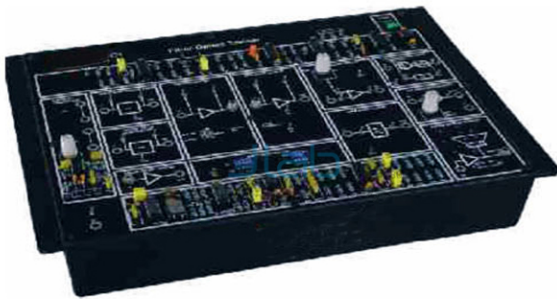


Product Code . JL-AET-1477



Elementary Fiber Optics Trainer

Description

Elementary Fiber Optics Trainerâ€™

Features:-

- Simplex Analog and Digital Trans receiver
- 660 nm channel with Transmitter & Receiver
- AM-FM-PWM modulation / demodulation
- On board Function Generator
- Crystal Controlled Clock
- Functional Blocks indicated on-board mimic
- Input-output & test points provided on board
- On board voice link
- Built in DC power supply
- Numerical Aperture measurement jig and mandrel for
- bending loss included
- Switched faults on Transmitter & Receiver
- Operating manual contains theory of Fiber Optics
- Technology, experiments and glossary of Terms
- Experiments that can be performed

Experiments that can be performed:

- Setting up Fiber Optic Analog & Digital Link
- AM system using Analog & Digital Input Signals
- Frequency Modulation System Pulse Width Modulation System
- Study of Propagation Loss in Optical Fiber
- Study of Bending Loss

-
- Measurement of Numerical Aperture
 - Characteristics of E-O Converter (LED)
 - Characteristics of Fiber Optic Communication Link
 - Setting of Fiber Optic Voice Link using Amplitude, Frequency & PWM Modulation
 - Study of Switched Faults in AM, FM & PWM system
 - Propagation loss using Optical Power Meter

Technical Specifications:

Transmitter:

- 1 No., Fiber Optic LED having peak wavelength of emission 660 nm

Receiver:

- 1 No. Fiber Optic Photo detector

Modulation Techniques:

- AM 2. FM 3. PWM

Drivers:

- 1 No. with Analog & Digital modes

Clock:

- Crystal Controlled Clock 4.096 MHz

PLL Detector:

- 1 No.

AC Amplifier:

- 1 No.

Comparator:

- 1 No.

Th Filters:

- 1 No. 4 order Butterworth, 3.4 KHz cutoff Frequency

Analog Band Width:

- 350 KHz
-

Digital Band Width:

- 2.5 MHz

Voice Link:

- F. O. Voice link using microphone &
- speaker (built in)

Switched Faults:

- 4 in transmitter & 4 in Receiver

Fiber Optic Cable:

- Connector Type Standard SMA

Cable Type:

- Step indexed multimode PMMA plastic cable

Core Refractive Index:

- 1.492

Clad Refractive Index:

- 1.406

Numerical Aperture:

- Better than 0.5

Acceptance Angle:

- Better than 60 deg.

Fiber Diameter:

- 1000 microns

Outer Diameter:

- 2.2 mm

Fiber Length:

- 0.5 m & 1 m

Test Points:

Inter connections:

- 4 mm sockets

Power Supply:

- 220 V $\pm 10\%$, 50 Hz / 60 Hz on request

Power Consumption:

- 3 VA (approx.)

Accessories Included:

- Line cord, Manuals, NA Measurement
- Jig, Mandrel, Fiber Cables, Microphone,
- Headphone, Set of Patch Cords

Optional Accessories:

- Optical Power Meter, 5 meter fiber cable, 10 meter fiber cable

Function Generator:

- 1 KHz Sine wave (Amplitude adjustable)
- 1 KHz square wave (TTL)

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