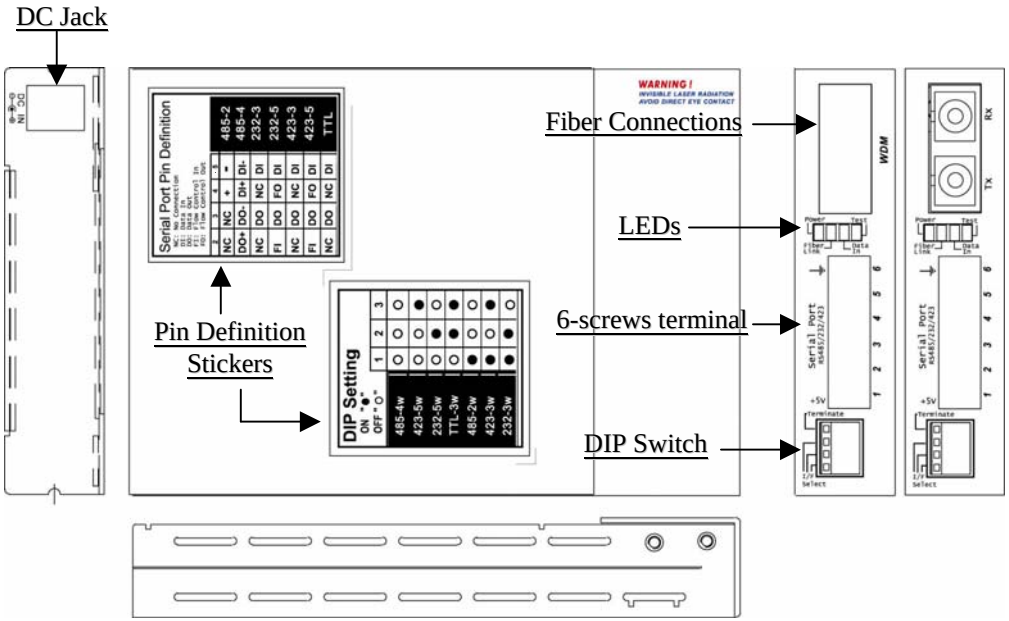
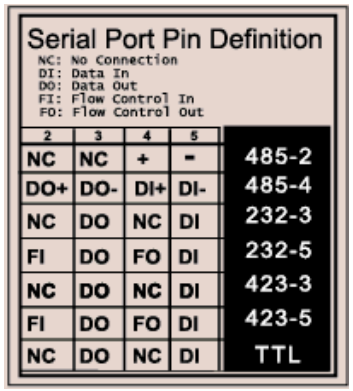
Installation Instructions for
FMX-100
RS-485/RS-423/RS-232 to Fiber Converter

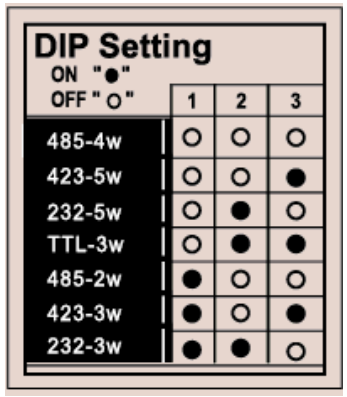
Description

The ***FMX-100*** will extend RS-485 transmission distance up to 2Km over multimode fiber or up to 120Km over single mode fiber. The converter is equipped with multiple interface circuits, for connection to RS-232, RS-423, or RS-485 (2 or 4-wire). The ***FMX-100*** secures data transmissions at speeds up to 256kbps for RS-232, or up to 1024kbps for RS-422/485.



Front Panel Serial Port Definition & DIP Switch Setting





Specifications

Optical

Wavelength:	850, 1310 or 1550nm
Optical Mode:	Single Mode(S/M), or Multimode(M/M)
Operating Distance:	2Km over multimode fiber or up to 120Km over single mode fiber
Fiber Type:	50/125um, 60/125um for M/M ; 9/125um for S/M
Power Margin:	11dB(2Km, M/M), 12dB ~ 35dB(15 ~ 120Km, S/M)
Data Rate:	31.104Mbps
Line Coding:	Scrambled NRZ
Bit Error Rate:	Less than 10^{-11}

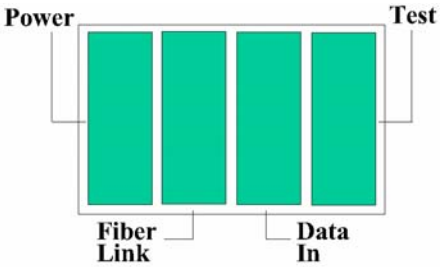
Connectors Specifications

Optical:	ST/SC type or WDM type (SC)
Data:	6-Position detachable screw terminal

DATA SIGNAL Specifications

Data Formats:	RS-485/422 2-Wire RS-485/422 4-Wire RS-232 + RTS/CTS 5-Wire RS-232 3-Wire RS-423 + RTS/CTS 5-Wire RS-423 3-Wire TTL 3-Wire
Baud Rate:	RS-485/422 up to 1024kbps RS-232/423 up to 256kbps TTL up to 1024kbps

LED Indicators



LED	Function	State	Status
Power	Power indicator	On	Converter has power
		Off	Converter has no power
		Blinking	No SNMP is installed in FRM301
Fiber Link	Fiber link	On	The fiber link is up
		Off	No signal or fiber link is down
		Blinking	Remote side fiber Sync loss
Test	Mode display	On	Any loopback test is on
		Off	Normal status
Data In	Mode display	On	Serial transmission or receiving all zeros (space) data
		Off	No Serial transmission or receiving all ones (mark) data
		Blinking	Receiving random serial data

Six-screws Terminal Block

RS-232 3-Wire I/F

DIP Switch –1-2-3: On, On, Off

PIN No#	Function
1	+5VDC output
2	NC
3	RS-232 OUT
4	NC
5	RS-232 IN
6	Ground

RS-232 +RTS/CTS 5-Wire I/F

DIP Switch –1-2-3: Off, On, Off

PIN No#	Function
1	+5VDC output
2	RS-232 RTS/CTS IN
3	RS-232 OUT
4	RS-232 RTS/CTS OUT
5	RS-232 IN
6	Ground

RS-485 2-Wire I/F

DIP Switch –1-2-3: On, Off, Off

PIN No#	Function
1	+5VDC output
2	NC
3	NC
4	RS-485 +
5	RS-485 -
6	Ground

RS-485 4-Wire I/F

DIP Switch –1-2-3: Off, Off, Off

PIN No#	Function
1	+5VDC output
2	RS-485 OUT+
3	RS-485 OUT-
4	RS-485 IN+
5	RS-485 IN-
6	Ground

RS-423 3-Wire I/F

DIP Switch –1-2-3: On, Off, On

PIN No#	Function
1	+5VDC output
2	NC
3	RS-423 OUT
4	NC
5	RS-423 IN
6	Ground

RS-423 +RTS/CTS 5-Wire I/F

DIP Switch –1-2-3: Off, Off, On

PIN No#	Function
1	+5VDC output
2	RS-423 RTS/CTS IN
3	RS-423 OUT
4	RS-423 RTS/CTS OUT
5	RS-423 IN
6	Ground

Fiber Optic Connectors

Two connectors are provided for fiber optic cable connection.
One is for transmission and the other is for reception of optical data. (WDM transceiver has only on SC connector for bi-directional transmissions on a single fiber)

Environment

Temperature : 0℃ - 50℃(operating)
-20℃- 70℃ (storage)
Humidity 10-90% non condensing

Dimension

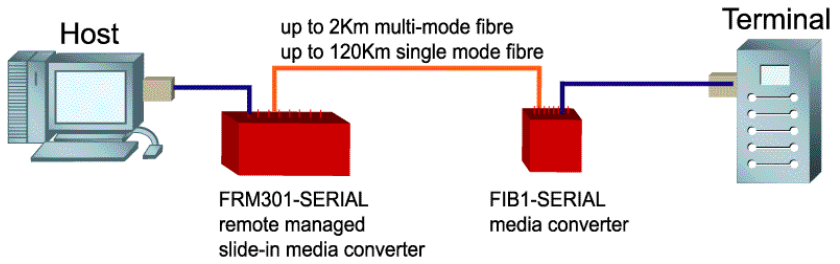
138mm x 86mm x 20mm
(H x W x D)

Weight : 300g

Power

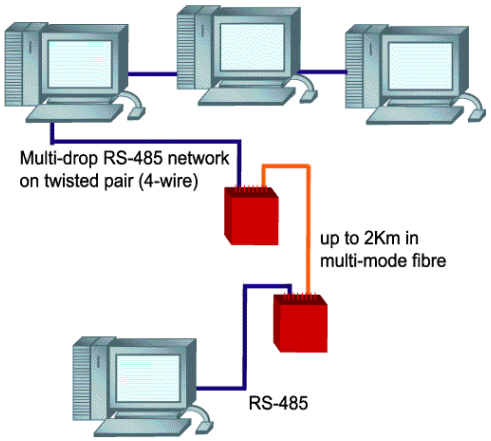
+12V / 1A maximum
DC plug type : center Positive

Application



FMX-100 Pin Assignment
(DB9 Connector for Option)

PIN NO #	DB9 Female
1	9
2	7
3	2
4	8
5	3
6	5



WARNING:

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 in which case the user will be required to correct the interference at his own expense. NOTICE: (1) The changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. (2) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

CISPR PUB.22 Class A COMPLIANCE:
This device complies with EMC directive of the European Community and meets or exceeds the following technical standard. EN 55022 - Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment. This device complies with CISPR Class A.

WARNING:
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CE NOTICE
Marking by the symbol CE indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards: EN 55022:1994/A1:1995/A2:1997 Class A and EN61000-3-2:1995, EN61000-3-3:1995 and EN50082-1:1997