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APPLICATION NOTE	FECA-AN-164
USB to RS-485 Converter Usage	

Inverter type	FRENIC-Mini Series
Software version	All versions
Required options	OPC-C2-RS
Related documentation	FRENIC Loader 3.3 Instruction Manual INR-SI47-1549c-E FRENIC-Mini (C2) Instruction Manual INR-SI47-1729a-E
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Revision	

Introduction

This application note provides the recommended USB to RS-485 converter as it applies to the connection to Fuji Electric's **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

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

Setup

Function Codes

Set the drive function codes as shown in Table 1.

Table 1: Inverter Function Codes

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

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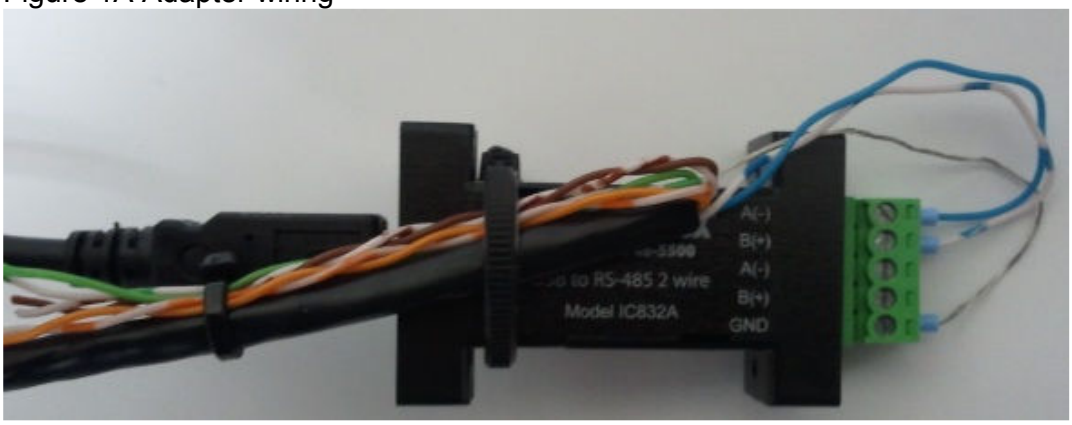
Wiring

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



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.**

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Software Settings

Port settings as shown in Figure 2

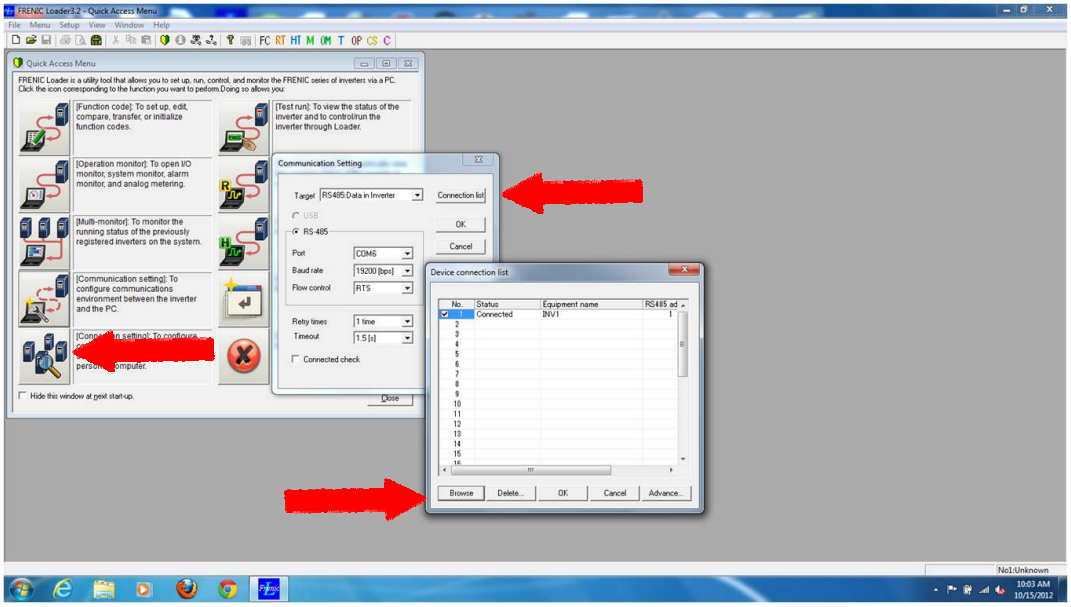
- Bits per second: 19200
- Data bits: 8
- Parity: None
- Stop bits: 2
- Flow control: None

Figure 2: Computer COM port settings

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



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 3.3 Instruction Manual INR-SI47-1549c-E,** and **FRENIC-Mini (C2) Instruction Manual (INR-SI47-1729a-E)** for more information.