Brand: ABB
Type: Solar On Grid String Inverter
Models: PRO-33.0-TL
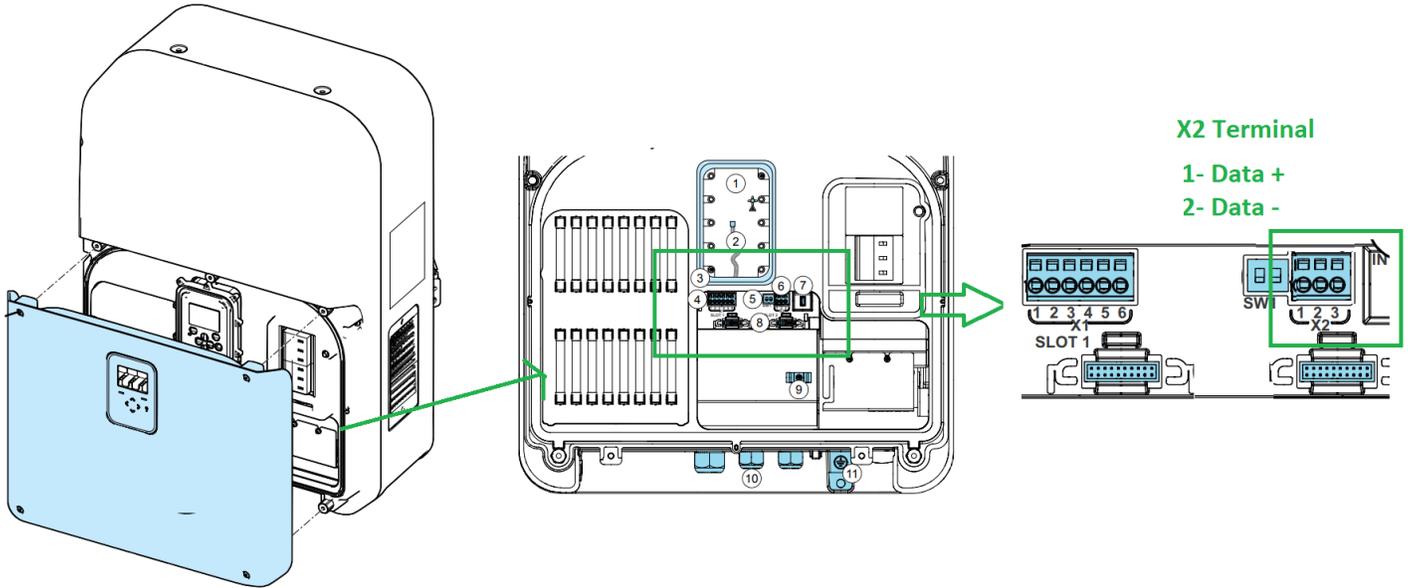
CONNECTION DIAGRAM

Figure A1 – ABB 33kW inverter Communication Port

The communication terminals (RS485) are located at the bottom of the inverter at X2 Terminal 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 Pin 1 and Data- to pin 2 of X2 Terminal as shown in Figure A2
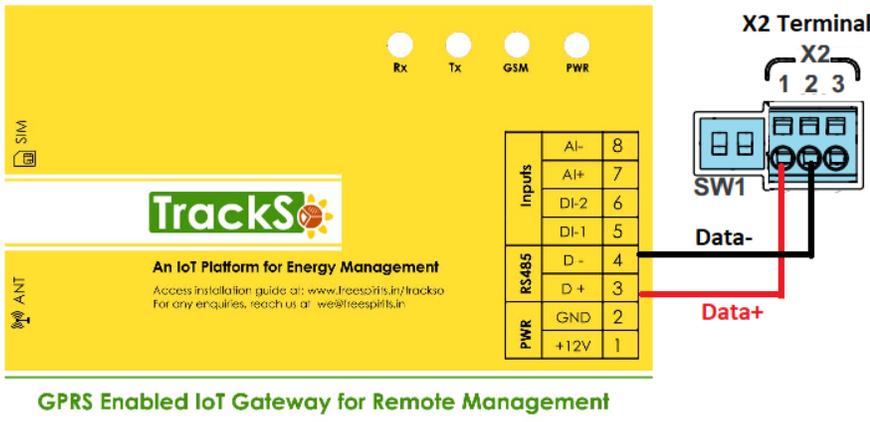3) Tighten the gland. Make sure that the gland seals around the cable and that the cable does not move when pulled.

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

Table AT1 – ABB connections with TrackSo

Interface: RS-485 (half duplex)
ID: 1 to 247
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

SETTING THE PROTOCOL , INVERTER ID & BAUD RATE

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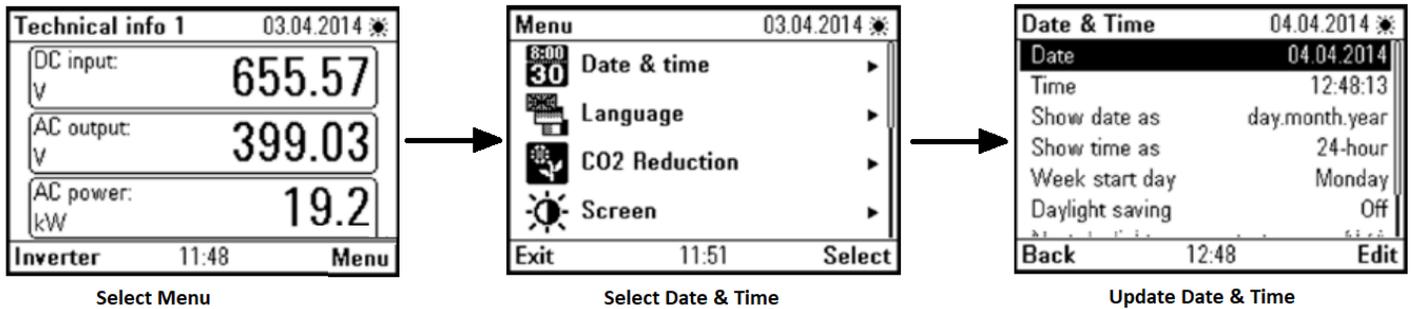   b. On the last inverter in the RS485 connection, switch on the RS485 termination resistor.

Select Menu   Select Communication   Select Embedded Fieldbus
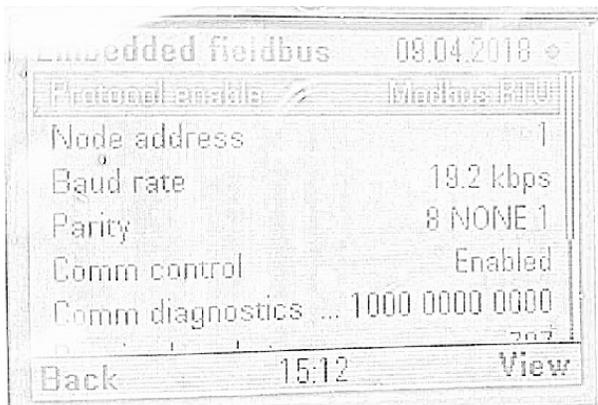
Select Protocol to Modbus RTU

Node address- 1,2, 3... (In continuation)

Select Baud rate to 9600 bps / 9.6kbps
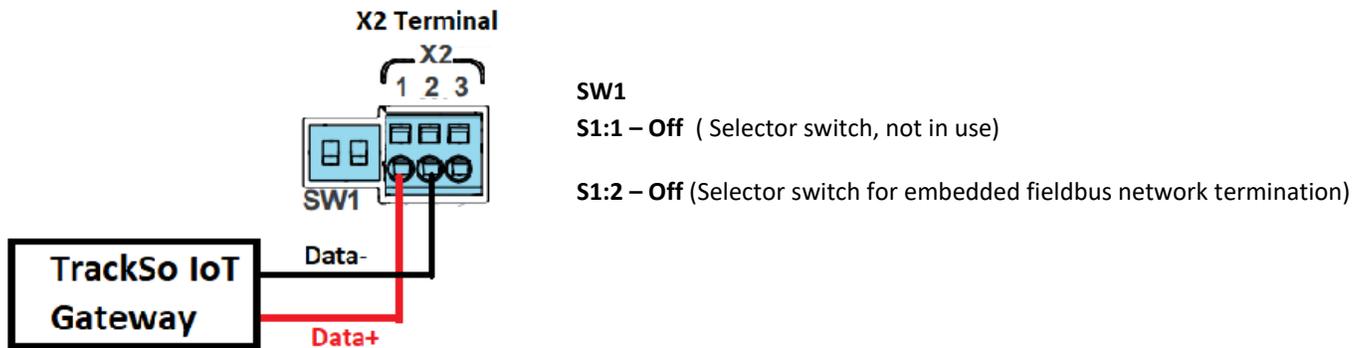
SET DATE & TIME OF INVERTER

For a precise calculation of the statistics in the inverter itself and in a monitoring system, date and time have to be correct.
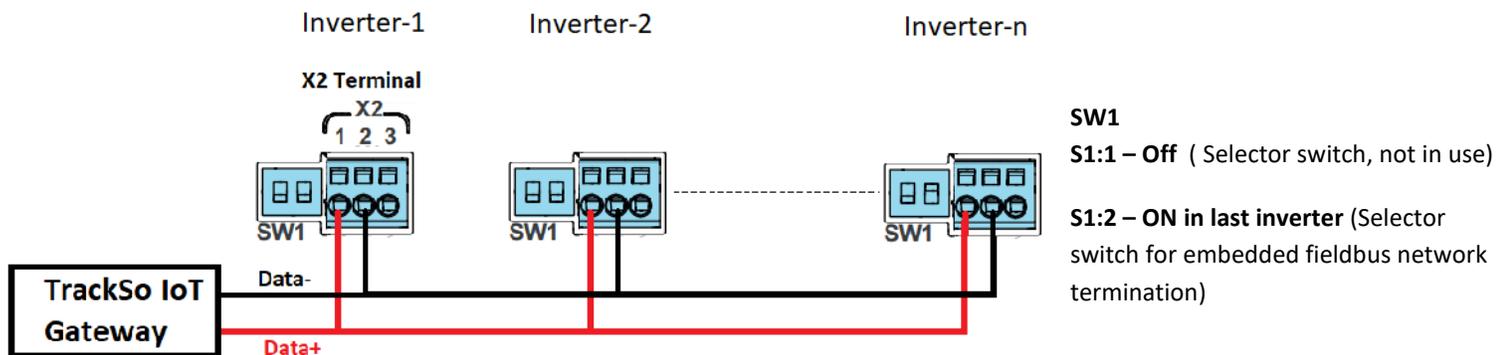
← **Set the Correct Date & Time**

Technical info 1	03.04.2014 ☀
DC input: V	655.57
AC output: V	399.03
AC power: kW	19.2
Inverter	11:48	Menu

Select Menu

Menu	03.04.2014 ☀
🕗 Date & time	▶
🌐 Language	▶
✋ CO2 Reduction	▶
☀ Screen	▶
Exit	11:51	Select

Select Date & Time

Date & Time	04.04.2014 ☀
Date	04.04.2014
Time	12:48:13
Show date as	day.month.year
Show time as	24-hour
Week start day	Monday
Daylight saving	Off
Back	12:48	Edit

Update Date & Time

Communication Card Settings

Single Inverter

X2 Terminal

SW1

S1:1 – Off (Selector switch, not in use)

S1:2 – Off (Selector switch for embedded fieldbus network termination)

Multiple Inverters

Inverter-1   Inverter-2   Inverter-n

X2 Terminal

SW1

S1:1 – Off (Selector switch, not in use)

S1:2 – ON in last inverter (Selector switch for embedded fieldbus network termination)

The above details are mentioned in the *Installation & Operation Manual* for ABB PRO-33.0-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

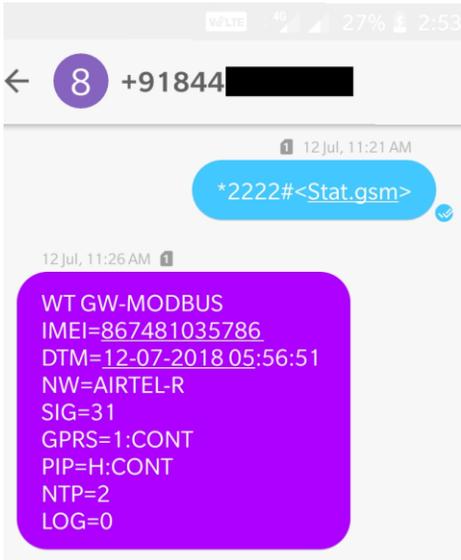Place the SIM Tray in SLOT and Push the Tray

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.

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 we@freespirits.in to consult the same.