LEOK-22

Optical Fiber Information and Communication Experiment Kit - Enhanced Model

Description

This kit provides an overview of fiber optic technology and basic skills needed to work with fiber optics. It is made up of a number of laboratory experiments. The most commonly used fiber optical components and their parameter measurements are introduced in this kit, together with prime techniques, such as WDM and coupling. Student can understand the characteristics of isolators, attenuators, optical switches, transmitters, amplifiers etc. Upon completing the experiments, one can gain a better understanding of fiber optic fundamentals with hands-on experience in real fiber optic components and techniques. With this carefully designed kit, students will gain a powerful tool to explore the exciting world of fiber communication. This kit is really a must for those wishing to learn fiber optics with related techniques.

Feathure

14 experiments

Flexible solution for different level of students

Detailed instruction manual

Innovative design

Application

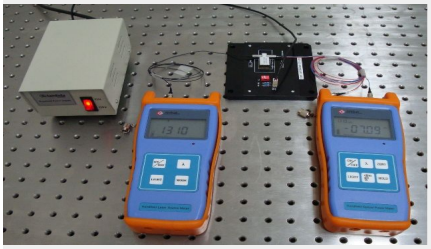
1. Fundamentals of fiber optics
2. Optical fiber coupling
3. Numerical aperture (NA) of a multimode fiber
4. Optical fiber transmission loss
5. M-Z optical fiber interference
6. Optical fiber temperature sensing principle
7. Optical fiber pressure sensing principle8. Optical fiber beam splitting
9. Variable optical attenuator (VOA)
10. Optical fiber isolator
11. Fiber-based optical switch
12. Wavelength division multiplexing (WDM) principle
13. Principle of EDFA (Erbium-doped fiber amplifier)
14. Transmission of analogue audio signal in free space

Part list

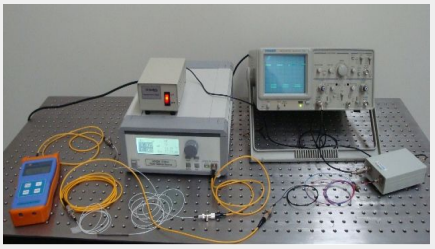
Description	Part No./Specs	Qty
He-Ne laser	LLL-2 (>1.0 mW@632.8 nm)	1
Semiconductor laser	650 nm	1
Dual-wavelength handheld light source	1310 nm/1550 nm	2
Light power meter	LEPO-61	1
Hand held light power meter		1
Fiber interference demonstrator	633 nm beam splitter	1
Power supply	DC regulated	1
Demodulator	With loud speaker	1
IR receiver		1
Erbium-doped fiber amplifier module		1
Single-mode fiber	633 nm	2 m
Single-mode fiber		2 m
Multi-mode fiber	633 nm	2 m
Fiber patchcord	1 m/3 m	4/1
Fiber	1 km	1
Single mode beam splitter	1310 nm	1
Optical isolator	1550 nm	2
Optical isolator	1310 nm	1

WDM	980/1550 nm	1
WDM	1310/1550 nm	2
Mechanical optical switch	1×2	1
Variable optical attenuator		1
Fiber scribe		1
Fiber stripper		1
Mating sleeves		5
Radio		1

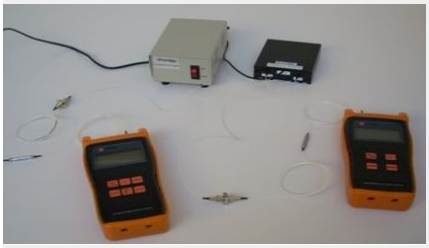
Examplies:



Setup for optical fiber switch characterization

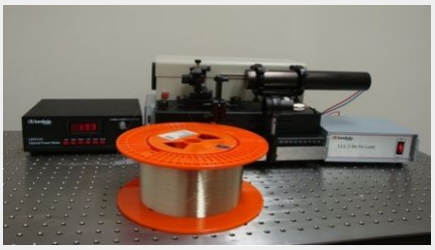


Setup for WDM characterization



Setup for EDFA characterization

Setup of free space optical communication



Setup for measuring fiber transmission loss