TRACKSO CONNECTION MANUAL FOR ABB PVS800

Brand: ABB
Type: Solar On Grid Central Inverter
Models: PVS800

CONNECTION DIAGRAM

Type1: PVS800 Inverter with Modbus RTU RS485 Output

PVS800 with Modbus RTU RS485

The communication terminals (RS485) are located over RMBA-01 Module installed in the control unit of the Inverter.

Connection steps

1) Identify RMBA-01 module in the Inverter
2) Install the wires in the appropriate terminals. Data+ to 485+ and Data- to 485- of communication port as shown in Figure A2

ABB Pin No. & Assignment		TrackSo Pin No. & Assignment	
1	485-	4	Data -
2	485+	3	Data +

Table AT1 – ABB connections with TrackSo

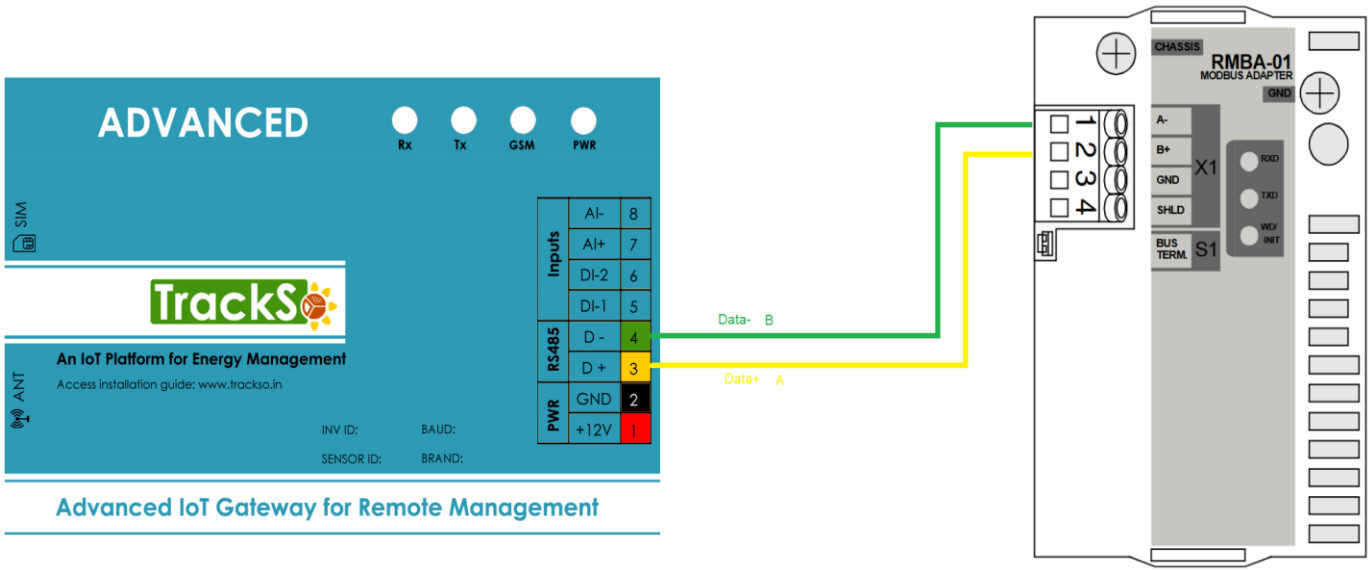


Figure A2- Connection of ABB Communication port with TrackSo

DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

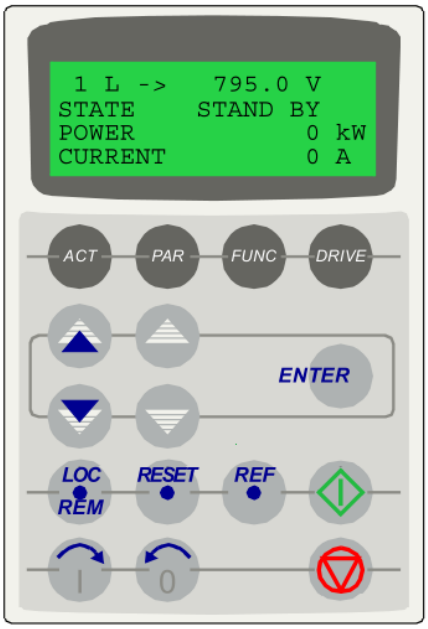
Interface: RS485
Inverter ID: **1, 2, 3, 4 ….** Continuous numbering starting with 1, **(Range:** 1 to 247)
Baud Rate: **9600 (Default) (Values:** 9600, 19200, 38400)
Data Bits: 8 ,Stop Bit: 1 ,Parity: None

CONFIGURATION AT THE INVERTER END

The language is selected at start-up. The control panel has four operation modes:

- Actual Signal Display mode (ACT key)
- Parameter mode (PAR key)
- Function mode (FUNC key)
- Control Unit Selection mode (DRIVE key)

The use of single arrow keys, double arrow keys and ENTER depend on the operation mode of the panel

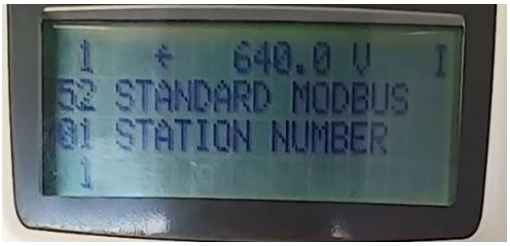


SETTING THE INVERTER ID

The inverter ID is used to identify the inverter in a RS485 connection

I. Set a different inverter ID for each inverter in the PV plant. Otherwise, the inverters cannot be correctly identified.

II. On the last inverter in the RS485 connection, switch on the RS485 termination resistor.



Enter Standard Modbus Section and Select Station Number.

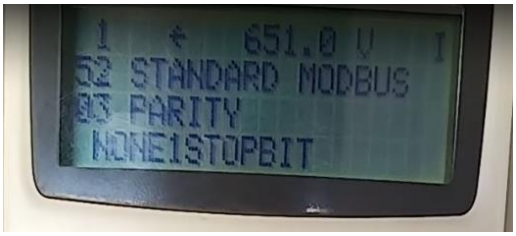
Set id as required or mentioned on Data Logger

SETTING THE BAUD RATE

Set the baud rate to **9600** on all the inverters that you are connecting to data logger

SETTING THE PARITY & STOPBIT

Set the Parity to None and Stop bit to 1



SET DATE & TIME OF INVERTER

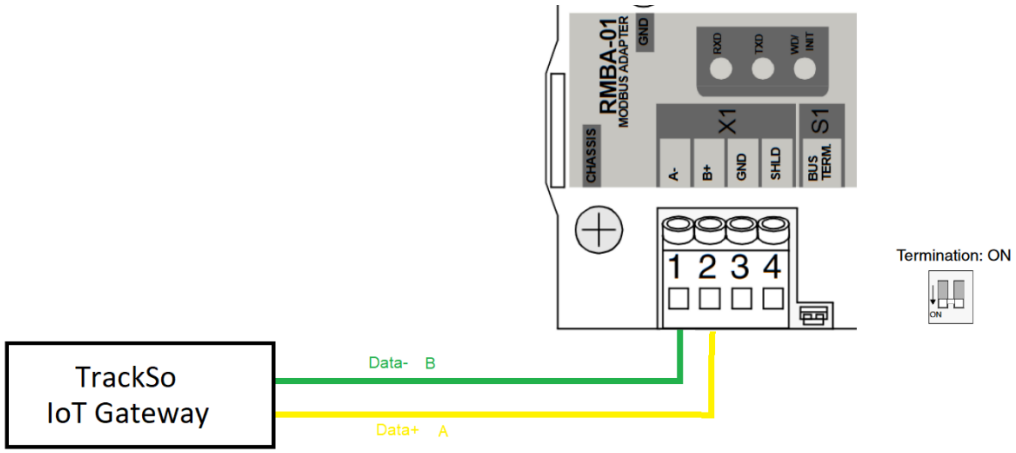
For a precise calculation of the statistics in the inverter itself and in a monitoring system, date and time have to be correct.

← Set the Correct Date & Time

In the Date and Time sub-menu it's possible to sets the date, time and time zone.

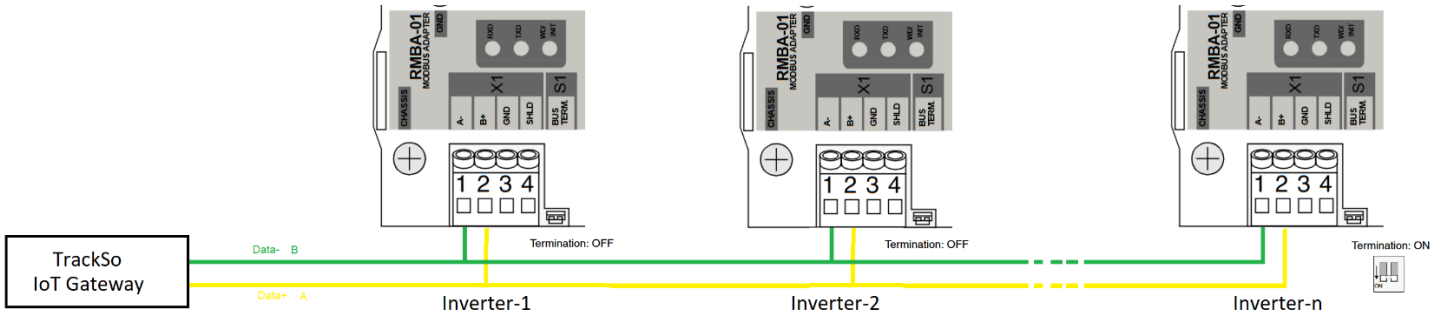
Communication Card Settings

Single Inverter



Bus termination switch (S1)-ON
When connecting a single inverter to the monitoring system, activate the communication line resistance terminal by setting the switch (to the ON position)

Multiple Inverters



Bus termination switch (S1)-ON
The built-in active bus termination must be switched on if the RMBA-01 module is installed at the end of the bus. Otherwise the bus termination must be switched off. Bus termination prevents signal reflections from the bus cable ends.

The above details are mentioned in the Installation & Operation Manual for ABB PVS800.

Type2: PVS800 Inverter with Modbus TCP Output

CONNECTION DIAGRAM

The communication terminals (Ethernet Port) are located over RETA-01 Ethernet Adapter Module installed in the control unit of the Inverter.

Connection steps

1) Identify RETA-01 Ethernet Adapter Module in the Inverter
2) Connect Loggers Ethernet port with the Inverters ethernet port.

Figure A3- Connection of ABB Communication port with Ethernet based Datalogger

DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

Interface: Modbus TCP
Inverter ID: **1, 2, 3, 4 ….** Continuous numbering starting with 1, **(Range:** 1 to 247)
Ethernet IP: As mentioned on Data Logger
TCP Port: 502 (Default)

CONFIGURATION AT THE INVERTER END

The language is selected at start-up. The control panel has four operation modes:

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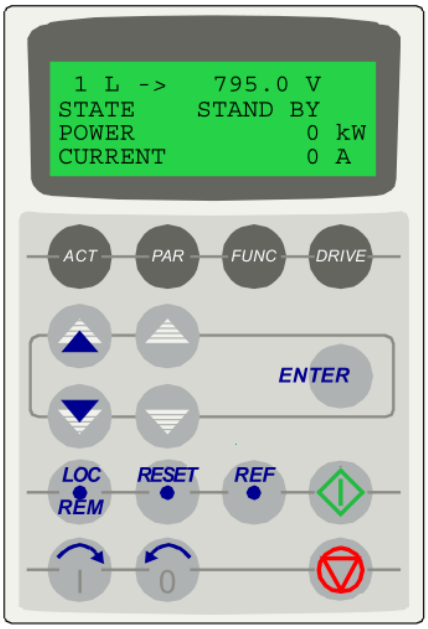
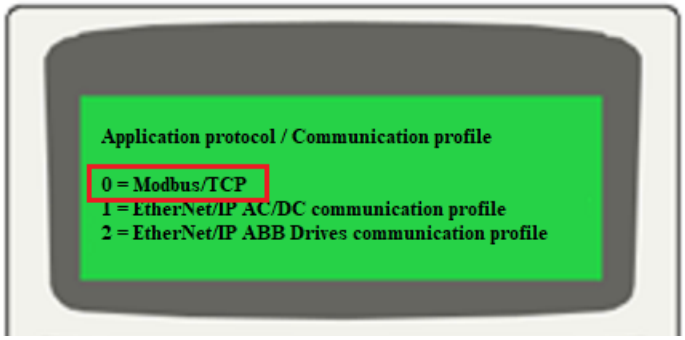
The use of single arrow keys, double arrow keys and ENTER depend on the operation mode of the panel



SETTING PROTOCOL

Selects the application protocol and communication profile for the network communication

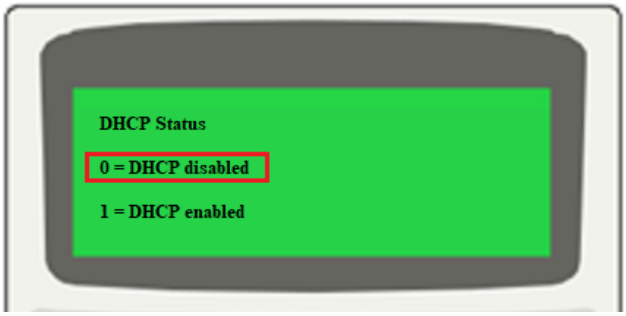
Required Protocol: Modbus TCP



SETTING IP ADDRESS

Via Inverter Screen

1) Disable DHCP



2) Set Unique IP address for each inverter via Screen or DIP Switch
   IP Address: As mentioned on Datalogger

3) An IP address is assigned to each TCP/IP node on an Ethernet network. IP addresses consist of four decimal integers in the range of 0-255 separated by periods, each integer representing the value of one byte (8 bits, octet) in the IP address. These parameters define the four octets of the IP address.

DIP switch (S1) Method

By default, the IP address is defined by software. Setting any DIP actuator to ON enables hardware selection. DIP actuators 1 to 8 define the last octet (1 to 254) of the IP address in binary. Actuator 8 represents the least significant bit.

IP address: 192.168.0.xxx ← where xxx stands for a value between 1 and 254 and is selected by DIP switch S1.

Subnet mask: 255.255.255.0
Gateway: 0.0.0.0

Intranet IP address	S1 actuator positions
(Selected by software)	OFF oooooooo ON 12345678
192.168.0.1	OFF ooooooo ON o 12345678
192.168.0.2	OFF oooooo o ON o 12345678
• • •	• • •
192.168.0.255	OFF ON oooooooo 12345678

SET DATE & TIME OF INVERTER

For a precise calculation of the statistics in the inverter itself and in a monitoring system, date and time have to be correct.

← Set the Correct Date & Time

In the Date and Time sub-menu it's possible to sets the date, time and time zone.

The above details are mentioned in the Installation & Operation Manual for ABB PVS800.