

APPLICATION NOTE	FECA-AN-127A
USB to RS-485 Converter Usage	

Inverter type	FRENIC-Eco Series
Software version	All versions
Required options	None
Related documentation	FRENIC Loader 3.2 Instruction Manual INR-SI47-1549b-E FRENIC-Eco Instruction Manual INR-SI47-1225c-E
Author	Michael Gilson
Date	12/20/12
Revision	A

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** and **Windows XP, WIN 7 (32 and 64 bit)**.

Setup

Function Codes

Set the drive function codes as shown in Table 1.

Table 1: Inverter Function Codes

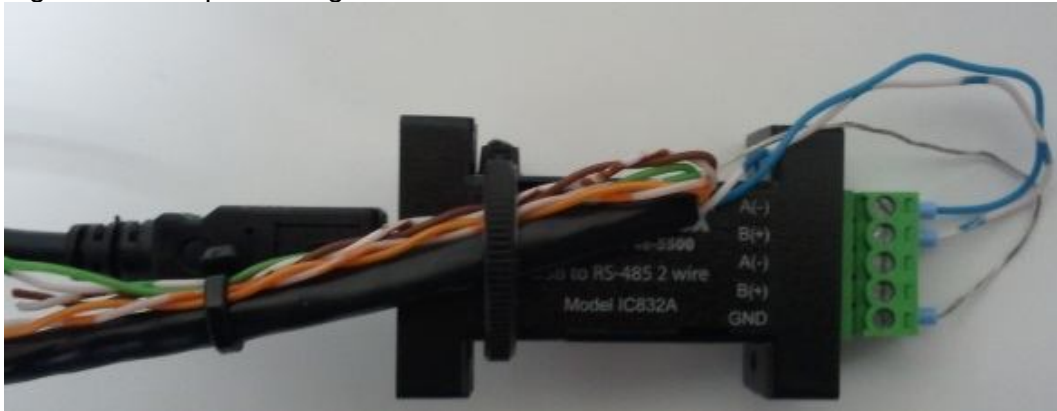
Function Code	Setting	Description
H30	3	Freq and Run command through RS-485
Y01	1	Station address (inverter address)
Y04	3	19,200 Baud rate
Y05	0	8 bits Data Length, Data Bits
Y06	0	None, Parity check
Y07	2	2 stop bits
Y10	1	FRENIC Loader protocol

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



At this point plug one end of your straight Ethernet cable into the inverter's RJ-45 port on the front of the drive (Figure 1B).

Figure 1B



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

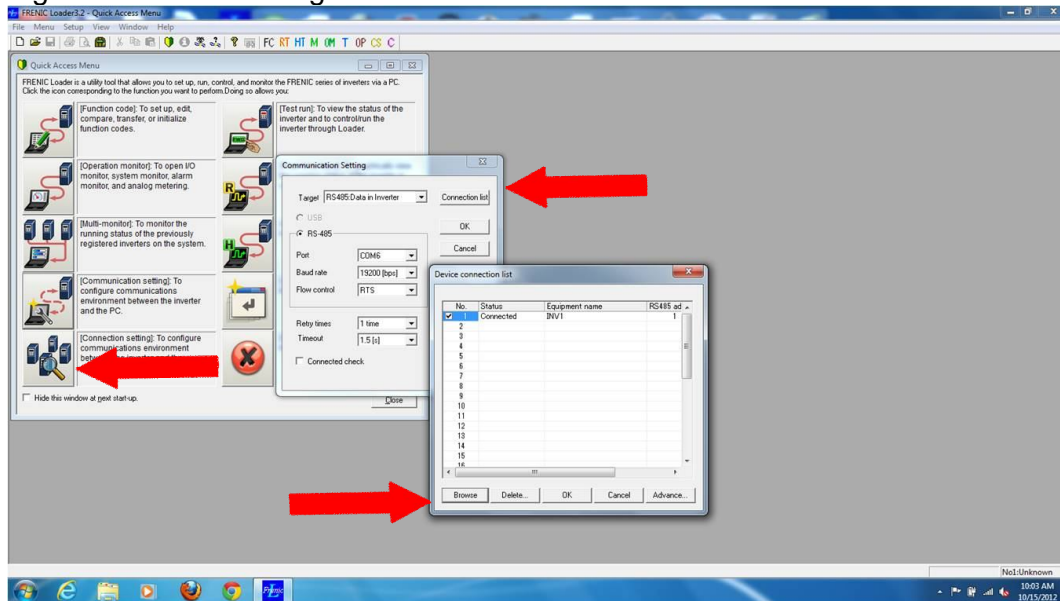
Figure 2: Computer COM port settings



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 **FRENIC Loader 3.2 Instruction Manual INR-SI47-1549b-E**, and **FRENIC-Eco Instruction Manual (INR-SI47-1225c-E)** for more information.