

Serial and GPI Fiber Transceiver (CWDM)

- Extend serial and GPI connections up to 40km
- Supports serial RS232 or RS422 or RS485
- 2 x GPI connections
- Select from 18 fiber wavelengths (CWDM)
- LC/PC duplex fiber connections
- Switchable RX/TX crossover
- Automatic or manual data direction
- Switchable end of line termination
- 'Plug and Play' - No PC software drivers needed
- Supports all serial protocols (standard or proprietary)
- 300 - 460K Baud (auto sensing and auto adjusting)

The ODT 1540 is a multi-function CWDM compatible module which (when used with another ODT 1540 in the remote location) will extend the reach of serial RS232, RS422 or RS485 as well as two GPI (general purpose I/O) up to 40km over fiber. 18 wavelength sections are provided for CWDM use.

A single RJ45 electrical serial connection can be configured for RS232, RS422 or RS485 serial standards. A separate RJ45 connector is provided for two electrical GPI inputs and outputs. Serial communications and GPI are transmitted and extended over the same fiber link.

The ODT 1540 is completely agnostic to the serial protocol used, and supports all standard protocols and proprietary protocols at data rates from 300 to 460K Baud (*auto sensing and auto adjusting*).

The integrated dip switch provides precise control over the serial mode of operation with selections for the *serial standard, serial termination, RX/TX crossover and RS422/485 data direction (automatic or manual)*. Data activity LEDs are provided for the serial port and the GPI port under the respective RJ45 connectors.

The ODT 1540 also supports mixing and matching of serial standards. For example: the transmitting module can have a RS232 input, and the receiving module can be set for RS422 output.

The ODT 1540 is 100% plug and play, hot pluggable and no special software drivers are required.



CWDM TX Wavelength Selections

| Wavelength | Power | Option # | Wavelength | Power | Option # |
|------------|-------|---------------|------------|-------|---------------|
| 1270nm | +2dBm | OH-TR-54-1270 | 1450nm | +2dBm | OH-TR-54-1450 |
| 1290nm | +2dBm | OH-TR-54-1290 | 1470nm | +2dBm | OH-TR-54-1470 |
| 1310nm | +2dBm | OH-TR-54-1310 | 1490nm | +2dBm | OH-TR-54-1490 |
| 1330nm | +2dBm | OH-TR-54-1330 | 1510nm | +2dBm | OH-TR-54-1510 |
| 1350nm | +2dBm | OH-TR-54-1350 | 1530nm | +2dBm | OH-TR-54-1530 |
| 1370nm | +2dBm | OH-TR-54-1370 | 1550nm | +2dBm | OH-TR-54-1550 |
| 1390nm | +2dBm | OH-TR-54-1390 | 1570nm | +2dBm | OH-TR-54-1570 |
| 1410nm | +2dBm | OH-TR-54-1410 | 1590nm | +2dBm | OH-TR-54-1590 |
| 1430nm | +2dBm | OH-TR-54-1430 | 1610nm | +2dBm | OH-TR-54-1610 |



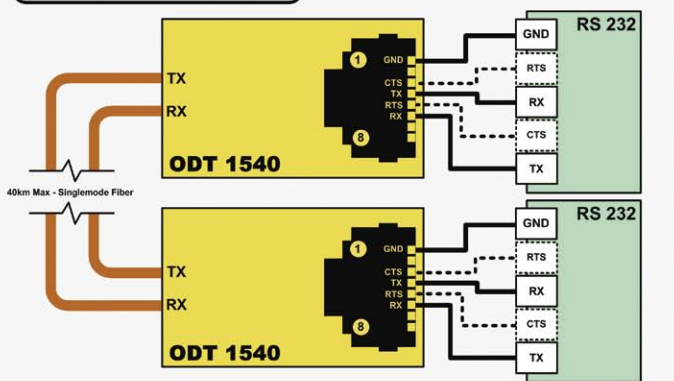
Technical Specifications

| | |
|-------------------|--|
| 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: <ul style="list-style-type: none"> • 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 |
| | LED status indicators (under RJ 45 connector) <ul style="list-style-type: none"> Serial TX activity Serial RX activity |
| | RS422/485 Max number of electrical nodes = 25 |
| | ESD protection for up to 26kV |
| GPI I/O | 2 x general purpose inputs + 2 x general purpose outputs |
| | Connector - RJ45 |
| | GPI Inputs: <ul style="list-style-type: none"> • External passive closure between pins (short) to trigger • Max input switching frequency 25Hz (50 operations / second) • Input insulation 3.75kV |
| | GPI outputs: <ul style="list-style-type: none"> • 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 |
| | LED status indicators (under RJ45 connector) <ul style="list-style-type: none"> GPI Input 1 activity GPI Input 2 activity GPI Output 1 activity GPI Output 2 activity |
| Fiber I/O | 1 x fiber optic input (SMF) (Range 1270-1610nm, Sensitivity -3dBm to -23dBm) 1 x fiber optic output (SMF) CWDM (ITU-T G.694.2) 18 selectable wavelengths (see table) Duplex (Single mode) using LC/PC Connections |
| | Fiber TX active and RX active LEDs on side of module |
| | Max. distance 40km (24.8 miles - Singlemode) |
| Power | +12VDC @ 0.25A power supply (included) Supports external power from 9 to 14VDC Power LED on side of module |
| Size | 105mm x 40mm x 22mm (4.13" x 1.57" x 0.86") |
| Model # | ODT 1540 |
| Includes | Module, 12V power supply + AC plug adapters, and mounting brackets NOTE: No fiber SFP is supplied as standard, select required wavelength from table |

Specifications subject to change

Connection Diagrams

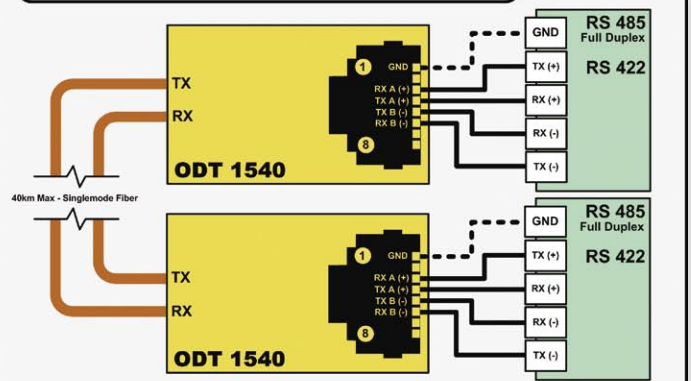
RS 232 Connections



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

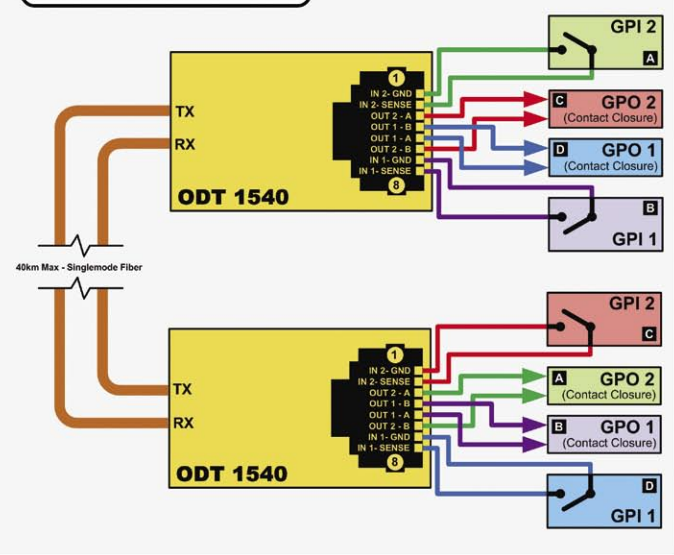
| | | | | |
|---------------------------|-------------------------------------|-------|-------------------------------------|---|
| Serial Mode - RS232 | <input checked="" type="checkbox"/> | RS422 | <input type="checkbox"/> | Serial Mode - Set to RS 232 |
| Internal Termination - ON | <input type="checkbox"/> | RS485 | <input type="checkbox"/> | Termination - Not Applicable |
| RX/TX Crossover - ON | <input type="checkbox"/> | | <input type="checkbox"/> | Crossover - Set to ON to swap (flip) RX and TX connection |
| RS422/485 Direction - MAN | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Direction - Not Applicable |
| | <input type="checkbox"/> | | <input type="checkbox"/> | |

RS 422/485 Connections

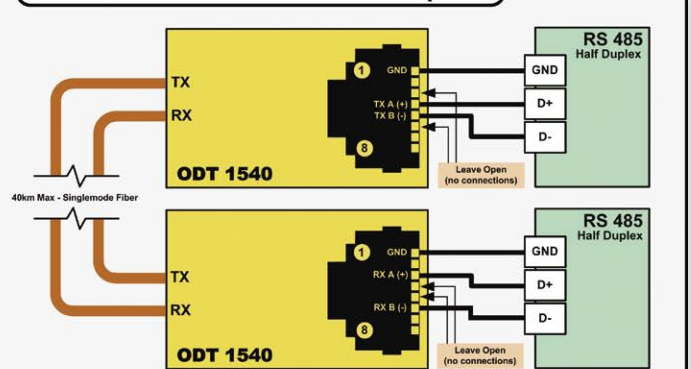


| | | | | |
|---------------------------|--------------------------|-------|-------------------------------------|--|
| Serial Mode - RS232 | <input type="checkbox"/> | RS422 | <input checked="" type="checkbox"/> | Serial Mode - Set to RS 422 / RS 485 |
| Internal Termination - ON | <input type="checkbox"/> | RS485 | <input type="checkbox"/> | Termination - Set to ON if last device in line |
| RX/TX Crossover - ON | <input type="checkbox"/> | | <input type="checkbox"/> | Crossover - Select to swap RX and TX lines |
| RS422/485 Direction - MAN | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Direction - Set to AUTO or MAN (manual) data direction mode. (GND connection required for AUTO mode) |
| | <input type="checkbox"/> | | <input type="checkbox"/> | |

GPI Connections



RS 485 Connections – Half Duplex



| | | | | |
|---------------------------|--------------------------|-------|-------------------------------------|--|
| Serial Mode - RS232 | <input type="checkbox"/> | RS422 | <input type="checkbox"/> | Serial Mode - Set to RS 422 / RS 485 |
| Internal Termination - ON | <input type="checkbox"/> | RS485 | <input type="checkbox"/> | Termination - Set to ON if last device in line |
| RX/TX Crossover - ON | <input type="checkbox"/> | | <input type="checkbox"/> | Crossover - Not Applicable |
| RS422/485 Direction - MAN | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Direction - Set to AUTO |
| | <input type="checkbox"/> | | <input type="checkbox"/> | |

Power Adapter Options

The module **INCLUDES** an AC power supply. The power adapters below are optional.



P-TAP 1000
Use with a standard battery P-TAP power source.



XLR 1000
Use with a standard 4 pin XLR camera battery power source

Fiber Adapter Options

These adapters enable the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.



LC/SC DUP
LC/PC to SC/PC Adapter



LC/ST DUP
LC/PC to ST/PC Adapter

Specifications subject to change