Modbus Card Quick Guide

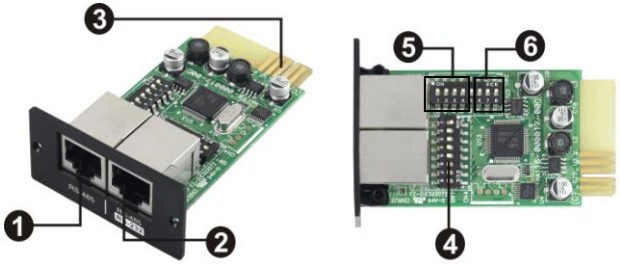
V. 1.0

Thank you for purchasing Modbus Card. This manual contains instructions and warnings that should be followed during the installation, operating and storage of the card. Please keep this manual for further reference.

Special Precautions

- If the card must be stored prior to installation; storage must be in a dry place
- The admissible storage temperature range is -10℃to+70℃.

1. Product Overview



❶ RS-485 port
❷ RS-485/RS-232 port
❸ Golden finger
❹ Address switch
❺ Communication setting
❻ Resistance switch

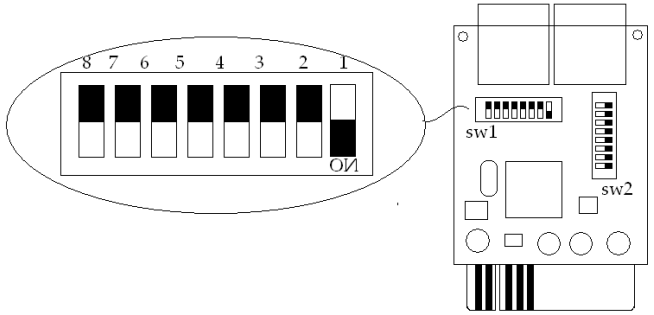
2. Product Introduction

The Modbus card provides UPS and PV inverter systems with the functionality of communication with PCs through MODBUS protocol:

- Implements MODBUS RTU protocol
- Provides MODBUS functions including read Holding Registers and write Registers.
- Provides RS232 and RS485 interface

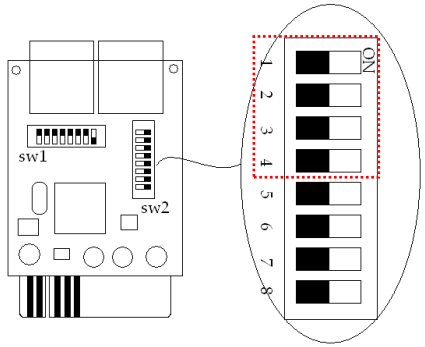
3. Configuration

Machine ID Configuration



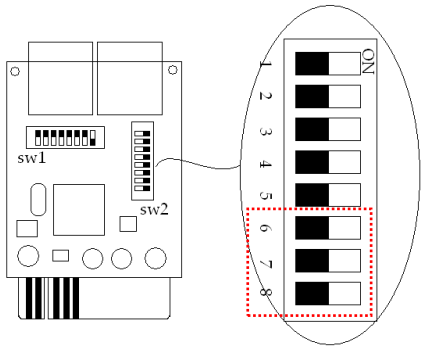
There are eight bits to present ID of each card. Use SW1 to set machine ID. There are eight bits. From left to right, it's 8 to 1. As shown the direction of the card above, when the switch is push down, the bit is set to "one". Otherwise, the bit is set zero. The ID of modbus card is set to 0x01 as above chart.

Communication Format Configuration



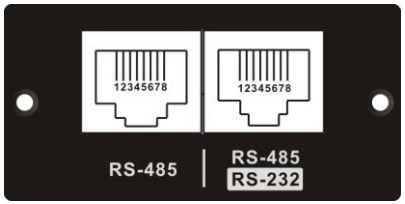
Function	Bit Setting		Meaning
Baud rate	# 1	# 2	
	OFF	OFF	2400bps
	OFF	ON	4800bps
	ON	OFF	9600bps
	ON	ON	19200bps(default)
Parity check	# 4	# 3	
	OFF	OFF	Even parity
	OFF	ON	Odd parity
	ON	OFF	No parity check 1 stop bits
	ON	ON	No parity check 2 stop bits(default)

RS-485 Resistance Configuration



Function	Bit #	Setting	Meaning
Push up resistance	# 6	ON	Enable (Default)
		OFF	Disable
Push down resistance	# 7	ON	Enable (Default)
		OFF	Disable
Terminate resistance	# 8	ON	Enable (Default)
		OFF	Disable

Interface



RS-485 Pin Configuration

Pin	Function
4	RS-485 - B
5	RS-485 - A
8	GND

RS-485 /RS-232Pin Configuration

Pin	Function
1	TXD – transfer data to PC
2	RXD – receive data from PC
4	RS-485 - B
5	RS-485 - A
8	GND

4. Installation and Operation

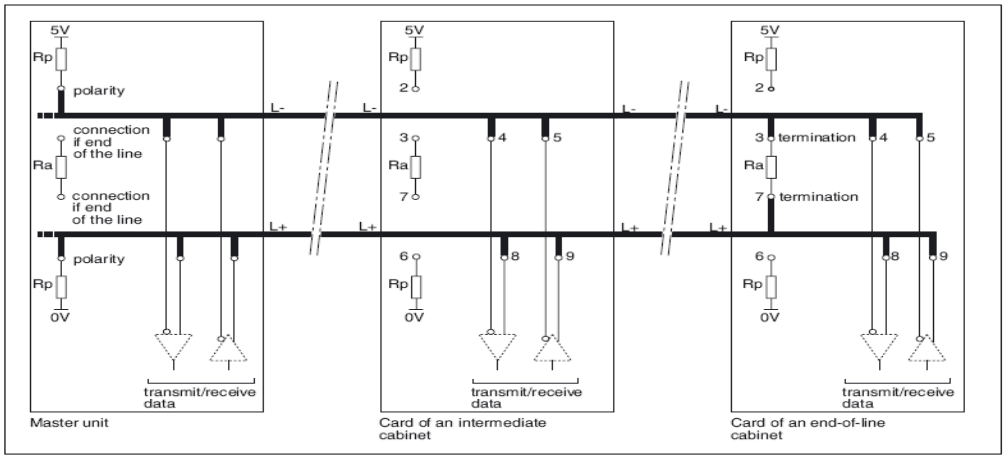
Follow below steps to install and use this modbus card:

1. Configure Modbus ID
2. Configure communication format
3. Configure RS-485
4. Insert this modbus card into intelligent slot
5. Connect modbus card to computer with the RS232 or RS485, and it is not necessary to turn the UPS or PV inverter off.

5. Multiple Monitoring

One modbus card only can be used in one UPS at the same time. When each UPS installed with one modbus card, all UPSs can be monitored from one computer.

Topology refers to the following figure:



Note: If the master unit uses the pull up resister and the pull down resister, the other modbus cards no longer use those resister. And the card of an end of line cabinet use the terminate resister, the other modbus card no longer use the terminate resister.