

Smart Communication Solution

SCB2000

The SCB2000 (Solar Communication Box) is integrated by the following component sections: PLC communication board, data collector Ezlogger Pro board, GPRS module (optional), fiber ring network switch (optional) and three-phase/single-phase switch.

By connecting to a power line, when the SCB2000 combines with an inverter and an integrated PLC module, it can execute power carrier communication functions. The SCB2000 operates as the main device whereas the inverter side plays only a supporting role. The data is transmitted through the power line completing the PLC network. The SCB2000 can also transmit data to the Cloud.



Product Features

01

Communication with the inverter adopts an innovative technology called "Power Line Communication", which makes it unnecessary to use the RS485 communication cables, reducing cable and overall construction costs.

02

The RS485 port is maintained and now can be used to connect to other equipment, such as environment sensors or electrical meters.

03

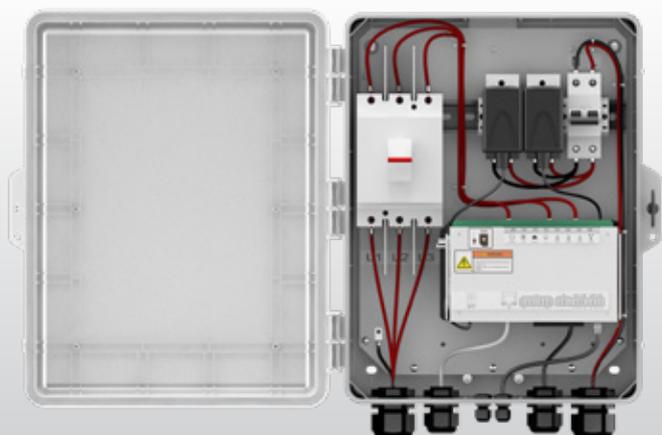
This technology can be used in a very flexible way, according to the specific requirements of the end-user. The user can also choose between LAN, GPRS or Optical Fiber to connect to the Cloud.

04

For the most optimal performance and security, the user can select the optical fiber ring network to improve data security and reliability.

05

In order to ensure the reliability of data transmission, this technology incorporates a function called "data breakpoint retransmission" which ensures continuous data transmission in case of interference.



Technical Data	With Optical	Without Optical
Power supply Input Voltage Range (V)	110-240V 50Hz/60Hz	110-240V 50Hz/60Hz
Rated Power Consumption	≤18W	≤16W
Communication Mode with Inverter	PLC	PLC
Voltage Range of Input AC Line	342~690V	342~690V
Max Length to Inverter	1000m	1000m
Max Quantity of Inverter Connected	30	30
Communication Mode with Server/Cloud	LAN/SC (can form optical fiber ring network) / GPRS	LAN/GPRS
Max Length to Server/Cloud	LAN: 100m; optical fiber: 20km	LAN: 100m
RS485	It can be connected to third-party devices such as environmental monitors	
Other Interface	USB, SD Card	USB, SD Card
Operating Temperature Range (°C)	-25~60	-25~60
Relative Humidity	0~100%	0~100%
Protection Degree	IP65	IP65
Size (Width*Height*Depth mm)	420*320*150	420*320*150
Weight (Kg)	10.5	10

Utilization Scenarios

Traditionally, the RS485 has been used for communication purposes. However, this communication method presents one disadvantage, it requires specific design, routing and layout of RS485 cables, increasing the cost and creating the need for trenching or wiring for construction. In addition, in case of damages, the whole cable installation needs to be ditched and re-wired, making maintenance very difficult.

The utilization of the PLC communication main benefit is that it completely eliminates the need for additional wiring and that the data can be transmitted through the power line. Through a signal sampling cable the Solar Communication Box (SCB2000) is connected to the low-voltage section of the transformer communicating with the inverter through the power line. This technology thus helps to significantly reduce cable associated costs, improving the reliability of the data transmission, and ultimately reducing operation and maintenance costs.

