

Product Name :
Laser Diode Intensity Modulation and Demodulation Trainer**Product Code :**
ALABS-A41-001**Description :****Laser Diode Intensity Modulation and Demodulation Trainer**

has been developed to conduct studies on laser Diode, optical fibres and optical communication methods, by signal transmission. Practical experience on this Trainer carries great educative value for Science & Engineering Students.

Experiments:**Characterisation of a Laser Diode :**

- Optical Power (P_o) of a Laser Diode Vs Laser Diode Forward current (I).F
- Monitor Photodiode Current (I) Vs Laser Optical Power Output (P_o). M

Design and Evaluation of an Laser Diode (LD) Analog I System M :

- V_o Vs V_{in} at Specified Optical Carrier Power Levels, P_o

- Determination of V_{in} (max) at Specified P_o for Distortion-free V_o

Design and Evaluation of Laser Diode LD Digital Transmission System :

- Risetime and Falltime Pulse width Distortions and Determination of Propagation Delay

Transmission of Laser through an Optical Fibre :

- To measure loss in dB of Step-index Multimode plastic Fibre Patchcord
- To measure loss in dB of Graded-Index, Multimode Glass Fibre Patchcord
- To measure loss in dB of Two Patchcords connected by the in-line Adaptor

Laser Free Space Communication :

- Analogue Free Space Communication System
- Digital Free Space Communication System

Determination of Numerical Aperature of PMMA Fibre Cable

The Trainer consists of the following built-in parts:

Laser Diode Transmitter unit having following built-in parts :

- Laser Diode Transmitter Module
- 6V DC at 100mA, IC Regulated Power Supply internally connected
- SPDT switch to select Automatic Current Control (ACC) or Automatic Power Control (APC)
- Potentiometer to set power output
- Adequate no.of other electronic components
- Mains ON/OFF switch, Fuse and Jewel light

Laser Diode Receiver unit having following built-in parts :

- Laser Diode Receiver Module
- PIN Diode for measuring power of Laser Diode
- Potentiometer to set voltage output
- Adequate no.of other Electronic Components
- 6V DC at 100mA, IC Regulated Power Supply internally connected

Special Feature :

- Two-metres PMMA Plastic Fibre Patchcord (Cable-1)
- Two-metres GI/mm Glass Fibre Patchcord (Cable-2)
- In-line SMA Adaptor
- Numerical Aperature measurement Jig
- Mandrel
- The units are operative on 230V $\pm 10\%$ at 50Hz A.C. Mains
- Adequate no. of Patch cords stackable 4mm spring loaded plug length $\frac{1}{2}$ metre
- Good Quality, reliable Terminal/Sockets are provided at appropriate places on panel for connections / observation of waveforms
- Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design Procedures, Report Suggestions and Book References
- Weight : 4 Kg. (Approx)
- Dimension : W 340 x H 110 x D 210

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