

PCOMM-801&802 Communication Box



1. Features

- Compatible with normal&double split transformer application
- Comply with all Chint Power inverters
- Pre-configured for Plug & Play
- Capability with Chint Power O&M platform
- Hardware mounted and pre-wired
- IP65 rated enclosure
- Support local real-time monitoring

Chint Power smart combox integrated multi-functional data collector and suitable for C&I and utility systems at different voltage levels. With the function of physical channel conversion, communication protocol conversion, it can meet the requirements of serial inverters data collector, such as Modbus acquisition, Modbus configuration visualization, inverter software batch upgrade and other services. The combox can also compatible with normal&double split transformer application. It has two AC-PLC connectors and each can connect up to 32 inverters.

The data acquisition can support various protocol and it can connect various devices from different manufactures to the background monitoring management platform through Ethernet(IEC104, TCP), RS232 and RS485. Meanwhile it has DI, DO,AI, AO and PT100 connectors for multiple application.

2. Technical Data

Environment Data	COMBOX V1(PCOMM-801A)	COMBOX V2(PCOMM-802A)
Operating Temperature	-30°C ~ 70°C	
Ambient Humidity	5%-95%, Non-condensing	
Storage Temperature	-40°C ~ 85°C	
Altitude	≤4000m	
Ingress Protection	IP65	
Product Parameters		
Product Description	Including: 1*Data Collector, 1*Converter, 1*Air Circuit Breaker, 1*Ethernet Switch Support: Ethernet(Standard), 4G(Optional)	Including: 1*Data Collector, 2*Converters, 2*Air Circuit Breaker, 1*Ethernet Switch Support: Ethernet(Standard), 4G(Optional)
Electric Parameters		
AC Input	100~240Vac, 50/60Hz	
AC-PLC Voltage	1*380V~800Vac, Three-phase	2*380V~800Vac, Three-phase
Communication Interface		
RS232	2*50~115.2kbps	
RS485	4*50~115.2kbps	
Ethernet	2*10M/100M/1000Mbps	
SFP	2*100M/1000Mbps	
Digital / Analog Input / Output	DI*8, DO*4, AI*4, AO*1	
PT100	2	
Communication Protocol		
Ethernet	Modbus-TCP, IEC 60870-5-104	
RS485	Modbus-RTU, IEC 60870-5-103 (standard), DL / T645	
Mechanical Parameters		
Dimensions (W*H*D)	550mm*620mm*260mm	
Weight	10kg	12kg

The sub-array communication scheme is shown as the following figure.

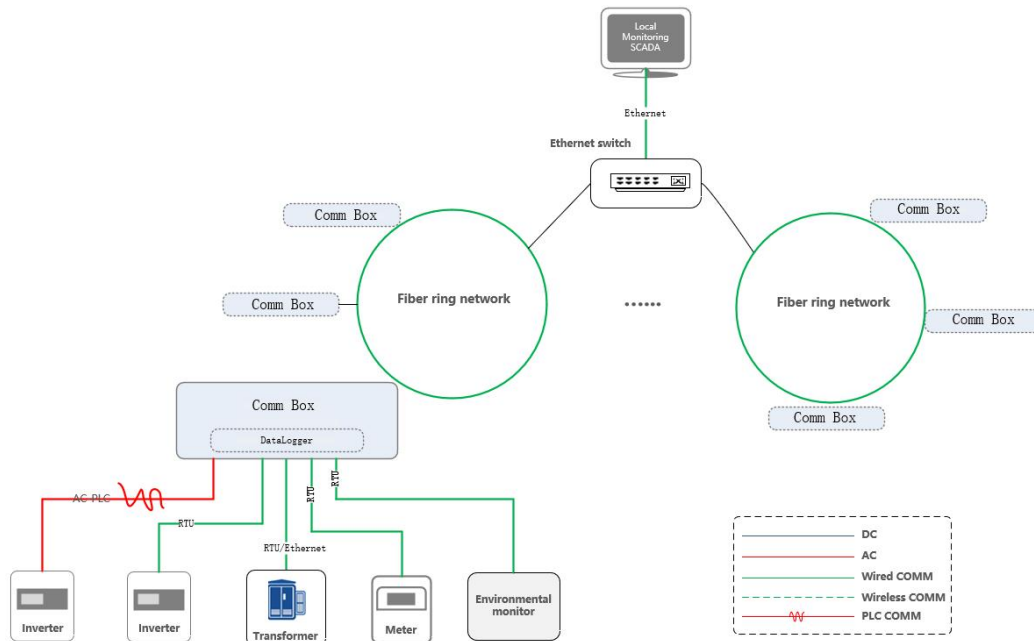


Figure 1. Fiber ring network

3. Power Line Communication

The PLC module consists of master (PLC-M) and slaves (PLC-S), supporting voltage access up to 800Vac. The PLC-M is installed in the Communication Box, while the PLC-S is installed in the inverter. Data transmission and information interaction are achieved through the existing AC cable used as the transmission medium. When utilizing power line carrier communication for data transmission, the transmitter first modulates the data onto a high-frequency carrier signal, which is then coupled to the power line via a coupling circuit after power amplification. The receiver demodulates this signal and uploads the data to the MCU (data processing unit).

Broadband PLC primarily utilizes three-phase power cables as its medium for data scheduling and collection purposes. To implement scheduling functionality, each square array adopts a structure consisting of one master and multiple slaves, with packets being sent in broadcast mode. The datalogger sends out scheduling messages that are modulated into high-frequency signals by broadband PLC-M, demodulated from PLC-S, and subsequently sent to the MCU of the inverter for further processing.

The PCOMM-801 Communication Box supports single-channel PLC, while PCOMM-802 Communication Box supports double-channel PLC, and the application figures are as follows.

- Single-channel PLC application

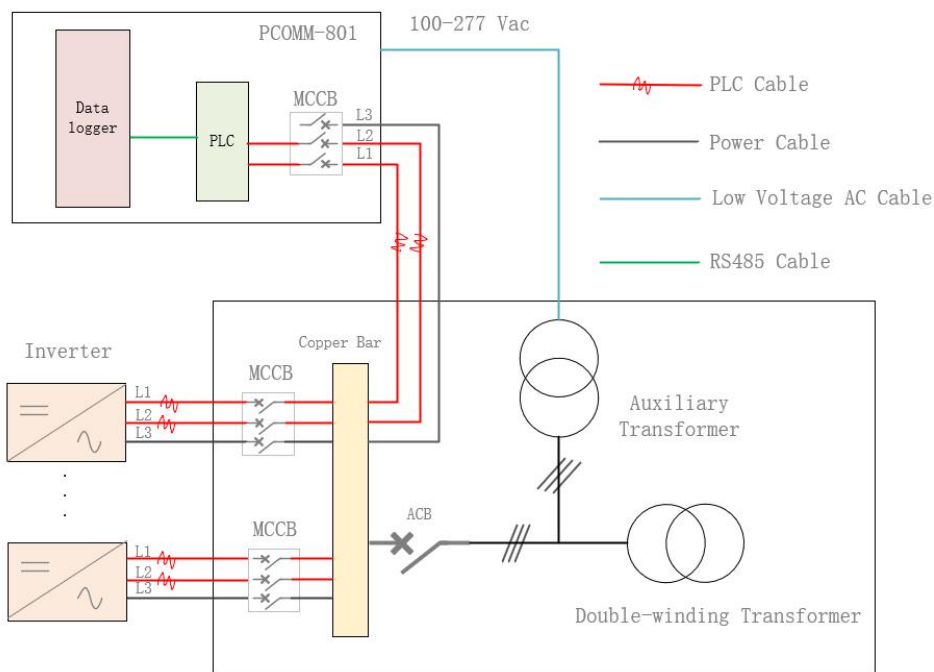


Figure 2. Wiring Schematic Diagram With Double-winding Transformer

- Double-channel PLC application

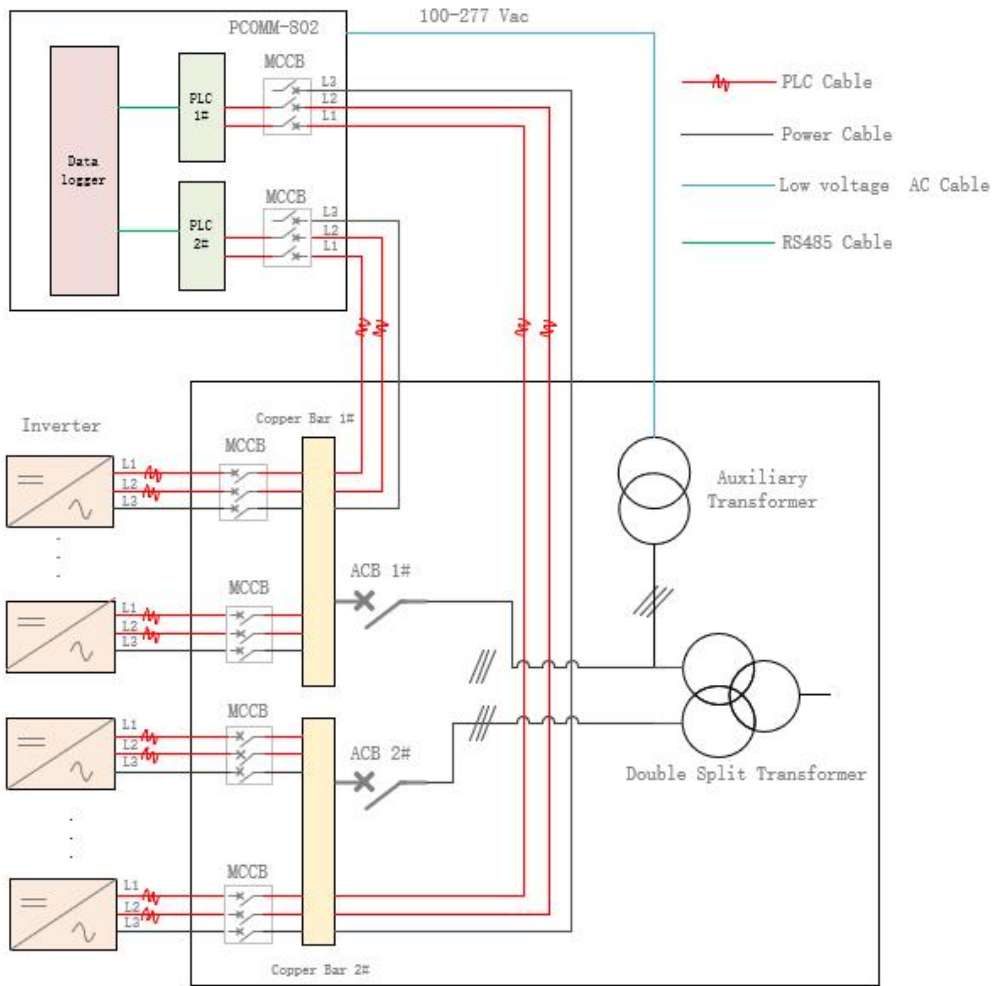


Figure 3. Wiring Schematic Diagram With Double-Split Transformer