

TRACKSO CONNECTION GUIDE FOR FRONIUS INVERTER

Brand: Fronius
Type: Solar On Grid String Inverter with Modbus RTU RS485 output

CONNECTION DIAGRAM

The communication terminals (RS485) are located at the bottom of the inverter.

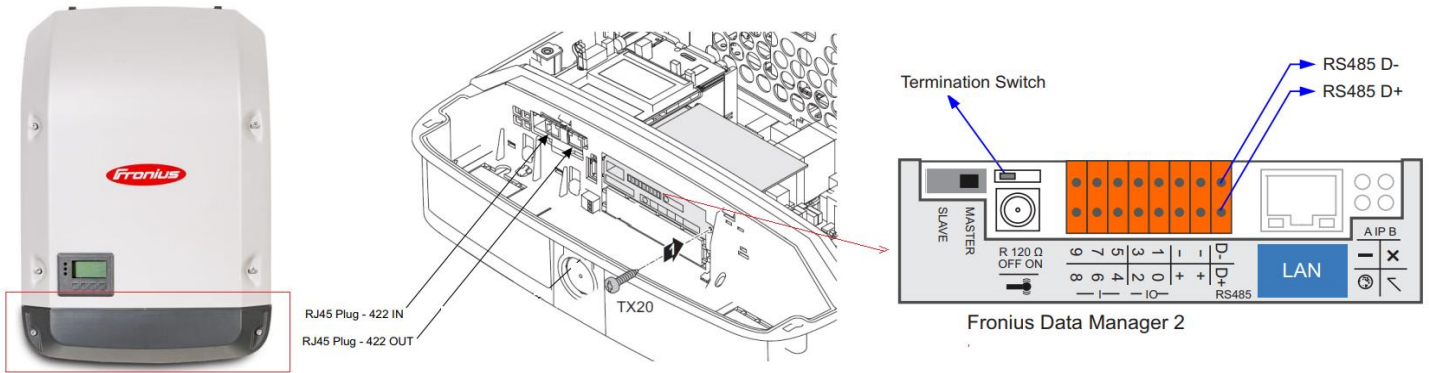
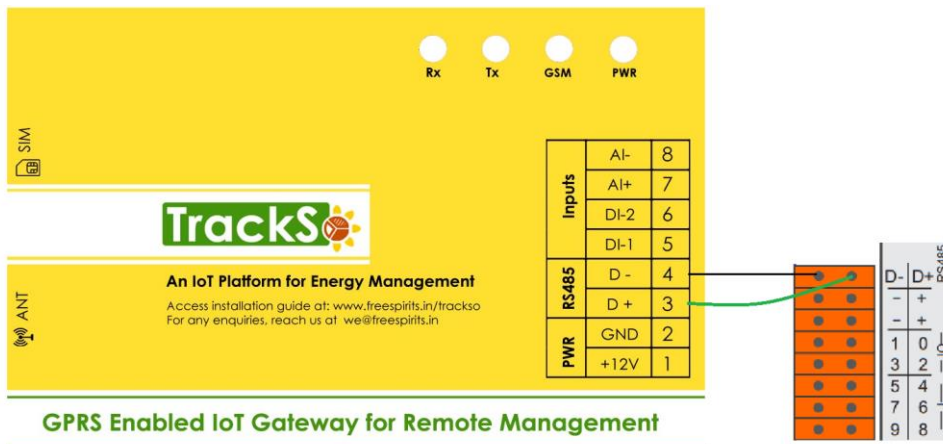


Figure F1 –Bottom of the Fronius Inverter for Connections

Connection Procedure

1. Please unscrew the RS485 terminal (communication port) as shown in Figure F1.
2. Please make the connections from the Datamanger of Fronius RS485 chip to TrackSo IoT Gateway as mentioned in the Table – FT1 and Figure F2.
3. D + Port on Fronius is to be connected to D+ port (pin no.3) on TrackSo Logger.
4. D- port on Fronius is to be connected to D- port (pin no.4) on TrackSo Logger.
5. Power TrackSo using 12V Adapter and insert the sim card.

Note : Data cables are not UV resistant. They should be protected from sunlight when laid outdoors As well as the RS485 cables should be kept separate from the AC cable and the DC cables to avoid interferences. (In separate conduits)



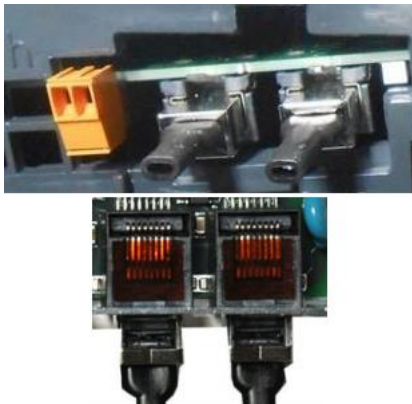
Fronius Pin no. & Assignment		TrackSo Pin No. & Assignment	
D+	RS485+	3	D +
D -	RS485-	4	D -

Table FT1 –Fronius RS485 connections with TrackSo IoT Gateway

Note : If Fronius Data manager plug-in card is not fitted as standard in the inverter, the plug-in card must be inserted into the inverter in accordance with the operating or installation instructions of the inverter

Other Important Settings :

Terminating plug

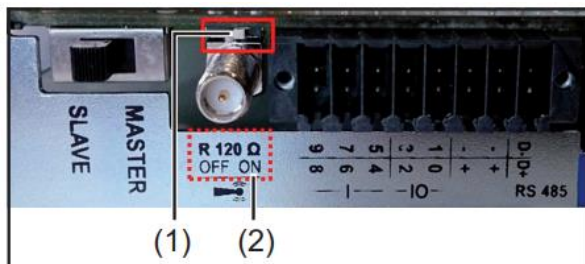


Please insert a terminating plug must be inserted into empty Fronius Solar Net connection sockets of the DATCOM component.

Ex- If only one inverter with Fronius Data manager is being linked via RS485 (D+ and D- Signal). Insert a terminating plug into the Solar Net IN connection socket and the Solar Net OUT connection socket

Note : Terminating plugs are supplied with each Fronius Inverter.

Terminal Resistance



To minimize interference due to reflections from the end of the RS485 cable, it is required to place a line termination (resistor) near each of the 2 ends of the bus. Each Fronius Data manager 2.0 possesses such a line termination resistor, which can be added or removed by means of a small switch (1) on the Data manager 2.0.

Only set the switch (1) on the last Fronius Data manager 2.0 of the RS 485 bus to ON (2)

NOTE: Leave termination switches of all other devices to OFF!

NOTE: The leftmost MASTER/SLAVE switch has nothing to do with Modbus bus. It is used for another functionality.

Ensure Modbus RTU is activated in Inverter Settings

Settings

Modbus

Data export via Modbus off tcp rtu

Baud rate 9600

Parity no

String control address offset 101

Sunspec Model Type float int + SF

Demo mode

Inverter control via Modbus

Note: when connecting a Fronius Smart Meter, Modbus RTU is automatically disabled.

DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

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

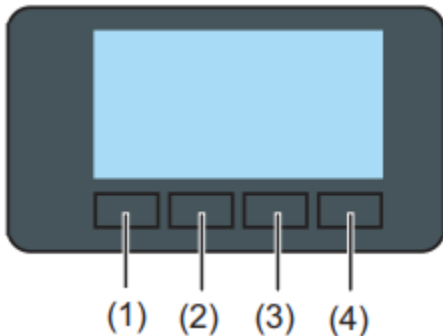
Parity: None

CONFIGURATION AT THE INVERTER END

Important :

If you are setting up inverter for the 1st time then please follow the instructions mentioned in page no. 27 on Document Fronius Datamanager Galvo - Symo - Primo – Eco [Link-1](#) , [Link-2](#)

- Set inverter to communicate over Modbus.
- If you are not able to communicate over RS485 then please contact Fronius Customer Care @ 18002679967 for upgrading the Inverter Firmware and setting the Modbus Communication to "ON"
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Function keys - allocated different functions depending on the selection:

1	'Left/up'	for navigating to the left and up
2	'Down/right'	for navigating down and to the right
3	'Menu/Esc'	for switching to the menu level for quitting the Setup menu
4	'Enter'	for confirming a selection

SETTING THE BAUD RATE

If you connect multiple inverters via RS485, set the same baud rate on each inverter.

Default baud rate of Inv (Data manager) : 9600bps

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.



SETTING THE INVERTER ID

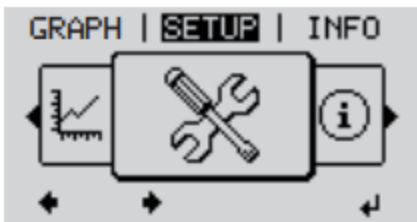
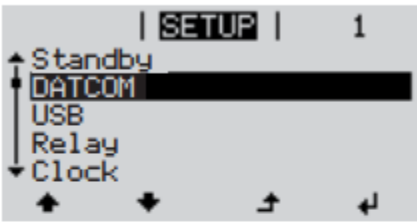
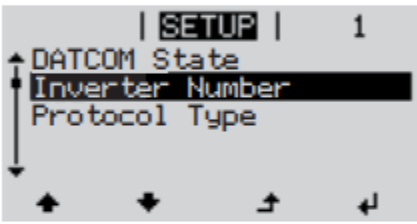



The inverter ID is used to identify the inverter in a RS485 connection

← **Set correct Inverter Ids**

- Set a different inverter ID for each inverter in the PV plant. Otherwise, the inverters cannot be correctly identified.
- On the last inverter in the RS485 connection, switch on the RS485 termination resistor

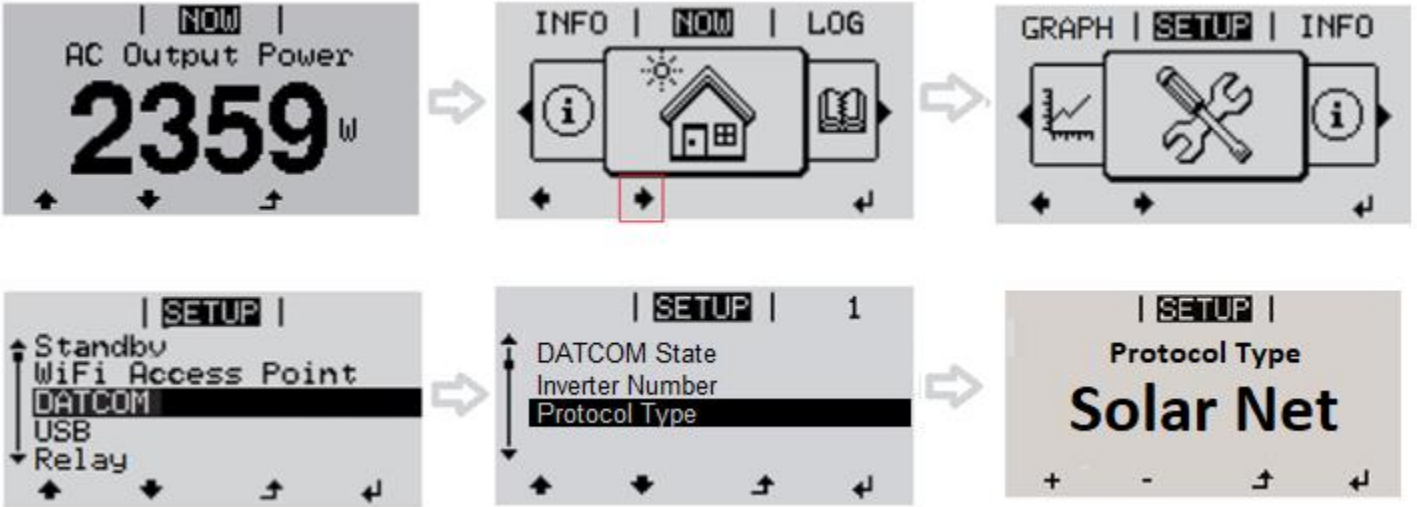
If more than one Fronius inverter is connected to the same Modbus network, it is important that all inverters have different Fronius DATCOM inverter numbers. It is irrelevant whether there is only one or several Fronius Datamanagers 2.0 present.

The Fronius DATCOM inverter number equals the Modbus ID, which is necessary to address the respective device

	<p>1 On the menu level, use the 'Left' or 'Right' keys to select the 'SETUP' menu item</p> <p>2 Press the 'Enter' key</p>
	<p>3 Use the 'Up' and 'Down' keys to move between the available entries and select 'DATCOM'.</p> <p>4 Press the 'Enter' key</p>
	<p>5 Use the 'Up' and 'Down' keys to move between the available entries and select 'Inverter Number'.</p> <p>6 Press the 'Enter' key</p>
	<p>The current inverter number appears. The 'tens' digit will flash.</p> <p>7 Use the 'Up' and 'Down' keys to select a value for the 'tens' digit of the inverter number.</p> <p>8 Press the 'Enter' key</p>
	<p>The 'units' digit will flash</p> <p>9 Use the 'Up' and 'Down' keys to select a value for the 'units' digit of the inverter number.</p> <p>10 Press the 'Enter' key</p>
	<p>The inverter number will flash.</p> <p>11 Press the 'Enter' key</p>

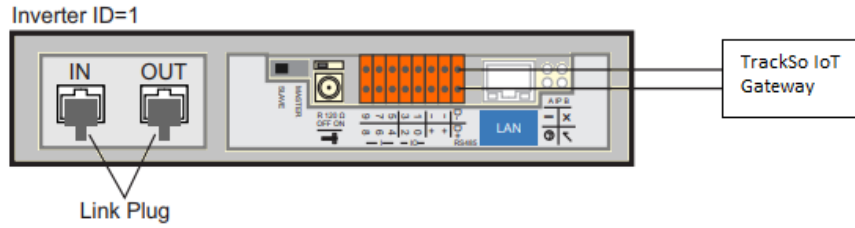
SET COMMUNICATION PROTOCOL

← Set correct Protocol



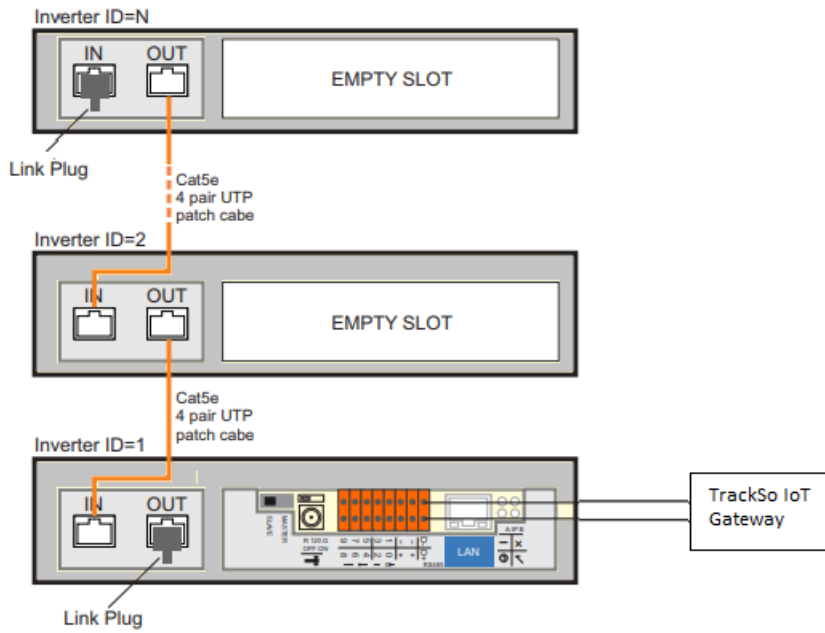
Protocol Type is to be set at Solar Net

Single Inverter

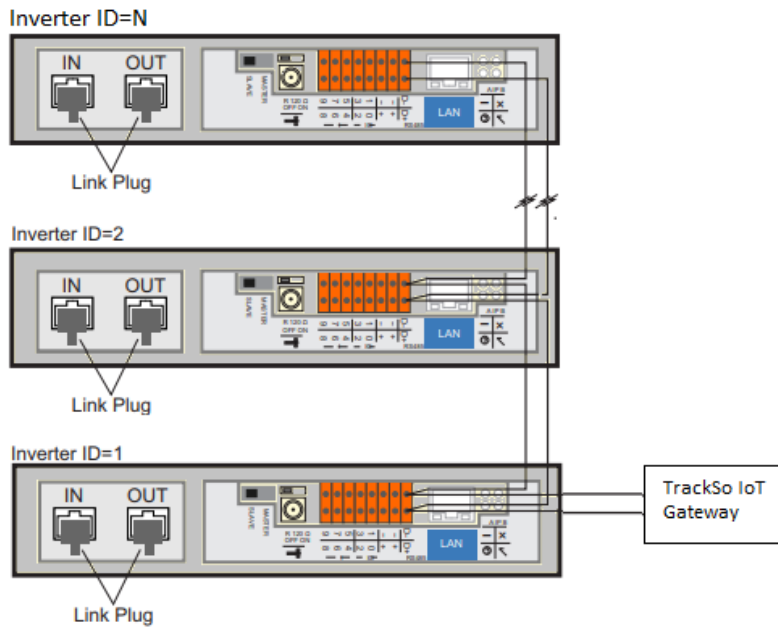


Multiple Inverters are connected in Daisy Chain Configuration.

Case-1



Case-2



Detailed Guides from Fronius for connecting of single/multiple Fronius Inverters in Modbus RTU is available at [Fronius Datamanager 2.0 Modbus RTU Quickstart Guide](#)

Inverter Connection & Settings Video Guide

If you wish to follow the video for installation & configuration process please click on the Youtube thumbnail below or this link:

<https://www.youtube.com/watch?v=g9APNdPeIPs>



TrackSo Remote Monitoring Installation video for Fronius Inverters



Scan the QR code to view the video