10 Mbps Fiber Optic Ethernet Transceiver

The DS-105TR is a Fiber Optic Ethernet transceiver. It is compatible with a vast array of LAN devices, and supports IEEE 802.3 FOIRL protocol. Data rates of up to 10Mbps are supported. The DS-105TR allows users to attach Ethernet segments together, or to connect an Ethernet transceiver to a workstation.

Distances of up to 2 km can be achieved without a bridge, and up to 75 km with a bridge.

System Design

The DS-105TR is equipped with six LED status indicators to assist in troubleshooting and operation. There are indicators for PWR, PODIS, LTF, OP, TP, and LMON (link monitor).

The DS-105TR can be directly attached to workstations, bridges, repeaters, and terminal repeaters via a RJ-45 connector. The DS-105TR has many computer to LAN applications, or any Ethernet solution. These units come in a stand alone or wall-mount version. The DS-105TR is powered by an external 12V$_{DC}$ power supply. It is also available in 1 Single Fiber Strand.

Features

- Ethernet Fiber Optic 10Mbps BASEFL, 10BASE2, 10BASE5 Transceiver

- Multimode or singlemode operation over 2 fibers

- 2 km range – up to 45 km with bridge

- Supports Ethernet IEEE 802.3, FOIRL Protocol

- Six Detailed LED status indicators

- No EMI or RFI and no ground loops

- Stand Alone or Wall Mount

865	1310	1550	Type	Mode	Wavelength Suffix	Fiber Type	Output Power	Receiver Sensitivity	Optical Loss Budget	Range*	Conn Type
•			LED	MM	L0	50/125μ	-16 dBm	-31 dBm	15 dB	2 km	ST
•						62.5/125μ					
	•		LED	MM	L1	50/125μ	-16 dBm	-31 dBm	15 dB	12 km	ST
	•					62.5/125μ					
	•		ELED	SM	L2E	09/125μ	-16 dBm	-31 dBm	15 dB	25 km	FC
	•		Laser	SM	L2	09/125μ	-14 dBm	-34 dBm	20 dB	32 km	FC
		•	Laser	SM	L3	09/125μ	-1 dBm	-39 dBm	38 dB	45 km	FC

* Chromatic dispersion and additional losses should be taken into account

Data

Data rate	Up to 10 Mbps
Connector Type	RJ-45 UTP7
Interface	Ethernet IEEE 802.3 FOIRL
Bit error rate	$10E^{-9}$

General

Dimensions & Weight	2.5" L x 4.0" W x 0.75" H 4.5 oz
Operating temperature	-20° C to +70° C
Storage temperature	-30° C to +85° C
Humidity	0 to 95% non-condensing
Operating voltage	12 V_{DC} @ 300 mA, and +15/-48 V_{DC} 24 @ 150mA (optional)
Vibration	Up to 5 g's
Shock	Up to 12 g's

Diagnostics

Status monitoring	Six LED indicators for PWR, PODIS, LTF, OP, TP and LMON
Tests	Local loopback

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CE

FCC PART 15 COMPLIANT

MADE IN THE USA

Sample Configuration

Thinnet coax cable to FILE SERVER

Fiber Optic Cable (up to 2 km @850nm MM)

Ethernet Thinnet Interface

DS-105TR   Tx Rx   Tx Rx   DS-105TR

Ethernet Thinnet to Fiber Optic Media Converter

Ethernet Thinnet to Fiber Optic Media Converter

Workstation