2406DT13-F2

User Manual

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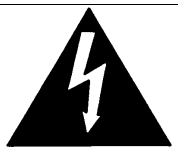
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

WARNING
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT

WARNING
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE

WARNING
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

INFORMATION TO USERS IN EUROPE

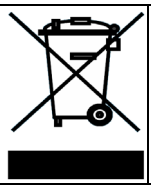
NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE

EN60065	Safety
EN55103-1: 1996	Emission
EN55103-2: 1996	Immunity



EN504192 2005
Waste electrical products should not be disposed of with household waste.
Contact your Local Authority for recycling advice

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

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FIGURES

REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	January 2020

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1. OVERVIEW

The 2406DT13-F2 is a rugged, industrial-grade data transceiver which provides an economical method of transmitting one bi-directional serial RS-232, RS-422 or RS-485 data over a pair of single mode fibers. Used as a pair, the maximum end to end single mode fiber distance is 40km.

The 2406DT13-F2 supports data rates up to 115.2kbps and is capable of auto sensing the applied data format.

Figure 1-1 : 2406DT13-F2 Front View

Figure 1-2 : 2406DT13-F2 Rear View

Features & Benefits

- Point to point fiber links
- Industrial grade enclosed in a rugged and rustless ABS housing
- LED status indications
- Transmits serial data (RS-232, RS-422 or RS-485) over long distances through fiber cables (Single-mode: 25 miles or 40km)
- Supports up to 128 nodes of RS-485/422 devices
- Operating temperature: -40ºF to 185ºF (-40ºC to 85ºC)
- Built-in 600W surge protection, 15 kV static and circuit protection

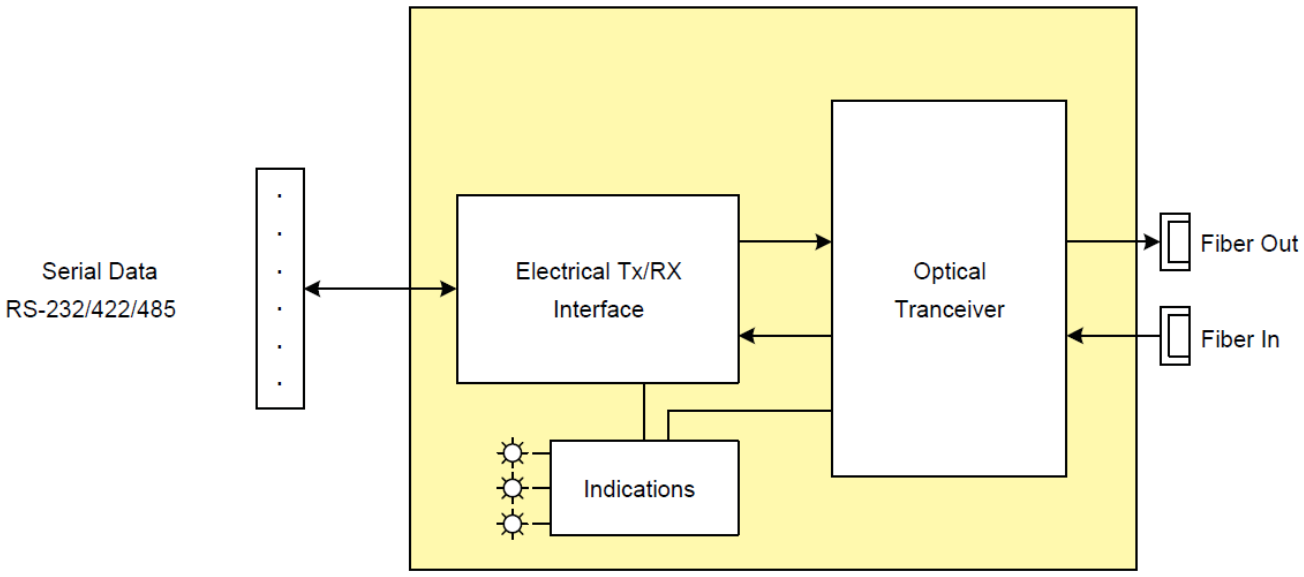

Figure 1-3 : 2406DT13-F2 Block Diagram

Note: Supports one data type at any given time.

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2. SPECIFICATIONS

Compatibility	EIA/TIA RS-232C, RS-485 and RS-422 standard
Number of signals	1
Power Source	9 to 30VDC (External AC to DC power adapter included)
External AC/DC Power Adapter	9VDC/500mA (Input: 100~240VAC 50/60Hz, US type A plug)
Current Consumption	Less than 100mA
Wavelength	1310nm
Output Power (Fiber)	Single-Mode: -8dBm (Min); -7dBm (Typ); -5dBm (Max)
Sensitivity (Fiber)	Single-Mode: -35dBm
Usable Fiber Optic Cables	Single-Mode: 8.3/125, 8.7/125, 9/125, 10/125 µm
Serial Data rates	300 to 115,200 bps (auto-sending and self-adjusting)
Distance (Serial Port)	RS-232: 16ft (5m); RS-485/422: 4000ft (1.2km)
Distance (Fiber Lines)	Single-mode: 25 miles (40km)
Connectors (Serial Port/Power)	Serial Port/Power: 10-way terminal block
Connectors (Fiber Links)	2x SC Connector
Surge Protection	600W
Electro-Static Discharge (ESD)	Up to 15KV
Dimensions (H x W x D)	5.0 x 3.6 x 1.3 in (127 x 73 x 33 mm)
Weight	4.6 oz (130 g)
Operating Temperature	-40ºF to 185ºF (-40ºC to 85ºC)
Operating Humidity proper situation	0 to 90% Non-condensing and 0.2 to 0.35 condensing in the

Ordering Information

2406DT13-F2+SC	Dual Fiber, 1310nm Tx, Single Mode Fiber Only

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3. OPERATION

3.1. CONNECTIONS

Figure 3-1shows the 2406DT13-F2 connections.

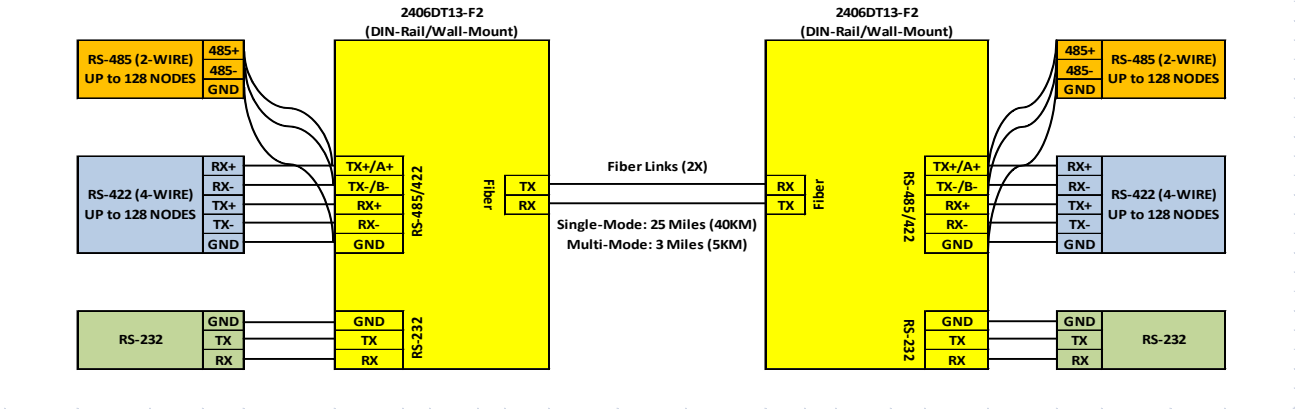

Figure 3-1 : 2406DT13-F2 Connection Diagram

Note: Connect one data type at a time.

3.2. INSTALLATION

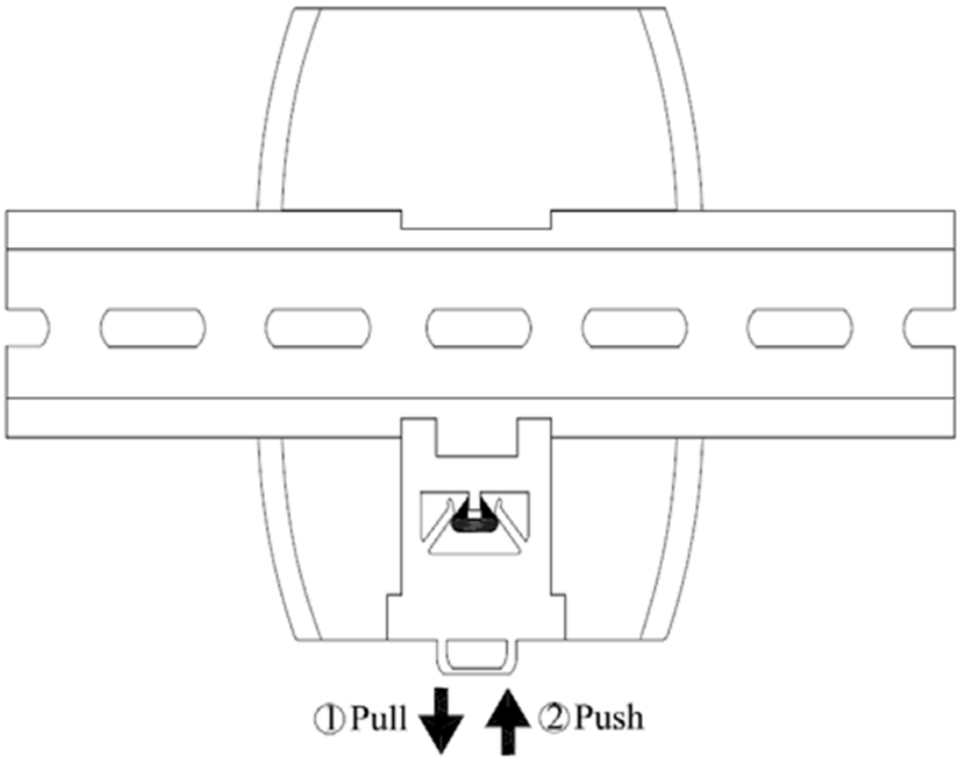

Figure 3-2 : DIN-RAIL Mounting

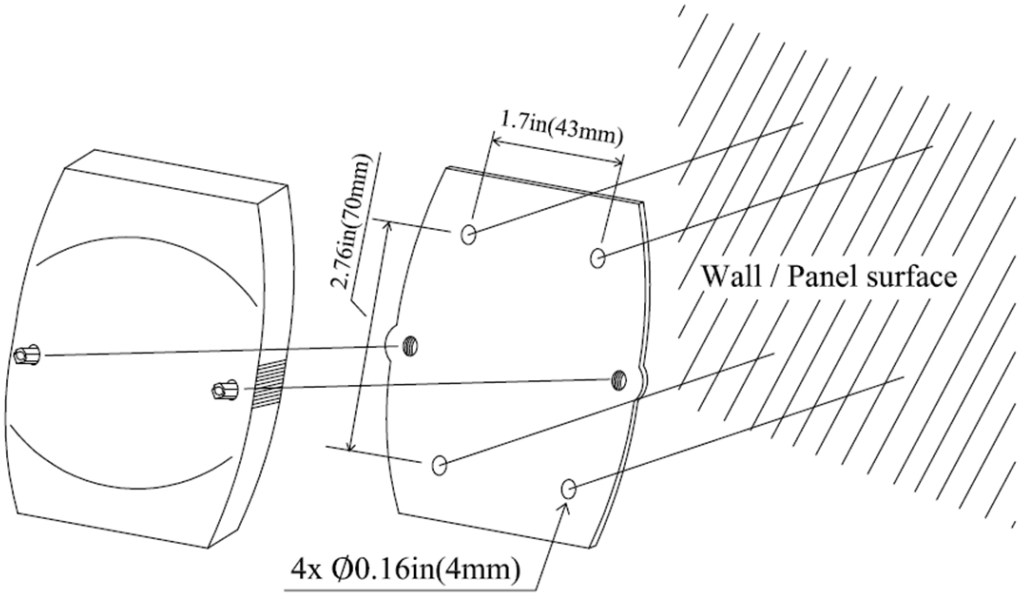

Figure 3-3 : Wall/Panel Mounting

3.3. LED INDICATIONS

The *Three* LEDs indicate as follows:

POWER: Power indicator.
Steady: Power On.
OFF: Power Off.

RECEIVE DATA: RX Indicator.
Flashing: Receiving data from Fiber links.

TRANSMIT DATA: TX Indicator.
Flashing: Transmitting data to Fiber links.

3.4. TROUBLE SHOOTING

Make sure the Power LED is ON and the RX and TX LEDs are OFF when there is no data communication.

Check the connections as is shown in Figure 3-1.

Perform a loopback test by using CommFront's 232Analyzer software:

- Connect "FiberTx" to "FiberRx" by using a fiber optic patch cord cable and connect the PC's RS-232 (or RS-485/422) to FBR-Serial-2 according to Figure 3-1.
- Send commands from the 232Analyzer software. You should receive an echo of the commands sent. By performing a simple loopback test like this, you can test both the COM port and fiber optic module. This is very helpful when you are in doubt about the performance of your converter.