

# IPOEhub

PCB00115 / PCB00117



IPOEhub is an advanced EMS-type controller (Energy Management System) that enables monitoring and control of distributed energy resources (DER), e.g. PV installations consisting of inverters and/or energy storage systems. The device makes it possible to build virtual power plant systems based on the IPOE platform

✓ Device compatible with the system



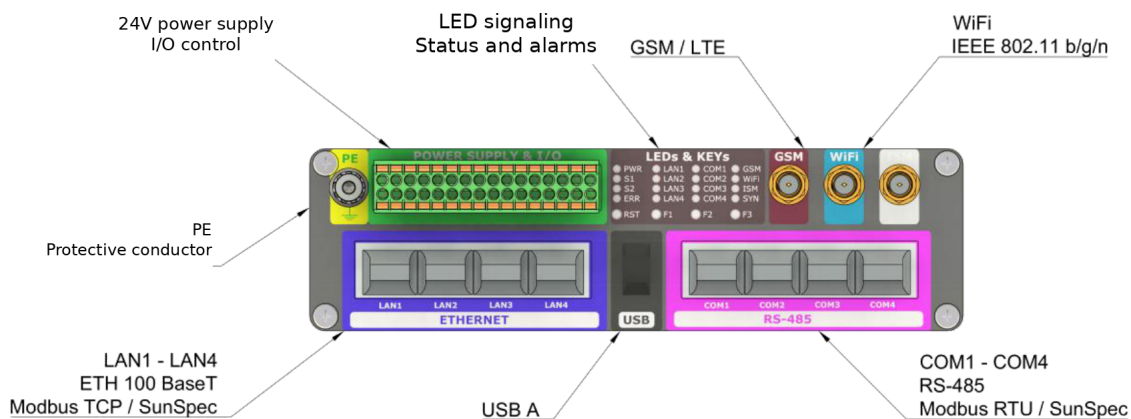
## Applications

- ✓ DER control based on daily schedules
- ✓ Energy export control (zero export)
- ✓ Integration with devices (energy meters, inverters, energy storage systems) compatible with the Modbus TCP/RTU or SunSpec protocol
- ✓ Communication with the system via the mobile network (LTE/2G)
- ✓ Control of external devices (e.g. heat pumps, boilers) via potential-free contacts (4 inputs and 4 outputs)
- ✓ Integration with charging stations (OCPP protocol)

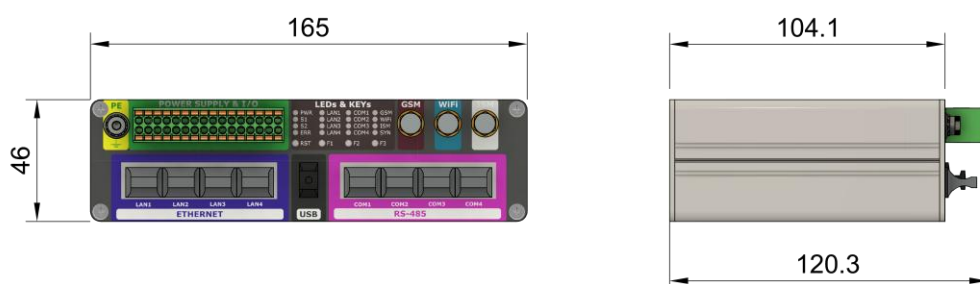
## Advantages

- ✓ Ability to control up to three DER
- ✓ Offline mode (no communication with the system)
- ✓ Independent, secure encrypted communication channel with the system
- ✓ Configuration via built-in Wi-Fi access point and web browser
- ✓ Option to connect a weather station
- ✓ Built-in Ethernet switch
- ✓ Easy installation
- ✓ Fast configuration
- ✓ NIS2 compliance
- ✓ Blocking of energy exported to the grid at negative market prices

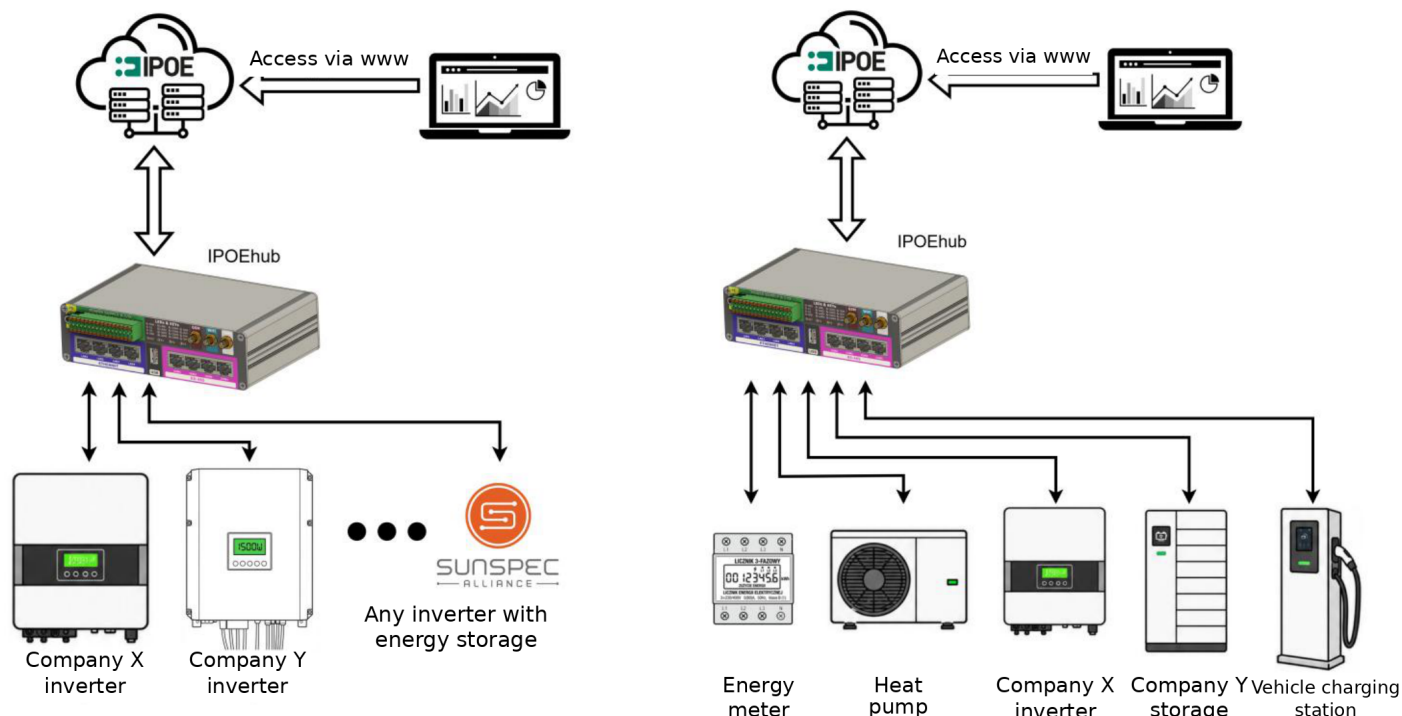
# Device description



# Device dimensions



# Example connection diagram



The full list of compatible devices can be found in the user manual available at [apagroup.pl](http://apagroup.pl)

# Technical parameters

| Power supply                    |                                             |
|---------------------------------|---------------------------------------------|
| Supply voltage                  | 24V DC $\pm$ 5%                             |
| Current consumption (max)       | 1.0 A @ 24V                                 |
| Current consumption (typ.)      | 0.2 A @ 24V                                 |
| Protections                     | Reverse polarity, overcurrent, overvoltage  |
| LAN ports (LAN1–LAN4)           |                                             |
| Standard                        | Ethernet 100Base-TX                         |
| Connector                       | Modular 8P8C (RJ45)                         |
| Cable type                      | F/UTP Cat. 5e                               |
| Communication protocols         |                                             |
| Supported protocols             | Modbus RTU, Modbus TCP, SunSpec, OCPP-J 1.6 |
| RS-485 ports (COM1–COM4)        |                                             |
| Transmission speed              | 9600, 19200                                 |
| Wireless interfaces             |                                             |
| Wi-Fi                           | IEEE 802.11 b/g/n                           |
| LTE                             | B1/B3/B5/B7/B8/B20/B28 B38/B40/B41          |
| GSM                             | 850/900/1800/1900 MHz                       |
| Potential-free inputs/outputs   |                                             |
| Inputs                          | 4 inputs 24V DC                             |
| Outputs                         | 4 outputs max 30V 0.2A                      |
| Environmental conditions        |                                             |
| Operating temperature           | +5°C ... +50°C                              |
| Storage temperature             | -40°C ... +85°C                             |
| Relative humidity               | 5...95% (non-condensing)                    |
| Other                           |                                             |
| Protection rating (PN-EN 60529) | IP20                                        |
| Dimensions                      | 120 x 165 x 46mm                            |
| Weight                          | 585g                                        |

ENERGY



BUILDINGS INDUSTRY



The device supports digital and energy transformation by shifting management processes towards a Data-Driven approach (data-based decision making)

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IPOEhub Datasheet  
Page 3 | 3