

TRACKSO INSTALLATION GUIDE FOR FUJI VFD'S

Brand: FUJI
Type: VFD
Models: Frenic

CONNECTION DIAGRAM

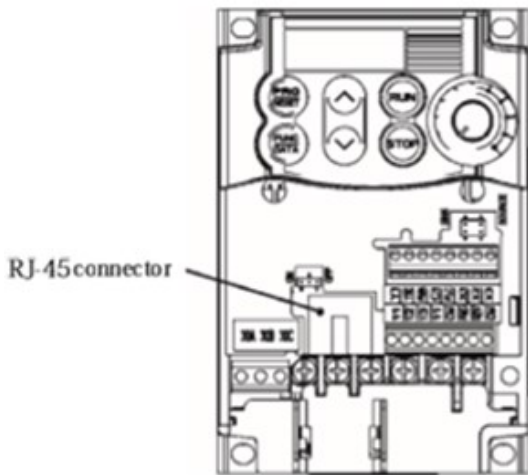


Figure F1-FUJI VFD Connections

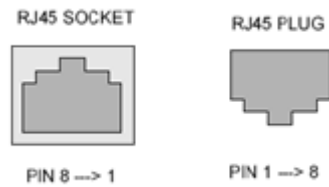


Figure F2 – RJ45 Definition

RJ45 Pin No.	Detail
1	+7V (Vcc)
2	GND
3	-
4	Data-
5	Data+
6	-
7	GND
8	+7V Vcc)

Figure F3 – RJ45 Pinout

Connection Steps

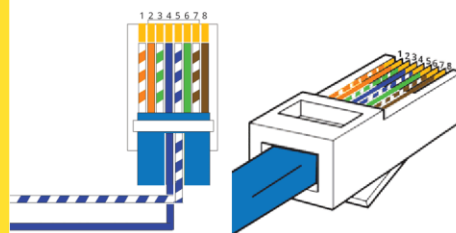
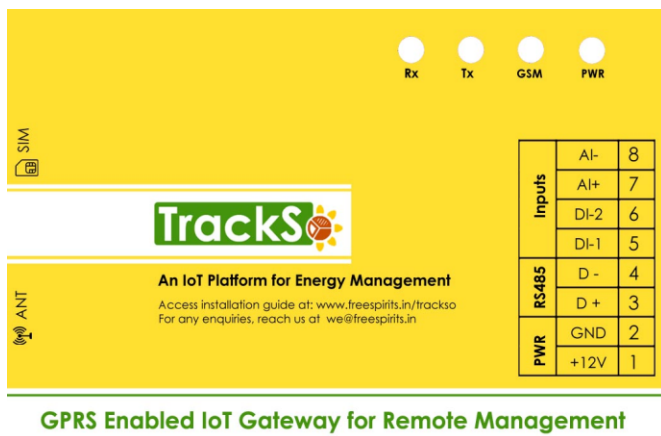
1. Locate the communication card as shown in Figure F1
2. Guide the network and connect it to the RJ45 socket on the communication board.
3. Connect pin 5 of Lan cable to D+ (RS485A) of TrackSo device.
4. Connect pin 4 of Lan cable to D- (RS485B) of TrackSo device.
5. Connect settings as per Table FT3- Device Settings
6. Power-on the device using a 12v connector or use 7V output as per Table FT2

FUJI RJ45 Pinout & Assignment		TrackSo Pin no. & Assignment	
Data +ve	Pin 5	3	Data +
Data – ve	Pin 4	4	Data -
+7V (Vcc)	Pin 1 or Pin 8	1	Power
GND	Pin 2 or Pin 7	2	Gnd

Table FT2 – RJ45 pinout details

Table FT3-Drive Settings

Slave Id	Y01	1	1
Baud Rate	Y04	2	9600
Data length	Y05	0	8 bits
Parity Check	Y06	0	No Parity
Stop Bits	Y07	1	1 stop bit
Mode	Y10	0	RTU



1. White Orange	5. White Blue
2. Orange	6. Green
3. White Green	7. White Brown
4. Blue	8. Brown

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 VFD END

SETTING THE INVERTER ID- Y01

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

- 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.

Station address (y01, y11)

Set a station address for RS-485 communications. The setting range depends on the protocol.

Table 2.7 RS-485 setting (station addresses)

Protocol	Range	Broadcast
Modbus RTU protocol	1 to 247	0
Protocol for loader commands	1 to 255	-
Fuji general-purpose inverter protocol	1 to 31	99



- No response is expected if an address number out of the specified range is set.

SETTING THE BAUD RATE- Y04

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

Baud rate (y04, y14)

Set a baud rate.

-

Match the baud rate with that of the **TrackSo IoT Gateway**

Table 2.9 Baud rate

Data	Baud rate
0	2400 bps
1	4800 bps
2	9600 bps
3	19200 bps
4	38400 bps (FRENIC-Mini does not support it.)

SETTING THE DATA LENGTH-Y05

Data length (y05, y15)

Set a character length.

- Setting when **TrackSo IoT Gateway** is connected

This code does not need to be set because it is automatically set to eight bits (as in the Modbus RTU protocol).

Table 2.10 Data length

Data	Function
0	8 bits
1	7 bits

Parity check (y06, y16)

Set a parity bit.

- Setting when **TrackSo IoT Gateway** is connected
This code does not need to be set because it is automatically set to even parity.

Table 2.11 Parity check

Data	Function	RTU Stop bits (auto setting)
0	No parity bit	2 bits
1	Even parity	1 bit
2	Odd parity	1 bit
3	No parity bit (Not supported for FRENIC-Mini/Eco) For the detailed method of use, see "Chapter 3 Modbus RTU PROTOCOL"	1 bit

Stop bits (y07, y17)

Set a stop bit.

- Setting when **TrackSo IoT Gateway** is connected
This code does not need to be set because it is automatically set to 1.

Table 2.12 Stop bits

Data	Function
0	2 bits
1	1 bit

- In the Modbus RTU protocol, this code does not need to be set because it is automatically determined in conjunction with the parity bit.

Protocol select (y10, y20)

Select a communications protocol.

- Setting when **TrackSo IoT Gateway** is connected

Select the protocol for **TrackSo IoT Gateway** commands (y10 = 0).

Table 2.14 Protocol select

Data	Protocol
0	Modbus RTU
1	FRENIC Loader (supported by y10 only)
2	Fuji general-purpose inverter
3*1	N2 Protocol

*1 Applicable only with FRN□□F1□-□A, FRN□□F1□-□C, FRN□□F1□-□E and FRN□□F1□-□U

TRACKSO WORKING

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

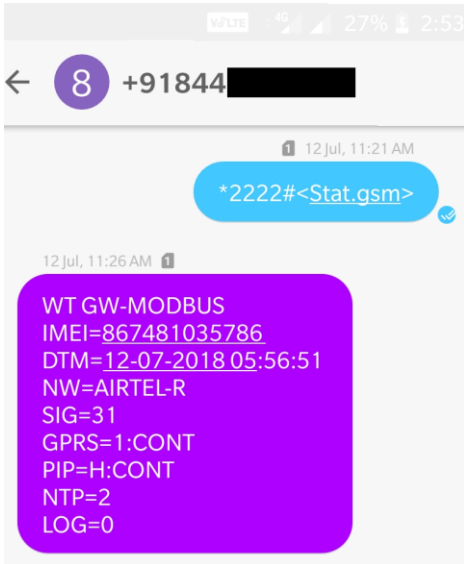


3. Switch on the power to the TrackSo device. (Minimum 12V/1A input is required)
4. Power LED (Red) of TrackSo IoT gateway glows and stays ON.

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	<table border="1"> <thead> <tr> <th>LED Status</th> <th>Connection State</th> </tr> </thead> <tbody> <tr> <td>Flashing (ON for 100ms and OFF for 100ms)</td> <td>SIM Card not found</td> </tr> <tr> <td>Flashing (ON for 500ms and OFF for 500ms)</td> <td>Searching for GSM Network</td> </tr> <tr> <td>Flashing (ON for 0.1s and OFF for 2.9s) Once at every 3sec</td> <td>GSM Network Registered</td> </tr> <tr> <td>Flashing twice at every 3sec</td> <td>GPRS IP Connected</td> </tr> <tr> <td>Flashing 5times</td> <td>GPRS IP Sending data</td> </tr> <tr> <td>LED OFF</td> <td>GSM Fault</td> </tr> </tbody> </table>	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
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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

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

Unit Name	Site	Unit Key	Category	Data Status	Last Event Timestamp	Device Key	Device Phone	Actions
1-Schnieder		XXXXcc	Inverter	Receiving	2018-07-16 02:24:04	XXXX31034235444/1	XXXX9	View Data
2-Schneider		XXXX7799	Inverter	Receiving	2018-07-16 02:24:05	XXXX034235444/2	XXXX	View Data
XXXX	School	XXXX5	Inverter	Not Receiving			XXXX8	View Data
XXXX	chool	XXXX5	Inverter	Not Receiving				View Data

9. If the state remains **Not receiveing** 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.

TrackSo Mashups Sites Units Rules Notifications

Home / Event Ingestion Logs

Event Ingestion Logs

Show 10

Timestamp	Message	code
2018-07-16 02:42:16	Invalid request. Event should contain data. { "events": [{ "timestamp": 1531689133, "unit_key": "84f8b2c", "data": { } }] }	not_acceptable
2018-07-16 02:41:13	Invalid request. Event should contain data. { "events": [{ "timestamp": 1531689070, "unit_key": "84f8b2c", "data": { } }] }	not_acceptable
2018-07-16 02:40:10	Invalid request. Event should contain data. { "events": [{ "timestamp": 1531689007, "unit_key": "84f8b2c", "data": { } }] }	not_acceptable

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