

APPLICATION NOTE

FECA-AN-101D

USB to RS-485 Converter Usage

Inverter type Software version	FRENIC-Mini Series All versions
Required options	OPC-C1-RS
Related documentation	FRENIC Loader 3.2 Instruction Manual INR-SI47-1549b-E FRENIC-Mini Instruction Manual INR-SI47-1205b-E
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Revision	D

Introduction

This application note provides the recommended USB to RS-485 converter as it applies to the connection to Fuji Electricos **FRENIC Loader 3.1EN Software** and **FRENIC Loader 3.2EN**.

Converter Data

The recommended USB to RS-485 converter-Black Box Network Services USB to RS-485 2 wire converter Model Number IC832A http://www.blackbox.com

Required option- Fuji RS-485 Option card OPC-C1-RS

This model was tested for connectivity and functionality. It is capable of communicating using Fuji Electric **FRENIC Loader 3.1EN Software, Loader 3.2EN** on PC or running **Windows XP**, and **WIN 7 (32 and 64 bit)**.

Setup

Function Codes

Set the drive function codes as shown in Table 1.

Function Code	Setting	Description
H30	3	Freq and Run command through RS-485
Y01	1	Station address (inverter address)
Y04	3	19,200 Baud rate
Y05	0	8 bits Data Length, Data Bits
Y06	0	None, Parity check
Y07	0	2 stop bits
Y10	1	FRENIC Loader protocol



Wiring

Strip one end of your Ethernet cable and wire like Figure 1A. Isolate the remaining wires.

- Blue will go to port A(-).
- White/Blue will go to port B(+).
- The shield will go to the port GND.
- Isolate the remaining wires.

Figure 1A Adapter wiring



Install the OPC-C1-RS option card. Then plug one end of your straight Ethernet cable into the RJ-45 port on the OPC-C1-RS card (Figure 1B). Figure 1B



For Fuji Electric

Plug the USB cable into an available USB port on the computer (Figure 1C). Figure 1C



*Note: only use a straight Ethernet cable and wire one end like above in Figure 1A. Do not use any other wiring as damage to the inverter may result.

Software Settings

Port settings as shown in Figure 2

- Bits per second: 19200
- Data bits: 8
- Parity: None
- Stop bits: 2
- Flow control: None

Figure 2: Computer COM port settings

Seneral Port Settings Driver Details	1	
Bits per second	19200	
Data bits	8	•
Party	None	•
Stop bits	2	-
Row control	None	•
A	Ivanced	Restore Defaults

Loader Settings as shown in Figure 3



- Click on *Communication settings*.
- Choose the target: RS-485 Data in inverter.
- Set the Port and Baud rate.
- Click Connection List.
- Identify your inverter.
- Click Browse.
- The status should change from Unknown to Connected.

Figure 3: Loader settings

FRENIC Loader3.2 - Quick Access Menu			- 8 ×
File Menu Setup View Window Help			
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Quick Access Menu			
FRENIC Loader is a utility tool that allows you to set up, run, control, and mor Click the icon corresponding to the function you want to perform.Doing so allo	nitor the FRENIC series of investers via a PC. ows your		
Function code; To set up; edit, compare, transfer or initialize function codes.	[Test run]: To view the status of the inverter and to control/run the inverter through Loader.		
Coperation monitor; To open I/O monitor, system monitor, alarm monitor, and analog metering.	Communication Setting Targel RS495:Data in Inventer 💌		
Multi-monitor; To monitor the nunning status of the previously registered inverters on the system.	C USB		
Communication setting: To configure communications environment between the inverter and the PC.	Flow control RTS Retry times 1 time	No. Statut Equipment name 16345 of -	
Company setting) To configure	Timeout 1.5 [c] Connected check		
Fide this window at gest start-up.		9 10 11 12 13 14	
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			No1:Unknown
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At this point you can click OK and begin to use FRENIC Loader to operate, monitor, and troubleshoot your drive.

For further information: See the FRENIC Loader 3.2 Instruction Manual INR-SI47-1549b-E, and FRENIC-Mini Instruction Manual (INR-SI47-1205b-E) for more information.