ODT1540_R02

ODT 1540
Serial and GPI Fiber Transceiver (CWDM)

Technical Specifications

Serial I/O	EIA/ETA RS232C / RS422 / RS485 (selectable) - Connector - RJ45
	Baud rate - Auto sense and auto adjust from 300 to 460K
	Serial setting dip switch provides settings for: • Select RS232 / RS422/485 modes • Select serial termination (for end of line) • RX/TX crossover to flip the RX and TX if needed • Set RS422/485 data direction to automatic or manual if needed
	RS422/485 Max number of electical nodes = 25, ESD protection up to 26kV
GPI I/O	2 x GPI inputs + 2 x GPO outputs - RJ45 Connector
	GPI Inputs: • External passive closure between pins (short) to trigger • Max input switching frequency 25Hz (50 operations / second) • Input insulation 3.75kV
	GPI outputs: • Internal contact closure (relay) • Max switching frequency 25Hz (50 operations / second) • Max switching power 220VDC / 0.25A or 250VAC / 0.25A • Output insulation 3.75kV
Fiber I/O	**1 x fiber optic input (SMF)** LC/PC Connection (Range 1270-1610nm, Sensitivity -3dBm to -23dBm) **1 x fiber optic output (SMF)** LC/PC Connection CWDM (ITU-T G.694.2) 18 selectable wavelengths 1270,1290,1310,1330,1350,1370,1390,1410,1430,1450,1470,1490,1510,1530,1550,1570,1590,1610nm
	Max. distance 40km (24.8 miles - Singlemode)
Power	+12VDC @ 0.25A

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PIN	RS 422/485	RS 232	GPI
1	GND	GND	IN 2 - GND
2	GND	GND	IN 2 - SENSE
3	RX A (+)	CTS	OUT 2 - A
4	TX A (+)	RTS	OUT 1 - B
5	TX B (-)	TX	OUT 1 - A
6	RX B (-)	RX	OUT 2 - B
7	----		IN 1 - GND
8	----		IN 1 - SENSE

		RS422
Serial Mode -	RS232	RS485
Internal Termination -	ON	OFF
RX/TX Crossover -	ON	OFF
RS422/485 Direction -	MAN	AUTO

Serial Settings

Module Settings

TX Active

RX Active

Power

Power Connector

Fiber Connections

GPI out 1

GPI out 2

GPI in 1

GPI in 2

Serial TX Active

Serial RX Active

USB For Firmware Updates

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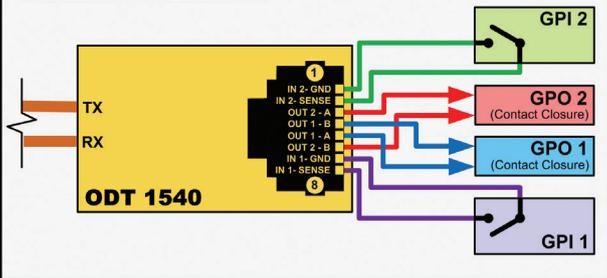
Connections

The ODT 1540 modules are designed to be used in pairs, one ODT 1540 connected to another in a remote location. The module supports Serial RS232/422 and RS485 in full and half duplex, the module also provides support for two GPI and GPO signals. Connection examples and recommended switch settings are shown below. Fiber connections use LC type connectors and two fiber links are needed, one for transmit and another for receive. The use of singlemode (SMF) fiber is mandatory for CWDM (multiplexed) applications.
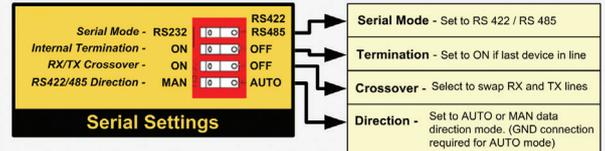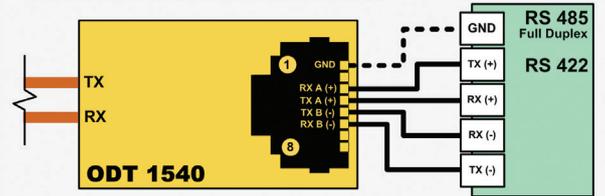
RS 232 Connections

TX
RX

ODT 1540

1 GND
CTS
RTS
TX
RX
8

RS 232
GND
RTS
CTS
RX
TX

Serial Settings

		RS422 RS485
Serial Mode -	RS232	RS422/RS485
Internal Termination -	ON	OFF
RX/TX Crossover -	ON	OFF
RS422/485 Direction -	MAN	AUTO

Serial Mode - Set to RS 232

Termination – Not Applicable

Crossover - Set to ON to swap (flip) RX and TX connection

Direction - Not Applicable
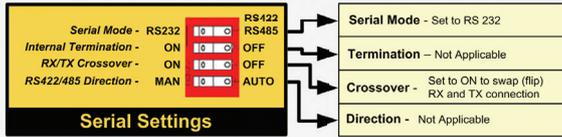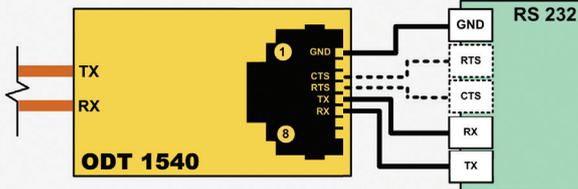
Note: CTS and RTS connections are not always required for RS 232 communications, it depends on the devices and application

GPI Connections

TX
RX

ODT 1540

1 IN 2- GND
IN 2- SENSE
OUT 2 - A
OUT 1 - B
OUT 1 - A
OUT 2 - B
IN 1- GND
IN 1- SENSE
8

GPI 2
GPO 2 (Contact Closure)
GPO 1 (Contact Closure)
GPI 1

RS 422/485 Connections

TX
RX

ODT 1540

1 GND
RX A (+)
TX A (+)
TX B (-)
RX B (-)
8

RS 485 Full Duplex
RS 422
GND
TX (+)
RX (+)
RX (-)
TX (-)

Serial Settings

		RS422 RS485
Serial Mode -	RS232	RS485
Internal Termination -	ON	OFF
RX/TX Crossover -	ON	OFF
RS422/485 Direction -	MAN	AUTO

Serial Mode - Set to RS 422 / RS 485

Termination - Set to ON if last device in line

Crossover - Select to swap RX and TX lines

Direction - Set to AUTO or MAN data direction mode. (GND connection required for AUTO mode)

RS 485 Connections – Half Duplex

TX
RX

ODT 1540

1 GND
TX A (+)
TX B (-)
8

RS 485 Half Duplex
GND
D+
D-
Leave Open (no connections)

TX
RX

ODT 1540

1 GND
RX A (+)
RX B (-)
8

RS 485 Half Duplex
GND
D+
D-
Leave Open (no connections)

Serial Settings

		RS422 RS485
Serial Mode -	RS232	RS485
Internal Termination -	ON	OFF
RX/TX Crossover -	ON	OFF
RS422/485 Direction -	MAN	AUTO

Serial Mode - Set to RS 422 / RS 485

Termination - Set to ON if last device in line

Crossover - Not Applicable

Direction - Set to AUTO