Brand: ABB
Type: Solar On Grid String Inverter
Models: PVS-100/120-TL
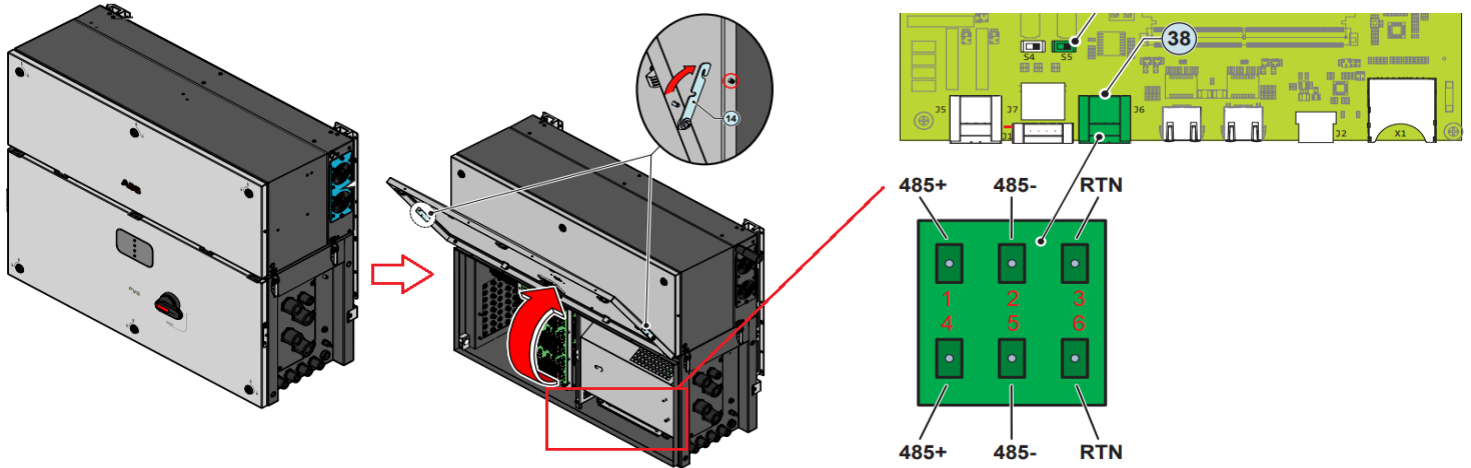
CONNECTION DIAGRAM

Figure A1 – ABB 100kW inverter Communication Port

The communication terminals (RS485) are located at the right bottom of the inverter as shown in Figure A1

Steps:

1) Loosen the 4 captive screws and locate communication module as shown in Figure A1.
2) Install the wires in the appropriate terminals. Data+ to 485+ and Data- to 485- of communication port as shown in Figure A2
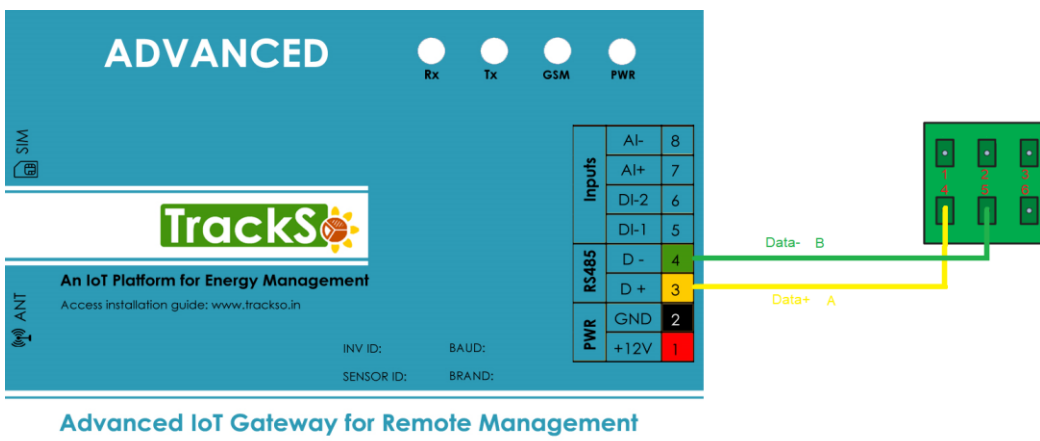3) Tighten the gland. Make sure that the gland seals around the cable and that the cable does not move when pulled.

Figure A2- Connection of ABB Communication port with TrackSo

ABB Pin No. & Assignment		TrackSo Pin No.	
4	485+	3	Data +
5	485 -	4	Data -
6	RTN	-	-
1	485+	Used for Daisy Chain Connection	
2	485-		
3	RTN		

Table AT1 – ABB connections with TrackSo

DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

Interface: RS-485 (half duplex)
ID: 2 to 63
Baud Rate: 2400, 4800, **9600 (default value),** 19200 38400, 57600 or 115200bps
Stop bit: 1 , Parity: **No parity** (default value), even parity or odd parity , Data bits: 8

CONFIGURATION AT THE INVERTER END

Enable the wireless connection on the device which is being used for the board setup (tablet, smartphone or PC) and connect it to the Access Point created by the inverter system: the name of the wireless network created by the system that the connection should be established with, will be
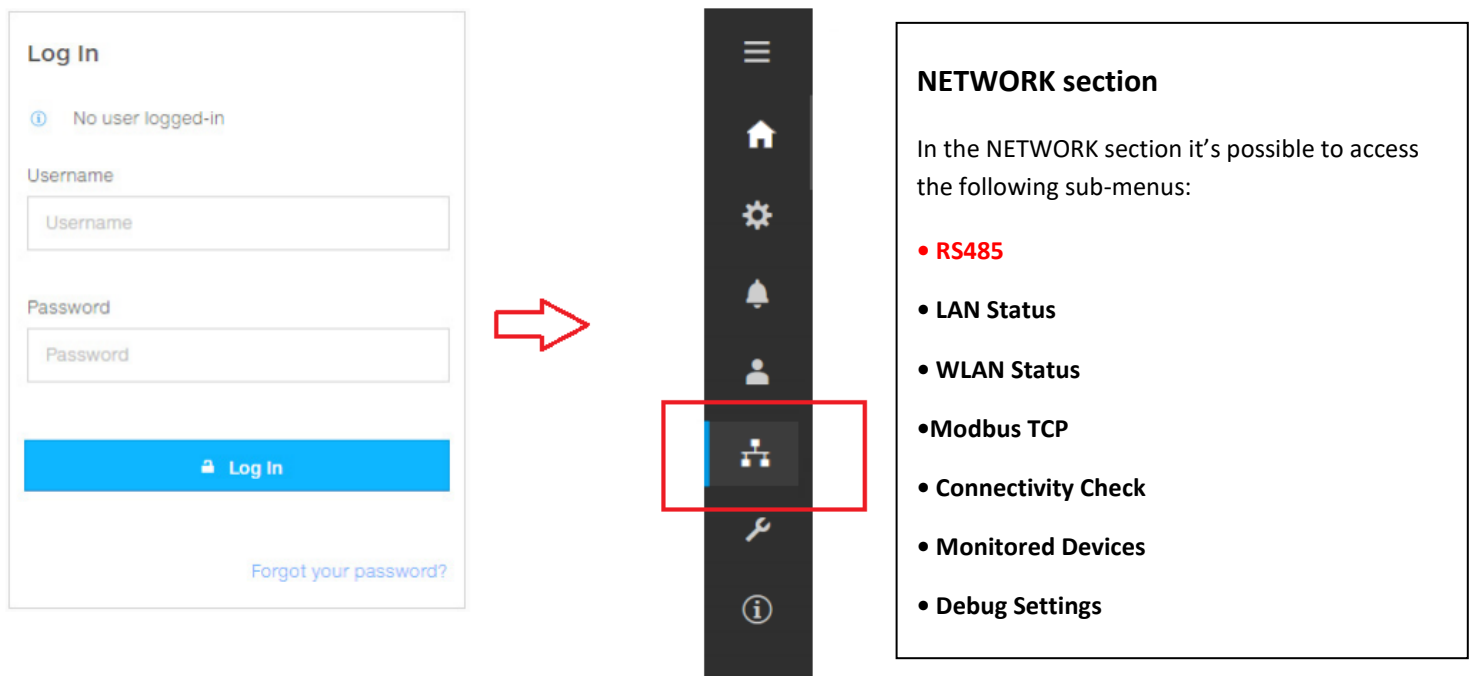
ABB-XX-XX-XX-XX-XX-XX

where "X" is a hex digit of the MAC address (MAC address can be found on the "Communication Identification label" placed on the side of the inverter or applied during the commissioning phase to the plant documentation).

When required digit the PRODUCT KEY (printed on the "Communication Identification label" and applied during the commissioning phase to the plant documentation) as access point password. Note that it's required to digit also the dash "-" characters of the Product Key in the password field.

Open an internet browser (recommended browser: Chrome versions from v.55, Firefox versions from v.50) and enter the pre-set IP address **192.168.117.1** to access the login page.

Login with the username and password created during the commissioning phase

If the Password is lost click on "Forgot your password?" to obtain the access to the Web User Interface (and it will be possible to change the password) by entering the PRODUCT KEY (printed on the "Communication Identification label" and applied during the commissioning phase to the plant documentation).

Enter Network Section and Select RS485 and set Baud Rate, Node Address and Protocol

Please Note

1) If you connect multiple inverters via RS485, set the same baud rate on each inverter.
2) The inverter ID is used to identify the inverter in a RS485 connection
   a. Set a different inverter ID for each inverter in the PV plant. Otherwise, the inverters cannot be correctly identified.
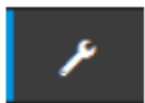   b. On the last inverter in the RS485 connection, switch on the RS485 termination resistor.

Id- As required/Mentioned on TrackSo

Baud Rate-9600

Protocol- Modbus Sunspec Server

SET DATE & TIME OF INVERTER

← **Set the Correct Date & Time**

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

TOOLS section

In the **TOOLS** section it's possible to access the following sub-menus:
• Country Standard
• Firmware Update
• Date/Time

Date and Time

In the Date and Time sub-menu it's possible to sets the date, time and time zone. The inverter will propose these fields when the time protocol is available). When it's not possible for the inverter to detect the time protocol, these fields have to be manually entered.

Date and Time

✓ Network Time Protocol server has been detected and it will be used to keep the system clock synchronized.

Date ✓
Feb 22, 2017
SET by the NTP server
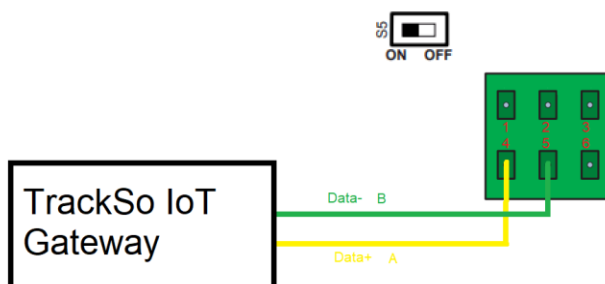
Time ✓
4:52 PM
SET by the NTP server

Time Zone
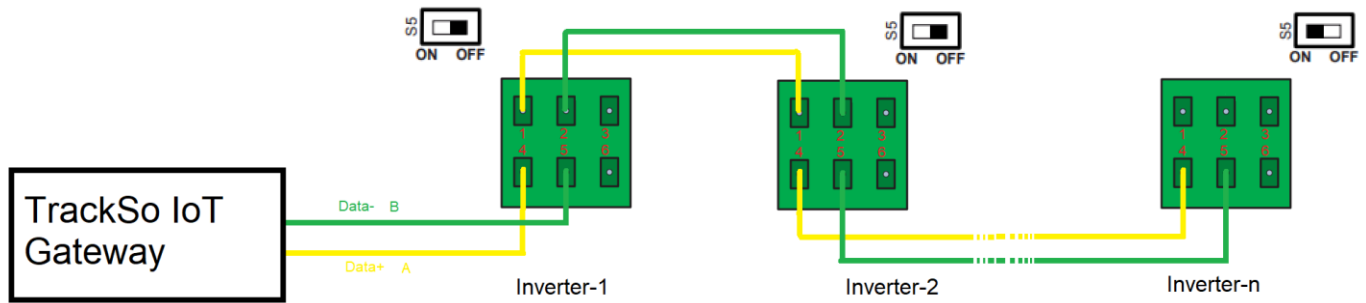Europe/Berlin GMT+01:00 ⌄

SAVE

Communication Card Settings

Single Inverter

S5 – 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

When an RS-485 connection is being used, if one or more inverters are added to the system at a later time, it is necessary to remember to reset to OFF the switch of the termination resistance being used (1) or (2) on the inverter which previously was the last in the system. Each inverter is shipped with the RS485 address pre-set to two (2) and with the resistance terminal setting Switch in the OFF position

The above details are mentioned in the Installation & Operation Manual for ABB PVS-100/120-TL

1. Insure correct connections as detailed in the installation guide.
2. Insert the SIM card.

Push Yellow Nob

Pull the SIM Tray

Place the SIM card In tray Inside

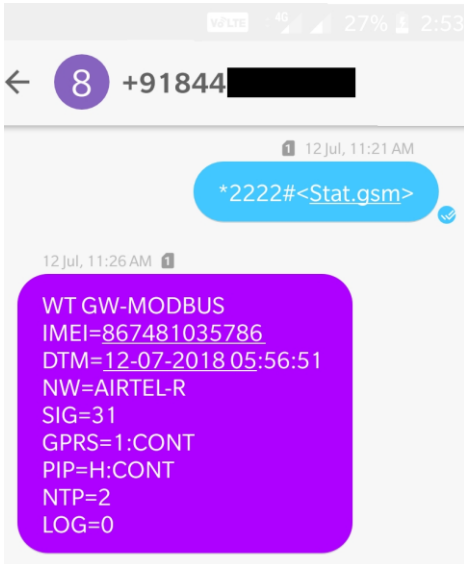Place the SIM Tray in SLOT and Push the Tray

3. Switch on the power to the TrackSo device. (Minimum 12V/1A input is required)
4. Power LED (Red) of TrackSo IoT gateway glows and stays ON.

   NOTE: TrackSo IoT Gateway will only be able to send data if the GPRS network is available at the installed location.

LED	NAME	DESCRIPTION	
GREEN	POWER	Light when Power on the device	
RED	GSM	**LED Status**	**Connection State**
		Flashing (ON for 100ms and OFF for 100ms)	SIM Card not found
		Flashing (ON for 500ms and OFF for 500ms)	Searching for GSM Network
		Flashing (ON for 0.1s and OFF for 2.9s) Once at every 3sec	GSM Network Registered
		Flashing twice at every 3sec	GPRS IP Connected
		Flashing 5times	GPRS IP Sending data
		LED OFF	GSM Fault
GREEN	COM TX	Blink on data transmission in RS485 port	
YELLOW	COM RX	Blink on data reception in RS485 port	

5. To check the exact network status send the following message to mobile number of the device

SMS Command= *2222#<Stat.gsm>	
IMEI	IMEI No. of the data logger (Device Key)
NW	Network
SIGN	Signal Strength out of 31
GPRS	CONT- connected , NC- not connected
PIP	Connected to TrackSo Server or not CONT- connected, NC- not connected
LOG	no. of data points stored in devices incase of no interet

6. If the GSM light starts flashing 5 times then Login to www.trackso.in with your Username/Password.
7. Click on 'Units' from the menu bar. You will be able to view your installed unit in the table as shown below.
8. Check if the **Status** becomes Receiveing for the relevant Unit.

Unit Name ⇕	Site	Unit Key ⇕	Category	Data Status	Last Event Timestamp	Device Key	Device Phone	Actions		
1-Schnieder	▮	▬▬cc	Inverter	Receiving	2018-07-16 02:24:04	▬1034235444/1	▬▬9	View Data	☑	🗑
2-Schneider	▮	▬7799	Inverter	Receiving	2018-07-16 02:24:05	▬034235444/2	▬▬▬	View Data	☑	🗑
▬▬▬	▬School	▬5	Inverter	Not Receiving			▬▬B	View Data	☑	🗑
▬▬▬	▬chool	▬▬5	Inverter	Not Receiving				View Data	☑	🗑

9. If the state remains <mark>Not receiveing</mark> for more than 10 minutes, click on your email ID at the top right of the screen and click on 'Event Ingestion Logs' in the dropdown.

10. Check if there is some log generated at the time of installation of the TrackSo IoT Gateway device.
    a. If **NO,** please restart the device and try the same flow again.
    b. If **YES,** email us at support@trackso.in to consult the same.