T9800 Series

Optical Light Source

Optical Communications Test Applications

- Single mode, multimode or POF/PCS cable loss testing
- Continuity testing
- Visual Fault Finder (VFL) option
- General testing & maintenance



Revision 35

The T9800A series Shirt-pocket Fiber Source is used to test optical loss, multi-fiber polarity checking or fault finding in all optical fiber systems, at 1 to 3 wavelengths.

High productivity, high stability, rugged construction and ease of use combine to achieve superior measurement confidence.

Features

- Source or VFL options for all fiber types
- Rugged shirt-pocket size with spring clip
- Excellent optical power stability
- Excellent re-connection repeatability
- Interchangeable connectors
- Long battery life
- Tamper-lock mode for low skill measurement
- Multi-Fiber ID tone source feature
- Mode controlled multimode sources
- Eye-safe long distance VFL to 10 Km
- Autotest compatibility with other instruments
- Large sunlight readable display
- 3 ~7 years warranty
- ISO 17025 traceable calibration
- Made in Australia

T9800 Series - Optical Light Source

The T9800A Pocket Fiber Source is used for loss testing, polarity checking or fault finding on single mode, multimode, PCS or plastic optical fiber (POF) cable.

Tough construction includes general moisture resistance, rubber corners and proven ability to withstand drops of over 2 meters onto a hard surface. It meets the general requirements of MIL PRF 28800F Class 2.

Interchangeable optical connectors are dust and drop protected. An SC adaptor is supplied; other styles include the popular LC. Use of metal-free adaptors avoids contamination of connectors in high power systems.

Reconnection repeatability is < 0.1 dB, resulting in exceptional practical source stability. Calibration is ISO 17025 traceable.

When used with an Autotest compatible Power Meter or Loss Test Set, one button multi-wavelength loss testing is achieved.

Test tones can be used with a compatible Power Meter or clip on identifier for fiber detection, polarity checking, fault finding and route location.

When used with a Multi-Fiber ID compatible Power Meter, multiple sources can be set up to uniquely identify up to 12 fibers at a time.

1310 / 1490 / 1550 / 1625 nm laser sources are ideal for single-mode testing, with T 9600 or T 2600 series power meters.

850 / 1300 nm LED sources are ideal for multimode testing, in combination with T 9600 or T 2600 series power meters. They meet the Encircled Flux (EF) standard compliance to provide the most consistent and reliable testing results.

The Tamper-lock mode enables a site manager to lock and track instrument settings to reduce operation skill and improve both test confidence and traceability.

650 / 660 nm LED source options are ideal for POF testing, in combination with the T 9600XL or T2600XL series power meters.

The 850 nm VCSEL source for multimode fiber testing should only be used to meet special requirements.

The 635 nm laser VFL Visual Fault Locator with Class 1 eye safety is optimized for maximum visibility on short distance applications.

The 650 nm laser VFL Visual Fault Locator with Class 2M eye safety is optimized for long distance applications up to 10 Km. Both VFL options offer much improved eye safety compared to pen-style units when unplugged, and feature PC or APC interchangeable / replaceable connectors, tone / wink function, rugged case and AAA batteries.

A Limited Feature Mode enables a site manager to lock and track instrument settings to reduce measurement skill and, improve both test confidence and traceability.

OPTICAL SPECIFICATIONS

	1310 or 1310/1550 nm Laser	1310/1625 nm Laser	1310/1490 / 1550 nm Laser	1310/1550 / 1625 nm Laser	635 nm Laser	650 nm Laser	850 nm VCSEL	850 / 1300 nm LED	660 nm LED	Comments
Output power (dBm) @ Fiber Type (µm)	0 @ 9/125	0 @ 9/125	-4 @ 9/125	-4 @ 9/125	-2 @ 9/125	+7 @ 9/125	-2 @ 62.5/125	-20 @ 62.5/125 -22.5 @ 50/125 -32 @ 9.5/125	-6 @ 1 mm POF, -13 @ 200 PCF	± 1 dB[3]
Short term stability (dB)	0.04[1]	0.06[1]	0.04[1]	0.06[1]	N/A	N/A	0.12[1]	0.01	0.01	For 15 min, typical ± Δ 2°C, after warmup
Stability over temp (dB)	0.6	0.6	0.6	0.6	N/A	N/A	0.8	0.35	0.35	Typical, over temperature
λ initial tolerance (nm)	20	20	20	30	5	5	20	N/A	15	At 25 °C
λ width, nm	3	3	3	3	3	3	< 1	N/A	25	FWHM, typical
λ nm/°C	0.4	0.4	0.4	0.4	0.1	0.1	0.1	0.4	NA	Typical
Mode Controlled Source	N/A	N/A	N/A	N/A	N/A	N/A	Mode controlled[2]		N/A	
Reconnection repeatability (dB)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	N/A	95 % confidence
Modulation	270 Hz, 1 kHz, 2 kHz ± 2 %									
Blinking 2 Hz	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes	
Output power level	Adjustable over 3 dB in 0.1 dB steps						Fixed	Fixed	Fixed	

Note 1: ORL < -25 dB

Note 2: Multimode source mode distribution @ 50/125 is compliant with the following standards: IEC 61280-4-1 {Ed.1.0}, TIA/EIA 526-14A and TIA TSB-178.

Note 3: Only applicable to outputs @ fiber types, 9/125 µm, 62.5/125 µm, 1 mm POF. Accuracy for output @ 200 µm PCF is ± 2 dB.

GENERAL SPECIFICATIONS

Parameters	Value
Battery life	Laser/LED source: 40/35 hours in Autotest, typical
Size	124 x 81 x 25 mm / 4.9 x 3.2 x 1.0"
Weight	0.15 kg / 0.33 lb. Shipping 0.5 kg / 1.1 lb.
Operating / Storage	-15 to 55 °C / -25 to 70 °C
Relative Humidity	0 ~ 95%
Case	Polycarbonate with captive dust cap, 2.5-meter drop tested
Power	2 Alkaline AAA cells. Selectable auto-off, low battery indicator
Multi-fiber ID	Up to 12 fibers
Warranty	3 years

Class 1 or 2 Laser / LED infrared device. These are eye safe under all circumstances.
650 nm VFL only is Class 2M. Warning! Eye hazard if viewed with magnifying device. Compliant with IEC60825-1 and 21CFR1040.10.

Australian and international patents. Technical data is subject to change without notice as part of our program of continuous improvements.

ORDERING INFORMATION

Description	Part number
Instrument, Source 635 nm VFL Laser	T9807A
Instrument, Source 650 nm VFL Laser	T9808A
Instrument, Source 660 nm LED	T9809AM
Instrument, Source 850-1300 nm LED	T9812A
Instrument, Source 1310 nm Laser	T9820A
Instrument, Source 1310-1550 nm Laser	T9822A
Instrument, Source 1310-1550 nm Laser APC	T9822A-APC
Instrument, source 1310-1625 nm Laser APC	T9825A-APC
Instrument, Source 1310-1490-1550 nm Laser	T9827A
Instrument, Source 1310-1490-1550 nm Laser APC	T9827A-APC
Instrument, Source 1310-1550-1625 nm Laser APC	T9828A-APC
Instrument, Source 850 nm VCSEL	T9840A

Please enquire for non-standard connectors, APC connector, and laser / LED wavelengths etc.

STANDARD ACCESSORIES

Description	Quantity
Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC	1
50 & 62.5 µm fiber mandrel wraps set (OPT701) for MM LED & 850 nm VCSEL sources	1
Quick guide	1
Soft carry pouch (OPT156)	1
Wrist strap	1
QA certificate	1

This instrument is supplied with metal-free sleeve optical interchangeable connector adaptors. The instrument connector ferrule type is fixed as either PC or APC depending on model part number. Green is associated with APC.

OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

Description	Part number
Option, Hybrid Adaptor, Ceramic Sleeve, SC/FC	OPT051
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body	OPT076
Option, Hybrid Adaptor, Ceramic Sleeve, SC/ST	OPT040
Option, Hybrid Adaptor, Ceramic Sleeve, SC/D4	OPT055
Option, Hybrid Adaptor, Ceramic Sleeve, SC/MU	OPT080
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LSA-DIN47256	OPT071
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000	OPT060
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000 Green	OPT060G
Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 1.25 mm	OPT084
Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 2.5 mm	OPT081
Option, Hybrid Adaptor, SC/POF multi	OPT077[4]
Option, Hybrid Adaptor, SC/HFBR	OPT078[5]
Option, Hybrid Adaptor, Metal Sleeve, SC/SMA 905/906	OPT082
Option, Hybrid Adaptor, Ceramic Sleeve, SC/F3000 or LC Simplex, plastic body	OPT072

Note 4: For Mini Toslink, unterminated POF cable, HFBR series (simplex and duplex), 2.5mm. The user turns the turret to the required hole size. Actual hole size 3.85, 3.5, 3.2, 2.55, 2.4, 2.3 mm x 8.5 mm deep.

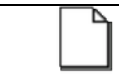
Note 5: For POF light source (e.g. T9809AM) only.

The light source is made for either PC or APC connectors at time of order. Universal connector adaptors may result in reduced performance when used with a light source.



History Record

Revision	Date	Editor	Change Description
35	13 Sep 2021	TO Ng	STANDARD ACCESSORIES Description / Quantity Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC — 1 50 & 62.5 µm fiber mandrel wraps set (OPT701) for MM LED & 850 nm VCSEL sources — 1 Quick guide — 1 Soft carry pouch (OPT156) — 1 Wrist strap — 1 QA certificate — 1 Justification for change:

			 A few tidy-ups....msg

AUTHORIZED DEALER

TEMPO COMMUNICATIONS
1390 Aspen Way Vista, CA • 92081 | PHONE: (800)642-2155
Latin America Phone: 1.760.510.0558 | EMEA Phone: +44 (0) 1633 927 050
EMEA Address: Tempo Europe Limited • Brecon House,
William Brown Close, Cwmbran • NP44 3AB, UK
©2023 Tempo Communications, Inc. • An ISO 9001 Company