ROBOFI TECHNOLOGIES PRIVATE LIMITED
B-9, Basement, Triveni Complex,
E-10-12, Jawahar Park, Laxmi Nagar,
East Delhi, Delhi-110092

GSTIN NO: 07AAHCR5373B1ZG

ROBO FIBER OPTICS Trainer – Robo-FOT

Robo-FOT provides an ideal teaching aid to enhance education, training, skills & development amongst our young minds. This laboratory is designed to study the physics of fiber optics. It deals with the study of various important characteristics of optical fiber cable like numerical aperture, bit error rate & Eye Pattern Analysis, attenuation, losses in optical fiber and characterization of erbium doped fiber amplifier.

Scope of Learning that can be performed using our Robo-FOT:

- Characteristics of optical fiber
- Study of numerical aperture
- Study of various modes in optical fiber
- Adding and Dropping of Optical Channels in a WDM Link
- Testing & Analysis of optical communication
- Attenuation in Optical Fiber
- Study of Losses in Optical Fiber
- Dispersion in Optical Fiber
- Bit Error Rate & Eye Pattern Analysis in optical fiber
- Power Budgeting of an Optical Fiber Link
- Rise Time Budgeting of an Optical Fiber Link
- Component Characteristics
- Study of various characteristics of Laser Diode, Photodetector, WDM Mux and Demux
- Characterization of FBG and Circulator, Erbium Doped Fiber Amplifier
- Optical Communication System
- Analog and Digital Fiber Optic Links
- Time Division Multiplexing of Digital Signals
- WDM Fiber Optic Link
- Optical Amplification in a WDM Link
- Optical Time Domain Reflectometer

Robo-FOT provides an intuitive user interface with touch screen panel to setup and perform various experiments. It has an Interactive Software Control to provide a detailed information for each experiment. Built-in onboard Oscilloscope make it easy to plot and study waveform.

Our development team in fiber technology while making this Robo-FOT has taken care, how we contribute to both cutting-edge technology like EDFA, OTDR, and OADM and also give conceptual learning on concepts of know about OTDR Trace Analysis and interpretation on Eye Pattern Analysis.

Standard accessories for Robo-FOT

Laser Sources
Digital Storage Oscilloscope
Power Meter
Fiber Spools

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Technical Specifications

Laser: 1510 nm, 1530 nm, 1550 nm and 1570 nm • Pigtailed DFB Laser • Output Power 1mW • Spectral width 50 pm	980 nm Laser • Pigtailed DFB Laser • Output Power 50-60 mW	850 nm Laser • Pigtailed DFB Laser • Output Power 2mW
InGaAs & Silicon Photodiodes Pigtailed Photodiodes, High Speed PIN diodes, Variable Optical Attenuator Attenuation Range 1 - 40 dB Resolution 0.5 dB 3Port Circulator Isolation 15 dB Insertion Loss 0.5 -1 dB		
Fiber Bragg Grating 30 dB isolation @ 1550 nm 15 dB isolation @ 980 nm		
3dB Coupler Splitting Ratio 50:50 Insertion Loss of each Channel 1 dB		
4 Channel WDM Mux & DeMux Pass Channels at 1510, 1530, 1550 and 1570 nm Channel spacing 20 nm 980/15xx Mux 30 dB isolation @ 1550 nm 15 dB isolation @ 980 nm		

Simulation Software for Optical Fiber and Planar Waveguide List of Simulations (Robo-FOT SIM)

Optical fiber	Planar waveguides	Link designing & testing	Non-linear effects
• Modes in SI Fiber	• 3 Layer Symmetric	• Attenuation Limited Link	• Self-Phase Modulation
• Modes in GI Fiber	• 3 Layer Asymmetric	• Dispersion Limited Link	• Cross Phase Modulation
• Modes in Multilayer Fiber	• Multilayer Symmetric	• Link Budget	• Stimulated Raman Scattering
• Material Dispersion	• Multilayer Asymmetric	• OTDR	• Stimulated Brillouin Scattering
• Intermodal Dispersion	• GI Planar Waveguide		• Optical Soliton
• Total Dispersion on SMF	• Directional Coupler		
• Dispersion in GI Fiber			
• Dispersion in Multilayer Fiber			
• Total Dispersion in MMF			
• Spot size in SI Fiber			
• Attenuation			
• Offset Losses			
• Light Emitting Diode			
• Laser Diode			
• Si Photodiode			
• FBG Simulator, EDFA			

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