The PVIA™ Series
Inverter Accessories & Control

P149E

E24 offers a number of Accessories and Control devices that may be installed as options to its inverters for control and communication purposes

E24 inverters and fit with communication ports allowing them to exchange data in both directions.

E24 offers a range of control accessories allowing to instruct the inverters to perform a number of action including the decrease of power generation when needed.

Other accessories allow the connection of the inverters to the cloud via Ethernet, Wifi or 4G.

Power Control Box

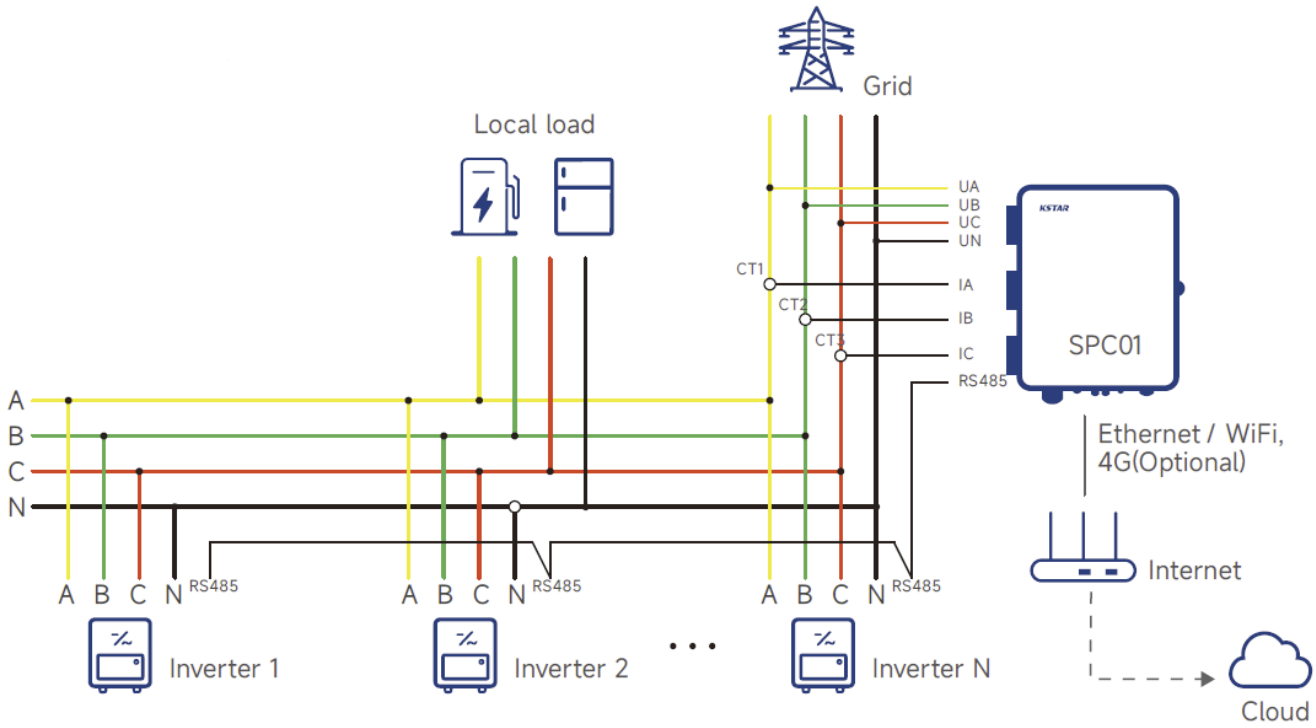
- **Maximum number of inverter up to 80**
- **Maximum distance of inverter communication up to 1000m**
- **Upload the real-time operating data to local monitoring or cloud server Supports multiple communication modes**

The Power Control Box allows to collect data from the current being fed to the grid while it also connects by RS485 to all inverters.

The unit is therefore capable to instruct via RS485, all the inverters to reduce power generation in a manner to reduce to zero the power injected to the grid or to a diesel generator.

Such functionality is required in many cases where the grid does not authorize feed-in or in the case where a diesel generator is operational.

Connection and Specifications



Technical Specifications	ESSM3-PCB
Input	
Rated Input Voltage	230 VAC (L-N) / 400 VAC (L-L)
Input Voltage Range	173 - 480 VAC
Gird Connection Type	3W + N + PE
Rated Input Frequency	50 / 60 Hz
Input Frequency Range	45 - 65 Hz
Lightning Protection Grade	Grade C
Communication	
Inverter Communication	RS-485*4
Max. number of Inverter	80
Max. distance of Inverter Communication	1000 m
Communication	Ethernet / WiFi / 4G (Optional)
HMI	Bluetooth + Indicator Light
Function	
Communication Failure Shutdown	Yes
Remote Update	Yes
Zero Export	Yes
Zero-export Response Time	2s
Zero-export Control Accuracy	3%
Mechanical Parameter	
Dimensions(WxDxH)	420 × 132 × 320 mm
Weight	4 kg
Operation Temperature Range	-25 - + 60°C
Cooling Type	Natural Convection
Max. Operation Altitude	3000 m
Operation Humidity	0 - 100% (No Condensation)
IP Class	IP65
Installation	Wall / Rack Mounted

Communication Module

The Communication module allows the connection of inverters to the logger or the connection of the logger(s) to a central monitoring station through Ethernet or Wifi or to upload data to the cloud directly via 4G for remote monitoring purposes.

Communication Modules Specifications

MODEL	PVIA-WIFI	PVIA-EWIFI	PVIA-4G
Wireless Parameters			
Remote Way	WiFi	Ethernet / WiFi	4G
Number of connect inverters	1		
Data Transmission Interval	Default: 5 mins (1 ~ 15 mins Optional)		
External Interface	N / A	RJ45	Micro SIM card slot
Hardware Parameters			
Working Voltage	DC 5 V ~ DC 12 V		
Working Power	1.5 W	1.5 W	3.5 W
Indicator Light	One connected to inverter One connected to router One heartbeat indicator light		
Data Storage	Default: 8 MByte Flash	Default: 4 MByte Flash	Default: 8 MByte Flash
Working Temperature	-30°C ~ +70°C		
Working Humidity	Relative humidity: 10% ~ 90%, No Condensation		
Storage Temperature	-45°C ~ +90°C		
Storage Humidity	< 40%		
IP Grade	IP65		
Software AT+Instruction set Parameters			
Serial Communication Rate	Default: 9600 bps (1200 ~ 115200 bps Optional)		
Configuration	AT+Instruction Set Localweb Configuration Remote Server Bluetooth		
Firmware Upgrade	Local Web Upgrade; Remote Update		
Working Mode	AP+STA		
Others	Real-time Control, Data Resuming		

It is recommended to use Stick logger (WiFi) for residential systems. And Stick Logger (Ethernet / 4G) is optional.

The 4G datalogger just can be used in Europe. Please contact E24 team for specific available countries.

Energy Meters

PVIA-ACM1 is a DIN rail energy meter for three phase measuring. With integrated RS-485 interface, it allows real-time reading of all relevant data, such as energy (total and partial), current, voltage, frequency, active and reactive power.

Energy Meters Specifications

MODEL	PVIA-ACM1
General	
Network System	3P3W / 3P4W
Nominal Voltage	3 × 230 / 400 VAC, 50 / 60 Hz
Current Measurement Range	Direct Connected: from 0A to 80A, CT Connected: >80 A
Voltage Measurement Range	Direct Connected: from 90V to 500V, PT Connected: from 500 V to 1000 V
Power Comsumption	≤ 1.5 W
Mounting	On 35mm DIN rail
Measurement Category	Category Ⅲ
Pollution Degree	2
Measurement Accuracy	
Current (Direct Connected)	0.5% from 8 A to 80 A, ±0.4 A from 0.4 A to 8 A
Current (CT Connected)	0.5% from 0.5 A to 5 A, ±0.025 A from 0.025 A to 0.5 A
Phase Voltage	Class 0.5
Line Voltage	Class 0.5
Frequency	±0.02 Hz from 45 Hz to 65 Hz
Power	Class 1
Power Factor	±0.02 from -1 to 1
Active Energy	Class 1
Reactive Energy	Class 2
Environmental Conditions	
Operating Temperature	-25℃ to 55℃
Storage Temperature	-40℃ to 85℃
Humidity	5% to 95% RH (non-condensing)
Altitude	≤ 2000 m
Voltage Input (Ph-N)	
Operating Voltage	3 × 230 / 400 VAC, 50 / 60 Hz
Power Dissipation Voltage Circuits	< 0.5 VA per phase
Measurement Range	AC 30 V to 265 V
Current Input	
Rated Current	3 x 1.5(6) A
Power Dissipation Current Circuits	< 0.2 VA per phase
Measurement Range	AC 0.05 A to 6 A
Communication	
Communication Protocol	Modbus
Communication Port	RS-485, half-duplex
Baud Rate	4800 bps / 9600 bps (default) / 19200 bps / 115200 bps
Stop Bit	1 (default) / 2
Check Bit	None (default) / Odd / Even

YDS60-80 smart energy meter is being used along with E24 ESSM3 Series C&I ESS.

' It has not included Current Transformers. For system larger than 50 kW, CT connection is required. Please select the CT that meets the following requirements:

1. The selected CT's primary rating should be larger than the maximum current passing through the system's AC busbar.
2. Maximum Current = system capacity / 230 / 3

'* Please consult E24 for more details.

Hybrid | Storage Inverter | Battery

and much more ...

E24 Modular Range Of Products For Building Easy, Flexible & Evolutive Solutions

E24 products dynamically evolve with the lifestyle and work style of its customers while easing the installation process.

E24 products are conceived in modules allowing for an easy upgrade to adjust with the needs of the customers. Being modular and easy to connect E24 products allow installers to easily configure the required modules for an optimal solution while offering easy upgrade options.

Ordering Information

Ref. Number	Description
PVIA-PCB	Power Control Box
PVIA-ACM1	3 Phase AC Meter without CTs
PVIA-ACM2	3 Phase AC Meter without CTs
PVIA-WIFI	Stick Wifi Logger
PVIA-EWIFI	Stick Ethernet and Wifi Logger
PVIA-4G	Stick Wifi Logger

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