IRT COMMUNICATIONS
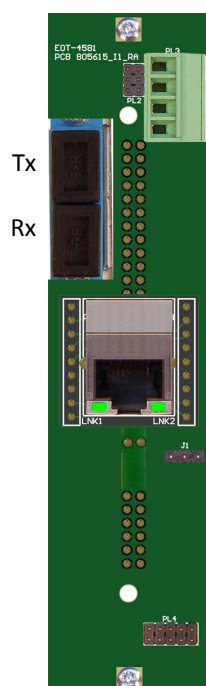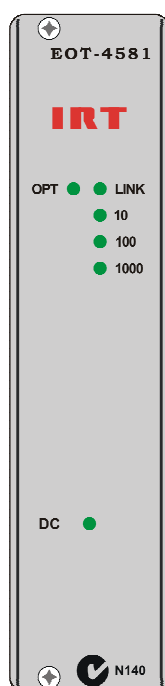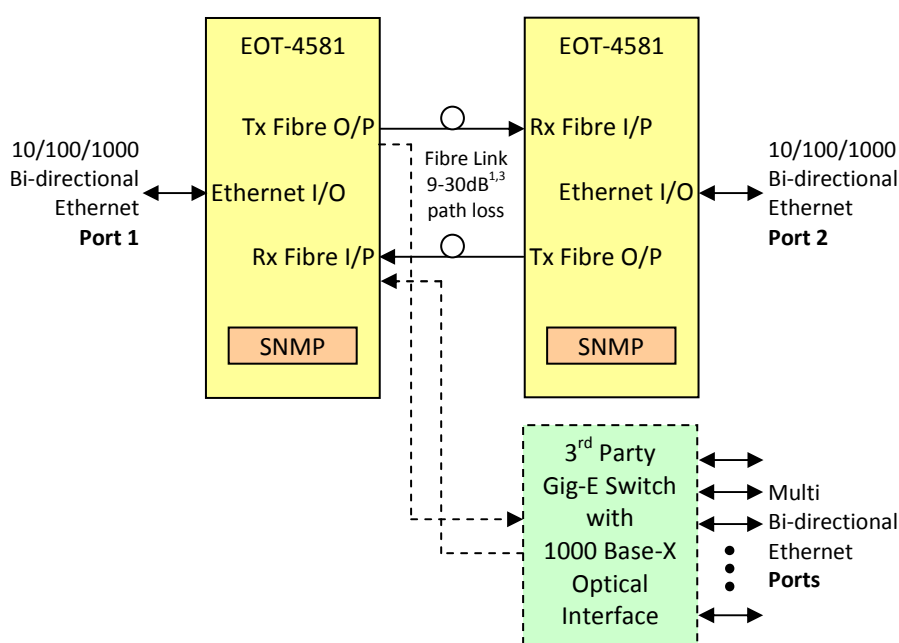
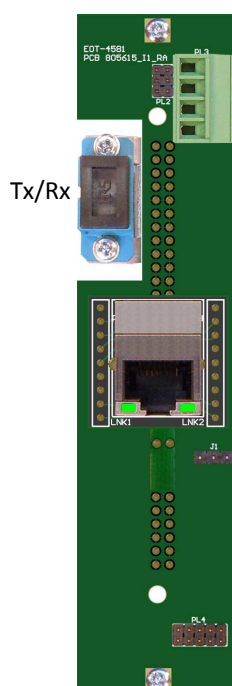## Ethernet to Optical Fibre Transceiver

FEATURES

- Suitable for 10/100/1000 Base-T Ethernet.

- Standard RJ-45 CAT-5 Ethernet connection.

- Supports Jumbo frames.

- 1000 Base-X optical interface.

- Path lengths up to 30dB[1] optical path loss using 9/125µm single mode fibre.

- Optional on-board WDM[1,2] optical combiner for use on a single common fibre.

- SNMP software monitoring.

BLOCK DIAGRAM EOT-4581 SIGNAL PATH

Standard

WDM Option

GENERAL

The EOT-4581 transceiver module is designed principally for use as a 10/100/1000 Base-T Ethernet to fibre optic transmission link, using 9/125µm single mode fibre, with optical paths losses up to 30dB[1].

The EOT-4581 conforms to the IEEE 802.3i, 802.3y and 802.3ab standards for Ethernet over CAT-5 cable, and the IEEE 802.3z (1000 Base-X) standard for Gigabit Ethernet over optical fibre.

The Ethernet port has automatic MDI/MDI-X detection, this detects whether the Ethernet interconnect cable is a straight through or cross over type and automatically switches itself to accommodate, and will automatically select the link speed of the connected network (10/100/1000 Mb/s).

The EOT-4581 is also able to support Jumbo frames, which are Ethernet frames with more than 1500 bytes of payload data, up to a maximum frame size of 10,240 bytes.

A fibre transceiver is incorporated on the one card allowing bi-directional communication over a pair of SC/PC single mode fibre optic cables.

Optionally a 1310/1550nm WDM[1,2] optical combiner can be fitted to allow for combined use on a single fibre.

As well as being able to be used as a pair for a point to point fibre link, the EOT-4581's fibre output is 1000 Base-X and can be directly interfaced into an Ethernet switch with an equivalent optical interface.

The EOT-4581 is a Eurocard module designed to fit IRT's 1RU frame or IRT's 4000 series frames for use with IRT's SNMP system and may be used alongside any other of IRT's Eurocards.

NOTE:

1 With the WDM option fitted, optical path loss is reduced by approximately 2dB.

2 With the WDM option fitted, when operating as a pair, one EOT-4581 must be fitted with a 1310nm transceiver and the other a 1550nm transceiver.

3 An optical attenuator is required for optical path losses <9dB.

TECHNICAL SPECIFICATIONS

Ethernet:

Type	Standard IEEE 802.3i, 802.3y & 802.3ab
Data Rate	10/100/1000 Mb/s, automatic.
Maximum Frame Size	10,240 bytes.
Connector	RJ-45.

Optical:

Type	Standard 802.3z (1000 Base-X).
Data Rate	1000 Mb/s.
Optical Path Loss[4, 5]	9 to 30 dB.
Optical Fibre	Designed for use with 9/125µm single mode fibre.
Optical Wavelength	1310nm (standard);
	1470nm, 1490nm, 1510nm, 1530nm, 1550nm, 1570nm, 1590nm, 1610nm available.
Optical Connectors	Dual SC/PC (standard);
	Single SC/PC (WDM version).
Optical Output	0 dBm +4.5/-0 dB DFB laser.
Optical Input	APD detector (standard), -9 to -30 dBm input level.

Power Requirements:

Voltage	28 Vac CT (14-0-14) or $\pm$ 16 Vdc.
Power consumption	< 2.5 VA.

Other:

Temperature range		0 - 50° C ambient.
Mechanical		For mounting in IRT 19" rack chassis with input, output and power connections on the rear panel.
Finish	**Front panel**	Grey, black lettering & red IRT logo.
	Rear assembly	Detachable silk-screened PCB with direct mount connectors to Eurocard and external signals.
Dimensions		6 HP x 3 U x 220 mm IRT Eurocard.

Ordering:

EOT-4581	Standard EOT-4581 fitted with 1310nm laser.
EOT-4581/xxxx	EOT-4581 fitted with laser other than 1310nm where xxxx = wavelength required (e.g. EOT-4581/1550 is fitted with a 1550nm laser).
EOT-4581/1310/WDM	EOT-4581 fitted with WDM and 1310nm laser.
EOT-4581/1550/WDM	EOT-4581 fitted with WDM and 1550nm laser.

NOTE:	**4**	Optical attenuator required for EOT-4581 when optical path loss is less than 9dB.
	5	Optical path loss reduced by approximately 2dB when WDM option fitted.