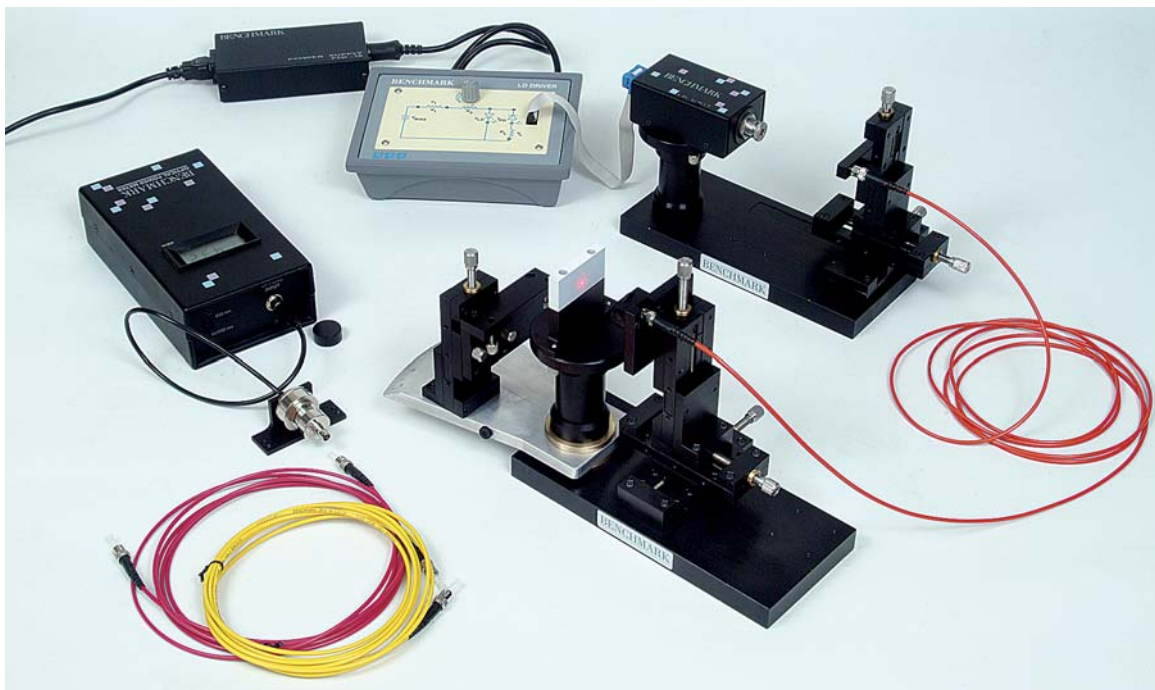


BENCHMARK

THE SMC TRAINER THE ULTIMATE SINGLE MODE FIBRE CHARACTERISTICS TRAINING SYSTEM



The light propagation in optical fibres is well understood by way of explaining the ray propagation with respect to angle of light coupled into fibre and reflections at the core-cladding boundary. But a complete description of the modes is rather complex as it involves hybrid electromagnetic fields. The wave nature of electromagnetic radiation when guided, such as

microwaves in a wave-guide or light in an optical fibre, results in phase shifts of the wavefronts at the reflective boundaries that reinforce the transmission in discrete number of paths or modes.

The Benchmark SMC Trainer provides a platform to show the propagating modes in a single mode fibre.

FEATURES

- Enables comprehensive training on Single-mode fibre characteristics such as Normalized Frequency (Vnumber), Modes, cut off wavelength, Mode field diameter and Numerical aperture of a single mode fibre.
- Modes observation in two different single mode fibres having different cut off wavelengths
- Precision XYZ positioner for coupling the free space 650nm Laser light into Single-mode fibre.
- Specially designed Mechanical setup for Mode field diameter and NA measurement.
- Comprehensive lab manual

EXPERIMENT TOPICS

- Normalized frequency (V-number) calculation and Modes observation in two different single mode fibres
- Mode field diameter & NA measurement of single mode fibre



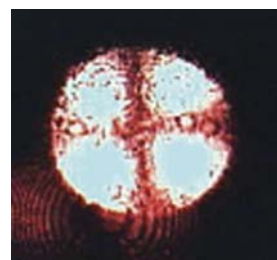
LP01



LP02



LP11



LP21

LIST OF ITEMS FOR SMC TRAINER

● FOSM-D600	LD Driver	1no	● XYZ positioner with mounting post setup	1no
● FOSM-U600	LD Unit	1no	● Single mode & multimode patchcords	
● Fibre Optic power meter with remote PD		1no	SST-ST-PC-3-A	1no
● Rotation Stage with mounting post & XYZ positioner setup		1no	SST-ST-PC-3-C	1no
			ST-PC-3	1no

LIST OF ITEMS FOR SMC TRAINER ADD-ON TO OFS IV

● Single mode & multimode patchcords			● Rotation Stage with mounting post & XYZ positioner setup	1no
SST-ST-PC-3-A		1no		
SST-ST-PC-3-C		1no		
ST-PC-3		1no		

SPECIFICATIONS

● SST-ST-PC-3-A			● Power Meter	
Cut-off wavelength		1260nm	Sensor Type	Large area Si Photodetector
Numerical Aperture		0.12	Optical Input wavelength	600 – 1000 nm
Mode field diameter		9.2nm@1310nm	Optical input power	-60 dBm to +3 dBm
		10.4nm@1550nm	Photodetector Sensor Area	3.8 x 3.8 sq mm
● SST-ST-PC-3-C			● LD Unit	
Cut-off wavelength		600nm	Source	LD
Numerical Aperture		0.12	Lasing Wavelength	650nm (typ)
Mode field diameter		4.3nm@633nm	Threshold current	30mA (typ)
		4.6nm@680nm	Maximum current	55mA
● ST-PC-3			Optical output connector	Collimating lens
Core diameter		50µm	Optical output Power	3mW (max)
Numerical Aperture		0.2	● LD Driver	
● Rotation stage			Possible modes of Operation	Forward bias
Maximum angle of rotation		+10 degree	Bias Control	Potentiometer
Angle steps		0.5 degrees (approx)	Power supply connectors	DIN – DIN cable
			LD unit Interface connector	5x2 Header

ORDERING INFORMATION

- SMC Trainer
- SMC Trainer Add-on to OFS IV

BENCHMARK
ELECTRONIC SYSTEMS

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