HFD CAN OPEN Fiber Optic Converter

User Manual

Table of Contents

1. Overview

1.1 Introduction

The HFD No-Cascading CAN Fiber Optic Modem is a multi-master and high performance Field bus Control System (FCS). The modular fiber optic transmission system can be used to transmit CAN-based bus systems such as DeviceNet or CANOpen via fiber optics data interfaces over a pair of multimode or single mode optical fibers. Our FMC Fiber Optic Modem uses the fiber cable as its transmission medium and utilizes Optical Fiber modulation/demodulation technology to changes the electric medium into a light medium transmission.

The Fiber Optic Modem product eliminates many of the disadvantages of copper cable. Examples of these disadvantages are EMI/RFI, ground loops (electrical isolation with fiber), high attenuation (high signal loss), short transmission distance between nodes of a system, and potential lightning damage.

The HFD Fiber Optic Modem can be widely used, such as Industrial Controls, Intelligent Transportation Systems (ITS), Industrial Networking, Supervisory Control and Data (SCADA) and so on.

1.2 Technical Specification

CAN BUS	
Connectors	Block Terminal
Standard	CAN1.0, CAN2.0
Data Rate	DC0-1Mbps
Extended Distance	0~20Km

OPTICAL	
Number of Fibers	2
Wavelength	1310/1550nm(SM), 850nm(MM)
Fiber Type	62.5/125μm(MM), 9/125μm(SM)
Distance	0 ~ 2Km(MM) , 0-20 Km(SM)
Connector Type	ST/PC

GENERAL	
Operating Temperature	-30~ 70˚C / -30 ~ +158ºF
Operating Humidity	0 ~ 95% non-condensing
Mean Time Between Failure (MTBF)	> 70,000hrs
Power Supply Adaptor	DC12-36V
Dimensions (H ×L×W)	124.5(H)×88.5(W)×43w)

1.3 Warranty

- Repair
  - Please contact your local distributors when product is defective. Please apply RA in advance and prepay shipping cost when returning the defective product to us. We will pay the cost for sending it back to you.
  - Please attach a statement clearly describing the problem.
- We will repair defective product under warranty free of charge to our customer.
- 5 years warranty for product only.
- Any unauthorized modification of hardware and software voids the warranty.
- Warranty does not cover mishandling and/or abuse of the product.

2 Installation

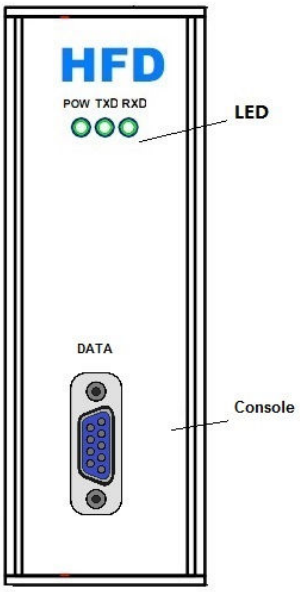
2.1 Package Contents

- TWO Fiber Optic Modem
- One User Manual

Please contact dealer or distributor if part is missing or damaged.

2.2 Enclosure

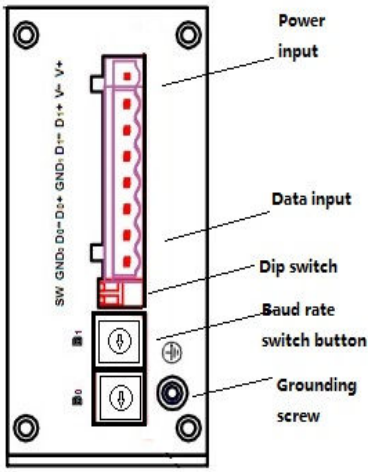
Front Panel View



LED Indicators:

POW:	Power Supply & Converter Status	Flashing if it is OK..
TXD:	The Transmit Fiber Link	Flashing if there is activity.
RXD:	The Receive Fiber Link	Flashing if there is activity..

DATA: For setting up the baud rate，connected to computer's serial port when necessary.



Power input

V-: Connect DC12V or 24V power supply"-"

V+: Connect DC12V or 24V power supply"+"

Data input

D1+: None

D1-: None

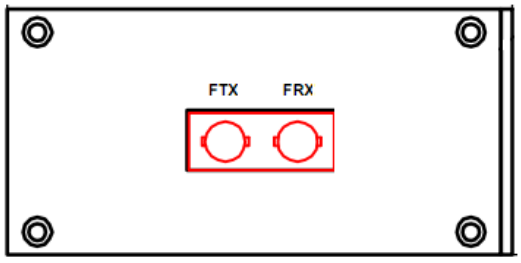
GND1: None

D0+: CANH

D0-: CANL

GND0: Data of GND

Bottom Panel View



Fiber Optic Connectors:

FTX: Transmitter (Fiber Optic ST)
FRX: Receiver (Fiber Optic ST)

2.3 Install Methods

1. Switch off all power supply before installation.
2. Connect the local “FTX” Fiber Optic to the remote “FRX” Fiber Optic, the local “FRX” to the remote “FTX”. And ensure that fiber is properly aligned to the receiving connector.
3. Connect the “**D0+”** Data of the CANH and the “**D0-**” Data to the CANL. Then screw down the bolt.
4. On the bottom of the Modem, there is a DIP Switch., When the D1 is “ON”,it's connected to 120 Ohm terminal resistance .

DIP Switch setup table:

DIP Switch pin name	D1	D2
Setup State	OFF	OFF

120 ohm Terminal Resistance

DIP Switch pin name	D1	D2
Setup State	ON	OFF

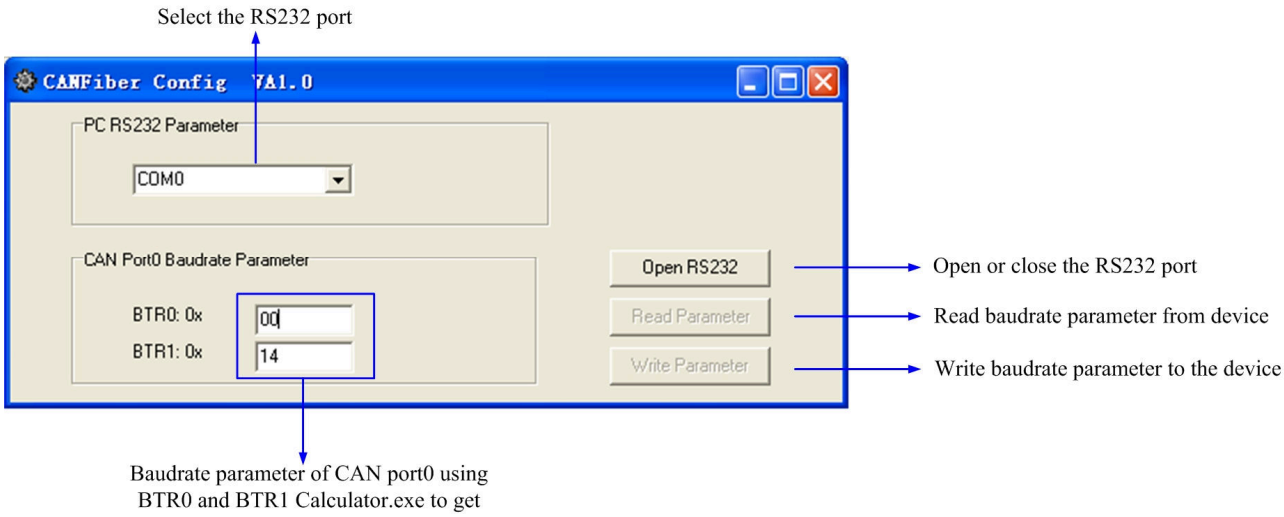
Baud rate switch button setup table:

“B0 Button Position	9	8	7	6	5	4	3	2	1	0
CAN Baud Rate	80Kbps	100Kbps	125Kbps	200Kbps	250Kbps	400Kbps	500Kbps	666Kbps	800Kbps	1000Kbps
	A	B	C	D	E	F				
	50Kbps	40Kbps	20Kbps	10Kbps	5Kbps	configuration				

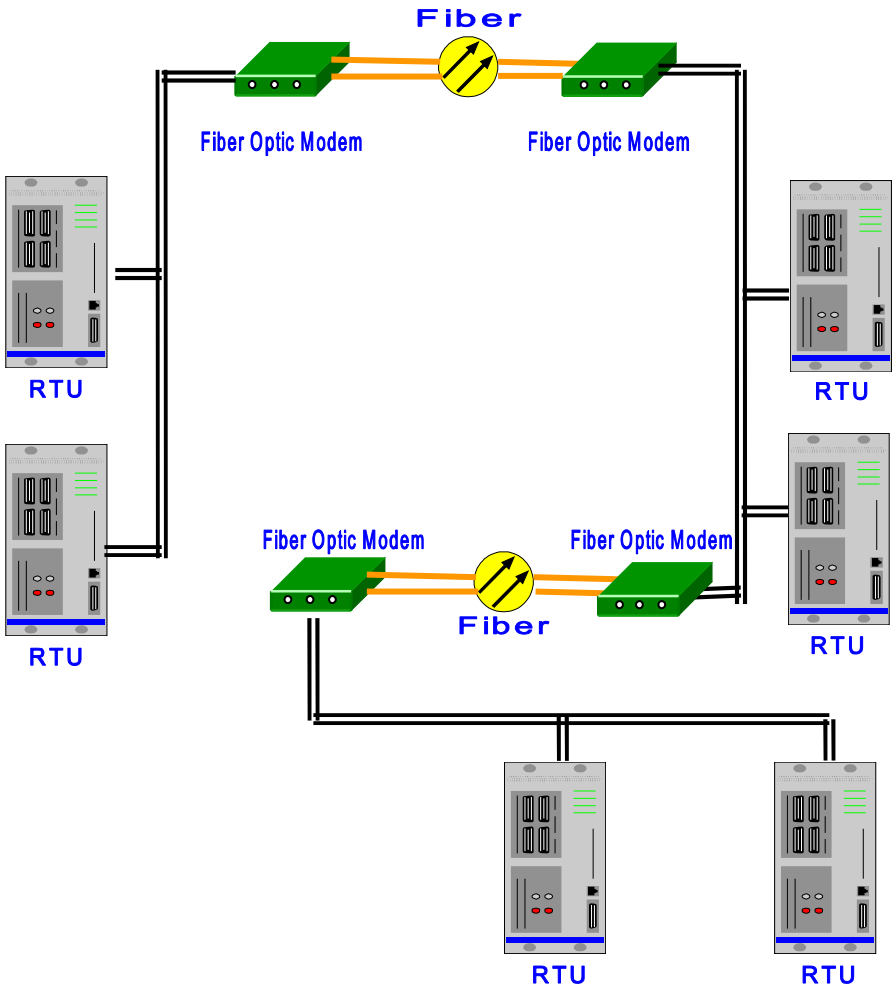
Note: When the B0 is switched to F position, you can config the baud rate through the serial DB9 port.

How to Config the baud rate:

Switch the “B0” button to F position and connect the straight line(NOT cross line) to the console port(DB9) and the other end of the line to the computer.



2.4 Install Application



3 Dimensions (mm)