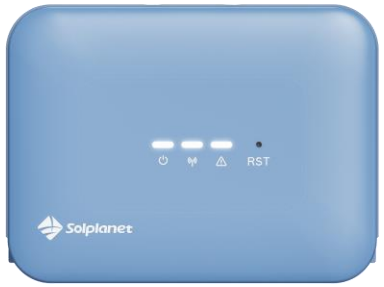
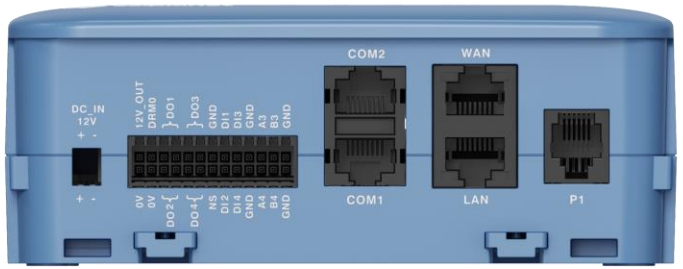
Solplanet
Energy Mgmt. Solutions – Introduction

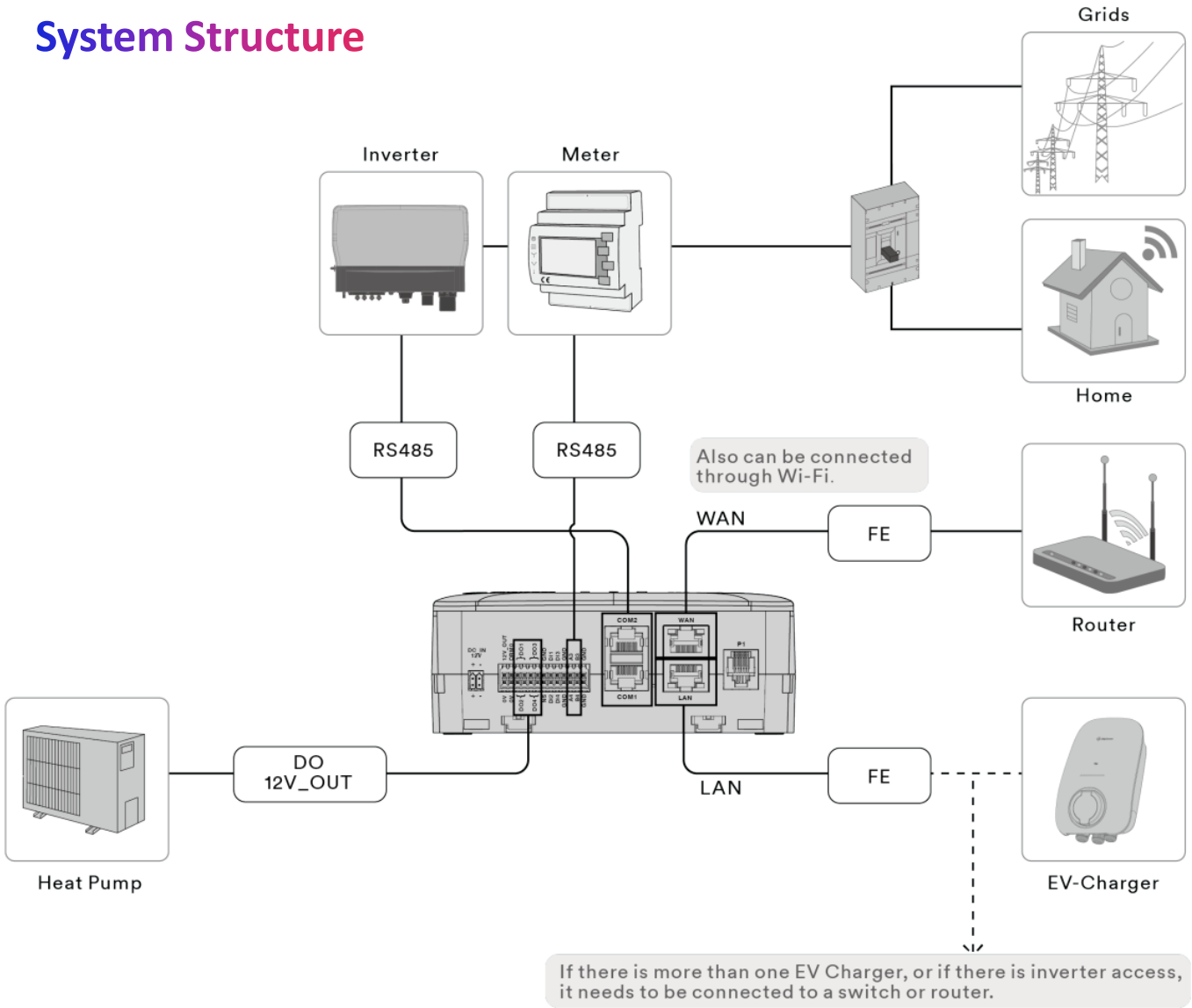
Solplanet Ai-Hub





Connectivity Details

System Structure

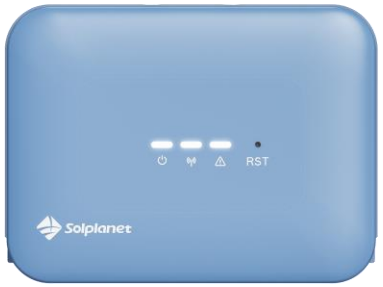


Devices connection with communication ports

Device	Connection Port and Number	Remark
On-grid Inverter	Max. 5 On-grid inverters, accessing in COM1	Southbound
Hybrid Inverter	Max. 5 Hybrid inverters, accessing in COM2 or LAN; if more than one hybrid inverter accesses in LAN, it must be connected through a router or switch	Southbound
Smart Meter	Max. 10 electric meters (one main-meter plus nine sub-meters or zero main-meter plus ten sub-meters); main-meter just can be accessed in COM3, and only one main-meter each system	Southbound
EV Charger	Max. 2 EV chargers, if more than one EV charger, it must be connected through a router or switch	Southbound
Heat Pump	Connected using DO port, if necessary, it can be used with 12V dc output	Southbound
Grid Operator	RCR, accessing in DI1 to DI4, §14a / DRM0, NS	Southbound
P1 Meter	Only for specific area, accessing in P1 port	Southbound
Network Router	Connecting to remote server(APP & Cloud) through WAN port and Wi-Fi	Northbound

Preliminary Datasheet Details

Parameter Name	Ai-Hub G01
Maximum Communication Distance	
Ethernet	100m
RS485	1000m
DI/DO	20m
Northbound Communication Interface	
Ethernet/WAN	1×WAN, 10/100 Mbps, Auto MDI/MDI-X
Wireless/Wi-Fi	2.4GHz + 5GHz Dual Frequency
Southbound Communication Interface	
Ethernet/LAN	1×LAN, 10/100 Mbps, Auto MDI/MDI-X
Serial Port	2×RS485 @ 1000m, RJ45 2×RS485 @ 1000m, 2×3PIN Terminal
Smart Meter Port	1×P1, RJ12
Digital Input Port	4×DI for RCR
Remote Control Port	1×NS Protection
DRM0 Port / §14a	1×DRM0 / §14a
Digital Output Port	4×DO, Dry Contact Output Contact Capacity DC 12V/1A
Power	
DC Input	Rated Input: DC 12V/1A Allowed Voltage Input Range: DC 9.5V~13.2V Dual-power Supply Input
DC Output	DC 12V/100mA
Consumption	Typical 3W; Maximum 8W



Human Machine Interface(HMI)	
Indicators	3×LED; PWR, COM, ALARM
Local Commissioning	Webserver, Nearby APP
Button	One RST Button
Nearby Communication	BLE(Bluetooth Low Energy)
Environmental Parameter	
Working Temperature	-25℃~60℃
Storage Temperature	-40℃~85℃
Relative Humidity	5%~95%RH, Non-condensing
Highest Altitude	3000m
Mechanical Parameter	
Dimensions	W×H×D: 140mm×105mm×54mm (Without Wiring Cover) W×H×D: 140mm×160.4mm×54mm (With Wiring Cover)
Weight	373g
Ingress Protection	IP20
Mounting	Wall-mounting, DIN-Rail-mounting

Inverters Compatibility List

Type of Inverters	Details	Priority/Remark
All On-grid inverters		At release
Three phase hybrid inverters	5-12 kW	At release
Three phase hybrid inverters	15-30 kW	Expected at release but depends on the progress of inverter
Single phase hybrid inverters		Later, at the end of Q2 2025 **need to modify its RS485 communication parameters*
All in one (Micro-storage)		Not supported
EV Chargers	Apollo	At release
Electric meters	Eastron -- SDM 230 and SDM 630 Chint -- DDSU 666 and DTSU 666	At release three phase meter, single phase meter will be later

Features Set

Features	Description	Remark
Monitoring and control of multiple inverters	Mix and match 3ph on-grid PV inverters and 3ph hybrid inverters OR 1ph on-grid PV inverters and 1ph hybrid inverters. At release 3ph and 1ph inverters CANNOT be mixed, this will come with the next update.	At release
Zero-export Control	• No control • Limit power control (incl. zero-export) • Limit current control (but not together with limit power control)	At release
Grid Operator	Ripple control receiver(RCR).	At release
NS protection	Emergency stop switch.	At release
Dynamic Load Balancing (EV Charger)	Monitor the grid connection point and dynamically balance the EV charger power to avoid overloading the main fuses / circuit breakers.	At release
Measure load and power generation	Max. ten meters can be accessed in, nine of them will be used for load and generation.	At release
Parallel Mode	Daisy-chain all inverters and connect them to the Ai-hub. The inverters will work as slave devices as all control is handled by the Ai-Hub.	At release
Smart Battery Planning (Dynamic Tariffs)	The Ai-Hub can also connect to the Solplanet Cloud AI to optimize battery charging and discharging like the T2/T3 inverter.	Expected at release
Heat Pump Control	Ai-Hub provides one or two DO ports to access to the heat pump, set turn on or turn off heat pump through the command from APP/Cloud.	Expected at release
§14a EnWG SteuNA (Steuerung Netzanschl.)	Smart distribution of grid import power limit (as opposed to the simpler SteuVE)	Expected at release
Other features	Basic functions like collect and upload data, sync time, upgrade itself and inverters, and so on.	At release