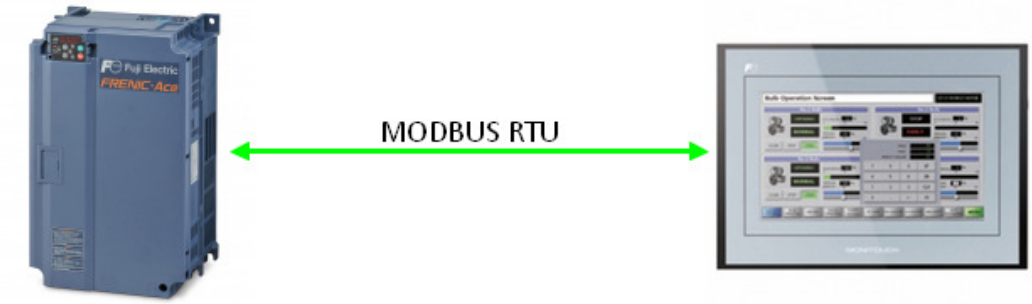
TECHNICAL INFORMATION	TI-TS-0002v100EN
REPLACEMENT INFO FOR OLD MODELS to TS2000	

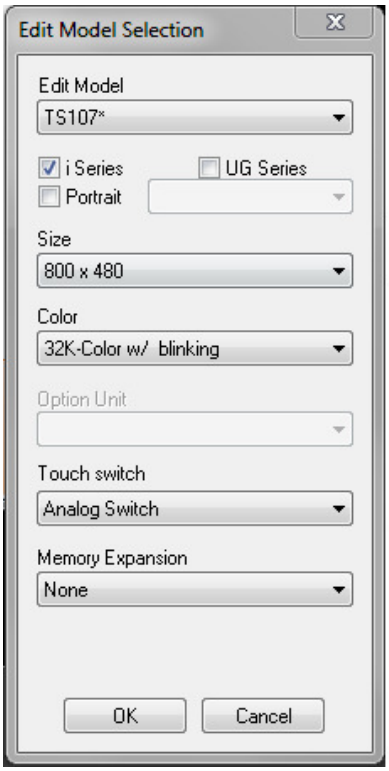
Type	TS
Software version	All versions
Required options	Not required
Use	Fuji technical staff
Date	20/11/2018
Version	1.0.0
Author	xxxxxxxxx
Revised	xxxxxxxxx
Approved	xxxxxxxxx
Languages	English

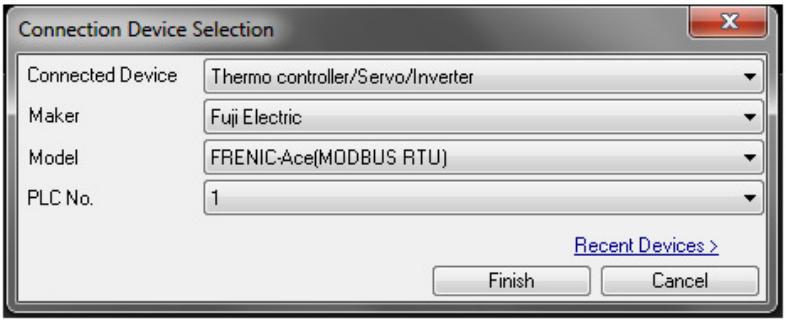
TECHNOSHOT and Frenic ACE (MODBUS RTU)

How to communicate a TS panel with a inverter Frenic ACE through RS485 Modbus RTU.

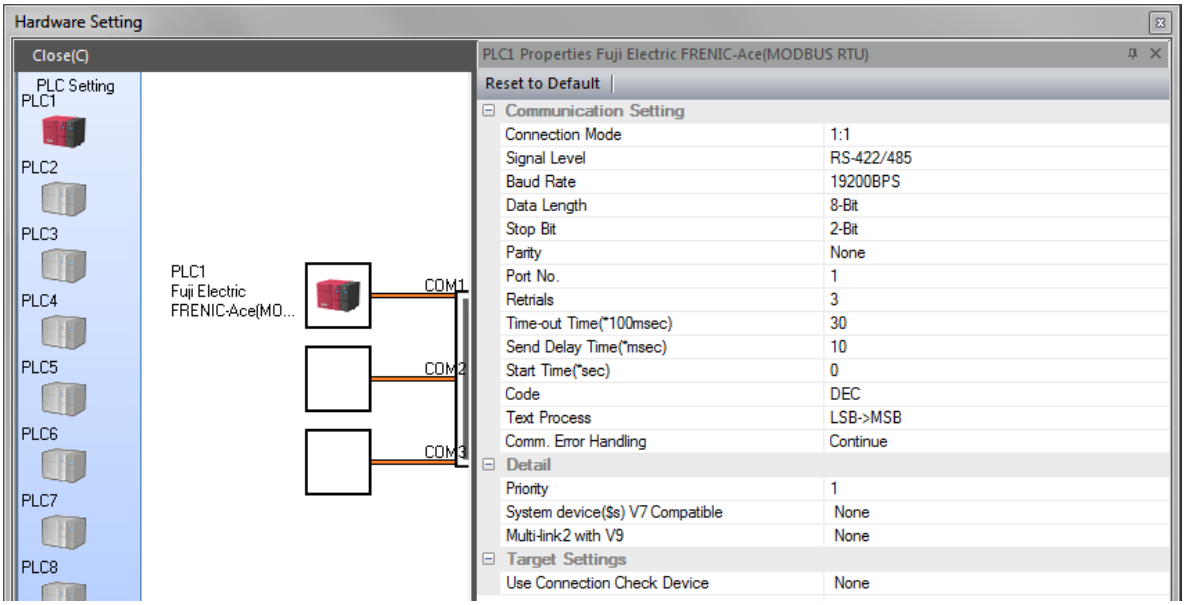


1- Ceate a screen program with V-SFT6, select a TS panel and select FRENIC-ACE Modbus RTU as a communication driver.





2- Set the communication parameters, these parameters must match with the inverter parameters.



3- Set the following parameters on the Frenic-ACE inverter.

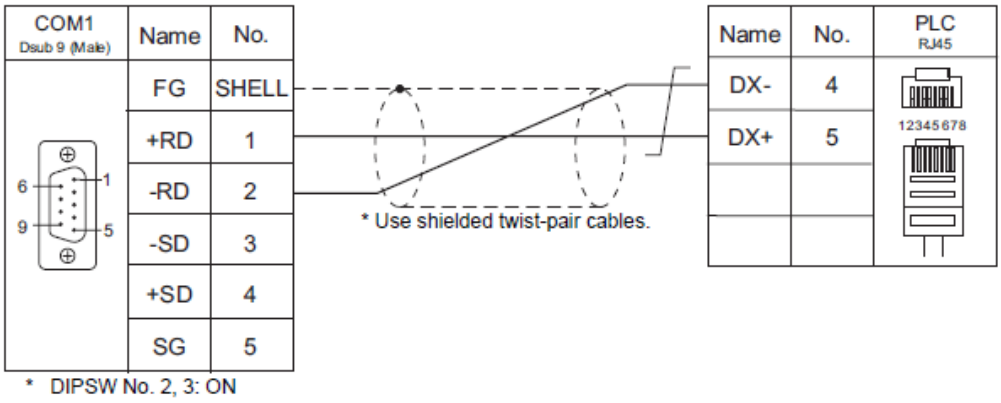
Function Code	Item		Setting	Example
y01	RS-485 setting (touch panel)	Station address	1 to 31	1
y04		Baud rate	1: 4800 bps 2: 9600 bps 3: 19200 bps 4: 38400 bps	3
y06		Parity bit	0: None 1: Even 2: Odd 3: None	0
y07		Stop bit	For Modbus RTU communication, the stop bit setting is automatically made according to the parity bit setting. When "0" is specified for y06, "2 bits" is set for stop bit. When "1", "2", or "3" is specified for y06, "1 bit" is set for stop bit.	-
y10		Communication protocol*1	**0: Modbus RTU** 1: SX (loader) protocol 2: FGI-bus	0
y11	RS-485 setting 2 (control circuit)	Station address	1 to 31	1
y14		Baud rate	1: 4800 bps 2: 9600 bps 3: 19200 bps 4: 38400 bps	3
y16		Parity bit	0: None 1: Even 2: Odd 3: None	0
y17		Stop bit	For Modbus RTU communication, the stop bit setting is automatically made according to the parity bit setting. When "0" is specified for y16, "2 bits" is set for stop bit. When "1", "2", or "3" is specified for y16, "1 bit" is set for stop bit.	-
y20		Communication protocol*1	**0: Modbus RTU** 2: FGI-bus	0
y98	Bus function		<table><tr><th></th><th>Frequency</th><th>Operation Command</th></tr><tr><td>0</td><td>Function code H30</td><td>Function code H30</td></tr><tr><td>1</td><td>Commanded from the fieldbus</td><td>Function code H30</td></tr><tr><td>2</td><td>Function code H30</td><td>Commanded from the fieldbus</td></tr><tr><td>3</td><td>Commanded from the fieldbus</td><td>Commanded from the fieldbus</td></tr></table>	0

<table>
<tr><th>Function Code</th><th>Item</th><th>Setting</th><th>Example</th></tr>
<tr><td>y99</td><td>Support link function</td><td>
<table>
<tr><th></th><th>Frequency</th><th>Operation Command</th></tr>
<tr><td>0</td><td>Function code H30, y98</td><td>Function code H30, y98</td></tr>
<tr><td>1</td><td>Commanded from the loader</td><td>Function code H30, y98</td></tr>
<tr><td>2</td><td>Function code H30, y98</td><td>Commanded from the loader</td></tr>
<tr><td>3</td><td>Commanded from the loader</td><td>Commanded from the loader</td></tr>
</table>
</td><td>0</td></tr>
<tr><td>H30</td><td>Link function *2</td><td>
<table>
<tr><th></th><th>Frequency</th><th>Operation Command</th></tr>
<tr><td>0</td><td>Inverter</td><td>Inverter</td></tr>
<tr><td>1</td><td>RS-485 communication</td><td>Inverter</td></tr>
<tr><td>2</td><td>Inverter</td><td>RS-485 communication</td></tr>
<tr><td>3</td><td>RS-485 communication</td><td>RS-485 communication</td></tr>
<tr><td>4</td><td>RS-485 communication (control circuit)</td><td>Inverter</td></tr>
<tr><td>5</td><td>RS-485 communication (control circuit)</td><td>RS-485 communication</td></tr>
<tr><td>6</td><td>Inverter</td><td>RS-485 communication (control circuit)</td></tr>
<tr><td>7</td><td>RS-485 communication</td><td>RS-485 communication (control circuit)</td></tr>
<tr><td>8</td><td>RS-485 communication (control circuit)</td><td>RS-485 communication (control circuit)</td></tr>
</table>
</td><td>3</td></tr>
</table>

*1 Select “Modbus RTU” for the communication protocol on the inverter when connecting with the TS.
*2 When “0” is specified for y98 (bus function) as well as y99 (support link function), the frequency and operation command can be set on the TS.
When making the frequency and operation command settings on the TS connected to the connector for the touch panel, specify “3” for function code H30. When making those settings on the TS connected to the terminal block on control circuit, specify “8” for function code H30.
*3 The communication parameter (data length) is fixed to 8 bits.

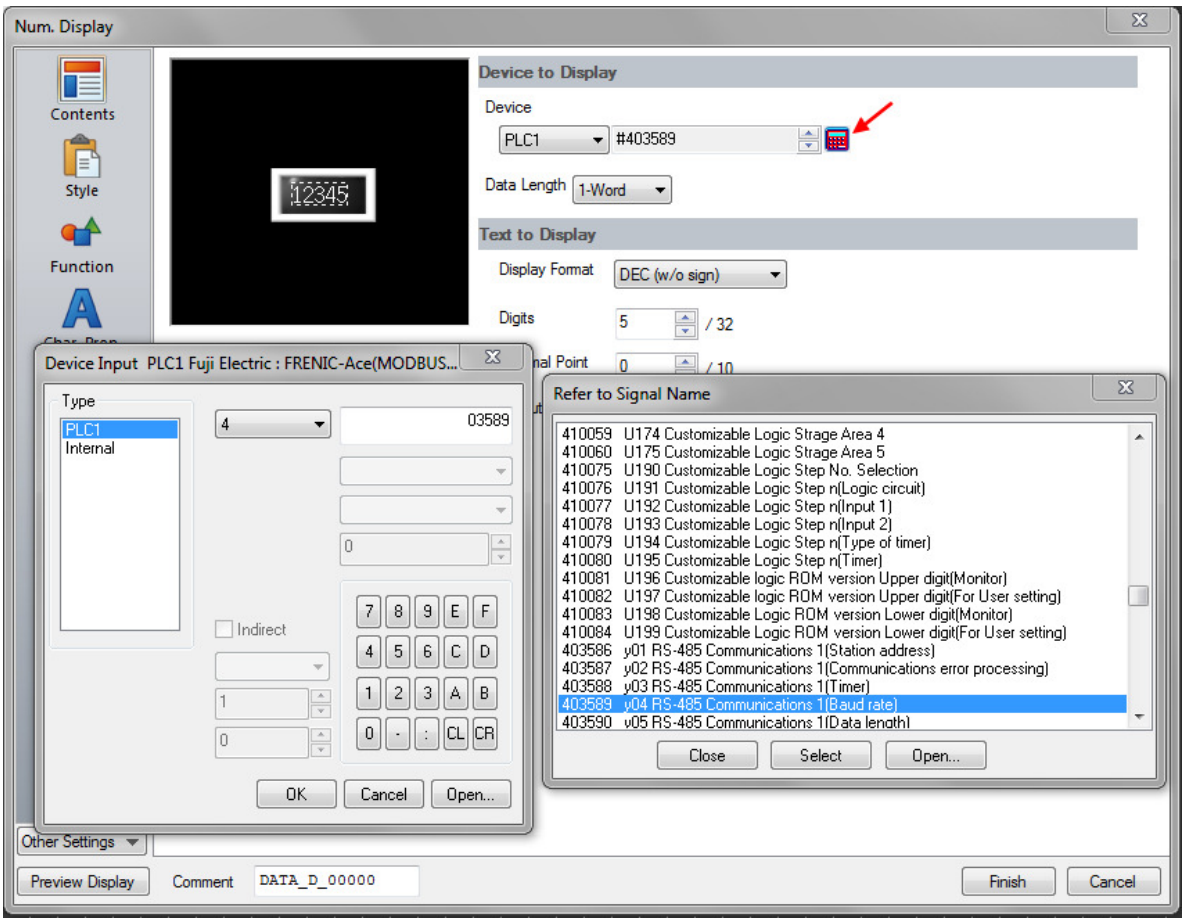
4- Connection diagram. (Make sure to put on TS, DIP switches 2 and 3 to ON)

Wiring diagram 10 - COM1



* DIPSW No. 2, 3: ON

5- On the screen program select PLC1 and use the “calculator” icon to open a dialog with the detail of all inverter parameters with a description.



Document history.

Version	Changes applied	Date	Written	Revised	Approved