	4 W
Interface	
Power output	9.5 ~ 13.2V @ 100mA, ≤ 3m
LAN	10 / 100Mbps, ≤ 100m
WAN	10 / 100Mbps, ≤ 100m
WLAN	AP + STA, 802.11b/g/n (2.412GHz ~ 2.484GHz)
RS485	9600 / 19200 / 115200bps, × 2, ≤ 50m
Digital input	× 2, ≤ 20 m
Digital output	× 2, ≤ 20 m
Interaction	
LED	LED Indicator × 3 RUN, ALM, COM
Button	RST
APP	Communication by WLAN for Commissioning
Measurement Range	
Current range	Direct connection: ≤ 63 A, external CT <sup>1</sup> : > 63 A
Voltage range	1P (L-N): 85 ~ 299 Vac; 3P (L L): 148 ~ 520 Vac
Energy accuracy	±1%
Device Management	
Smart energy controllers	up to 3
Smart chargers	up to 2
Heat pump	up to 1 <sup>2</sup>
Shelly device	up to 20
Environment	
Operating temperature range	-25 °C~ +60 °C
Storage temperature range	-40 °C~ +85 °C
Relative humidity range	5% ~ 95% RH (non condensing)
Max. operating altitude	4000m (derating over 2000m)
Degree of protection	IP2X
Compatible Device	
Smart energy controller	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-8/10K-LC0, SUN2000-3/4/5/6/8/10KTL-M1, SUN2000-12/15/17/20/25KTL-M5, SUN2000-12/15/17/20/25K-MB0, SUN2000-5/6/8/10/12K-MAPO, SUN5000-8/12K-MAPO, SUN5000-17/25K-MB0
Smart charger	SCharger-7KS/22KT-S0
Heat pump	SG-ready
Shelly device	Shelly Plus Plug S, Shelly Plus 2PM, Shelly Pro 2PM <sup>3</sup>
Smart Scheduling <sup>4</sup>	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-8/10K-LC0, SUN2000-3/4/5/6/8/10KTL-M1, SUN2000-12/15/17/20/25KTL-M5, SUN2000-12/15/17/20/25K-MB0, SUN2000-5/6/8/10/12K-MAPO, SUN5000-8/12K-MAPO, SUN5000-17/25K-MB0+ LUNA2000-5/10/15-S0 / LUNA2000-7/14/21-S1
Dynamic tariff	Automatically connect to Nord Pool electricity market and obtain day-ahead dynamic tariff. (Available in Sweden, Denmark, Finland, Norway, Lithuania, Estonia, Latvia, and the Netherlands.)

\*1. The secondary current of an external CT connected shall be 50 mA, and the cable length can be up to 30 m.

\*2. A heat pump can be directly connected to EMMA-A02. More appliances can be connected through a Shelly device.

\*3. For the Shelly device firmware version supported, please refer to the user manual.

\*4. The smart scheduling function of the EMMA is offered free of charge for two years from the trial start date. After this period, we reserve the right to charge for this service.