



## Product Description

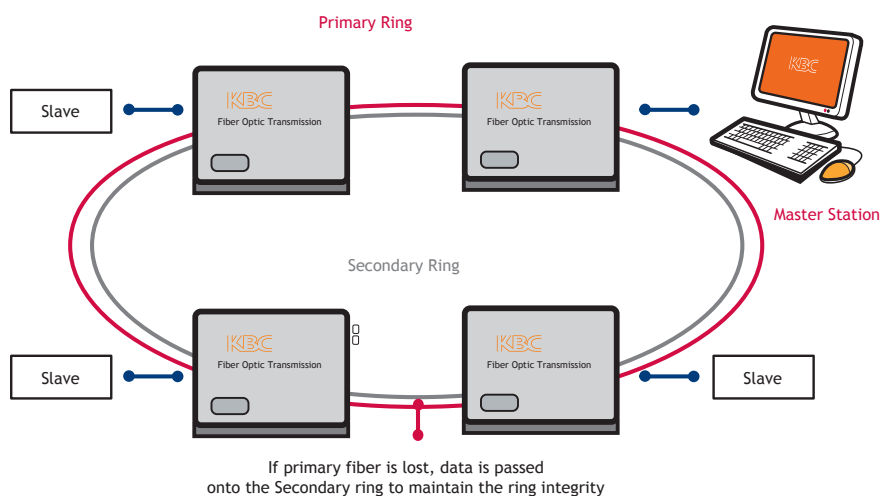
The KBC FTDR series products provide an optical self-healing ring network for RS232, RS422 and RS485 (2 wire & 4 wire) data interfaces over two multimode or singlemode optical fibers. The system offers maximum reliability as it can recover simultaneous faults or failures in two different locations and has contact closure outputs on each module to clearly indicate any fault location. The self-healing ring consists of two opposing data paths: ring A and ring B. Under normal operation only the primary path (ring A) is used for data transfer. If a fault is detected, the data is transferred to the secondary path (ring B) without interruption to the communications network. The series is available in wall-mount, DIN rail or 3U chassis card.



## Product Features

- Supports RS232, RS422 and RS485 (2W & 4W)
- Multimode and singlemode solutions
- Switchable 120Ω termination and biasing
- Contact closure alarm outputs per station
- Single or dual-fiber configurations
- Wall-mount, DIN rail and 3U chassis card

## Typical System Configuration



- Data Cable (depends on data type)
- Multimode or singlemode fiber

# Specifications

## Data<sup>(1)</sup>

Data Formats	RS232, RS422, RS485 (2W & 4W)
Number of Two-way Channels	1
RS232 Data Rate	DC - 115.2 kbps
RS422/485 Data Rate <sup>(2)</sup>	DC - 250 kbps
Bit Error Rate	<1 x 10 <sup>-12</sup>
Encoding Schemes	Manchester, Bi-Phase, NRZ, NRZI

## Optical

Wavelength	1310nm
Fiber	Multimode or Singlemode
Number of Fibers	4 (two fibers per ring)

## Power

Power Input	Wall-mount	12-24 Vac/dc @200mA 24 Vac & 24 Vdc available
Power Supply <sup>(3)</sup>		Input: 100 - 240 Vac Output: +12 Vdc UL and cUL listed PSU
Chassis Card		Supplied from FR3 PSU

## Environmental

Operating Temperature	-40° ~ +74° C / -40° ~ +165° F
Storage Temperature	-40° ~ +74° C / -40° ~ +165° F
Operating Humidity	0 to 95% non-condensing
Mean Time Between Failure (MTBF)	>100,000 Hours

## Mechanical

Dimensions (Wall-mount L x W x H) <sup>(7)</sup>	70mm x 61mm x 44mm (2.76" x 2.40" x 1.73")
Number of 3U Chassis Card Slot <sup>(4)</sup>	2

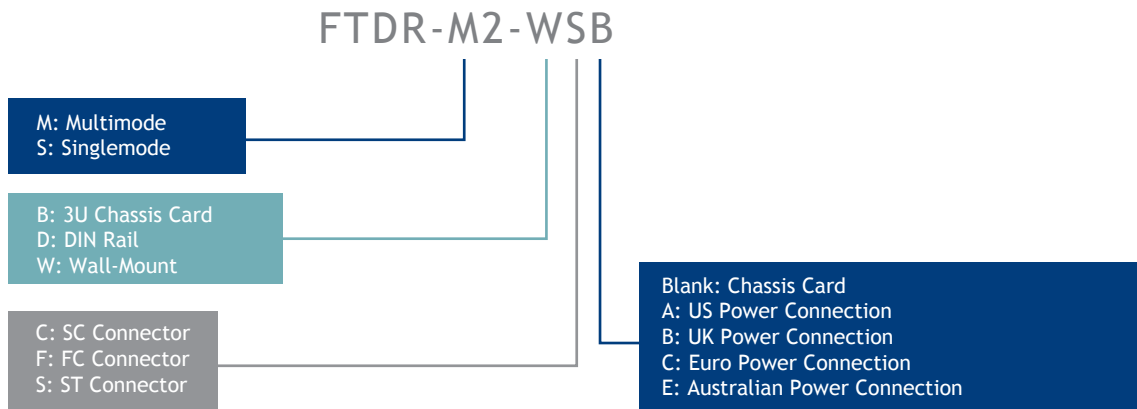
## Connectors

Data	Screw Block Terminal
Fiber	ST, SC or FC (ST fitted as standard)
Power <sup>(5)</sup>	Wall-mount Screw Block Terminal

## DIP Switch Settings

Data	RS232, RS422 or RS485 (2W & 4W) On / Off
120Ω Termination Biasing	On / Off

# Part Number Configurator



# Optical Budget

Part Code	Fiber Type	No.	Optical Budget			Wavelength nm	Approximate Transmission Distance <sup>(4)</sup>
			50µm	62.5µm	9µm		
FTDR-M2-*	Multimode	4	11dB	15dB		1310	0-4km
FTDR-S2-*	Singlemode	4			15dB	1310	0-30km

Transmission distances up to 120km are available please contact KBC Networks for details. All KBC Networks optical transmitters are LASER based.

- RS232, RS422 and RS485 are field selectable
- Data rates up to 1Mbps available, please contact KBC Networks for details.
- Please select the power plug from US Standard, Euro 2 Circular or UK 3 Pin square when placing order.
- Supports maximum of up to 14 single slot cards in each 3U Chassis.
- Power lines are crimped and fitted to screw block connector in factory.
- Transmission distance is limited by optical loss of the fiber and loss introduced by connectors, splices and patch panels. Fiber bandwidth also limits the transmission distance.
- Product body dimensions. Please contact KBC Networks for product drawing and dimensions of mount.

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