



TEMPO[®]
COMMUNICATIONS

FAST. ACCURATE. RELIABLE.

COMMUNICATIONS | CABLE TV | FIBER TESTING

CONTENTS

FIBER

OPTICAL FUSION SPLICERS	3
OPTICAL FIBER CLEAVERS	9
SPLICE ON CONNECTORS	12
FIBER FAULT LOCATORS - OTDRS	13
LAUNCH CABLES	19
FIBER INSPECTION PROBE	20
VISUAL FAULT LOCATOR	22
LIVE FIBER IDENTIFIER	23
OPTICAL POWER METERS & LIGHT SOURCES	26
OPTICAL POWER METERS	26
STABILIZED LIGHT SOURCES	30
KINGFISHER SLS, OPM, OLTS	34
POCKET METERS	34
HANDHELD METERS	38
KITS	42
OLTS	44
ADAPTERS	52
SPECIAL LAUNCH CONDITION SOURCES & POWER METERS	53
XL FIBER TOOL ADAPTERS	58
ACCESSORIES	60
FIBER TRAINER	61
CONSUMABLE KIT	63
FIBER HAND TOOLS	64
FIBER TOOL KITS	70
OPTICAL WAVELENGTH SPLITTERS	73
DROP FIBER REPAIR KIT	74
FIBER CLEANING SOLUTIONS	76
EML100 ELECTRONIC MARKER LOCATOR	78
MAINTENANCE OF FUSIONS SPLICERS AND CLEAVERS	79
CALIBRATION GLOSSARY	80

ETHERNET & WIFI TESTING

DATASCOUT	84
RF SAFETY	88

IRRIGATION AND LOCATION

APPLICATION GUIDE	98
501 TRACKER	99
BURIED LINE LOCATOR	100

PULSER GROUND FAULT LOCATOR	101
MINI LOCATOR	102
WIRE & VALVE LOCATOR	103
MARKER MATE	105
OMNI MARKER II	106
SPIKE MARKER	107
PRO MILLIAMP CLAMP METER	108
STATION MASTER PRO KIT	109
MULTIMETERS	112
IRRIGATION TECHNICIAN TOOL KITS	115
TOOL BAGS	117

COPPER TELECOMMUNICATIONS

COPPER & DSL TEST SET	118
CABLE & SERVICE TESTING	123
NAUTILUS TEST SETS	125
CABLESCOUT™ TDR'S	128
WIRE & CABLE IDENTIFICATION	133
WIRE & CABLE IDENTIFICATION KITS	135
STRUCTURED WIRING TESTERS	150

HAND TOOLS

TOOL BAGS	156
FIBER HAND TOOLS	158
COMMUNICATION KITS	163
HAND TOOLS	171
CONNECTORS & ADAPTERS	180
PUNCHDOWN TOOLS	181
JACK TERMINATOR	185
ALL-IN-ONE TELEPHONE TOOLS	186
6 WAY & 8 WAY ADAPTERS.	188
CRIMPERS & DIESETS	189
HEAT GUN	194
CABLE TIE GUN	200

SIMPLE FIBER SOLUTIONS **FOR THE FIBER TECHNICIAN.**



OPTICAL FUSION SPLICERS

Tempo Communications fusion splicers utilize two different splicing technologies in our product offering. The FSP200 is a Core Alignment based splicer and the 915FS is an Active Clad splicer.

The FSP200 Core Alignment splicer incorporates six motor technology and is the most capable splicer when splicing legacy or dissimilar fibers. This is because two motors are used to adjust the objective lenses so that the cameras are able to precisely locate the center of the core of the fiber optic cable. This is especially important with older fibers that have geometry variability such as ovality and concentricity of the core with respect to the fiber cladding. The core alignment technology is also more tolerant of contamination and will yield the lowest splice losses in adverse conditions.

The 915FS fusion splicer is an Active Clad fusion splicer and has four motors to align the fibers. No objective lens focusing is provided which is sufficient when splicing two fibers of the similar geometry. Since singlemode fibers produced in the last two decades are of remarkably consistent geometries, even between cable manufacturers, the splice loss is virtually the same as the Core Alignment splicer.

Both the Active Clad and Core Alignment fusion splicers far surpass the performance of the V-Groove technology splicers that employ only two adjustment motors.



FSP200 CORE ALIGNMENT OPTICAL FUSION SPLICER

The Tempo Communications FSP200 Optical Fiber Fusion Splicer is intended to fuse two fiber optic cables, resulting in low splice loss and long-term stable splices. The FSP200 is a Core Alignment splicer that utilizes six precision motor transports.

The FSP200 fusion splicer uses a CDS (Core Detection System), which is also widely known as PAS (Profile Alignment System). The two focus cameras determine the center of the core of the two fibers, then adjusts each in the X, Y, and Z dimensions to automatically and precisely align the two fiber cores. A fusing arc is applied, which then provides the lowest loss fusion splice.

The FSP200 with PAS technology is designed for splicing singlemode and multimode fibers including DSF, NZDS and BIF.

Splices are completed in as little time as seven seconds while providing low splice losses typically of 0.01dB. The high capacity battery is capable of splicing over 200 fusion splices on one battery charge.

The intuitive user interface and IP52 rating insures that the technician able to quickly become proficient splicing in the most demanding conditions.



SCAN TO WATCH
THE VIDEO



FEATURES

- True Core Alignment for Low Loss Splices
- IP52 provides resistance to dust and water ingress
- Small and lightweight for the most demanding jobs
- Loose tube fiber compatible
- Auto-Calculation of Estimated Splice Loss
- Adapters for 200/250, 900µm and 3mm fiber

SPECIFICATIONS:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657); EDF
Fiber Cleaved Length	10mm
Cladding Diameter	80 to 150µm
Coating Diameter	100 to 1000µm
Fiber Count:	Single
Fiber Aligning Method	Core Alignment
Splice Loss (Typical)	0.02 dB (SM); 0.01 dB (MM); 0.04 dB (DS); 0.04 dB (NZDS & BIF)
Splicing Mode	60 Preset / User Definable Modes
Splice Time (Typical)	7 seconds ¹
Boot Time	5 seconds
Number of Splices Per Battery Charge	200 (including 60mm heat shrink cycle) ²
Splice -On-Connector	SC, LC, FC, ST
Arc Calibration Mode	Automatic and Manual
Protection Sleeve Length	60mm, 40mm, Micro Sleeves
Ingress Protection(3)	IP5X (Dust); IPX2 (Water) ³
Storage of Splice Results	5,000 Results, 100 screenshots
Drop Test	76cm on five axis
Tension Test	2N
Fiber Display Magnification	200X
Tube Heating Mode	20 Preset / User Definable Modes Adjustable 0-240 seconds
Tube Heating Time (Typical)	18 seconds ⁴
Attenuator Mode	0.1 to 15 dB
Electrode Life	5,000 Splices
Display:	5.0" Color Touchscreen LCD
Connectivity	USB
Operating Conditions	Pressure: 0 to 16,404 feet (0 to 5,000 meters) above Sea Level Wind Velocity up to 15m/s Humidity: 0 to 95% Temperature: -4 to +131F (-20 to +55C)
Storage Conditions	Temperature: -40 to +158F (-40 to +70C)
Power Supply	100 to 240V AC Adapter; Li-ion Battery (4400 mAh)
Weight	3.74lbs (1.7kg) with battery
Dimensions (HxWxD)	4.9" x 4.9" x 5.3" (125 x 125 x 135mm)
Vibration Resistance	10Hz – 500Hz with a spectral density of 0.03g ² /Hz
Password Protection	Yes

(1) Fast mode. (2) 90s/cycle splice time and power save functions activated. Number of cycles may vary depending on battery status and ambient operating conditions. (3) Dust resistance and rain resistance test do not guarantee that the product will not be damaged under these conditions. (4) Dependent on splice protector used and ambient conditions. Time quoted is assuming that the oven is not cold.

*Specifications subject to change without notice.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500052	FSP200	Optical Fusion Splicer
55500053	FSP200-KIT1	FSP200 Fusion Splicer & Cleaver Kit
55500054	FSP200-KIT2	Contractor Fusion Splicer Kit
52080292	06811	915FS FSP200 Batt
52080896	07096	Power Supply, 915FS FSP200
52064141	01335	Splice-On-Connector Adapter (SC & LC)
52066481	02401	Splice-On-Connector Adapter (ST & FC)
52063414	01329	Replacement Electrodes
52064142	01333	900µm Adapter (Pair)
52067851	03245	3mm Adapter (Pair)
52076996	05801	Loose Tube Adapter (Pair)
52064143	01332	200/250µm Adapter (Pair)
52081862	07388	Universal Adapter (Pair)
52075841	05245	Splicer Electrode Cleaner (Pair)
55500059	NA LC	North American Line cord
52066954	02571	European Line Cord
52066952	02570	UK Line Cord

915FS ACTIVE CLADDING OPTICAL FUSION SPLICER

The Tempo Communications 915FS Optical Fiber Fusion Splicer is intended to fuse two fiber optic cables, resulting in low splice loss and long-term stable splices. The 915FS is an Active Clad fusion splicer that utilizes four precision motor transports.

The 915FS fusion splicer capably aligns the two fibers in the X, Y, and Z dimensions to automatically and precisely align the two fibers. A fusing arc is applied, which then provides the lowest loss fusion splice.

The 915FS is designed for splicing singlemode and multimode fibers including DSF, NZDS and BIF.

Splices are completed in as little time as seven seconds while providing low splice losses typically of 0.01dB. The high capacity battery is capable of splicing over 200 fusion splices on one battery charge.

The intuitive user interface and IP52 rating insures that the technician is able to quickly



SCAN TO WATCH
THE VIDEO



FEATURES

- Active clad technology for today's fibers
- IP52 provides resistance to dust and water ingress
- Small and lightweight for the most demanding jobs
- Loose tube fiber compatible
- Auto-Calculation of Estimated Splice Loss
- Adapters for 200/250, 900µm and 3mm fiber

SPECIFICATIONS:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657); EDF
Fiber Cleaved Length	10mm
Cladding Diameter	80 to 150µm
Coating Diameter	100 to 1000µm
Fiber Count	Single
Fiber Aligning Method	Active Clad Alignment
Splice Loss (Typical)	0.02 dB (SM); 0.01 dB (MM); 0.04 dB (DS); 0.04 dB (NZDS & BIF)
Splicing Mode	60 Preset / User Definable Modes
Splice Time (Typical)	7 seconds ¹
Boot Time	5 seconds
Number of Splices Per Battery Charge	200 (including 60mm heat shrink cycle) ²
Splice-On-Connector	SC, LC, FC, ST
Arc Calibration Mode	Automatic and Manual
Protection Sleeve Length	60mm, 40mm, Micro Sleeves
Ingress Protection	IP5X (Dust); IPX2 (Water) ³
Storage Of Splice Results	5,000 Results, 100 screenshots
Drop Test	76cm on five axis
Vibration Resistance	10Hz to 500Hz with a spectral density of 0.03g ² /Hz
Tension Test	2N
Fiber Display Magnification	200X
Tube Heating Mode	20 Preset / User Definable Modes Adjustable 0-240 seconds
Tube Heating Time (Typical)	18 seconds ⁴
Attenuator Mode	0.1 to 15 dB
Electrode Life	5,000 Splices
Display	5.0" Color Touchscreen LCD
Connectivity	USB
Operating Conditions	Pressure: 0 to 16,404 feet (0 to 5,000 meters) above Sea Level Wind Velocity up to 15m/s Humidity: 0 to 95% Temperature: -13 to 122°F (-25 to 50°C)
Storage Conditions	Temperature: -40 to 140°F (-40 to 60°C)
Power Supply	100 to 240V AC Adapter; Li-ion Battery (4400 mAh)
Weight	3.3lbs (1.5kg) with battery 2.6lbs (1.2kg) no battery
Dimensions (HxWxD)	4.9" x 4.9" x 5.3" (125 x 125 x 135mm)

(1) Fast mode. (2) 90s/cycle splice time and power save functions activated. Number of cycles may vary depending on battery status and ambient operating conditions.(3) Dust resistance and rain resistance test do not guarantee that the product will not be damaged under these conditions. (4) Dependent on splice protector used and ambient conditions. Time quoted is assuming that the oven is not cold.

* Specifications subject to change without notice.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION	PART NO.	CAT. NO.	DESCRIPTION
55500052	FSP200	Optical Fusion Splicer	52063414	01329	Replacement Electrodes
55500053	FSP200-KIT1	FSP200 Fusion Splicer & Cleaver Kit	52064142	01333	900µm Adapter (Pair)
55500054	FSP200-KIT2	Contractor Fusion Splicer Kit	52067851	03245	3mm Adapter (Pair)
52080292	06811	915FS FSP200 Batt	52076996	05801	Loose Tube Adapter (Pair)
52080896	07096	Power Supply, 915FS FSP200	52064143	01332	200/250µm Adapter (Pair)
52064141	01335	Splice-On-Connector Adapter (SC & LC)	52081862	07388	Universal Adapter (Pair)
52066481	02401	Splice-On-Connector Adapter (ST & FC)	52075841	05245	Splicer Electrode Cleaner (Pair)
			55500059	NA LC	North American Line cord
			52066954	02571	European Line Cord
			52066952	02570	UK Line Cord

915FS-KIT1 Includes: 915FS Optical Fusion Splicer and 915CL Optical Fiber Cleaver.

915FS-KIT2 Includes: 915FS Optical Fusion Splicer, 915CL Optical Fiber Cleaver, Fiber Optic Stripper, PA1171 and an extra battery.

OPTICAL FIBER CLEAVERS

Tempo Communications has a full suite of fiber optic cleavers including the FCL200, FCL100, 915CL and the 920CL. The FCL200 is the most capable cleaver in that it employs auto fiber end cut and auto blade return features. The 915CL has auto blade return with the 920CL providing the most economical alternative in the traditional cleaving footprint. The FCL100 is a low cost cleaver that is typically used in emergency situations or when cleaving field fibers when used in conjunction with mechanical connectors.

FCL200 OPTICAL FIBER CLEAVER

FEATURES

- Accurate Cleaves. Cleave multi-mode and single-mode fiber optic cables.
- Long Life. Blades rotate for longer life - over 48,000 cleaves.
- Adaptable. Supports 200um, 250um, 900um fibers, ribbon and loose tube fibers.
- Fast. For use with the 910FS, 915FS or FSP200 Optical Fusion Splicers for maximum speed and efficiency with auto return mechanism.
- Dust bin. Safely and automatically collects end cuts during the cleaving process.
- Fixed Clamp. Allows the technician to use the FCL200 as a standalone cleaver.

SPECIFICATION:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657)
Fiber Cleaved Length	5mm to 20mm
Cladding Diameter	125µm
Coating Diameter	0.20mm, 0.25mm and 0.9mm
Fiber Count	Single and Ribbon (12)

Cleaving Angle	< 1.5°
Blade Rotation Positions	16
Blade Life	48,000 Cleaves
Weight	0.77lbs (350g)
Dimensions	2.55 x 3.85 x 2.55" (65 x 98 x 65mm)



SCAN TO WATCH
THE VIDEO



915CL OPTICAL FIBER CLEAVER

SCAN TO WATCH
THE VIDEO



FEATURES

- 48,000 cleaves
- Auto return of blade mechanism for fast and easy cleaves
- Cleaves singlemode and multimode fibers
- Integrated dust bin
- Prepares fibers for use in the 910FS, FSP200 and 915FS fusion splicers
- Supports 200um, 250um, 900um fibers, and loose tube fibers.
- Fixed Clamp. Allows the technician to use the 915CL as a standalone cleaver.

SPECIFICATION:

Applicable Fibers	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657)
Fiber Cleaved Length	5mm to 20mm
Cladding Diameter	125µm
Coating Diameter	0.25mm and 0.9mm
Fiber Count	Single

Cleaving Angle	< 1.5°
Blade Life	48,000 Cleaves
Weight	0.56lbs (255g)
Dimensions (HXWxD)	2.29 x 2.17 x 1.89" (58 x 55 x 48mm)



920CL OPTICAL FIBER CLEAVER

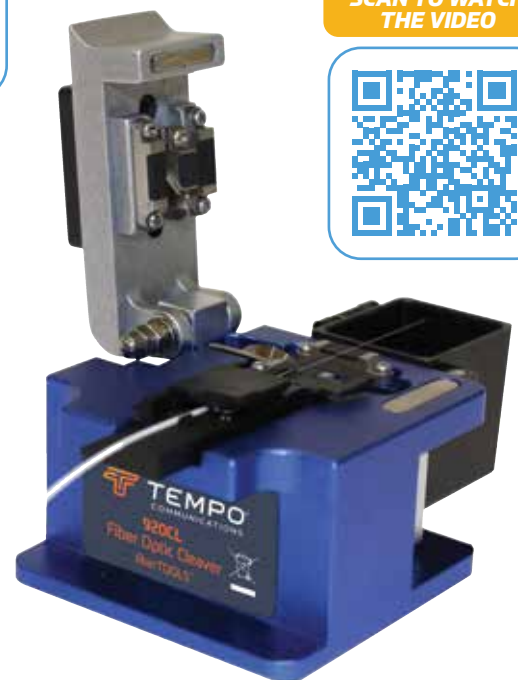
FEATURES

- 48,000 cleaves
- Cleaves single-mode and multi-mode fibers
- Integrated dust bin
- Prepares fibers for use in the 910FS, FSP200 and 915FS fusion splicers
- Supports 200um, 250um, 900um fibers, and loose tube fibers.
- Fixed Clamp. Allows the technician to use the 920CL as a standalone cleaver.

SPECIFICATION:

Fiber Type	SM (G.652); MM (G.651); DS (G.653); NZDS (G.655); BIF (G.657)
Fiber Cleave Length	5mm to 20mm
Cladding Diameter	125µm
Coating Diameter	0.20mm, 0.25mm and 0.9mm
Fiber Count	Single
Cleaving Angle	< 0.5°
Blade Life	48,000 Cleaves
Weight	0.68lbs (310g)
Dimensions	2.13 x 2.28 x 2.28" (54 x 58 x 58 mm)

SCAN TO WATCH
THE VIDEO



FCL100 OPTICAL FIBER CLEAVER

FEATURES

- 200, 250 & 900 micron fibers
- Cleaves single-mode and multi-mode fibers
- Prepares fibers for use with mechanical connector, fusion splicers and bare fiber adapters



SPECIFICATION:

Applicable Fibers:	125 Micron Fiber (200/250/900)
Fiber Cleaved Length:	2.0mm to 20.0mm
Dimensions:	4.88" x 0.79" x 1.57" (124mm x 20mm x 40mm)
Weight:	0.13lbs (60g)
Operating:	Spring Activated

SCAN TO WATCH
THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500055	FCL200	FCL200 Optical Fiber Cleaver
52078354	915CL	915CL Optical Fiber Cleaver
52082727	920CL	Fiber Optic Cleaver
52087221	FCL100	Field Cleaver
52082583	915CL-Blade	Cleaving Wheel (915CL)
52064145	01640	920CL & FCL200 Cleaving Wheel





PART NO.	CAT. NO.	DESCRIPTION
52078357	915CL-CLAMP	Fixed Clamp 915CL with Screw
55504666	FC920 & 200	Fixed Clamp 920CL FCL200 With Screw
52086838	04268	Replacement Screw for Fixed Clamp
55500194	BLD-01	FCL100 Blade
55500196	SPR-01	FCL100 Spring

SPLICE ON CONNECTORS

The Tempo Communications SOC can be used in any manufacturers fusion splicer as no special adapters or fixtures are required. The added benefit is that no specialized training is required.

FEATURES

- Works with all fusion splicers – no special adapters required
- Only three parts compared to competitive products that have up to eight
- No splice tray required
- Up to three splicing attempts possible
- Extended boot provides added protection and prevents Macrobends

SC/APC	SC/UPC	LC/APC	LC/UPC
			
SC/PC OM1	SC/PC OM4	LC/PC OM1	LC/PC OM4
			

ORDERING INFORMATION

CATALOG NUMBER	DESCRIPTION
SOCSCUPC-10	SC/UPC Singlemode Splice on Connector
SOCSCAPC-10	SC/APC Singlemode Splice on Connector
SOCSCPCOM1-10	SC/PC OM1 62.5µm Multimode Splice on Connector
SOCSCPCOM4-10	SC/PC OM4 50µm Multimode Splice on Connector
SOCLCUPC-10	LC/UPC Singlemode Splice on Connector
SOCLCAPC-10	LC/APC Singlemode Splice on Connector
SOCLCPCOM1-10	LC/PC OM1 62.5µm Multimode Splice on Connector
SOCLCPCOM4-10	LC/PC OM4 50µm Multimode Splice on Connector



SPECIFICATIONS

Connector Types	900 micron SC and LC (APC and UPC)
Fiber Types	Corning G.652, OM1 and OM4
Cable Types	250 and 900 micron
Insertion Loss - Singlemode	0.15dB, 0.3dB maximum
Insertion Loss - Multimode	0.1dB, 0.3dB maximum
Return Loss	(APC) : ≤ -65dB, (UPC)SM : ≤ -55dB, MM: ≤ -35dB (PC)
Number of splice attempts/reuse cycles	Three
Boot length	130mm
Operating and Storage Temperature	-40°C to + 75°C
*Compliance	GR-326

Specifications subject to change without notice.
 *Meets Telcordia GR-326-CORE pertinent ferrule geometry requirements for singlemode connectors. The Declaration of Conformity is available upon request.

FIBER FAULT LOCATORS - OTDR's

OFL100 OTDR

The OFL100 OTDR enables the front-line fiber technician to quickly locate loss events in the last mile of the FTTx network. The convenient touchscreen provides an intuitive interface making it simple for even newly provisioned technicians to locate loss events such as cut fibers, contaminated or damaged connectors, and excessively bent fibers.

The Auto Mode allows the technician to initiate a measurement without adjusting any test parameters. The Expert OTDR Mode provides access to all features the savvy OTDR technician demands so they can refine measurement parameters enabling them to troubleshoot the most demanding faults. The OFL100 includes an integrated visual fault locator (VFL), stabilized light source (SLS), and optical power meter (OPM).



Results can be displayed using a traditional OTDR trace or linear map with user selectable Pass/Fail analysis. All events are measured, annotated, saved, and exported as an industry standard SOR file that is compliant to GR196 Telcordia standards. The SOR file can be imported into the Trace Viewing program where analysis can be performed, and test results can be saved as a PDF report.

FEATURES

- Easy to use one button test function. Start measurements with the push of one button.
- Auto test automatically sets test parameters for optimum test results.
- Graphical touchscreen interface is easy to read, even in high ambient light conditions.
- Measure lengths and fiber defects to quickly locate faults.
- Link Viewer annotates the entire fiber link in an easy to interpret Pass/Fail format.
- Cable acceptance reports generate customized reports that include trace signature and fiber events.
- Long life battery so you can work longer without recharging - up to 12 hour shift capable.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55501331	OFL100-NA	OFL100 with North American Power Supply
55501334	OFL100-EU	OFL100 with UK and European Power Supplies
55504674	OFL100-CBL500	OFL100-NA with 500m Launch Cable OFL100-NA

ACCESSORIES:

PART NO.	CAT. NO.	DESCRIPTION
55501338	OFL100-SCAPC	SC/APC Adapter
55501340	OFL100-FCAPC	FC/APC Adapter
55501527	SCAPC-LCAPC	0.5m SC/APC LC/APC Cable
55501333	OFLPS-NA	OFL100 North American Power Supply with USB Cable
55501337	OFLPS-UK	OFL100 United Kingdom Power Supply with USB Cable
55501336	OFLPS-EU	OFL100 European Power Supply with USB Cable
52068673	1.25 MM ADAPTER	1.25mm Adapter for connection to the OPM and VFL ports
55501332	OFLCC	Carry Case

OFL100 Specifications:

OTDR	
Wavelength	1310/1550nm
Dynamic Range	26/24dB
Event Deadzone	2.5m
Attenuation Deadzone	8m
Measurement Ranges	500m, 1km, 2km, 4km, 8km, 16km, 32km, 64km and 100km
Pulse Widths	3ns, 5ns, 10ns, 20ns, 30ns, 50ns, 80ns, 160ns, 320ns, 500ns, 800ns, 1µs, 2µs, 3µs, 5µs, 8µs, 10µs and 20µs
Measurement Accuracy	± (1m+Sample interval+0.005%×-Test Distance)
Linearity	≤0.05dB/dB
Loss Resolution	0.001dB
Loss Threshold	0.20dB
Distance Resolution	0.001m
Refractive Index	1.00000 to 2.00000
Reflection Accuracy	±3dB
File Format	SOR compliant to Telcordia GR196
Loss Analysis	Four Point & Five Point
Laser Safety	Class 1M
Bulkhead	SC/APC (Optional LC and FC)
Trace Update Rate	3Hz
Optical Power Meter	
Wavelength Range	800nm to 1700nm
Calibrated Wavelengths	850nm, 980nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm and 1650nm
Measurement Range	+26dBm to -50dBm
Measurement Resolution	0.01dB
Measurement Accuracy	±5%
Tone Frequencies/Sensing	CW, 270Hz, 330Hz, 1kHz and 2kHz
Bulkhead	2.5mm Universal
Visual Fault Locator	
Wavelength	650nm ±20nm
Output Power	<1mW
Mode of Operation	CW, 1Hz and 2Hz
Bulkhead	2.5mm Universal
Laser Safety	Class 2

Stabilized Laser Source	
Wavelength	1310/1550nm
Output Power	≥ -5dBm; variable
Power Stability	CW, ±0.5dB/15 minutes after continuous on of 15 minutes
Bulkhead	SC/APC (Optional LC and FC Available)
Tone Frequencies	CW, 270Hz, 330Hz, 1kHz and 2kHz
Optical Loss Testing	
Wavelength	1310nm and 1550nm
Insertion Loss Testing	Integrated OPM and SLS
RJ45 Sequence Testing	
Cable Type	Straight and Interleaved (T568)
Mechanical	
Display	4.3" 800x400 TFT LCD Touch-screen
Power Supply	AC to DC 100-240VAC, 50/60Hz
Power Supply Format	North America or United Kingdom and European
Battery Lifetime	>12 Hours Continuous Test
Battery	3.7V, 4Ah Li ION
Weight	<1.1lbs (<0.5kg) Including Battery
Size	6.8"x 4.3"x 1.8" (173mm x 109mm x 45mm)
Data	
Internal Storage	8GB (>200,000 Curves)
Interface	USB Type C, 8GB SD Card
Environmental	
Operational Temperature	-10°C to +50°C
Storage Temperature	-40°C to +70°C
Relative Humidity	0 to 95% Non-Condensing

*Specifications subject to change without notice

930XC HANDHELD SINGLEMODE OTDR

The 930XC OTDR's utilize an easy to learn intuitive user that allows the technician to quickly locate fiber faults in FTT(x) and Point to Point networks. Both singlemode and multimode versions are available which span all of the common wavelengths used in telco and LAN installations. The 930XC-20C OTDR is the basic version that effectively measure and characterize singlemode fiber links at 1310nm and 1550nm. The 930XC-30F measures at 1310nm, 1550nm and 1625nm where the 1625nm wavelength can be used to measure live fibers without interrupting network traffic.

The free Trace Viewer program imports SOR files which provides the tools required to complete a comprehensive report on the the fiber measurements.



FEATURES

- 2 & 3 wavelength options available: 1310/1550nm; 1310/1550/1625nm
- Up to 35dB dynamic range on the two wavelength model Up to 38dB dynamic range on the three wavelength model
- Optical Power Meter
- Stabilised Light Source
- Visual Fault Locator
- Fiber analysis software for report generation
- Large backlight LCD colour display
- Measure length and defects of coiled fiber
- 1625nm operation for live fiber testing (30F)
- RS-232/USB interface
- NiMH batteries for 8 hours continuous use
- LinkViewer Software analysis
- Macrobend analysis

SCAN TO WATCH
THE VIDEO





ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
DUAL WAVELENGTH SINGLEMODE OTDR		
52067083	02610	930XC-20C Singlemode OTDR, 1310/1550nm FC/UPC
52067082	02609	930XC-20C Singlemode OTDR, 1310/1550nm SC/UPC
52067084	02611	930XC-20C Singlemode OTDR, 1310/1550nm ST/UPC
52067086	02613	930XC-20C Singlemode OTDR, 1310/1550nm FC/APC
52067085	02612	930XC-20C Singlemode OTDR, 1310/1550nm SC/APC
52067093	02620	930XC-30F Singlemode OTDR, 1310/1550/1625nm FC/UPC
52067092	02619	930XC-30F Singlemode OTDR, 1310/1550/1625nm SC/UPC
52067094	02621	930XC-30F Singlemode OTDR, 1310/1550/1625nm ST/UPC
52067096	02626	930XC-30F Singlemode OTDR, 1310/1550/1625nm FC/APC
52067095	02623	930XC-30F Singlemode OTDR, 1310/1550/1625nm SC/APC

ORDERING INFORMATION:

930XC OTDR ACCESSORIES		
PART NO.	CAT. NO.	DESCRIPTION
52047065	AC-ADPT-20-UNI	Universal Power Supply
52034549	AC-CONN-FC-L2	FC Connector (For UPC & APC)
52034550	AC-CONN-ST-L2	ST Connector (For UPC)
52078401	AC-CONN-SC-UPC-L2	SC Connector (For UPC & APC)
52067854	ADAPTER, OPM SC (930XC)	OPM SC Adapter
52067855	ADAPTER, OPM FC (930XC)	OPM FC Adapter
52067856	ADAPTER, OPM ST (930XC)	OPM ST Adapter
52034552	20999	NiMH Battery (9.6V)

SPECIFICATIONS:

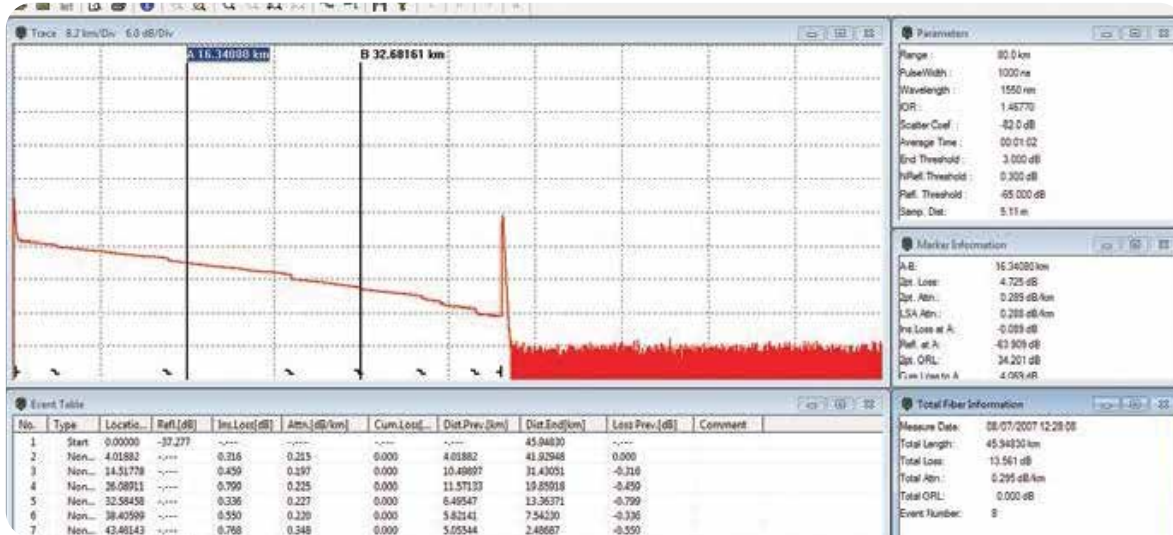
	930XC-20C	930XC-30F
Wavelength (± 20nm)	1310/1550nm	1310/1550/1625nm
Dynamic Range ^a	35	38/37/37
Event Deadzone ^b	1.0	1.0
Attenuation Deadzone ^b	4.5	4.5
Pulsewidth (ns)	5, 10, 30, 100, 300, 1µs, 2.5µs, 10µs, 20µs	
Selectable Ranges (km)	0.3, 1.3, 2.5, 5, 10, 20, 40, 80, 120, 160, 240	
Sampling Points	16,000	
Average Time	15s/30s/1 min/2 min/3 min	
Distance Measurement Accuracy	±(1m + 5 x 10 ⁻⁵ x distance + sampling space)	
Connector Type	PC or APC (interchangeable FC, SC, ST)	
Reflection Detect Accuracy	±4 dB	
Attenuation Detect Accuracy	±0.05 dB/dB	
Measurement Data Storage	1,000 test curves	
Data Transmission	RS-232/USB port	
Visual Fault Locator (VFL)	3mW; 650nm	
Optical Power Meter (OPM)	InGaAs	
OPM Wavelengths	850, 1300, 1310, 1490, 1550, 1625nm	
OPM Range	+6 to -70dBm (+6 to -60dBm @ 850nm)	
OPM Display resolution	0.01dB	
OPM MOD Identification	1kHz, 2kHz	
Stabilized laser Source (SLS)	Wavelength same as selected in OTDR mode ≤ -7dBm	
Power Supply	NiMH chargeable battery/AC adapter	
Battery Life	Support over 8 hours operating on one charge or over 20 hours standby	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-20°C to 60°C	
Relative Humidity	0 to 95% (non-condensing)	
Weight	1.9lbs. (0.87kg)	
Dimensions	7.7" H x 3.9" W x 2.4" L (196mm x 100mm x 64mm)	
Compliance	EAC, UKCA, CE, FCC, UL	

*Specifications subject to change without notice

^a Using a pulse width of 20µs

^b Using a pulse width of 5ns measuring a -45dB event

TRACE VIEWER SOFTWARE



TraceViewer Software showing trace, event table, Parameters, Marker Information & Total Fiber Information.

TraceViewer with expanded trace view highlighting the benefit of Launch Cables to examine Near & Far end connectors.

LINK VIEWER SOFTWARE

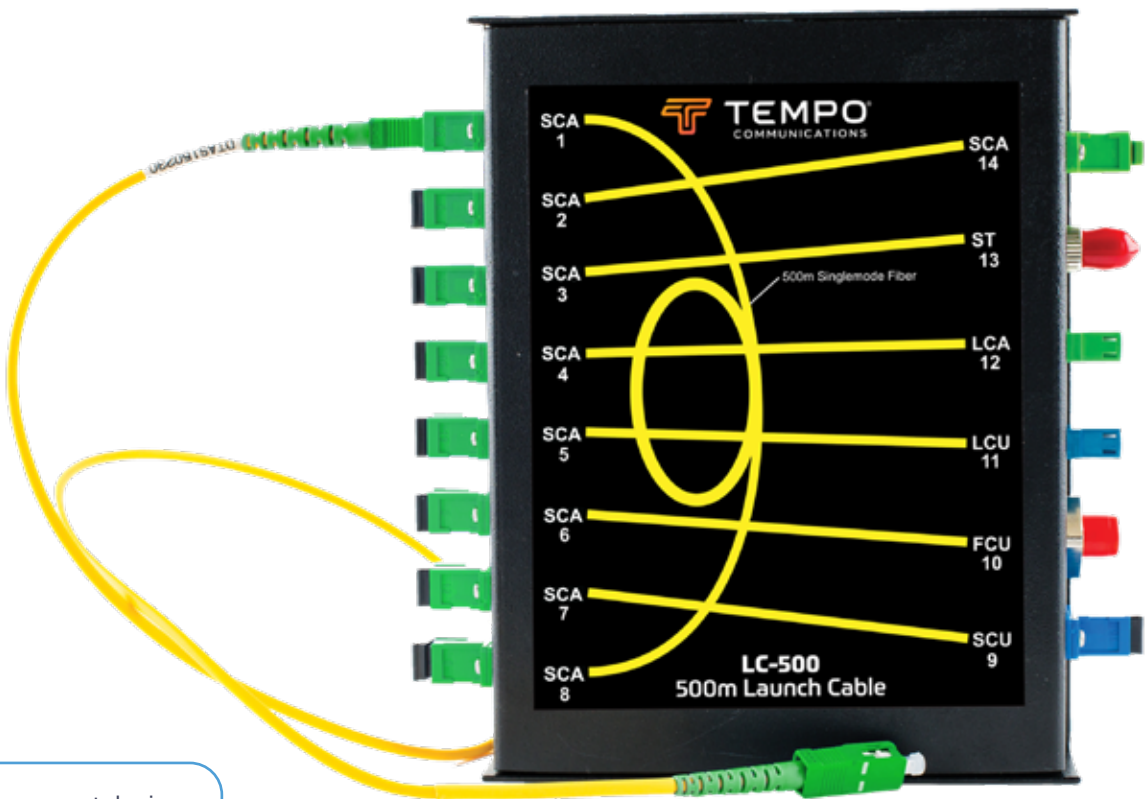
LinkViewer Software showing optical events that exceed the threshold of the Fiber Under Test.



LAUNCH CABLES

LC-500 OTDR LAUNCH CABLE 500M

Launch cables are used to reduce the effect deadzones caused by mechanical connection of the OTDR to the Fiber under Test. Constructing a backscatter trace before the Near end connector enables the technician to evaluate the connector for Insertion Loss & return Loss. Also known as a Pulse Suppressor.



FEATURES

- Universal compact design
- Rugged construction
- Soft carry case included

LC-500 Patch Panel Matrix with 0.5m
SC/APC - SC/APC patch cable

BENEFITS

- Troubleshoot the input connector and the initial fiber span that may be masked by the deadzone of an OTDR
- Characterise input and output connectors and the entire fiber link
- Minimise Dead zones
- Eliminate multiple patch cables

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52076057	LC-500	500M Launch Cable

FIP100 FIBER OPTIC CONNECTOR INSPECTION SYSTEM

The FIP100 is a fully automated inspection tool that provides fast and reliable analysis of fiber optic connector end faces and bulkheads. With a single button press, the FIP100 automatically focuses, captures an image of the connector endface and provides a pass/fail result. The pass/fail status of the connector is instantly reported via a red/green LED on the probe. Detailed results are shown on the iOS or Android app, which provides PDF report generation and sharing. Both apps are pre-loaded with pass/fail requirements from IEC 61300-3-35, as required by all major telecommunications service providers.

FEATURES

- Test ferrule end faces and bulkheads compliant to IEC61300-3-35
- Single handed, one button operation
- Auto focus, auto capture, auto test
- LED pass/fail indicator on probe
- Small form factor enables inspection of difficult to reach ports
- Create and share reports on Android and iOS devices
- IEC, IPC and user defined inspection criteria
- Wide range of adapter tips

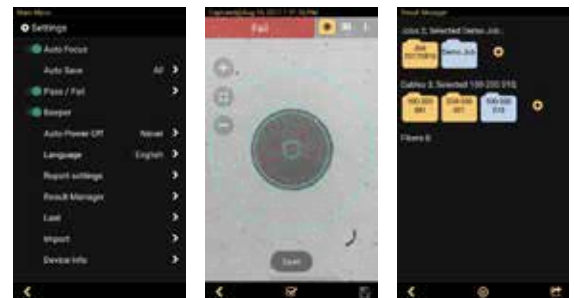
APPLICATIONS

- Verify connector cleanliness before connecting
- Certify connector condition on installation
- Document connector damage when troubleshooting
- Inspection is an essential for proper fiber handling in all networks



SMART DEVICE APPS: FIP100

- Auto focus, auto capture and auto test functions
- IEC, IPC, industry standard, and user-defined inspection rules
- Pinch-to-zoom fiber end-face images
- Report generation
- Multi-language Graphical User Interface (GUI)
- Day/time stamped job saving



SPECIFICATIONS:

OPTICAL PERFORMANCE	
Field of View (FOV) ^b	Live and Captured: 612 x 460 µm;
Manual Detection Capability (minimum)	0.25 µm
Auto Analysis Resolution	<1.0 µm
Stored ^c Image Size	2592 x 1944 (5M) pixels
End-face Illumination	Coaxial blue LED 476 nm
Maximum No Damage Live Fiber Power Level	+20 dBm
OPERATING FEATURES	
WiFi Characteristics	IEEE 802.11bng
Focus	Auto-focus (≤3 sec) and manual focus
Centering	Auto-centering (<1 sec)
Button Functionality	Power On/Off (>3 secs); Capture/Analysis/Auto-save/Live
Main LED Functionality	Blue = Connected to App, Green = Pass, Red = Fail
Magnification ^b	Variable from 80X to 700X, in Live and Capture modes
Applications Compatibility	Android ≥4.0.3, iOS ≥8.1
Image Capture with Pass/Fail Analysis ^c	IEC 61300-3-35, AT&T TP-76461, IPC-8497-1, user-set criteria
Image File Format	JPEG, GIF
Image & Pass/Fail Results Storage ^c	Yes
File Storage Capacity ^c	Unlimited
Result Manager ^c	Storage, rename, delete, transfer
Reporting ^c	Built-in fillable PDF reporter
Supported Languages ^c	English, French, German, Japanese, Korean, Russian, Spanish
PHYSICAL AND POWER CHARACTERISTICS	
Battery Type	Li-Ion, non-replaceable by user
Maximum Charger Current Draw	1.2A, battery charge current + device consumption current
Operating Time (typical)	60 hours ^d ; 8 hours continuous
Recharge Time	≤4 hours
Low-Battery Warning	Viewed on smart device
Charging LED Status; viewed on smart device	Red = Charging, Green = Fully Charged, Blinking Red/Green = Battery Fault
Power Save Features (Controlled by App)	Probe Auto-Off – disabled, 5, 10, 30, 60 minutes; Probe WiFi Not Connected – 5 minutes
AC Charger Voltage, Frequency, Current	100-240VAC, 50/60Hz, 5VDC, 2A
Charger Jack	0.9 x 3.2 mm barrel, center (tip) positive
Size (Max Diameter x Length)	Ø 40 x 226 mm (Ø 1.6 x 8.9 in)
Weight	150 g (5.3 oz)
ENVIRONMENTAL CHARACTERISTICS	
Operating Temperature	0 to +50 °C; 95% RH, non-condensing
Storage Temperature	-40 to +70 °C; 95% RH, non-condensing

Notes:

a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).

b. Viewed on Smart Device.

c. In iOS & Android Apps.

d. Operating conditions: 60 tests in 20 minutes, then auto-off; Repeat each hour

CERTIFICATIONS:

CE/UKCA	EU	Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking
Safety /EMC /EMI	IEC	Compliant to IEC 61010-1 for safety requirements for electrical equipment
	EN	Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment
	FCC	Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions
RoHS	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)
Test Method	IEC	Compliant to IEC 61300-3-35 for visual inspection of fiber optic connectors and fiber-stub transceivers
	IPC	Compliant to IPC-8497-1 for cleaning methods and contamination assessment for optical assembly

ORDERING INFORMATION:

CAT NO	Description
FIP100 KIT	FIP100, power supply (NA, UK & EU), carry case, SC/UPC bulkhead tip, SC/UPC bulkhead and quick reference card.
FIP100 KIT-SC/ APC	FIP100, SC/APC bulkhead tip, SC/APC bulkhead, SC/UPC bulkhead tip, SC/UPC bulkhead, power supply (NA, UK & EU) and quick reference card.
FIP100 KIT-LC/ UPC	FIP100, LC/UPC bulkhead tip, LC/UPC bulkhead, SC/UPC bulkhead tip, SC/UPC bulkhead, power supply (NA, UK & EU) and quick reference card.
FIPCC	FIP100 carry case
FIPPS	FIP100 power supply with NA, EU and UK adapters
SCUPC BH	SC/UPC Bulkhead Tip
LCUPC BH	LC/UPC Bulkhead Tip
2.5MMUPC	2.5mm Universal UPC Tip
1.25MMUPC	1.25mm Universal UPC Tip
SCAPC BH	SC/APC Bulkhead Tip
LCAPC BH	LC/APC Bulkhead Tip
2.5MMAPC	2.5mm Universal APC Tip
1.25MMAPC	1.25mm Universal APC Tip
OTAP BH	OptiTap® Bulkhead Tip
LCUPC BH L60	LC/UPC Long Reach 60mm Bulkhead Tip
U60 BH	Universal 60 Degree Adapter for Bulkhead Tip
MPO BH	MPO UPC and APC Bulkhead Tip
FIPT ADAPT	Adapter for VIAVI Tips

180XL VISUAL FAULT LOCATOR

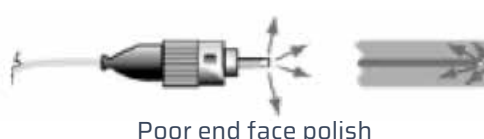
LOCATING BREAKS AND BENDING LOSSES:

The 180XL visual fault finder is an indispensable tool for quickly identifying bending losses and breaks in optical fibers. If a fiber is bent too tightly, red laser light will be seen escaping through the jacket. Likewise, if a fiber is broken, escaping light will be visible where the break is located.



IDENTIFYING BAD CERAMIC CONNECTORS:

Ceramic connectors are easily tested using the 180XL visual fault finder. A fiber broken inside, or past, the ferrule will cause it to glow, as shown below at left. If the whole connector glows, it is definitely defective. If the end face polish of the connector is bad, light will be reflected internally, as shown below right. This will also make the ferrule glow when the 180XL is used.



FEATURES

- Continuous wave output mode for steady fault illumination
- Blinking output mode increases viewing contrast
- Easy to use "Quick Connect" interface fits all 2.5mm fiber optic connectors
- Ergonomic switch permits easy one-handed operation
- Simple, versatile, and user-friendly design
- Rugged, compact, and splash proof aluminium housing
- High output 1.0mW (0dBm) 650nm red laser
- Up to 7km range
- Two AA-size alkaline batteries provide 80 hours of continuous operation
- Nylon belt holster included

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52068671	180XL	Visual Fault Locator Kit (2.5mm UCI)
52068673	125mm ADAPTER	1.25mm adapter

SPECIFICATIONS:

Wavelength	650nm +/-10nm
Emitter Type	Fabry Perot
Maximum Output Power	0dBm
Typical Output Power	700µW
Spectral Width (CPR)	<2nm
Laser Classification	2
Range	5km
Modes of Operation	CW and 2Hz Modulation
Method of Display Operation	Red/Green LED
Fiber Type	Singlemode, Multimode

Connector Interface	2.5mm Universal, Optional 1.25mm adapter
Battery	AA (2)
Battery Life	80 Hours with 3.9Wh batteries
Weight	0.15lbs, (70g) (not including batteries)
Dimensions	7.08" x 0.91" Dia (180mm x 23mm Dia)
Operating Temperature	-10 to +45C
Storage Temperature	-40 to +70C
Certifications	CE, CDRH EAC, UKCA

Specifications subject to change without notice.



Macrobend easily visible in splice tray using 180XL



FI-100 LIVE FIBER IDENTIFIER

The Tempo Communications FI-100 fiber identifier is used to measure the approximate core power in FTT(x) and P2P networks without the need to disconnect the fiber under test. The low induced insertion loss when used with the precision adapters insures that the network equipment to go into an alarm condition due to excessive bending of the fiber. The high sensitivity detectors measure the direction of signal transport and are capable of detecting injected tones from laser sources at 270Hz, 330Hz, 1kHz and 2kHz. The FI-100 is also capable of sensing the core power in bend insensitive fiber that is being more commonly used in drop fibers in FTTH installations.

- Low insertion loss
- Easy operation
- Versatile
- Quickly identify fibers
- Tone Detect
- Signal direction indicator



FI-100 KIT contains instruction manual, sun shade, all available mandrels and carrying case.

SCAN TO WATCH
THE VIDEO



SPECIFICATIONS:

Identified Wavelength Range	800-1700nm	
Identified Signal Type	270Hz ±5%, 330Hz ±5%, 1kHz ±5%, 2kHz ±5%	
Detector Type	1mm InGaAs	
Adapter Types	Ø0.25 (Applicable for Bare Fiber and ribbon cable) Ø0.9 (Applicable for Ø0.9 Cable) Ø2.0 (Applicable for Ø2.0 Cable) Ø3.0 (Applicable for Ø3.0 Cable)	
Signal Indication	Left & Right LED	
Signal Direction Test Range (CW/0.9mm fiber)	-46 to 10dBm (1310nm) -50 to 10dBm (1550nm)	
Signal Power Test Range (CW/0.9mm fiber)	-50 to +10dBm	
Tone Detect Test Range (Average)	Ø0.9, Ø2.0, Ø3.0	-30 to 0dBm (270Hz, 1kHz)
		-25 to 0dBm (2kHz)
	Ø0.25	-25 to 0dBm (1kHz, 2kHz)
		-20 to 0dBm (2kHz)
Insertion Loss (Typical/ Maximum)	0.3 / 0.8dB at 1310nm 1.5 / 2.5dB at 1550nm	
Battery	AAA Alkaline (2)	
Operating Temperature	-10 to +60°C	
Storage Temperature	-25 to +70°C	
Dimension	196 X 30.5 X 27mm	
Weight	195g	
Certifications	CE, FCC, UKCA, EAC	
Number of Activations	3600	

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52068188	FI-100 KIT	Fiber Identifier Kit
52068108	FI-250µm/RIB	250µm Adapter
52068110	FI-100-2mm	2mm Adapter
52068111	FI-100-3mm	3mm Adapter
52068113	FI-100-Case	Soft Carry Case
52068114	FI-100-Sunshade	Sun Shade



OPTICAL POWER METERS & LIGHT SOURCES

The OPM2XX, OPM5XX and SLS5XX provide the technician with a ruggedized tool set to accurately and quickly measure the insertion loss of singlemode and multimode fiber links.

The OPM2XX and OPM5XX measure the absolute fiber power to validate the optical loss budget in FTTX and P2P networks. All common wavelengths are supported and work in harmony with the dual and triple wavelength sources to facilitate insertion loss measurements. Tone injection is supported so that individual fibers can be identified when used with the OPM2XX, OPM5XX or FI-100.

The OPM2XX also incorporates an integrated visual fault locator for safe and quick visual identification of cut or damaged fiber, Macrobends and contaminated or damaged connectors.

The IP54 rating along with industry leading vibration and shock specifications assure the technician will complete their assigned task in even the most demanding environment.





OPM210 / OPM220 MICRO OPTICAL POWER METER

FEATURES

- Wide measurement range (+10 to -70dBm)
- High power CATV range (+26 to -50dBm)
- VFL for safe and effective fault locating
- Singlemode and multimode compatible
- Calibrated wavelengths of 850/1300/1310/1490/1550/1625nm
- 270Hz, 1kHz and 2kHz tone detect
- Auto power off

CONTENTS:

- Micro OPM with VFL
- Lanyard
- Instruction sheet
- Certificate of Conformance

SCAN TO WATCH
THE VIDEO



SPECIFICATIONS:

PARAMETER	SPECIFICATIONS	
Model:	OPM210	OPM220
Measurement Range:	-70 to +10dBm (1310/1490/1550/1625)	-50 to +26dBm (1310/1490/1550/1625)
	-60 to +10dBm (850/1300)	-40 to +26dBm (850/1300)
Calibrated Wavelengths:	850, 1300, 1310, 1490, 1550, 1625nm	
Display Resolution:	0.01dB	
Accuracy*:	+/-0.25dB	
Linearity*:	+/-0.5dB (+10 to -3dBm)	+/-0.5dB +26 to -3dBm
	+/-0.1dB (-3 to -50dBm)	+/-0.1dB -3 to -50dBm
	+/-0.5dB (-50 to -70dBm)	
Connector:	Universal 2.5mm	
Wavelength Response:	700 - 1700nm	
Detector:	InGaAs	
Power Supply:	AAA x 2 Alkaline	
Battery Lifetime:	>60 Hours (OPM mode)	
Operating Temperature:	-10 to +50°C (<90% Relative Humidity)	
Storage Temperature:	-20 to +60°C (<90% Relative Humidity)	
VFL Wavelength:	650nm +/-20nm	
VFL Output:	≤ 1mW/ 2Hz	
VFL Range:	4km	
Size:	106 x 58 x 28mm (4.17 x 2.28 x 1.10")	
Weight:	106g (0.23lbs)	
Auto Power Off:	10 minutes of no activity	
Certifications:	CE, UKCA, CDRH	

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500025	OPM210	Standard Power OPM with VFL
55500026	OPM220	High Power OPM with VFL
52068673	125mm ADAPTER	1.25mm Adapter
52084662	08325	Micro OPM Carry Case

OPM510 / OPM520 OPTICAL POWER METER

FEATURES

- Wide measurement range (+6 to -70dBm)
- High power CATV range (+26 to -50dBm)
- Singlemode and multimode compatible
- Calibrated wavelengths of 850/1300/1310/1490/1550/1625nm
- 270Hz, 1kHz and 2kHz tone detect
- Auto power off

CONTENTS:

- Optical Power Meter
- SC Adapter
- Soft Carry Case
- Certificate of Calibration



SCAN TO WATCH
THE VIDEO



SPECIFICATIONS:

MODEL	OPM510	OPM520
Cal. Wavelength	850, 1300, 1310, 1490, 1550, 1625nm	
Measure range	-65 ~ +10 ⁽¹⁾ dBm	-50 ~ +27 dBm
Detector type	InGaAs	
Accuracy	±0.25dB (Typical) ±0.5dB @850nm (Typical) (Under non-saturating power levels)	
Display Resolution	0.01dB	
Functions	μW/dBm/dB(REF)/ MOD tone detection 270Hz, 1kHz, 2kHz	
Connector Type	SC (Interchangeable LC, ST, FC)	
Fiber Type	Singlemode & Multimode	
Battery Life	>70 Hours (Typical)	
Power Supply	9V 1000mAh Lithium Battery/ 9V AC adapter	
Operating Temperature	-10°C ~ 50°C	
Storage Temperature	-20°C ~70°C	
Relative Humidity	0 to 95% (Non-Condensing)	
Weight	0.68lbs (300g)	
Dimensions (H × W × T)	6.1 × 3.5 × 1.3" (155 × 88 × 33mm)	
IP Rating	IP54	
Vibration	5Hz to 150Hz, Amplitude+0.15mm	
Shock	Peak acceleration 25g at a pulse duration of 6ms	
Compliance	CE, FCC	

Note: (1) The lower limit of 850nm measurement is -60 dBm for OPM510.
 Specifications subject to change without notice.
 Each optical power meter is supplied with one soft carry case (CC-1), one Certificate of Conformance,
 and one SC/PC adapter.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500023	OPM510	InGaAs OPM +10 to -65dBm
55500024	OPM520	InGaAs OPM +27 to -50dBm

SLS520, SLS525, SLS530, SLS535 and SLS536

STABILIZED LIGHT SOURCE

FEATURES

- Dual and Triple Wavelength Laser Sources at 1310, 1490, 1550, 1625 & 1650nm
- Dual Wavelength LED Source at 850nm & 1300nm
- Accurate Insertion Loss Measurements
- Tone and Probe Fiber Networks at 270Hz, 1kHz and 2kHz
- SC, LC, FC and ST Interchangeable Bulkheads
- Ruggedized Package, IP54 compliant
- Compatible with Singlemode and Multimode Networks
- Auto Off or Continuous On Operation
- Battery or 120/240VAC Operation
- Each source is supplied with one SC/PC adapter for each bulkhead.

CONTENTS:

- Laser or LED
- SC Adapter
- Soft Carry Case
- Certificate of Calibration



SCAN TO WATCH
THE VIDEO



SPECIFICATIONS:

MODEL	SL5520	SL5525	SL5530	SL5535	SL5536
Center Wavelength	1310/1550nm	850/1300nm	1310/1490/1550nm	1310/1550/1625nm	1310/1550/1650nm
Fiber Type	Singlemode	Multimode (62.5/125)		Singlemode	
Emitter Type	FP	LED		FP	
Spectrum Width	≤ 5nm	≤ 71nm (850nm), ≤ 160nm (1300nm)		≤ 5nm	
Output Power (Max/Min)	≤ 0dBm/-1dBm	-20dBm/-21dBm		≤ 0dBm/-1dBm	
Modulation Frequency	270, 1kHz, 2kHz				
Display	LCD				
Battery Life	>20 Hours (Typical)				
Connector Type	SC/PC (Interchangeable LC, ST, FC)				
Power Supply	9V 1000mAh Lithium Battery / 9V AC adapter				
Operating Temp.	-10°C to 50°C				
Storage Temp.	-20°C to 70°C				
Relative Humidity	0 to 95% (non-condensing)				
Weight	0.71 lbs (300g)				
Dimension (H×W×T)	6.1 × 3.5 × 1.3" (155 × 89 × 33mm)				
IP Rating	IP54				
Vibration	5Hz to 150Hz, Amplitude = 0.15mm				
Shock	Peak acceleration 25g at a pulse duration of 6ms				
Compliance	CE, FCC, 21 CFR 1040.10 (Laser)				

Specifications subject to change without notice.

Each source is supplied with one soft carry case (CC-1), one Certificate of Conformance, and one SC/PC adapter for each bulkhead.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500018	SL5520	1310/1550nm Dual Laser
55500019	SL5525	850/1300nm Dual LED
55500020	SL5530	1310/1490/1550nm Triple Laser
55500021	SL5535	1310/1550/1625nm Triple Laser
55500022	SL5536	1310/1550/1650nm Triple Laser

OPTICAL POWER METER & STABILIZED LIGHT SOURCE KITS

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500027	SM DUAL KIT	OPM510 & SL5520
55500028	SM DUAL KIT HP	OPM520 & SL5520
55500029	MM DUAL KIT	OPM510 & SL5525
55500030	SM T PON KIT	OPM510 & SL5530
55500031	SMT 1625 KIT	SL5535 & OPM510
55500032	SMT 1650 KIT	SL5536 & OPM510
55500033	SMT PON KIT HP	SL5530 & OPM520
55500034	SMT 1625 KIT HP	SL5535 & OPM520
55500035	SMT 1650 KIT HP	SL5536 & OPM520
55500050	SMMMKIT-T	SL5520, SL5525 & OPM510
55500051	SMMMKIT-M	SL5520, SL5525 & OPM520



SMMM KIT-M

OPM AND SLS ACCESSORIES:

PART NO.	CAT. NO.	DESCRIPTION
55500048	PS-100	EXTERNAL POWER SUPPLY
55500036	CC-1	CARRY CASE, SOURCE/OPM
55500049	CC-2-3	CARRY CASE, DUAL, TRIPLE, SOURCE/OPM



T9000 SERIES POCKET OPTICAL POWER METER (OPM)

FEATURES

- 8-12 calibration λ , $\pm 2\%$ accuracy, ISO/IEC 17025 traceable
- Small size, easy to use, rugged & reliable
- dBm / dB / linear, 0.01 dB resolution
- Display hold & max/min recording
- Tone detection
- Multi-Fiber ID
- Interchangeable connectors



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55505048	T9600A	General power meter for Multimode and Singlemode applications (Single fiber)
55505050	T9600A-H3B	High power meter for Multimode and Singlemode applications (Single fiber)
55505049	T9600XL-GE5	Large area detector for MPO 12f / 24f and single-fiber applications
55505292	T9600XL-S15	Pocket Optical Power Meter for Plastic Optical Fiber (POF) applications

MODEL	T9600A	T9600A-H3B	T9600XL-GE5	T9600XL-SI5
Detector type	InGaAs		GE (5 mm)	Si (5 mm)
Response wavelength	600 ~ 1700 nm	800 - 1700 nm	600 ~ 1650 nm	350 ~ 1100 nm
Calibration wavelengths	(see website for specifics)			
Power range	+5 ~ -60 dBm	+24 ~ -40 dBm	+10 ~ -40dBm	+5 ~ -60dBm
Mid-range linearity	0.04 dB (typical)		0.06 dB (typical)	0.04 dB (typical)
Total uncertainty	0.3dB (Max)			
Wavelength sensitivity (± 30 nm)	0.2 dB (Typical)			
ID tone detection sensitivity	-50 dBm	-30dBm	-37 dBm	-45 dBm
Calibration Accuracy	±2 %			
Calibration validity	3 Years (ISO/IEC 17025)			
Resolution	0.01 dB			
Polarization sensitivity	< 0.05 dB (typical)			
Tone detection	200 ~ 2500 Hz ± 2 %			
Power	2 x AAA (LR-03) Alkaline			
Battery life	300 Hours			
Auto-off	Selectable			
Size	124 x 81 x 25 mm			
Unit weight	0.15 kg			
Shipping weight	0.5 kg			
Operating / storage temperatures	-15 to 55 / -25 to 70 °C			
Relative humidity	0 ~ 95 %			
Warranty	3 Years			


T9000 SERIES POCKET STABILIZED LIGHT SOURCE (SLS)

FEATURES

- Encircled Flux compliant modal distribution
- Rugged, drop-resistant construction
- User defeatable auto turn-off
- Excellent stability
- Lanyard, shirt pocket clip & padded pouch
- Tone generator & Multi-Fiber ID function
- Easy use TamperLock mode
- Multi wavelength AutoTest
- Interchangeable connectors



PART NO.	CAT. NO.	DESCRIPTION
55505293	T9809AM	Plastic Optical Fiber (POF) Applications
55505055	T9812A	Multimode Applications
55505054	T9822A	Singlemode Applications

Model	T9812A	T9822A	T9809AM
Output wavelength	850, 1300 nm LED	1310, 1550 nm Laser	660 nm LED
Output power	-20 dBm \pm 1 dB (@ 62.5/125 μ m) / -22.5 dBm (@ 50/125 μ m) / -32 dBm (@ 9.5/125 μ m)	0dBm \pm 1dB	-6 dBm \pm 1 dB (@ 1 mm POF) / -13 dBm \pm 2 dB (@ 200 μ m PCF)
Short term stability (for 15 min, typical \pm 2 °C, after warm-up)	0.01 dB	0.04 dB	0.01 dB
Stability over temperature	0.35 dB (typical)	0.6 dB (typical)	0.35 dB (typical)
Wavelength drift	0.4nm/°C (typical)		
Mode Controlled	Mode distribution @ 50/125 μ m is compliant with: IEC 61280-4-1 {Ed.1.0}, TIA/EIA 526-14A and TIA TSB-178.		
Reconnection repeatability (95% confidence)	0.05dB	0.1 dB	
Calibration validity (ISO/IEC 17025)	3 years		
Modulation	270 Hz, 1 kHz, 2 kHz \pm 2 %		
Multi-fiber ID	12 fibers		
Autotest	Compatible with KI Autotest power meter port & matching 		
Power	2 x AAA (LR-03) Alkaline		
Battery life	Laser/LED source: 40/35 hours (typical) in Autotest		
Auto off	Selectable		
Case	Polycarbonate with captive dust cap, 2.5-meter drop tested		
Size	124 mm x 81 mm x 25 mm		
Unit weight	0.15 kg		
Shipping weight	0.5kg		
Operating / storage temperature	-15 to 55 °C / -25 to 70 °C		
Relative humidity	0 ~ 95%		
Warranty	3 years		

T2000 SERIES HANDHELD OPTICAL POWER METER (OPM)

FEATURES

- Easy to use, rugged & versatile
- 25 calibration λ , 1% accuracy ISO/IEC 17025 traceable
- Improved high power accuracy
- Autotest with up to 3 λ displayed
- Long battery life, USB external power, charges NiMH AA batteries
- Large back-lit LCD, sunlight readable
- Interchangeable connectors
- Large memory with text naming & time stamp
- KITS™ reporting software with data security
- One button memory dump to USB key
- Tone generator & Multi-Fiber ID function
- Full QA & linearity test report



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55505051	T2600	General power meter for Multimode and Singlemode applications (Single fiber)
55505053	T2600-H5	High power meter for Multimode and Singlemode applications (Single fiber)
55505052	T2600XL-GE5	Large area detector for Multimode and Singlemode applications (MPO12/24 and Single fiber)
55505255	T2600XL-GE7	Large area detector for 16f/32f applications (MPO 12/24, plus MPO 16/32 and Single fiber)

MODEL	T2600A	T2600-HS	T2600XL-GE5	T2600XL-GE7
Detector type	InGaAs	InGaAs - High Power	GE (5 mm)	Ge (7 x 3.5 mm)
Response wavelength	600 ~ 1700 nm	800 - 1700 nm	600 ~ 1650 nm	
Calibration wavelengths	(see website for specifics)			
Power range	+10 ~-70dBm	+24 ~-60dBm	+15 ~ -40dBm	+15~-40dBm
Mid-range linearity	0.04 dB (typical)		0.06 dB (typical)	
Total uncertainty	0.3 dB (max)	0.35 dB (max)		
Wavelength sensitivity (± 30 nm)	0.2 dB (typical)			
ID tone detection sensitivity	up -50 dBm	Up to -38 dBm	-37 dBm	-30 dBm
Calibration Accuracy	1% (0.06 dB)			
Calibration validity	3 Years (ISO/IEC 17025)			
Resolution	0.01 dB			
Polarization sensitivity	< 0.05 dB (typical)			
Tone detection	150 ~ 9999 Hz ± 1 %			
Power	2x AA (LR4) Alkaline / 2x AA NiMh (rechargeable via USB)			
Battery life	Up to 1000 hours			
Auto-off	Selectable			
USB interfaces	USB-micro for power & software / USB-A for memory key			
Software	KITS (free download)			
Memory	1000 (4-½ tests) / Unlimited on USB memory key			
Size	124 x 81 x 25 mm			
Unit weight	0.42kg			
Shipping weight	1.5kg			
Operating / storage temperatures	-15 to 55 / -25 to 70 °C			
Relative humidity	0 ~ 95 %			
Warranty	3 Years			

T2000 SERIES HANDHELD STABILISED LIGHT SOURCE (SLS)


FEATURES

- Easy to use, rugged & versatile
- Long battery life, USB external power, charges NiMH AA batteries
- Interchangeable connectors
- Superior re-connection repeatability, < 0.1 dB
- Excellent stability
- Tone generator & Multi-Fiber ID function
- Multi wavelength AutoTest
- Full QA & test reports ISO/IEC 17025 traceable



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55505070	T28010-APC	Triple Laser Source for Singlemode applications
55505059	T2803	Multimode applications
55505058	T2822	Singlemode applications
55505057	T2824	Quad Light Source for Multimode and Singlemode applications

MODEL	T28010-APC	T2803	T2822	T2824
Output wavelength	Port 1: 1310, 1550, 1625 nm Laser APC	Port 2: 850, 1300 nm LED	Port 1: 1310, 1550 nm Laser	Port 1: 1310, 1550 nm Laser / Port 2: 850, 1300 nm LED
Output power	-3 dBm \pm 1 dB (@ 9/125 μ m)	-20 dBm \pm 1 dB (@ 62.5/125 μ m)	0 dBm \pm 1 dB (@ 9/125 μ m)	0 dBm \pm 1 dB (@ 9/125 μ m for 1310, 1550nm) / -20 dBm \pm 1 dB (@ 62.5/125 μ m for 850, 1300 nm)
Adjust output power	Adjustable over 7 dB in 0.01 dB steps			
Short term stability (for 15 min, typical \pm 2 °C, after warm up, ORL < -25 dB)	0.04 dB (for 1310, 1550 nm) / 0.06 dB (for 1625 nm)	0.01 dB	0.6dB	0.04 dB (typical for 1310, 1550 nm) / 0.01 dB (typical for 850, 1300 nm)
Stability over temperature	0.6 dB (typical)	0.35 dB (typical)	0.06 dB (typical)	0.6 dB (for 1310, 1550 nm) / 0.35 dB (for 850, 1300 nm)
Wavelength initial tolerance (@ 25 °C)	20 nm		20 nm	20 nm (for 1310, 1550 nm)
Spectrum width (FWHM)	3 nm (typical)		3 nm (typical)	
Wavelength drift	0.4 nm per °C (typical)			0.4 nm /°C (typical for 1310, 1550 nm) / 0.4 nm /°C (typical for 850, 1300 nm)
Reconnection repeatability (95% confidence)	0.1 dB	0.05 dB	0.1 dB	0.1 dB (for 1310, 1550 nm Laser) / 0.05 dB (for 850, 1300 nm LED)
Calibration validity (ISO/IEC 17025)	3 years			
Modulated output	270 Hz, 1 kHz, 2 kHz \pm 2 %, 12 Multi-Fiber ID tones			
Autotest (not available for 470, 540 nm LED sources)	Compatible with KI Autotest power meter port & matching 			
Power	Battery / External power via USB			
Battery types	2x AA (LR6) Alkaline / 2x AA NiMH AA (rechargeable via USB)			
Battery life	Laser/LED source: 90/80 hours in Autotest, typical			
Auto-off	Selectable			
Case	Polycarbonate (body) / rubber (edges & corners), moisture resistance, 1-meter drop tested			
Size	190 mm x 105 mm x 35 mm			
Unit weight	0.42 kg			
Shipping weight	1.5 Kg			
Operating / storage temperatures	-15 to 55 °C / -25 to 70 °C			
Relative humidity	0 ~ 95 %			
Warranty	3 Years			

POCKET KITS

TK038 Pocket Loss Test Kit for Singlemode & Multimode

- Fiber Optic Laser Test Source **T9822A**
- Fiber Optic LED Test Source **T9812A**
- Pocket Fiber Optic Power Meter **T9600A**
- Canvas Carrying Pouch

TK052 Pocket Loss Test Kit for Multimode

- Fiber Optic LED Test Source **T9812A**
- Pocket Fiber Optic Power Meter **T9600A**
- Canvas Carrying Pouch

TK054 Pocket Loss Kit for POF Applications

- Fiber Optic LED Test Source **T9809AM**
- Pocket Fiber Optic Power Meter **T9600XL-S15**
- Canvas Carrying Pouch

TK056 Pocket Loss Test Kit for Singlemode

- Fiber Optic Laser Test Source **T9822A**
- Pocket Fiber Optic Power Meter **T9600A**
- Canvas Carrying Pouch



HANDHELD KITS

TK076 Advanced Test Kit for Singlemode & Multimode

- LED & Laser Quad Optical Test Source **T2824**
- Handheld Optical Power Meter **T2600**
- Padded Canvas Carry Pouch **OPT149**

TK077 Advanced Test Kit for Singlemode Applications

- Dual Laser Optical Test Source **T2822**
- Handheld Optical Power Meter **T2600**
- Padded Canvas Carry Pouch **OPT149**

TK081 Pocket Light Source and Handheld Power Meter Kit for Singlemode

- Fiber Optic Laser Test Source **T9822A**
- Handheld Optical Power Meter **T2600**
- Padded Canvas Carry Pouch **OPT149**



PART NO.	CAT. NO.	DESCRIPTION
55505064	TK038	Pocket Loss Test Kit for Singlemode & Multimode
55505062	TK052	Pocket Loss Test Kit for Multimode
55505294	TK054	Pocket Loss Kit for POF Applications
55505060	TK056	Pocket Loss Test Kit for Singlemode
55505063	TK076	Advanced Test Kit for Singlemode & Multimode
55505061	TK077	Advanced Test Kit for Singlemode applications
55505150	TK081	Pocket Light Source and Handheld Power Meter Kit for Singlemode

T27600 SERIES MM & SM OPTICAL LOSS TEST SETS, (OLTS) 1-WAY

FEATURES

- Easy to use, slim, rugged & versatile
- EF compliant multimode sources
- Excellent source stability
- Large clear LCD is sunlight readable & backlit
- Large memory with Text Tag & time stamp
- One button memory dump to USB key
- KITS™ reporting software for acquisition and reporting
- AutoTest with up to 3 λ displayed
- 1 % accuracy & 31 calibrated λ , ISO/IEC 17025 traceable
- Interchangeable connectors
- Multi-Fiber ID Test tone generator / detector
- Long battery life, USB external power, charges NiMH AA batteries
- VisiTester test port intergrated VFL



PART NO.	CAT. NO.	DESCRIPTION
55505066	T27622	Optical Loss Test Set for Singlemode Applications
55505065	T27603	Optical Loss Test Set for Multimode Applications
55505056	T27624	Quad Optical Loss Test Set for Singlemode and Multimode Applications

MODEL	T27603	T27622	T27624
Detector type Response wavelength Calibration wavelengths	InGaAs 600 ~ 1700 nm (see website for specifics)		
Power range	+10~-70dBm		
Mid-range linearity	0.04 dB (typical)		
Total uncertainty	0.3 dB (max)		
ID tone detection & Autotest sensitivity (meter)	Up to -50 dBm		
Modulated output (source)	270 Hz, 1 kHz, 2 kHz \pm 2 %, 12 Multi-Fiber ID tones		
Output wavelength (source)	850, 1300nm LED, VisiTester	1310-1550 nm Laser,	1310-1550 nm Laser, : 850, 1300 nm LED
Adjust output power (source)	Fixed for 850,1300 nm and VisiTester	Adjustable over 7dB in 0.01 steps for 1310,1550 nm . Fixed for VisiTester	Adjustable over 7dB in 0.01 steps for 1310,1550 nm . Fixed for 850,1300 nm and VisiTester
Short term stability for 15 min, typical \pm 2 °C, after warm up, ORL < -25 dB (source)	0.01 dB (for 850, 1300 nm)	0.04 dB (for 1310, 1550 nm)	0.04 dB (for 1310, 1550 nm) / 0.01 dB (for 850, 1300 nm)
Wavelength initial tolerance @ 25 °C (source)		20 nm	20 nm (for 1310, 1550 nm)
Wavelength drift (source)	0.4nm/°C		
Reconnection repeatability @ 95% confidence (source)	0.05 dB (for 850, 1300 nm), 0.1 dB (for VisiTester)	0.1 dB (for 1310-1550 nm, VisiTester)	0.1 dB (for 1310-1550 nm Laser, VisiTester) / 0.05 dB (for 850, 1300 nm LED)
VisiTester laser safety	Class 1, IEC60825-2		
Accuracy (meter)	1 % (0.06 dB)		
Resolution (meter)	0.01 dB		
Tone detection (meter)	150 ~ 9900 Hz \pm 1 %		
Battery life	Laser/LED source: 90/80 hours (typical) in Autotest		
Power	2x AA Alkaline, NiMH for internal charging, External power vis USB / External power via USB		
USB interfaces	USB-micro for power & software / USB-A for memory key		
Auto off	Selectable		
Memory	1,000 four 8 tests with date & time / Unlimited on USB		
Case	Polycarbonate (body) / rubber (edges & corners), moisture resistance, 1-meter drop tested		
Display size	74 mm x 55 mm		
Size, Unit weight, Shipping weight	190 x 105 x 35 mm, 0.42kg, 1.5kg		
Operating / storage temperatures	-15 to 55 / -25 to 70 °C		
Warranty & Calibration validity (ISO/IEC 17025)	3 Years		

T27600 SERIES OPTICAL LOSS TEST SET BI-DIRECTIONAL LOSS AND ORL TESTING

FEATURES

- 25% of the size / weight, 7x the battery life of competitors
- Bidirectional Autotest loss & ORL testing on one fiber
- Real time Pass / Fail display
- 8,000 fiber memory and USB Flash Drive file dump
- KITS™ reporting software
- Autotest optical power meter, >25 λ, 1 % accuracy
- Traceable calibration reports: power meter & linearity, source λ & stability
- Long battery life, USB external power, charges NiMH AA batteries
- 3 Year warranty and calibration cycle
- EF compliant multimode sources



PART NO.	CAT. NO.	DESCRIPTION
55505078	T27403LV	Two Way (bi-directional) Loss & Length Test Set for Multimode Applications; Standalone Light Source & Power Meter, VFL, tone generator / detector; can be used in Pairs
55505067	T27422LV	Two Way (bi-directional) Loss & Length Test Set for Singlemode Applications; Standalone Light Source & Power Meter, VFL, tone generator / detector; can be used in Pairs
55505079	T27424LV-APC	A Quad, Two Way (bi-directional) Loss & Length Test Set for Singlemode and Multimode Applications; Standalone Light Source & Power Meter, VFL, tone generator / detector; can be used in Pairs

MODEL	T27403LV	T27422LV	T27424LV-APC
Modulated output (source)	270 Hz, 1 kHz, 2 kHz \pm 2 %, 12 Multi-Fiber ID tones	270 Hz, 1 kHz, 2 kHz \pm 2 %, 12 Multi-Fiber ID tones	270 Hz, 1 kHz, 2 kHz \pm 2 %, 12 Multi-Fiber ID tones
Output wavelength (source)	850-1300 nm LED APC, VisiTester	Port 1: 1310-1550 nm Laser	Port 1: 1310, 1550 nm Laser APC / Port 3: 850, 1300 nm LED APC
Adjust output power (source)	Fixed	Adjustable over 7 dB in 0.01 dB steps	Adjustable over 7 dB in 0.01 dB steps (for 1310, 1550 nm) / Fixed (for 850, 1300 nm)
Short term stability for 15 min, typical \pm 2 °C, after warm up, ORL < -25 dB (source)	0.01 dB	0.04 dB	0.03 dB (for 1310, 1550 nm) / 0.01 dB (for 850, 1300 nm)
Stability over temperature (source)	0.35 dB	0.6 dB (max)	0.2 dB (max for 1310, 1550 nm) / 0.35 dB (max for 850, 1300 nm)
Wavelength initial tolerance @ 25 °C (source)		20 nm	20 nm (for 1310, 1550 nm)
Spectrum width @ FWHM (source)		3 nm (typical)	3 nm (typical for 1310, 1550 nm)
Length range (2-way Autotest only)	4.5 dB @ 50 μ m	27 dB	6 dB @ 62.5 μ m (for 850, 1300 nm) / 30 dB (for 1310, 1550 nm)
Length accuracy (2-way Autotest only)	0.01% \pm 4 meters		
Length resolutions	1 meter (0.000~9.999 Km), 10 meters (10.00~99.99 Km), 100 meters (100.0~127.9 Km)		
Loss range (2-way Autotest)	21.5 dB @ 50 μ m	44 dB	27 dB @ 62.5 μ m (for 850, 1300 nm) / 47 dB (for 1310, 1550 nm)
Loss repeatability & loss linearity (2-way Autotest)	0.06 dB	0.04 dB	0.06 dB (for 850, 1300 nm) / 0.04 dB (for 1310, 1550 nm)
ORL range	0 ~ 27.5 dB @ 50 μ m		0 ~ >60 dB (1310, 1550 nm) / 0 ~ 30 dB @ 62.5 μ m
VisiTester wavelength	650 \pm 5 nm		
VisiTester laser safety	Class 1, IEC60825-2		
VisiTester power	0 dBm \pm 1 dB @ SMF		
Detector type (meter) Response wavelength (meter) Calibration wavelengths (meter)	InGaAs 600 ~ 1700 nm (see website for specifics)		
Accuracy (meter)	1 % (0.06 dB)		
Mid-range linearity (meter)	0.04 dB (typical)		
Power range (meter)	+10 ~ -60 dBm (780 ~ 980, 1590 ~ 1650 nm) / +10 ~ -70 dBm (1270 ~ 1650 nm)		
VisiTester laser safety	Class 1, IEC60825-2		
Total uncertainty (meter)	0.3 dB (max)		
ID tone detection & Autotest sensitivity (meter)	Up to -50 dBm		
Resolution (meter)	0.01 dB		
Polarization sensitivity (meter)	< 0.05 dB (typical)		
Tone detection (meter)	150 ~ 9999 Hz \pm 1 %		

Cont.

MODEL	T27403LV	T27422LV	T27424LV-APC
Autotest	1-way: compatible with other T23400 & T27400 models / 2-way: compatible with identical model only		
USB interfaces	USB-micro for power & software / USB-A Flash Drive		
Software	KITS (free download)		
Power Battery life Battery type	Battery / External power via micro-USB Laser/LED source: 80 hours (typical) in Autotest, Power Meter: 1000 hours (typical) 2x AA (LR6) Alkaline / 2x AA NiMH AA (rechargeable via micro-USB)		
Display size	74 mm x 55 mm high contrast LCD		
Case	Laser/LED source: 80 hours (typical) in Autotest, Power Meter: 1000 hours (typical)		
Size	190 mm x 105 mm x 35 mm		
Unit weight	0.42 kg		
Shipping weight	1.5 Kg		
Operating / storage temperatures Relative humidity	-15 to 55 / -25 to 70 °C 0 ~ 95 %		
Warranty Calibration validity (ISO/IEC 17025)	3 Years		



T23400 SERIES OPTICAL LOSS TEST SET (OLTS) BI-DIRECTIONAL LOSS, ORL AND LENGTH

FEATURES

- 25% of the size / weight, 7x the battery life of competitors
- Bidirectional Autotest loss, ORL and length testing on one fiber
- Real time Pass / Fail display
- 8,000 fiber memory and USB Flash Drive file dump
- KITS™ reporting software
- Autotest optical power meter, >25 λ, 1 % accuracy
- Traceable calibration reports: power meter & linearity, source λ & stability
- Long battery life, USB external power, charges NiMH AA batteries
- 3 Year warranty and calibration cycle
- EF compliant multimode sources



PART NO.	CAT. NO.	DESCRIPTION
55505068	T234030LV-APC-50U	Ultra-Stable 2W Loss, Length & ORL Tester
55505080	T234220LV	Ultra-Stable 2W Loss Length ORL Tester
55505069	T234240L-APC	Ultra-Stable 2W Loss Length ORL Tester
55505151	T234100LF-APC	Ultra-Stable 2W Loss Length ORL Tester

MODEL	T234030LV-APC-50U	T234220LV	T234240L-APC	T234100LF-APC
Modulated output (source)	270 Hz, 1 kHz, 2 kHz \pm 2 %, 12 Multi-Fiber ID tones			
Output wavelength (source)	850-1300 nm LED APC, VisiTester	Port 1: 1310-1550 nm Laser	Port 1: 1310, 1550 nm Laser APC / Port 3: 850, 1300 nm LED APC	1310, 1550, 1625 nm Laser APC, VisiTester APC
Output power (source)	-27 dBm \pm 1 dB @ 62.5 μ m	-7 dBm \pm 1 dB @ SMF	-3 dBm \pm 1 dB (@ 9/125 μ m for 1310, 1550 nm) / -23 dBm \pm 1 dB (@ 62.5/125 μ m for 850, 1300 nm)	-7dBm \pm 1 dB @ SMF
Adjust output power (source)	Fixed	Adjustable over 7 dB in 0.01 dB steps	Adjustable over 7 dB in 0.01 dB steps (for 1310, 1550 nm) / Fixed (for 850, 1300 nm)	Adjustable over 7 dB in 0.01 dB steps
Short term stability for 15 min, typical \pm 2 $^{\circ}$ C, after warm up, ORL < -25 dB (source)	0.01 dB	0.04 dB	0.03 dB (for 1310, 1550 nm) / 0.01 dB (for 850, 1300 nm)	0.03 dB (for 1310, 1550 nm), 0.04 dB (for 1625 nm)
Stability over temperature (source)	0.35 dB	0.6 dB (max)	0.2 dB (max for 1310, 1550 nm) / 0.35 dB (max for 850, 1300 nm)	0.2 dB (max)
Wavelength initial tolerance @ 25 $^{\circ}$ C (source)	20 nm	20 nm	20 nm (for 1310, 1550 nm)	20 nm for 1310, 1550 nm, 6.5 for 1625 nm
Spectrum width @ FWHM (source)	3 nm (typical)	3 nm (typical)	3 nm (typical for 1310, 1550 nm)	3 nm (typical for 1310, 1550 nm), < 1 nm (typical for 1625 nm)
Mode controlled (source)	50/125 μ m compliant: IEC 61280-4-1 (Ed.1.0), TIA 526-14A & TIA TSB-178			
Length range (2-way Autotest only)	4.5 dB @ 50 μ m	27 dB	6 dB @ 62.5 μ m (for 850, 1300 nm) / 30 dB (for 1310, 1550 nm)	27 dB
Length accuracy (2-way Autotest only)	0.01% \pm 4 meters			
Length resolutions	1 meter (0.000-9.999 Km), 10 meters (10.00-99.99 Km), 100 meters (100.0-127.9 Km)			
Loss range (2-way Autotest)	21.5 dB @ 50 μ m	44 dB	27 dB @ 62.5 μ m (for 850, 1300 nm) / 47 dB (for 1310, 1550 nm)	44 dB
Loss repeatability & loss linearity (2-way Autotest)	0.06 dB	0.04 dB	0.06 dB (for 850, 1300 nm) / 0.04 dB (for 1310, 1550 nm)	0.04 dB
ORL range	0 ~ 27.5 dB @ 50 μ m	0 ~ 60 dB	0 ~ >60 dB (1310, 1550 nm) / 0 ~ 30 dB @ 62.5 μ m	0 ~ 60 dB

Cont.

MODEL	T234030LV-APC-50U	T234220LV	T234240L-APC	T234100LF-APC
ORL accuracy	0.2 dB			
ORL resolution	0.01 dB (@ 0 ~ 30 dB), 0.1 dB (@ 30 ~ 45 dB)	0.01 dB (@ 0 ~ 50 dB), 0.1 dB (@ 50 ~ 65 dB)	For 1310, 1550 nm: 0.01 dB (@ 0 ~ 50 dB), 0.1 dB (@ 50 ~ 65 dB) / For 850, 1300 nm: 0.01 dB (@ 0 ~ 30 dB), 0.1 dB (@ 30 ~ 45 dB)	0.01 dB (@ 0 ~ 45 dB), 0.1 dB (@ 45 ~ 60 dB)
VisiTester wavelength	650 ± 5 nm			
VisiTester power	0 dBm ± 1 dB @ SMF			
VisiTester laser safety	Class 1, IEC60825-2			
Blink rate (manual)	CW or 2 Hz			
Detector type (meter) Response wavelength (meter) Calibration wavelengths (meter)	InGaAs 600 ~ 1700 nm (see website for specifics)			
Accuracy (meter)	1 % (0.06 dB)			
Mid-range linearity (meter)	0.04 dB (typical)			
Power range (meter)	+10 ~ -60 dBm (780 ~ 980, 1590 ~ 1650 nm) / +10 ~ -70 dBm (1270 ~ 1650 nm)			
Total uncertainty (meter)	0.3 dB (max)			
Resolution (meter)	0.01 dB			
Tone detection (meter)	150 ~ 9999 Hz ± 1 %			
Autotest	1-way: compatible with other T23400 & T27400 models / 2-way: compatible with identical model only			
USB interfaces	USB-micro for power & software / USB-A Flash Drive			
Software	KITS (free download)			
Power Battery life Battery type	Battery / External power via micro-USB Laser/LED source: 80 hours (typical) in Autotest, Power Meter: 1000 hours (typical) 2x AA (LR6) Alkaline / 2x AA NiMH AA (rechargeable via micro-USB)			
Display size	74 mm x 55 mm high contrast LCD			
Case	Laser/LED source: 80 hours (typical) in Autotest, Power Meter: 1000 hours (typical)			
Size Unit weight Shipping weight	190 mm x 105 mm x 35 mm 0.42 kg 1.5 Kg			
Operating / storage temperatures Relative humidity	-15 to 55 / -25 to 70 °C 0 ~ 95 %			
Warranty Calibration validity (ISO/IEC 17025)	3 Years			

ADAPTERS

A wide range of Adapters are available to suit the different Kingfisher models and your applications. Please contact your Tempo Customer Service Representative for more information.

PART NO.	CAT. NO.	DESCRIPTION
55505081	OPT040	TEST SET ADAPTER, SC/ST CERAMIC SLEEVE
55505082	OPT046	TEST SET ADAPTER, SC/SC CERAMIC SLEEVE
55505253	OPT051	TEST SET ADAPTER, SC/FC CERAMIC SLEEVE
55505083	OPT076	TEST SET ADAPTER, SC/LC METAL BODY CERAMIC SLEEVE
55505084	OPT081	TEST SET ADAPTER, SC/UNIVERSAL 2.5mm CERAMIC SLEEVE
55505085	OPT085	TEST SET ADAPTER, SC/UNIVERSAL 1.25 MM CERAMIC SLEEVE
55505161	OPT200	TEST SET ADAPTER, XL- CS
55505146	OPT201	TEST SET ADAPTER, XL- SC
55505254	OPT202	TEST SET ADAPTER, XL- ST
55505301	OPT204	TEST SET ADAPTER, XL- FC
55505298	OPT224	TEST SET ADAPTER, XL- Universal 1.25mm
55505162	OPT225	TEST SET ADAPTER, XL- Universal 2.5mm
55505147	OPT226A	TEST SET ADAPTER, XL- LC
55505148	OPT227	TEST SET ADAPTER, XL- MPO12
55505160	OPT228	TEST SET ADAPTER, XL- MPO16
55505299	OPT229	TEST SET ADAPTER XL 7/8-28, POF MULTI
55505300	OPT231	TEST SET ADAPTER XL 7/8-28, HFBR
55505149	OPT233	TEST SET ADAPTER, XL - MMC, MT



OPT040



OPT046



OPT076



OPT081



OPT085

SPECIAL LAUNCH CONDITION

OPTICAL POWER METERS & SOURCES

INSTRUMENTS DESIGNED FOR POF & FIBER OPTIC CABLE TESTING:

The Special Launch Condition Sources and Optical Power Meter XL fiberTOOLS™ are designed for the professional to perform installation and maintenance measurements on both Plastic & Glass fiber optic networks.

The instrument family consists of standard instruments for routine cable testing, through to Stabilised Light Sources with stringent Launch Conditions for the Avionics and Defence Industries and Research Laboratories.

Tempo's LED Light Sources have been manufactured with specific launch conditions to overcome the inconsistent measurements caused by standard Light Sources.

The Multimode products that have specific launch conditions are designed for greater accuracy and repeatable results.

Tempo also manufacture instruments to test POF links. POF links are being used in a number of industries particularly on short links where optical budgets aren't too tight. The automotive industry is a good example of this.

The XL fiberTOOLS™ are fully featured, general purpose fiber optic instruments and easy to operate to outfit all technicians performing fiber optic installation and maintenance.

Tempo also manufacture a range of Optical Light Sources and Power Meters with enhanced EMI performance, manufactured to Military standards, these offer the ultimate in accuracy.

Tempo's range of Optical Light Sources and Power Meters were designed specifically for: avionics, automotive, defence and research.



567XL SILICON FIBER OPTIC POWER METER (FORMERLY 557B)

FEATURES

- Absolute (dBm) & Referenced (dB) measurements
- Long battery life
- User selectable auto shut-off
- SOC interface adapts to all commonly used connectors
- Rugged and splash-proof



OPTICAL SPECIFICATIONS

Detector Type	3 x 3.5mm Silicon	
Calibration Wavelengths	650nm, 780nm, and 850nm	
Power Range	+3dBm to -60dBm	
Accuracy	±0.25dB	
Linearity at	+3dBm to -3dBm	±0.5db
	-3dBm to -50dBm	±0.1db
	-50dBm to -60dBm	±0.5db
Resolution	0.01dB	
Power Requirements	Two AA 1.5V batteries (approx. 100 hours continuous operation)	
Connector Interface	SOC	
Operating Temperature	-15° C to +55° C	
Storage Temperature	-35° C to +70° C	
Humidity	0 to 95% non-condensing	
Dimensions	7.2 x 14.2 x 3.5 cm (2.8 x 5.6 x 1.4 in.)	
Weight	241g (8.5 oz.)	
CE	EN61010; EN50081-1:1992; EN55011,Group1, Class A EN50082-1: 1992 IEC 801-2, -3, -4	
Typical Power Output (µm)		
200/230 SI Fiber	-15dBm ±0.5dB	
Modulation Frequencies	270Hz, 1kHz and 2kHz	
Power Requirements	Two AA 1.5V batteries (approx. 24 hours continuous operation)	

573XL & 573XL-UNIV 650NM LED SOURCE FOR LARGE CORE PLASTIC AND GLASS FIBER (FORMERLY 253B-POF)

FEATURES

- Stable Calibrated output Storage
- Continuous wave and modulated output
- Easy to use
- Long battery life
- User selectable auto shut-off
- 650nm wavelength
- Rugged and splash-proof
- Fixed ST and SOC Adapter options are available



577XL M90 850nm LED SOURCE WITH M90 LAUNCH CONDITIONS (62.5/125μm FIBER)

(FORMERLY 253B-POF)

FEATURES

- Stable calibrated output
- Easy to use
- Continuous wave and modulated output
- Long battery life - approx. 24 hours
- User selectable auto shut-off
- Rugged and splash-proof
- Economically priced
- UCI Adapter options are available
- 850nm wavelength



577XL AS100 850NM LED SOURCE WITH AS-100 LAUNCH CONDITION (100/140μm FIBER)

(FORMERLY 257A-AS100)

FEATURES

- Stable calibrated output
- Easy to use
- Continuous wave and modulated output
- Long battery life - approx. 24 hours
- User selectable auto shut-off
- Rugged and splash-proof
- Economically priced
- UCI Adapter options are available
- 850nm wavelength



578XL M90 1300NM LED SOURCE WITH M90 LAUNCH CONDITION (62.5/125μM FIBER)

FEATURES

- Stable Calibrated output Storage
- Continuous wave and modulated output
- Easy to use
- Long battery life
- User selectable auto shut-off
- 1300nm wavelength
- Rugged and splash-proof
- UCI Adapter options available (options are available)



XL SERIES LED SOURCES

	573XL	577XL	578XL
Nominal	650nm	850nm	1300nm
Range (nm)	630 - 670	840 - 880	1270 - 1345
Max. spectral width (FWHM)	40nm	55nm	150nm
Stability, 1 hour	±0.05dB	±0.05dB	±0.05dB
POWER OUTPUT			
200/230µm SI MM fiber	-15dBm ***		-
100/140µm GI MM fiber	-	-20dBm**(AS-100)	-20dBm
62.5/125µm GI MM fiber**	-	-20dBm** (M90)	-20dBm** (M90)
50/125µm GI MM fiber	-		-21dBm
9/125µm SM fiber	-	-	-38dBm
Power output uncertainty	±0.5dB	±0.5dB	±0.5dB
Connector interface	SOC or ST	Universal connector interface	
Functions	MOD: Modulated output mode (270Hz, 1kHz, 2kHz) CW: Continuous Wave output mode Freq: selectable modulation frequency		
Modulation frequencies	270Hz, 1kHz, and 2kHz (±0.5%) using switch inside battery compartment		
Power requirements	Two AA-size alkaline batteries		
Battery life	> 24 hours		
ENVIRONMENT			
Operating Temperature	-15°C to 55°C		
Storage Temperature	-35°C to 70°C		
Humidity, Non-Condensing	0% to 95%		
Dimensions	7.2 x 14.2 x 3.5cm (2.8 x 5.6 x 1.4in)		
Weight	215g (7.6oz)		

* Within specified operating environment of 20°C to 25°C

** Calibrated launch level, equilibrium modal distribution

*** Calibrated launch level

560XL-EMI FIBER OPTIC POWER METER WITH ENHANCED EMI PERFORMANCE

FEATURES

- 0.01dB measurement resolution
- Multi-Wavelength Storage
- SOC interface adapts to all commonly used connectors*
- Long battery life
- Absolute (dBm) & Referenced (dB) Power measurements
- User selectable auto shut-off
- Rugged and splash-proof
- Economically priced
- Enhanced EMI performance: MIL-STD-461E, Method R5103, tested to 190 V/m
- Engineered for use in areas with high electrical interference

OPTICAL SPECIFICATIONS

Detector Type	1mm InGaAs
Calibration Wavelengths (nm)	850, 1300, 1310, 1550
Power Range	+3dBm to -60dBm
Accuracy	±0.25dB
Resolution	0.01dB
Power Requirements	Two AA 1.5V batteries (approx. 100 hours continuous operation)
Connector Interface	SOC



570XL-AS100-EMI 850/1300NM LED SOURCE WITH ENHANCED EMI PERFORMANCE

FEATURES

- Stable calibrated output
- 850nm / 1300nm wavelength LED Source
- Long battery life - approx. 80 hours
- Continuous wave and modulated output
- User selectable auto shut-off
- Supports a wide range of UCI connectors, including FC, SC, and ST
- Economically priced
- Enhanced EMI performance: MIL-STD-461E, Method R5103 tested to 200 V/m
- Easy to use
- Configured to meet AS100 launch conditions
- Rugged and splash-proof

OPTICAL SPECIFICATIONS

Detector Type	1mm InGaAs
Calibration Wavelengths (nm)	850nm, 1300nm
Power Range	820nm to 880nm; 1270nm to 1345nm
Accuracy	±0.25dB
Resolution	0.01dB
Power Requirements	Two AA size 1.5V batteries (approx. 40 hours continuous operation)
Connector Interface	UCI



580XL-EMI 1310/1550NM LASER SOURCE WITH ENHANCED EMI PERFORMANCE

FEATURES

- Stable calibrated output
- 1310nm / 1550nm wavelength Laser Source
- Long battery life - approx. 80 hours
- Continuous wave and modulated output
- User selectable auto shut-off
- Easy to Use
- Enhanced EMI performance: MIL-STD-461E, Method R5103 tested to 200 V/m
- Supports a wide range of UCI connectors, including FC, SC, and ST
- Rugged and splash-proof
- Economically priced

OPTICAL SPECIFICATIONS

Centre Wavelength	1310nm	1550nm
Range (Typical)	1280nm to 1340nm	1520nm to 1580nm
Max. Spectral Width (FWHM)	<5nm	<5nm
Stability (1 hour)	±0.05dB	±0.05dB
Typical Power Output (9/125µm)		
Minimum	-8dBm	-8dBm
Typical	-7dBm	-7dBm
Modulation Frequencies	270Hz, 1kHz and 2kHz	270Hz, 1kHz and 2kHz
Power Requirements	Two AA 1.5V batteries (approx. 80 hours continuous operation)	
Connector Interface	UCI	



ORDERING INFORMATION- XL *fiberTOOLS™* SERIES:

PART NO.	CAT. NO.	DESCRIPTION
52058723	00025	567XL Silicon Fiber Optical Power Meter
52058784	00023	573XL 650nm LED Source with Fixed ST Connector
52061770	00598	573XL 650nm LED Source with SOC Adapter Interface
52058727	00029	577XL-AS100, 850nm LED Source with 100/400µm Launch Condition
52058726	00027	577XL-M90, 850nm LED Source with 62.5/125µm Launch Condition
52061054	00753	578XL-M90, 1300nm LED Source with 62.5/125µm Launch Condition
52060994	00244	560XL-EMI HH OPM, INGAAS, EMI SHIELDING
52060995	00245	570XL-AS100-EMI HH DUAL LED SOURCE, EMI SHIELDING
52060996	00246	580XL-EMI HH LASER SOURCE, EMI SHIELDING

SNAP ON CONNECTOR (SOC) FOR XL SERIES INSTRUMENTS

Snap On Connectors (SOC) are used on the XL Fiber Optic Power Meters and 573XL LED light source. The Snap On Connectors configure the instruments for various optical connectors. Contact Tempo Communications for other available adapters.

FC



T1020

ST



T1030

SC



T1062

UNIVERSAL CONNECTOR INTERFACE (UCI) FOR XL SERIES INSTRUMENTS

Users will need to purchase a Universal Connector Interface (UCI) adapter for use with specific light sources. Please specify the desired connector adapter type when ordering.

FC



APC-108

SC



ASC-108/C

ST



ATS-108

FEATURES

- Our SOC and UCI adapters provide direct connectivity for Tempo Communications fiberTOOLS® to a wide range of industry-standard fiber optic connectors
- Adapter design ensures maximum accuracy and repeatability when performing critical measurements on fiber optic systems
- Easy to clean and use
- Single-mode and multimode compatible
- SOC adapters are compatible with both PC and APC interfaces
- UCI adapters feature durable phosphor bronze alignment sleeve

CONNECTOR	SOC Adapter			UCI Adapter	
DESCRIPTION		PART NO.	CAT. NO.	PART NO.	CAT. NO.
1.25 mm Quick-Connect Universal Adapter (LC, MU, etc.)		50605881	T1026	USE HYBRID CABLE	
FC		50605768	T1020	50605720	APC-108
LC		50606000	T10LC	USE HYBRID CABLE	
MIL-T-29504/4 & /5 Termini		50605898	T1038	USE HYBRID CABLE	
SC		50605751	T1062	52039964	ASC-108/C
ST		50605775	T1030	50605737	ATS-108
Versatile Link - V/Z PIN		50606048	T10ZP	USE HYBRID CABLE	
SMA 905/906		50605966	T1087	N/A	

ACCESSORIES

fiberTOOLS™ HARD CARRY CASE

FEATURES

- Designed to hold Tempo handheld instruments and a full range of test accessories.
- Top tray holds up to 3 handheld instruments and a 180XL Visual Fault Finder
- Bottom compartment of both models stores additional instruments and test accessories
- Compact, waterproof and lockable
- Moulded from black structural foam resin

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50606840	900B	Carry Case Ruggedised 3 Unit

SPECIFICATIONS:

Weight: 500g
Dimensions: 380 x 185 x 180mm



FIBER TRAINING

FIB-TRN FIBER TRAINER

The Tempo Communications Fiber Trainer provides a compact platform used to train fiber optic technicians. The Fiber Trainer has loss events that simulate a faulty connector, a Macrobend and a damaged fiber optic cable. The 1km fiber link provides the student technician a typical fiber link that has a fault midway. This allows the technician setup the OTDR, test and evaluate the 1km link. The two fiber spools provide sufficient fiber for fusion splicing exercises. The connectors on the ends of the fiber spools allow for convenient connections for loss testing so that the student technician can measure and validate fusion splice loss.

Learning Components:

- Fiber Optic Basics
- Cleaning and Inspection
- Visual Fault Locating
- Fiber Optic Loss Testing
- Fusion Splicing & Fiber Dressing
- Optical Time Domain Reflectometers



LEARNING INSTRUMENTS



OPM210
SL5520



915FS



OFL100



915CL



MSS100



PA1822



TCDCS



TCCPS

Ordering Information

CAT. NO.	DESCRIPTION
FIB-TRN	Fiber Trainer
SPC01	Fiber Trainer Consumable Kit (Not included with FIB-TRN)
OPM210	Standard Power OPM with VFL
OFL100-NA	OFL100 with North American Power Supply
SL5520	1310/1550nm Dual Laser
915FS-KIT1	915FS Fusion Splicer & Cleaver Kit
PA1171	Pro Grip Fiber Stripper
PA1511	Kevlar Cutter
PA1175	Pro Grip Cutter
REEL-CLN	Opti-Clean Reel Cleaner
FIP100 KIT	Fiber Inspection Probe Kit
DFE100	Drop Fiber Enclosure Kit, 2 PORT
SOCSCUPC-10	SOC SCUPCSMF 10 Pack
2.5 SWAB	2.5mm Cleaning Swabs, 100 Pieces
TCLTH	Tablecloth
PA1822	Cable Slitter
MSS100	Midspan Slitter
TCCPS	Slit and Ring Stripper
TCDCS	Drop Cable Stripper
SD6-in-1	Six in one screwdriver

Specifications

CONNECTOR INTERFACES:	SC/UPC (3) SC/APC (2)
FIBER:	G.652 Ultra
WEIGHT:	3.73 lb (2.14 kg)
DIMENSIONS:	12.2 x 9.0 x 4.1" (310 x 229 x 104mm)

Optional Instruments

CAT. NO.	DESCRIPTION
FI-100-KIT	Fiber Identifier Kit
LC-500	500m Launch Cable, Singlemode
SL5525	850/1300nm Dual LED

Available Kits

CAT. NO.	DESCRIPTION
JTK-PA	Pre-Apprentice Kit
JTK-T	Trainer Kit
JTK-SP	JTK-T & 915FS-KIT1
JTK-OFL	JTK-T & OFL100-NA
JTK-FULL	JTK-T & 915FS-KIT1 & OFL100-NA

Pre-Apprentice Kit Contents (JTK-PA)

CAT. NO.	DESCRIPTION
PA1822	Cable Slitter
PA1511	Kevlar Cutter
PA1177	3 In 1 Fiberoptic Stripper
PA1179	Cable Cutter
MSS100	Midspan Slitter
TCCPS	Slit and ring Stripper
TCDCS	Drop Cable Stripper
SD6-in-1	6 in 1 Screwdriver

Trainer Kit Contents (JTK-T)

CAT. NO.	DESCRIPTION
FIB-TRN	Fiber Trainer
SPC01	Consumable Kit
JTK-PA	Pre-Apprentice Kit
REEL-CLN	Reel Cleaner
2.5 SWAB	2.5mm Cleaning Swabs (100)
OPM210	Optical Power Meter

SPC01 CONSUMABLE KIT

The Consumable Kit items are used in conjunction with the Fiber Trainer, providing the necessary cables, cleaning supplies and supplementary items to perform the experiments during the hands on portion of the learning modules.

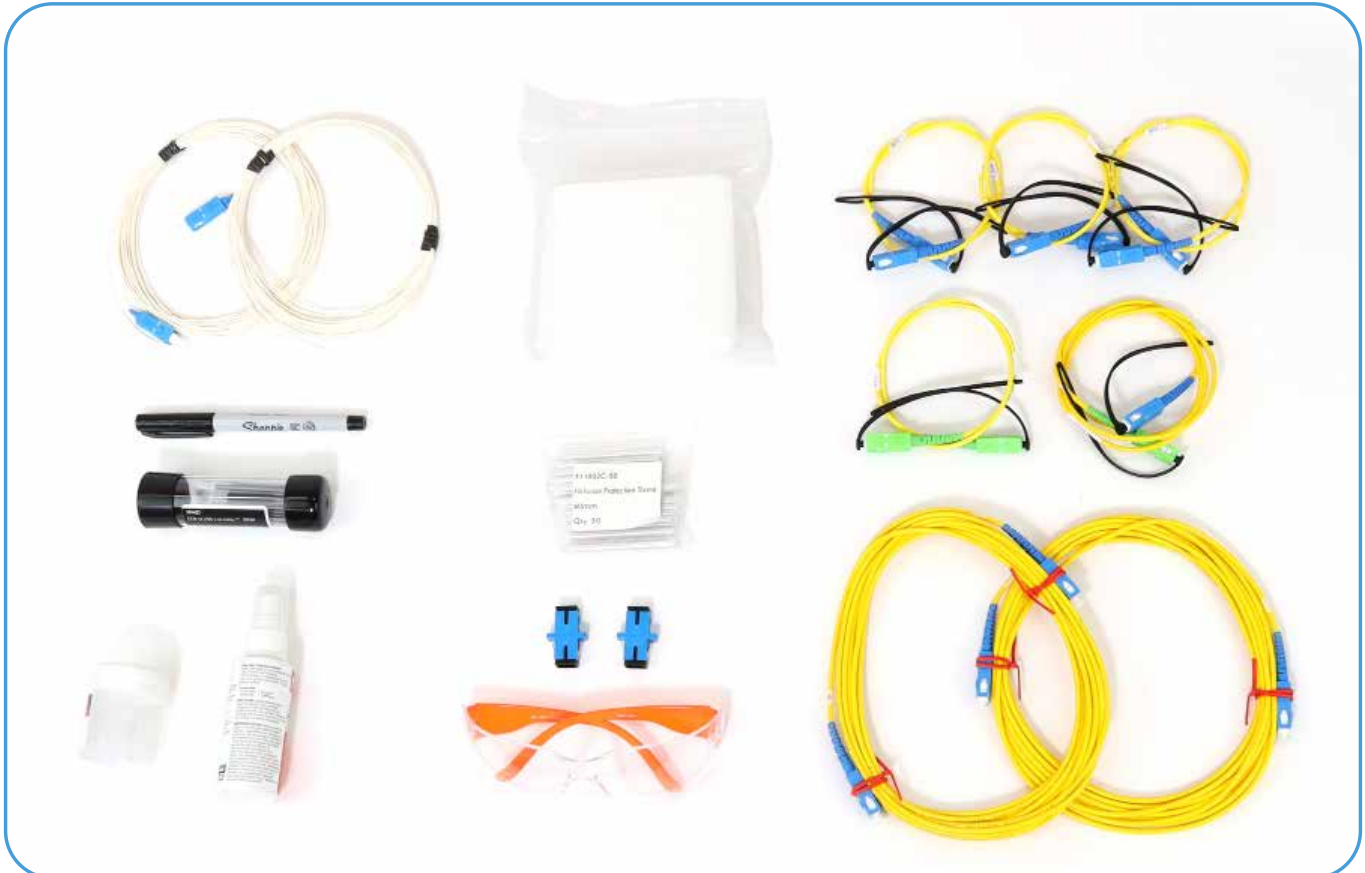
Note that each Fiber Trainer requires one Consumable Kit.

SPC01 Consumable Kit Contents:

- 50 Pack of Cleaning Swabs
- 100 Pack of Cleaning Wipes
- Fiber Disposal Unit
- Cleaning Fluid
- Safety Glasses
- 50 Pack of Fusion Splice Sleeves
- Two SC/UPC Bulkheads
- Two 15m Pigtail (900 micron)
- One SC/APC to SC/APC 3mm, 0.5m Cable
- Three SC/UPC to SC/UPC 3mm, 0.5m Cable
- One Sharpie Pen
- Two SC/UPC to SC/UPC 3mm, 5m Cable
- One SC/APC to SC/UPC 3mm, 1m Cable

Ordering Information

CAT. NO.	DESCRIPTION
SPC01	Fiber Trainer Consumable Kit (Not included with FIB-TRN)



FIBER HAND TOOLS

PROGRIP 5-IN-1 FIBER OPTIC STRIPPER

FEATURES

- Precision ground stripping cavities for:
 - 2.0 - 2.4mm outer jacket
 - 2.0 - 3.0mm loose tube
 - 2.8 - 3.0mm outer jacket
 - 900µm buffer insulation
 - 900/125µm and 250/125µm buffer/acrylate
- Factory calibrated
- Dual-durometer ProGrips for improved comfort and control

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055935	PA1171	Pro-Grip Stripper, 5-in-1 Fiber Optic

SPECIFICATIONS:

Weight: 140g

Dimensions: 173mm



PROGRIP 3-IN-1 FIBER OPTIC STRIPPER

FEATURES

- Precision ground stripping cavities for:
 - 2.0mm outer jacket
 - 900µm buffer insulation
 - 250/125µm buffer/acrylate
- Factory calibrated
- Dual-durometer ProGrips for improved comfort and control

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055938	PA1177	Pro-Grip Stripper, 3-in-1 Fiber Optic

SPECIFICATIONS:

Weight: 130g

Dimensions: 160mm



MIDSPAN SLITTER

FEATURES

- The Mid Span Slitter is an efficient and indispensable tool for fiber optic cable termination.
- The sharp blade is made of super-alloy, suitable for longitudinal stripping of outdoor optical loose tube cable.
- The stripping opens the tube on upper and lower sides for easy access of the fiber.
- The Mid Span Slitter comes with 4 groove diameters. Select the proper groove, put in the loose tube, press the blade into the tube coating, close and clamp the two half grooves, and move the blade along the tube to strip.



BENEFITS

- Small, light weight design for maximum portability
- Simple operation without any adjustments
- Provides easy access to fiber
- Super-alloy blade ensures precision and continued sharpness after multiple uses
- Four groove diameter options:
(Ø 1.5-Ø 1.9mm) / (Ø 2.0-Ø 2.4mm) / (Ø 2.5-Ø 2.9mm) / (Ø 3.0-Ø 3.3mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52076413	MSS100	Midspan Slitter

SPECIFICATIONS:

Weight: 30g
Dimensions: 50 x 40 x 25mm

ECONOMY KEVLAR® CUTTER

FEATURES

- Cut protective Kevlar® strands in fiber optic cable
- Hard-chromed serrated edges to easily cut through Kevlar®
- Comfortable handles with large finger openings

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051283	PA1511	Kevlar® Cutter

SPECIFICATIONS:

Weight: 60g
Dimensions: 197mm



ECONOMY FIBER OPTIC STRIPPER

FEATURES

- Pre-calibrated and factory set to ensure precision
- Rubber dipped handles
- Lock closure for safety and transport
- Strips 2.0 to 3.0mm fiber jacket, 900µm buffer and 125µm acrylate
- Spring loaded closure with distance stops

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050605	PA1162	Stripper Fiber Optic 3-Level

SPECIFICATIONS:

Weight: 86g
Length: 127mm



UNIVERSAL SLITTER

FEATURES

- Strips and slits 4.5-25mm diameter Round Cables
- Precision stripping and slitting of rubber, PVC, nylon and most insulation materials
- Adjustable depth of cut
- Circumferential, longitudinal and spiral cuts
- Cable is supported during use
- Cable support arm edge is used to pry off thick insulation
- Laser-trimmed, stainless-steel blade for long use
- A perfect tool for mid-point taps
- Spare blade included

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050604	PA1822	Cable Slitter 4.5-25mm Inch Clamshell
52050563	PA2109	Replacement Blade (Qty 2)

SPECIFICATIONS:

Weight 7 oz. (200g)
Length 5.7" (145mm)



ROUND CABLE CUTTERS

FEATURES

- To cut fiber outer cable jacket
- Cuts solid or stranded cable up to AWG 6
- Precise and effortless cuts
- Round cutting form minimises cable deformation
- Both are ideal for UTP and Coax, RG58, RG59 and RG6/6Q; Use PA1175 for RG7 and RG11

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055936	PA1175	Pro-Grip Cutter, Contour Cable Cutter
52055940	PA1179	Pro-Grip Cutter, Dual Contour Cable Cutter



POCKET PROBE PICK

FEATURES

Probe pick for pulling wire, slicing, stripping cable and cleaning debris off terminal panels. Small and lightweight. Pen-sized with clip for carrying in pocket.

- Spudger tip
- Wire hook
- Wire stripper and slitting tooth
- Non-conductive scraping tip

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049188	PA1915	Pocket Probe Pick/Blister



SPECIFICATIONS:

Weight: 3oz. (86g)

Dimensions: 6.5" (166mm)



RING AND SLIT STRIPPER

FEATURES

- Ring and Slit stripping for 1.2mm – 6.4mm fiber optic cables
- Easy fast adjustment for various cables diameters
- Ring Blade Kit TCCPS-RING-2 contains one blade, knob and pin
- Slit Blade Kit TCCPS-SLIT-2 contains one blade, lever and screw

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52085475	TCCPS	Cable Slit and Ring Stripper



SPECIFICATIONS:

Weight: 0.05lbs (22g)

Dimensions: 2.87" (72.9mm)



DROP CABLE STRIPPER

FEATURES

- Strips 8.1mm drop cables
- Provides midspan slit operation for 8.1mm drop cables
- Easy secure operation for quick stripping
- Replacement Blade Kit TCDCS-2 contains six individual blades



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52086521	TCDCS	Drop Cable Stripper

SPECIFICATIONS:

Weight: 0.15lb (68g)
Dimensions: 3.26" (82.8mm)

MULTI BIT DRIVER

FEATURES

- Versatile multi-bit screwdriver, 6 tools in one
- Precision machined, hardened steel bits
- High-grade, rust resistant, chrome-plated finish
- Soft, cushioned grip for extra comfort and torque
- Lifetime limited warranty

**Note: This is not an insulated tool



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52024842	SD-6-1	Multi Bit 6-in1 Driver

SPECIFICATIONS:

Weight: 0.188 kg
Dimensions: Nutdriver 1/4" and 5/16"



PA1180 NEEDLE NOSE PLIERS

FEATURES

- Needle-nose with knurled surface for gripping, wrapping and looping
- Side cutter for AWG 19-26 copper
- Non-slip grips for precision control
- Stripping cavity for AWG 22 wire
- Crimp capacity:
 - UR: AWG 19-26
 - UY: AWG 22-26
 - UG: AWG 19-26



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055941	PA1180	NEEDLE NOSE PLIERS

SPECIFICATIONS:

Weight: 0.15lb (68g)
Dimensions: 3.26" (82.8mm)



TCEXT INSERTION & EXTRACTION TOOL

The Tempo Communications TCEXT is used to remove and connect LC, SC and similar connectors into bulkheads where the technician's fingers may not fit especially as is the case in congested cabinets.

FEATURES

- Secure clamp to insert and remove LC and SC connectors from bulkheads in high density cabinets
- Ergonomic and lightweight design promotes precise alignment of connectors

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500944	TCEXT	LC/SC Connector Extraction Tool



SCAN TO WATCH
THE VIDEO



BARE FIBER ADAPTER

FEATURES

- Popular SC type connector with PC ferrule
- Easy to clean
- Smooth fiber feed
- Temporarily connect to fiber under test
- 900 micron buffer compatible



SPECIFICATIONS:

Ferrule diameter	2.5mm	Buffer diameter	250-900um
Capillary diameter	Nominal -0 / +10um	Fiber strip length	40mm

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52080175	BFA-1	Bare fiber Adapter Kit

FIBER OPTIC SCRIBE

FEATURES

- Pen-type scribe with screw-in non-reversible carbide tip
- Wedge shaped tip
- Pocket-clip
- Stainless steel barrel



SPECIFICATIONS:

Weight	2oz (57g)
Length	5.25" (197mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050965	PA1922-1	Fiber Optic Carbide Scribe

FIBER TOOL KITS

The Tempo Communications Fiber Optic Tool Kits provides four kit options to satisfy varying tasks that the fiber optic technician may encounter. The tool kits contain all the common tools required to effectively and safely complete the job in an efficient manner.

Each tool kit is supplied in a rugged carry case to safely keep all tools organized for easy storage and retrieval for use. Extra pockets are incorporated to hold accessories and other tools. The FTK-B, Basic tool kit provides a variety of cutters, strippers and common handtools that the typical technician would use in their day to day activities. The FTK-P, Pro tool kit adds the 180XL visual fault locator for safe and quick visual identification of cut or damaged fiber, Macro bends and contaminated or damaged connectors.

The FTK-PP, Pro Plus tool kit adds the OPM210 optical power meter/visual fault locator to the FTK-B. This enables the technician to visually locate fiber and connector faults and to measure the absolute power in fiber networks.

The FTK-T, Termination kit provides all of the tools needed to quickly and effectively terminate fiber optic cables. The 915CL and 180XL are the key components along with a fiber stripper, side cutter and Kevlar shear.

FTK-B BASIC TOOLS KITS

A basic tool kit allows the technician cut, strip and prepare fiber optic cables for termination.

INCLUDES

- Kevlar Cutter
- 3-in-1 Fiber Optic Stripper
- Universal Slitter
- 6-in-1 Multi Tool
- Long Nose Pliers
- Fiber Optic Tool Case
- Side cutters
- Drop Cable Stripper
- Mid Span Slitter
- Ring and Slit Stripper



FTK-P PRO TOOLS KIT

Same tools as the FTK-B but with a 180XL Visual Fault Locator (VFL) to visually locate faults and two fiber cleaning pens.

INCLUDES

- Kevlar Cutter
- 3-in-1 Fiber Optic Stripper
- Universal Slitter
- 6-in-1 Multi Tool
- Visual Fault Locator
- Long Nose Pliers
- Fiber Optic Tool Case
- Side cutters
- Drop Cable Stripper
- Mid Span Slitter
- Ring and Slit Stripper
- 2.5mm Fiber Cleaning Pen
- 1.25mm Fiber Cleaning Pen



FTK-PP PRO PLUS TOOLS KIT

Same tools as the FTK-B but with a OPM210 which has an Optical Power Meter (OPM) and Visual Fault Locator (VFL). The OPM can be used to measure optical power, perform loss testing and to sense tones present on the fiber. The VFL can be used to visually locate faults and to test mechanical connectors.

INCLUDES

- Kevlar Cutter
- 3-in-1 Fiber Optic Stripper
- Universal Slitter
- 6-in-1 Multi Tool
- OPM210
- Long Nose Pliers
- Fiber Optic Tool Case
- Side cutters
- Drop Cable Stripper
- Mid Span Slitter
- Ring and Slit Stripper
- 2.5mm Fiber Cleaning Pen
- 1.25mm Fiber Cleaning Pen



FTK-T TERMINATION TOOLS KIT

Contains all of the tools needed to terminate fiber optic cables with a mechanical connector

INCLUDES

- Kevlar Cutter
- 3-in-1 Fiber Optic Stripper
- 915CL Cleaver
- Fiber Optic Tool Case
- Visual Fault Locator
- Side Cutter





ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52086508	FTK-B	Basic Fiber Tool Kit
52086509	FTK-P	Pro Fiber Tool Kit
52086510	FTK-PP	Pro Plus Fiber Tool Kit
52086866	FTK-T	Termination Fiber Tool Kit

INDIVIDUAL TOOL FROM KITS:

PART NO.	CAT. NO.	DESCRIPTION
52051283	PA1511	Kevlar Cutter
52055938	PA1177	3-in-1 Fiber Optic Stripper
52050604	PA1822	Universal Slitter
52024842	TCBMD	6-in1 Multi Tool
55500025	OPM210	Standard Power OPM with VFL
52055941	PA1180	Long Nose Pliers
52085476	FIBKIT CASE	Fiber Optic Tool Case
52055936	PA1175	Side cutters
52086521	TCDCS	Drop Cable Stripper
52076413	MSS100	Mid Span Slitter
52085475	TCCPS	Ring and Slit Stripper
52068671	180XL	Visual Fault Locator

OTHER TOOLS AVAILABLE:

PART NO.	CAT. NO.	DESCRIPTION
52087221	FCL100	Field Fiber Optic Cleaver
52082727	920CL	920CL Optical Fiber Cleaver
52080175	BFA-1	Bare Fiber Adapter
52050560	PA1820	AM25 Slitter (0.18" - 1.0")
52050605	PA1162	Economy Stripper
52049188	PA1915	Pocket Probe / Pick
52050965	PA1922-1	Fiber Optic Carbide Scribe

REPLACEMENTBLADES FOR STRIPPING TOOLS:

PART NO.	CAT. NO.	DESCRIPTION
52086502	TCDCS-2	DROP CABLE STRIPPER BLADE KIT (six blades)
52086503	TCCPS-RING-2	CPS RING BLADE KIT (one replacement blade with hardware)
52086504	TCCPS-SLIT-2	CPS SLIT BLADE KIT (one replacement blade with hardware)

OPTICAL WAVELENGTH SPLITTER

Wavelength division multiplexing (WDM) is a technology or technique modulating numerous data streams, i.e. optical carrier signals of varying wavelengths (colours) of laser light, onto a single optical fiber.

Our Optical Wavelength Splitter (OWS201) allows any technician, who has a standard OPM (Optical Power Meter) to be able to measure signal levels in WDM networks.

The OWS200 “splits” multiplexed wavelengths, found in NGPON2 networks allowing specific wavelengths to be measured with a conventional optical power meter such as the OPM510.

FEATURES

- High accuracy to measure specific channel wavelengths
- Eliminates the need for expensive DWDM power meters
- Wavelength configurable for specific customer equipment
- Configurable for 2, 4 and 8 wavelengths
- Low loss
- SC/APC connections
- Low return loss will not disrupt network
- Compact design
- Convenient lanyard to securely hold



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500164	OWS201	OWS 1490 & 1570nm
55500166	OWS202	OWS 1490 & 1577nm
55500921	OWS203	OWS 1490 & 1550nm

SCAN TO WATCH
THE VIDEO



DROP FIBER REPAIR KIT

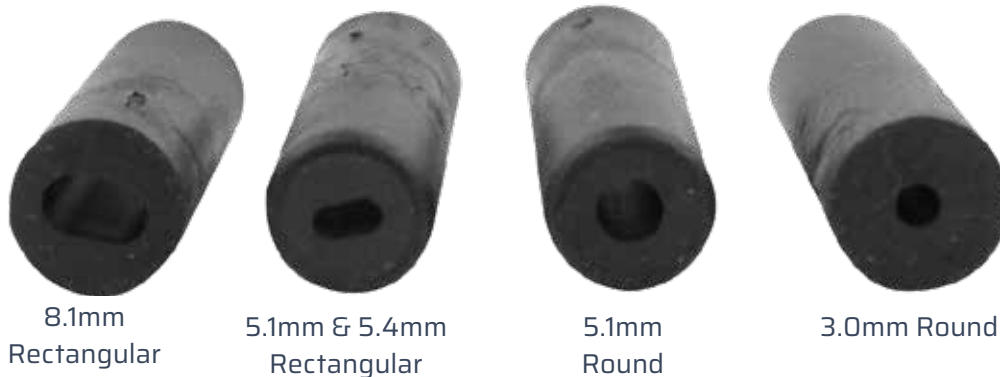
The Drop Fiber Enclosure Kit can be used as a demarcation point to install fiber optic cable splices and as a repair product to reconnect damaged or severed drop fiber cables. Common fiber sizes of 8.1mm, 5.4mm and 5.1mm rectangular cables and 3.0mm and 5.1mm round cables are accommodated with the supplied sealing gaskets. Both fusion splices (total of 24) and two mechanical splices are securely positioned within the GR771 Telcordia compliant and IP68 rated enclosure. The enclosure can be permanently buried or mounted on the side of a building. Two DFE enclosures are typically used to repair a drop fiber as there is not enough slack cable to reconnect the fibers.

FEATURES

- Allows technician to repair drop cables in FTTx applications
- IP68 rated for buried applications and element protection
- Accommodates up to 26 fibers
- Re-enterable for rework needs
- Individual gaskets for 8.1mm, 5.4mm rectangular and 3.0mm, 5.1 mm round cable
- Fast assembly with common tools
- Telcordia GR771 compliant



INDIVIDUAL GASKET FOR EACH CABLE SIZE:



SCAN TO WATCH
THE VIDEO



COMPONENT PARTS:

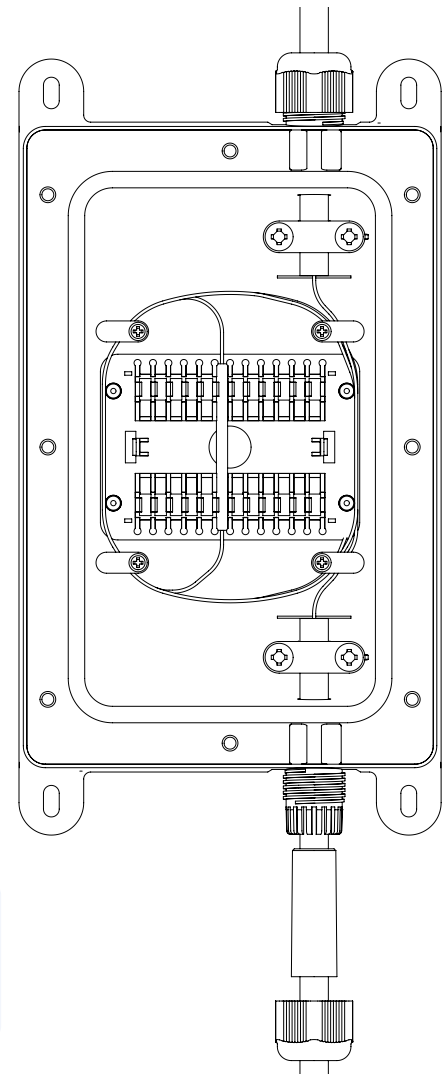
PART NO.	DESCRIPTION	PRODUCT	QTY (2 PORT)	QTY (4 PORT)
Case Top	ABS plastic, Black		1	1
Case Bottom	ABS plastic, Black		1	1
Rubber Gasket	8.1mm Rectangular		2	4
Rubber Gasket	5.1mm/5.4mm Rectangular		2	4

PART NO.	DESCRIPTION	PRODUCT	QTY (2 PORT)	QTY (4 PORT)
Rubber Gasket	5.1mm Round		2	4
Rubber Gasket	3.0mm Round		2	4
Rubber Gasket	No Hole		0	2
Cable Clamp	3mm Cable Clamp		2	4
Mechanical Splice	L*W: 37*6mm		2	2

SPECIFICATIONS:

IP Rating	IP68*
Compliance	Telcordia GR771
Size	8.85 x 4.72 x 1.34" (225 x 120 x 34mm)
Weight	0.66lb (0.3kg) 0.8lb (0.36kg) [for the DFE104]
Cable Sizes	8.1mm rectangular, 5.4mm & 5.1mm rectangular and 3.0mm and 5.1mm round
Fusion Splice Locations	Twelve (60mm)
Mechanical Splice Locations	Two
Color	Black
Material	ABS with Polycarbonate (UV resistant)
Operating Temperature	-40 to +80C
Storage Temperature	-40 to +80C

STRUCTURE: EXAMPLE OF FIBER OPTIC SPLICE



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500211	DFE100	Drop Fiber Enclosure Kit, Two Port in Line
55501030	DFE101	Drop Fiber Enclosure Kit, Two Port Stub
55501031	DFE104	Drop Fiber Enclosure Kit, Four Port

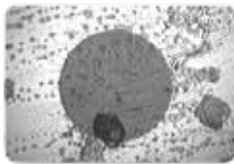
OPTI-CLEAN REEL CLEANER

The Opti-Clean reel cleaner is an essential tool to clean fiber optic connectors. It is the best dry method for cleaning fiber optic termini such as SC, LC, FC, ST, E2000 and other common connectors.

FEATURES

- Lint free cleaning tape.
- Cleans the Entire Ferrule End Face.
- Antistatic design.
- Effective and efficient ferrule end face cleaning.
- Easy-to-replace fiber spools available.

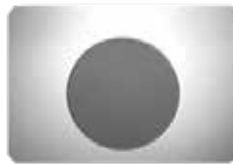
PERFORMANCE:



Before (1)



Before (2)



After

SPECIFICATIONS:

	OPTI-CLEAN REEL CLEANER	REPLACEMENT SPOOL
Cleaning Count	> 600 times	> 600 times
Size	130 x 88 x 32mm	104 x 60 x 30mm
Weight	0.14kg	0.08kg

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500007	REEL-CLN	Opti-Clean Reel Cleaner
55500008	REEL-CLN-SP	Opti-Clean Reel Cleaner Replacement Spool



SCAN TO WATCH
THE VIDEO



CLEANING SWABS

1.25mm and 2.5mm

These easy-to-use cleaning swabs provide a fast and effective process for cleaning 2.5mm bulkheads and 1.25mm bulkheads. They are easy to use.

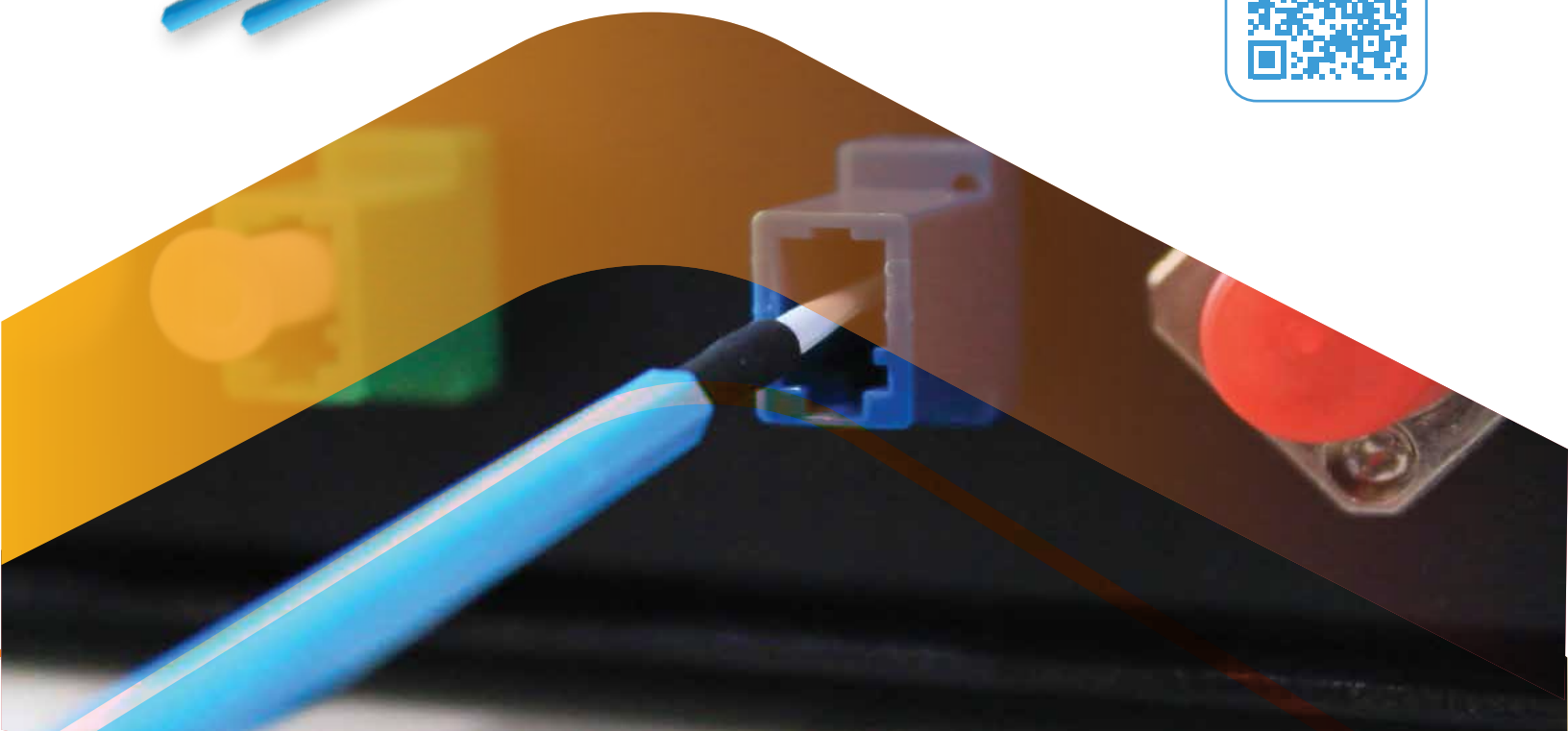
FEATURES

- The precision cleaning swabs are used to clean bulkhead ferrules and inside mating sleeves.
- Available in 2.5mm and 1.25mm versions.
- Single use.
- Sold in 100 packs.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500009	1.25 SWAB	1.25mm Cleaning Swab (100 pack)
55500010	2.5 SWAB	2.5mm Cleaning Swab (100 pack)

SCAN TO WATCH
THE VIDEO



EML100 ELECTRONIC MARKER LOCATOR

Tempo have introduced the 92 kHz markers, targeted at marking fiber optic cable installations, in response to requests from telecom companies who wish to differentiate their ducts carrying copper communication cables from those carrying fiber optic communication cables. It has also been found in practice that installing metallic tracer wires or tapes alongside or in fiber optic ducts is unreliable; they rarely have proper continuity for the whole duct length, often found corroded or not connected at joints. Tempo Communications' Marker-Mate electronic marker locator along with, OmniMarker buried electronic markers form a complete solution for marking and locating buried utilities and other devices to depths of at least 1.5m. Ideally suited to marking fiber optic ducts that, without metallic elements, are otherwise difficult to pinpoint.

FEATURES

- Detects up to nine different marker types
- Rapid switching between scan and single modes
- Digital signal processor accuracy
- Bar graph, numeric & audible signal strength indicators
- Headphone jack
- Low battery warning
- Weather resistant
- Scan mode provides simultaneous detection of all marker types
- User-adjustable Detection Threshold
- Large-character display
- Adjustable speaker volume
- Battery level indicator
- Adjustable time out feature
- Rugged construction

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50607984	EML100	Electronic Marker Locator
52085007	OM-02	OmniMarker II, CATV
52085016	OM-04	OmniMarker II, Fiber Optic
52085012	OM-05	OmniMarker II, Telephone

GENERAL	
Housing Material	High density welded polyethylene
Identification	Solid moulded colour and moulded text
Detection Range	1.5m typical for all models (using Tempo EML-100 or RD8000MRX)
Detection Offset	15cm maximum at 1.5m
ELECTRICAL	
Detection Field	Vertical Dipole (OmniMarker II model)
MECHANICAL	
Overall Diameter	100mm max
Anchoring	Two "tie down" loops along flange.
Length	128mm

SCAN TO WATCH
THE VIDEO



MAINTENANCE

OF FSP200, 915FS, FCL200, 915CL AND 920CL

- Turn off splicer.
- Use lint free swabs.
- Do not touch the electrodes.
- Never use compressed air.
- Use the cleaning brush only to clean debris from general working area, never on the lenses, V-grooves or mirrors.

V-GROOVES (RECOMMENDED DAILY). SEE FIGURE 1.

Clean the bottom of the V-groove using 99% pure isopropyl alcohol and a lint free swab.

Fiber Clamps (Recommended Daily)

If contaminants are present on the clamps, proper clamping may not occur resulting in poor quality splices. The fiber clamps should be frequently inspected and periodically cleaned during normal operation. To clean the fiber clamps do the following:

- Clean the surface of the clamps with 99% pure isopropyl alcohol and a lint free swab.

WIND PROTECTOR MIRRORS (RECOMMENDED DAILY ON 910FS). SEE FIGURE 2.

If the wind protector mirrors become dirty, the fiber core position may be incorrect due to decreased optical path clarity, resulting in higher splice loss. To clean the mirror's, do the following:

- i. Clean the mirror surface using 99% pure isopropyl alcohol and a lint free swab.
- ii. Mirror should look clean with no streaks or smudges.

OBJECTIVE LENSES (RECOMMENDED WEEKLY). SEE FIGURE 3.

If the objective lens' surface becomes dirty, normal observation of the core position may be incorrect, resulting in higher splice loss or poor splicer operation. Therefore, clean both of them at regular intervals. Otherwise, dirt may accumulate and become impossible to remove.

To clean the objective lenses do the following:

- i. Before cleaning the objective lenses, always turn off the splicer.
- ii. Gently clean the lenses' (X-axis and Y-axis) surface with a dry lint free swab. Using the swab, start at the centre of the lens and move the swab in a circular motion until you spiral out to the edge of the lens surface.
- iii. The lens surface should be clean and free of streaks or smudges.
- iv. Turn on the power and make sure no smudges or streaks are visible on the monitor screen. Press X/Y key to change the screen and check the state of the lens surface on both the X- and Y-screens.

NOTE:

Do not touch the electrodes when cleaning.

It is recommended to clean the objective lenses when replacing the electrodes.

General Fusion Splicer Cleaning (Recommended Daily)

Use the cleaning brush only to clean debris from general working area, never on the lenses, V-grooves or mirrors. Periodically clean the fiber adapters with 99% isopropyl alcohol and a lint free swab. Never touch the fiber clamping area of the fiber adapters.

GENERAL FUSION SPLICER CLEANING (RECOMMENDED DAILY)

Use the cleaning brush only to clean debris from general working area, never on the lenses, V-grooves or mirrors. Periodically clean the fiber adapters with 99% isopropyl alcohol and a lint free swab.

Never touch the fiber clamping area of the fiber adapters.

CLEANING FIBER CLEAVER (RECOMMENDED DAILY)

If the circular blade or clamp pads of the fiber cleaver become contaminated, the cleaving quality could degrade. This may lead to fiber surface or end-face contamination, resulting in higher splice loss. Clean the edge of the circular cleaving blade and clamp pads with a lint free swab using 99% pure isopropyl alcohol.

FIGURE 1



Clean V-Groove daily

FIGURE 2



Mirror cleaning in lid

FIGURE 3



Objective Lens

OPTICAL POWER

METER CALIBRATION GLOSSARY

ABSOLUTE POWER STANDARDS:

The reference photodetectors maintained by the National Institute of Standards and Technology (N.I.S.T.) in Boulder, Colorado. These reference photodetectors are used to transfer optical power calibration to two sets of Secondary Standards maintained by Tempo Communications Ltd.

ACTIVE SET OF SECONDARY STANDARDS/ACTIVE SECONDARY STANDARD:

The most recently calibrated set of Secondary Standards, which are used to calibrate Working Standards used on the production floor. An Active Secondary Standard is one of the photodetectors in the Active Set of Secondary Standards.

ADAPTER:

A mechanical device enabling the coupling and uncoupling of a connector. A bulkhead adapter is used to couple two terminated cable ends. An interface adapter is used to connect a cable to a light source, photodetector, or other device.

AGING OF STANDARDS:

A gradual deviation from specifications due to wear and the deterioration of associated electronic components.

ANSI CERTIFICATE OF CALIBRATION:

A Certificate of Calibration (see below) that includes additional information specified by American National Standards Institute document ANSI/NCSL Z540. In addition to manufacturer, performance, and traceability information, an ANSI Certificate of Calibration must include the name and address of the customer and a detailed description of the methods and Working Standards used to perform the calibration. The calibration status of the Working Standards used must also be documented. Furthermore, an ANSI Certificate of Calibration must include a statement that the certificate or report may not be reproduced, except in full, without written permission from the calibration laboratory.

BACKUP SET OF SECONDARY STANDARDS/BACKUP SECONDARY STANDARD:

The set of Secondary Standards with calibration older than one year, but not exceeding two years. The calibration points of the Backup Set of Secondary Standards are compared to the Active Set at monthly intervals to verify the accuracy of the latter. A Backup Secondary Standard is one of the photodetectors in the Backup Set of Secondary Standards.

CALIBRATION CONDITIONS:

The specific conditions under which a calibration factor is associated with a calibration wavelength. The calibration conditions typically include the centre wavelength and acceptable spectral deviation of the laser source in use; the output power of the laser source; the reference cable type and length; the type of connectors used to terminate the reference cable, including the manufacturer; the interface adapter used; and the ambient temperature and humidity conditions.

CALIBRATION FACTOR:

A number used to correlate the response of a photodetector in a manufactured instrument with the photodetector response of a Secondary Standard or Working Standard. In instruments manufactured by Tempo calibration factors are stored in non-volatile memory, and defined for each calibration wavelength.

CALIBRATION WAVELENGTH:

A specifically defined wavelength used during the point calibration of a manufactured instrument. The absolute accuracy of measurements performed at other than the calibration wavelength may vary, depending on the response linearity of the photodetector incorporated in the instrument at that wavelength. Calibration wavelengths are listed below:

CERTIFICATE OF CALIBRATION:

A document certifying that a manufactured instrument has been calibrated or re-calibrated to conform to published specifications, and that the calibration is traceable to an established standards bureau, i.e., the N.I.S.T. A Certificate of Calibration includes the following: the name and address of the manufacturer; the model number and description of the instrument; the instrument serial number; the condition in which the instrument was received and returned, i.e., within tolerance, out of tolerance, or non-operational; the calibration date, interval, and due date for re-calibration; the conditions under which the instrument was calibrated; the procedures used to perform the calibration; the identity of the calibration technician; and a signature of an authorized representative of the manufacturer.

CONNECTOR:

A mechanical device that allows an optical fiber or cable to be repeatedly coupled or uncoupled from an interface or another cable. An optical fiber fitted with connectors is said to be connectorised or terminated.

CONNECTOR REPEATABILITY:

The ability of a connector to be mated and unmated repeatedly without affecting its attenuation, return loss and other performance specifications. A lack of repeatability is usually attributable to the inability of a connector to maintain accurate and consistent alignment of the cores of the optical fibers.

FIBER OPTIC CABLE:

An optical fiber, multiple fibers, or fiber bundles, which may include a jacket and strength members (kevlar, steel, or other materials), fabricated to meet optical, mechanical, and environmental specifications.

LINEARITY:

The ability of a photodetector to generate electrical current in amounts proportional to the incident wavelength and intensity of light.

PHOTODETECTOR:

A semiconductor device that converts light energy into an electrical current. The conversion of light energy into electrical current is, in principle, proportional and linear with the incident power, which is expressed in Watts. The conversion ratio of a photodetector is dependent on the wavelength of the light received, therefore, this wavelength must be precisely defined for a point calibration (see below) to be valid.

POINT CALIBRATION:

The correlation of electrical current produced by a photodetector, quantified in Amps, with an incident power of light energy, expressed in Watts, at a single defined wavelength. This photodetector response is expressed in Amps-per-Watt (A/W)

SECONDARY STANDARDS:

The reference photodetectors maintained by Tempo Secondary Standards are calibrated at regular intervals by the N.I.S.T. using the Absolute Power Standards maintained by the Institute. Tempo maintains two sets of Secondary Standards, each set containing one reference photodetector of Si and InGaAs composition. Each set of Secondary Standards alternates as Active and Backup at one-year intervals.

SPECTRAL DEVIATION:

The difference between the actual output wavelength of a light source and its specified wavelength. Spectral deviation is usually attributable to manufacturing tolerances.

UNCERTAINTY:

The margin of error for a calibration or measurement attributable to external causes, such as connector repeatability, ambient temperature, back-reflections, or spectral deviation from a defined calibration wavelength. Uncertainty will cause slight variations in optical power measurements unless the conditions and equipment used are identical to those employed during the calibration of the instrument. Uncertainty is typically expressed in percent (%).

WORKING STANDARDS:

A set of reference optical power meters incorporating photodetectors of Si or InGaAs composition that are calibrated using an Active Secondary Standard. These reference optical power meters are used to perform a point calibration of manufactured instruments at specified wavelengths.

INSERTION LOSS MEASUREMENT

WHAT IS INSERTION LOSS?

An insertion loss (IL) measurement characterizes the light loss through a component or connection.

There are two accepted methods for measuring insertion loss, both of which may be found in reference document FOTP-171, published by the Electronic Industry Association (EIA).

Insertion loss measurements require a light source, an optical power meter, and a patch cable manufactured to precise tolerances, known as a reference cable.

In general, an insertion loss measurement is a two step process:

- 1) Establish a baseline power level measurement for the light source and reference cable in use. This is referred to as "referencing" or "calibration."
- 2) Connect the device under test and measure the difference between the measured power and the Reference power.

INSERTION LOSS MEASUREMENTS

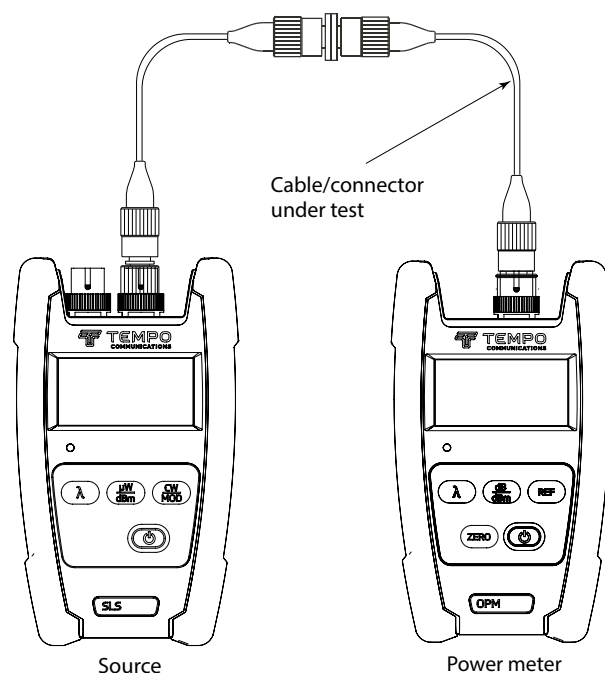
To measure the insertion loss of a connector/cable, do the following:

STEP 1: Connect an appropriate Tempo LED or laser source to the optical power meter using a suitable reference cable. The reference cable should be 2 to 3 meters in length. See the illustration.

STEP 2: Make sure the source is in continuous wave (CW) output mode. Set the optical power meter to the output wavelength of the source using the [λ] key and to dBm units using the [dBm] key. Note that the dBm output from the reference cable should be within acceptable limits.

STEP 3: Store the reference power level by pressing the [Rel] key for a few seconds. The main numerical display should read 00.00 dB.

STEP 4: Disconnect the reference cable from the optical power meter and insert the cable to be tested using an appropriate bulkhead adapter.



ABOUT dB, dBm, and WATTS

Fiber optic measurements are performed using decibel (dB) units.

The decibel is a logarithmic, relative, dimensionless unit it gives no indication of the absolute power level. Loss is always indicated using a minus (-) sign, and a gain is indicated by a plus (+) sign. Because dB units are relative and dimensionless, a correlation with an absolute unit of measure must be established to be useful. To indicate absolute power, logarithmic decibel units are referenced to linear Watt units: 0dBm = 1 milliwatt (mW).

To convert Watt units to dBm, the following formula is used:

$$P = 10 \log \left(\frac{P_x}{1mW} \right) dBm$$

The table on the right illustrates the relationship between absolute logarithmic dBm units and absolute linear Watt units: Absolute logarithmic dBm [P] Absolute linear Watts [Px]

dBm (P)	WATTS (Px)
+10dBm	10mW
+3dBm	2mW
0dBm	1mW
-3dBm	0.5mW
-10dBm	100 μ W
-20dBm	10 μ W
-30dBm	1 μ W
-40dBm	100nW
-50dBm	10nW
-60dBm	1nW
-70dBm	100pW
-80dBm	10pW
-90dBm	1pW

RETURN LOSS

MEASUREMENT METHODS

WHAT IS RETURN LOSS?

A return loss measurement characterises the strength of a reflection produced by variations in the refractive index along a fiber optic link, known as a back-reflection or Fresnel reflection. Quantified in decibel (dB) units, return loss is the logarithmic expression of the ratio of the reflected power over the incident power, that is, the intensity of light reflected back to the return loss meter over the intensity of the light injected into the fiber, expressed as a positive number.

If not controlled, back-reflections can degrade the performance of a fiber optic system by interfering with the operation of the laser transmitter, or by generating noise at the receiver.

A common source of back-reflections is the junction where two fiber optic connectors are mated. Because of this, a connector with high return loss, which sends very weak reflections back to the transmitter, is superior to a connector with low return loss that sends back strong reflections. When measuring connectors, extremely low return loss values usually indicate a defect, such as core misalignment, poor fiber end-face contact, scratches, breaks, or end-face contamination.

RETURN LOSS MEASUREMENT METHODS

OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) METHOD

An Optical Time Domain Reflectometer (OTDR) launches a train of light pulses into the device under test and collects backscatter information as well as superimposed Fresnel reflections. The OTDR is optimised to accurately measure loss-per-distance based on the received backscatter level. An OTDR also gives an estimation of the strength of a reflection at a given distance based on its peak height.

RETURN LOSS DEFINED

Reflections—or more specifically Fresnel reflections—occur at the boundary between two media with different refractive indices. The percentage of the light reflected can be calculated if the refractive indices of both media are known.

The most commonly known percentage of reflected power, the 4% reflection, is caused by a glass-to-air boundary. Reflectance in general is the ratio of reflected power to incident power. When knowledge of a reflection at a discrete point is important, the term reflectance is preferred. Reflectance is expressed in negative decibels (dB). Optical return loss (ORL), often referred to as return loss, describes the ratio of reflected power over the incident power of a system as a whole. Similar in concept to reflectance, return loss is also expressed in decibels.

DATA SCOUT

The DataScout 10G™ – The smart tablet that goes beyond testing! This device features a powerful Android-based, rugged-tablet platform available with the industries only 10G Ethernet and more. This enables technicians to carry a single device powerful enough to test legacy DSO-TIMS, 10G ethernet and everything in between while simultaneously removing the need to carry a separate laptop or tablet. Training videos, as well as the user manual, are available directly from the simple to use, fast to learn, touch screen interface.

ADVANCED FEATURES

- Power-up 3X's faster than the competition*
- Test DSO-TIMS up to 10G Ethernet
- Test multiple services simultaneously
- Remote control via Bluetooth® or standard web browser

RUGGED & RELIABLE:

- Plug & Stay - No modules to lose!
- Replaces up to 8 handhelds*
- Aluminum case with protective rubber boot
- Designed, manufactured and supported in USA

SIMPLE TO USE, FAST TO LEARN

- Touch screen tablet design
- No confusing menus
- Intuitive test configuration
- Training videos embedded in application

DESIGNED FOR:

- Service Providers
- Utilities & Municipalities
- E911 Communication Networks
- Datacenters





1 GOES BEYOND TESTING

- Tablet comes loaded with standard applications including web browser, email, document viewer and more.
- Onboard user manual & training videos
- Wired, Wi-Fi® and Bluetooth® remote options
- Print and Export reports to PDF or CSV

2 ETHERNET & C37.94

- Dual 10/100/1000BaseT ports
- Dual 100/1000BaseX SFP ports
- Single 10Gbps SFP+ Port (a)
- Single C37.94 SFP Port (b)
- Read/Diagnose SFP data and optical power
- Quick Test (BERT)
- RFC-2544, Y.1564 and C37.94
- Multistream (16) test streams
- EMIX, VLAN, MPLS & Jumbo frames
- IPv4 and IPv6 included standard
- Loopback & End-to-End test modes
- Discover and loopup/down six remote units
- Automatically respond to loopup/down commands
- Save test profiles
- Easy to read graphical reports

3 4 WIRE DDS

- CSU/DSU emulation
- 56K primary/secondary modes
- 64K clear channel mode
- Real-time received byte display
- Monitor received signal level

4 DS1 & DS3

- DS3 and Dual T1/E1 interface options
- PRI-ISDN NT/TE interface option
- G.821 PRI-ISDN data logging option
- DSO Voice & Data Testing
- DS3-THRU mode

- Bit Display
- CSU/NIU Emulation Mode
- DDS Latching loopbacks
- Loopup/down repeaters & spans
- Replacement for TBERD 107a, 224, 227, etc.

5 DATACOMM

- Sync/Async & DTE/DCE modes
- 50bps-250kbps in 1 bps steps
- V.35
- EIA-530(A)
- RS449 (V.36)
- RS530
- X21 (V.11)
- High Impedance mode
- RS232 (V.28)
- Bi-directional loopback mode
- Displays DTE/DCE signal status

6 SIGNALING - TIMS/DSO

- Comprehensive VF test suite
- TIMS 2/4 wire signal generator up to 2MHz
- Signaling modes: LS, GS,
- DID, E&M
- CO/PBX emulation modes
- Transmit +13dB, Receive -50dB
- Impulse noise measurement
- Dropouts, gain and phase hit measurement
- Replacement for Am5, CXR 704a
- HP4935, etc.

COMPARISON CHART:

PART NO.	DS-TIMS (TIMS ONLY) 52078997	DS10G-COMBO- LEGACY 52078999	DS10G-COMBO- EVERYTHING 52086580	DS10G-COMBO- ETHERNET 55500514	DS10G-FAAF	DS10G-FAAT
1G REFLECTOR FED						
10G REFLECTOR FED						
ETHERNET 1G SINGLE PORT			✓			
ETHERNET 1G DUAL PORT			✓	✓	✓	
ETHERNET 10G			✓	✓	✓	
QUICK TEST (BERT) & RFC-2544			✓	✓	✓	
ITU-T Y.1564 & MULTISTREAM (16)			✓	✓	✓	
DSO (TIMS)	✓	✓	✓		✓	✓
DSO EXTENDED TEST RANGE	✓	✓	✓		✓	✓
DS3, T1/E1		✓	✓		✓	
T1 CSU/NIU EMULATION		✓	✓		✓	
DUAL PORT T1/E1		✓	✓		✓	
DDS		✓	✓		✓	
DATAComm			✓		✓	
SMF & MMF JUMPERS LC & SC			✓			
MMF JUMPER LC/ST			✓	✓		
SMF & MMF 1G TRANSCEIVERS (2)			✓	✓	✓	
SMF & MMF 10G TRANSCEIVER			✓	✓	✓	
MMF, SMF, COPPER LOOP PLUGS			✓	✓	✓	✓
ETHERNET CAT5 PATCH CABLE			✓			
BANTAM LEADS RED/BLUE	✓	✓	✓	✓	✓	✓
BANTAM TO DUAL ALLIGATOR (2)	✓	✓	✓	✓	✓	✓
RJ48 TO DUAL BANTAM	✓	✓	✓	✓	✓	✓
BNC LEADS RED/BLUE		✓	✓	✓	✓	
DDS RJ-48 TEST LEADS		✓	✓		✓	
AC CHARGER	✓	✓	✓	✓	✓	✓
PADDED CASE	✓	✓	✓	✓	✓	✓
USB OTG CABLE	✓	✓	✓	✓		

ETHERNET & Wi-Fi® TESTING CATALOG

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52068246	DS-LD-RJ48-BTM	TEST LEAD-RJ48(M)/DUAL BANTAM
52068250	DS-LD-SMF-SC-LC	TEST LEAD - OPTICAL, SMF SC TO LC, 6FT
52068252	DS-LD-MMF-SC-LC	TEST LEAD - OPTICAL, MMF SC TO LC, 6FT
52068260	DS-SFP-MMF-C37	SFP - 100BASE-X C37.94 850NM MMF XCVR, L
52068590	DS-LD-MMF-LC-LC	DS-LEAD-MMF-LC-LC-2M
52068621	DS-LEAD-SMF-LC-LC	DS-LEAD-SMF-LC-LC-2M
52068622	DS-ADAP-BTM-310B	S-ADAP-BTM-310-BL
52068623	DS-ADAP-BTM-310R	DS-ADAP-BTM-310-RD
52071039	DS10G-ACC-SOFT	CASE-PADDED SOFT STORAGE CASE
52071572	DS-LD-DDS-STR	TEST LEAD - DDS RJ48 STRAIGHT-THRU, 6FT
52071573	DS-LD-DDS-REV	TEST LEAD - DDS RJ48 REVERSED, 6FT
52071577	DS10G-ACC-VEH	ACCESSORY - 12VDC VEHICLE CHARGER
52071578	DS-ACC-OTG	ACCESSORY - USB 2.0 MICRO CABLE ADAPTER
52072140	DS-LD-BNC-R	TEST LEAD - BNC RED
52072141	DS-LD-BNC-B	TEST LEAD - BNC BLUE
52073056	DS-LD-BTM-R	TEST LEAD - BANTAM RED
52073057	DS-LD-BTM-B	TEST LEAD - BANTAM BLUE
52075915	DS-ACC-M-LP	ACCESSORY - MMF LOOPBACK
52075916	DS-ACC-S-LP	ACCESSORY - SMF LOOPBACK
52075917	DS-ACC-E-LP	ACCESSORY - SUPER LOOPER
52077521	DS-LD-MMF-ST-LC	TEST LEAD - OPTICAL, MMF ST TO LC
52084727	DS10G-SW-STRESS	SW OPTION - C37.94 STRESS TEST

SPECIFICATIONS:

Display & Input: 7" WVGA LCD touch screen.
800x600 resolution.

Weight (Varies by configuration): 0.91 kg (2.0 lbs) minimum
1.36 kg (3.0 lbs) maximum

ENVIRONMENTAL:

Operating Temperature: 10°C to 55°C / 14°F to 131°F

Operating Humidity: 0% to 93% RH non-condensing

Storage Temperature: -20°C to 70°C / -4°F to 158°F.

Battery Type: Li Ion battery pack.

Run Time: 2-8 hours (varies by test mode).

External Power: Mains: 110-240VAC, 50-60Hz with adapters.

Enclosure: Shell: Rugged 1.5mm extruded aluminum.
Boot: Rubber with Wi-Fi antenna storage slot.
Kickstand: Power coated steel.

PERSONAL SAFETY

WAVEMON

Wavemon personal RF Safety Monitors alert radio equipment contractors of dangerous RF exposure levels. It measures RF emissions up to 60 GHz and provides visual and audible alarms when safe levels are exceeded. The tool is accurate to any global standard, and uses an isotropic antenna for 360 degree measurements.

FEATURES INCLUDE:

- 8 GHz and 60 GHz models
- Accurate EMF measurements to +/- 3 xxx
- Response shapes to FCC
- ITU-T K.145 standard compliant
- Isotropic antenna
- Records GPS and Altimeter readings
- PC software allows review of test offline
- 30 kV/m low frequency immunity

The **WaveMon RF-60** is a 5G-ready RF Personal Monitor for the continuous monitoring of workers' exposure to EMF. It monitors E-field up to 60 GHz. Applications include: worker's safety, telecommunications, energy, railway, medical, labs, aeronautical, industry, defense.

- Overexposure Warning: Audible, visual and vibration alarm
- Weighted to FCC response
- Exposimeter with Datalogger: USB downloading and configuration
- Harness, Belt or Arm Holder: Professional and convenient





The **WaveMon RF-8** is an RF Personal Monitor for the continuous monitoring of workers' exposure to EMF. It monitors E-field up to 8 GHz and H-field up to 1 GHz. Applications include: worker's safety, telecommunications, energy, railway, medical, labs, aeronautical, industry, defense.

- Overexposure Warning: Audible, visual and vibration alarm
- Weighted to FCC response
- Exposimeter with Datalogger: USB downloading and configuration
- Harness, Belt or Arm Holder: Professional and convenient

PART NO.	CAT. NO.	DESCRIPTION
55500942	WMRF60	WAVEMON RF-60
55500943	WMRF8	WAVEMON RF-8
55501003	WMRFSTK	WAVEMON STICK
55501004	WMRFSAC	WAVEMON SAFETY ATTACHMENT CABLE
55501005	WMRFLAN	WAVEMON LANYARD



LOCATORS

APPLICATION GUIDE



Primary



Secondary



Not Recommended

APPLICATIONS	BLL-200	501	508S-G	521A	521E
Indoor Electrical	○	◐	●	○	○
Outdoor Electrical	●	●	◐	◐	◐
Communications Cable	●	●	●	●	●
Irrigation Wire/Valves	○	◐	◐	●	●
Metallic Pipe	●	●	○	◐	◐
Fish Tape (Plumbing)	●	●	○	○	○
Perimeter Wire	●	●	●	●	●
Live Electrical	●	◐	◐	○	○

FEATURE	BLL-200	501	508S-G	521A	521E
Trace wires in PVC (nonmetallic conduit)	✓	✓	✓	✓	✓
Traces FishTape	✓	✓			
Connect to energized circuits	✓ ¹		✓ ²		
Inductive Clamp	✓	✓			
Inductive Antenna (Signal Broadcast)	✓	✓			
Color LCD Display					✓
45° angle detector					✓
Removable or Portable Transmitter					✓
Low batter indicator					✓
Digital Depth	✓				
Digital Signal	✓				
Distance-receiver from transmitter	5,000 ft.	5,000 ft. ³	1,000 ft.	5,000 ft. ⁴	5,000 ft. ⁴
Transmitter battery	(4) AA	(8) AA	(1) 9V	(8) D	(6) D
Receiver battery	(4) AA	(1) 9V	(1) 9V	(1) 9V	(4) AA
Peak vs Null Antenna	Peak	Peak	Either ⁵	Null	Null
1-Year Warranty	✓	✓	✓	✓	✓
Factory repairs offered	✓	✓	✓	✓	✓
Max Depth	20 Feet	10 Feet	3 Feet	8 Feet	8 Feet

1. Operates on power circuits up to 600 VAC

2. Operates on power circuits up to 120 VAC

3. Direct Connection 4,000 ft at 7 ft deep. Inductive Coupler 1,000 ft at 3 ft deep. Inductive Antenna 700 ft at 3 ft deep.

4. Low frequency locators need a "path to earth" (dirt), 5000 ft. on an open conductor and 2500 ft. on a metallic pipe at 3 ft. deep.

5. Orientation of antenna depends on how you hold the coil for each application, e.g. null for below ground wire tracing, peak for behind walls, etc.

BURIED FACILITY

LOCATION AND MARKING

501 TRACKER II

FEATURES

- Traces the path and determines the depth of wires and metallic pipes on active or dead systems without having to deactivate the system
- Lightweight receiver provides audible and visual indications of signal strength
- Transmitter output and receiver sensitivity are fully adjustable for maximum accuracy
- Transmitter offers three methods of connection: direct, inductive coupler and inductive antenna
- Includes transmitter assembly, receiver assembly, inductive coupler (clamp), built-in inductive antenna, two 8' (2.4 m) test leads with heavy-duty alligator clips and durable polyethylene case
- High frequency transmitter provides range up to 4,000' (1,219 m) and depths up to 7' (2 m)
- Receiver is 32" long (813 mm)
- Battery operated (eight AA and one 9V battery is not included)
- Molded carrying case included
- Factory repairs available

SCAN TO WATCH
THE VIDEO



SPECIFICATIONS:

Power Requirements	Transmitter - (8) AA batteries; Receiver - (1) 9V battery
Battery Life	Transmitter - 30 hours nominal; Receiver - 10 hours nominal
Transmitter Frequency	447.5kHz
Transmitter Power	40Vp-p (140mW) maximum
Voltage Protection	240VAC/500VDC
Automatic Shut Off	90 Min. Transmitter and Receiver
Construction	Transmitter/Receiver - powder coated aluminum Case - vacuum formed polyethylene
Dimensions	Transmitter - 4.25" x 3" x 3.25" (108 x 76.2 x 82.6 mm) Receiver - 32" x 2.75" x 4" (812.8 x 69.9 x 101.6 mm) Case - 33.5" x 8.25" x 3.75" (850.9 x 209.6 x 95.3 mm)
Weight	6.7 lbs. complete kit (3.04 kg)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086626	501	Tracker II Kit
50603531	501T	Transmitter
50603523	501R	Receiver
50603540	IC1	Inductive Clamp
50603558	CS16	Transmitter Cord Set
50603515	500CA	Case with Antenna

BLL-200 BURIED LINE LOCATOR

FEATURES

- LED and LCD signal strength indicators make it quick and easy to find exact line location
- Lightweight and ergonomically balanced
- Automatic signal boost makes it easy to trace lines, even those with very weak signals
- Receiver may be used in active or passive mode
- Receiver locates multiple passive frequencies with a single setting
- Receiver automatically locks out passive range when it detects a transmitter signal, reducing the chance of tracing other lines carrying weaker signals
- Microprocessor-based circuitry delivers increased accuracy and features auto-gain control in all environments
- Traces 20' (6 m) underground and provides depth readings up to 15' (4.57 m)
- Transmitter can be connected to live lines up to 600V
- Molded carrying case included
- Factory repairs available



SCAN TO WATCH
THE VIDEO



SPECIFICATIONS:

TRANSMITTER	
Operating Voltage	0-600VAC, 0-300 VDC
Current	13mA (open line) 150mA (live or shorted line)
Frequency	33.3kHz
Operating Temperature	0°F to 120°F (-17°C to 50°C)
Size	7.5" x 4" x 2.1" (190.5 mm x 101.6 mm x 53 mm)
Power	6 VDC (4 AA batteries)
Weight	15 oz. (425 g) (with batteries and clamp)

RECEIVER	
Depth Range	Measures: 0-15 ft Traces: 0-20 ft.
Depth Resolution	0.1 ft. increments
Passive Trace Frequency	12Hz-24kHz
Operating Temperature	0°F to 120°F (-17°C to 50°C)
Size	4.1" x 8.5" x 3.8" (104.1 mm x 215.9 mm x 96.5 mm)
Power	6 VDC (4 AA batteries)
Weight	1 lb. 12 oz. (794 g)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50077961	BLL-200	Buried Line Locator

PE2003-G PULSER GROUND FAULT LOCATOR

FEATURES

- Identifies the exact location of even the smallest breaks in insulation by “pulsing” a high-voltage signal that radiates into the earth at the location of the faults.
- With the A-frame mounted receiver, a visual analog meter points the way to the source of the voltage
- Multiple faults on a single wire can be identified indicating the need to replace instead of repair
- Extra-long test leads feature heavy-duty alligator clips for use on multiple cable types
- Includes a rechargeable transmitter, receiver, A-frame, ground stake, 120V charger and a 12V DC (cigarette lighter) adapter
- One rechargeable 12V lead-acid battery for transmitter included, 9V battery required for transmitter
- Molded carrying case included
- Factory repairs available

SPECIFICATIONS:

Power Requirements	Transmitter: (1) 12V rechargeable battery Receiver: (1) 9V battery
Battery Life	Transmitter: 23 hours per charge; Receiver: 200 hours
Peak Voltage	3400V DC
Voltage Protection	240VAC/400VDC
Construction	Transmitter - aluminum housing in polyethylene case Receiver - powder coated aluminum
Dimensions	Transmitter - 17" x 8.5" x 6.5" (421 mm x 215 mm x 160 mm) in case Receiver - 33.5" x 21.75" x 3.25" (840 mm x 550 mm x 8 mm) on A-Frame
Weight	12.5 lbs. (5.7 kg) complete

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52083233	PE2003	Pulser
50603574	2000H	Transmitter (Includes CH1 & CH2)
50603582	2000R	Receiver
50604821	AF2	A-Frame
50603604	CH1	AC Charger
50603612	CH2	DC Charger
52025430	59F0002	Battery, Replacement (12V 2.5 Ah)



SCAN TO WATCH
THE VIDEO



508S-G WIRE FINDER/ MINI LOCATOR



SCAN TO WATCH
THE VIDEO



FEATURES

- Traces energized or non-energized wires in walls, floors and drop ceilings
- Provides reliable results on buried cables to depths of 3' (1 m) and lengths up to 1000' (308 m)
- Determines the approximate depth of the wire before digging
- Compact design and easy-to-understand operations
- Fully adjustable transmitter and receiver for accurate locating
- Quick change test leads for use in any industry, even international power outlets
- Voltage protection to allow use on live AC circuits
- Automatic shut-off to prevent accidental battery discharge
- Housed in a durable, molded carrying case with a quick reference operation guide on the inside of the lid
- Battery-operated: (2) 9V batteries required
- Factory repairs available

SPECIFICATIONS:

Power Requirements	(1) 9V each (transmitter and receiver, included)
Battery Life	Transmitter 35 hours nominal; Receiver 20 hours nominal
Transmitter Frequency	447.5kHz
Transmitter Power	9Vp-p (11mW)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52082815	508S-G	Wire Finder/Mini Locator Kit
52082816	508ST-G	Transmitter
52082817	508SR-G	Receiver
50603663	CS14	Alligator Clip Cord set

Voltage Protection	240VAC/500VDC
Construction	Transmitter/Receiver - high-impact ABS plastic, Case - vacuum-formed polyethylene
Dimensions	Transmitter - 4" x 2.3" x 1" (101.6 x 58.4 x 25.4 mm), Receiver - 6" x 2.35" x 1" (152.4 x 59.7 x 25.4 mm), Case - 9.5" x 8" x 3" (241.3 x 203.2 x 76.2 mm)
Weight	2.6 lbs. (1.2 kg)

THE ALL NEW!

521E™ WIRE & VALVE LOCATOR

Introducing the 521E™ Wire and Valve Locator, a professional grade irrigation tool which quickly and easily pinpoints buried wires, irrigation valves, and faults in buried cable.

The 521E is engineered to revolutionize the location of traditional and modern two-wire systems, and seamlessly combines a tough, ruggedized design with precision, speed, and reliability customized exclusively for the irrigation market.

SCAN TO WATCH
THE VIDEO



FEATURES

- Quickly and accurately locates buried wires, irrigation valves, faults in buried cable.
- Precisely follows the path of buried wires.
- Accurately determines depth of wires with the new 45-degree angle indicator.
- Efficiently locates underground wire breaks, large nicks, and solenoid valves.
- Easy-to-read modern sunlight compatible LCD screens.
- Upgraded removable transmitter makes it easier to work in tight spaces.
- Comfortable, lighter weight, ergonomic design of the receiver which can be used one handed and with gloves.
- Tougher, ruggedized construction including use of a Carbon Fiber reinforced receiver.
- Improved efficiency on fewer batteries, and replacement of the 9 Volt battery with standard AA batteries.
- Remote indication of low transmitter battery.
- Improved environmental sealing.



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55505271	521E	Wire and Valve Locator
55505272	521E-R	Receiver
55505273	521E-T	Transmitter
50086952	HS-1	Headset
55505274	521E-C	Carry Case

SPECIFICATIONS:

Transmitter Frequency:	1750 Hz
Transmitter Power	2500 mW into 1 kohm
Case Dimensions:	28" x 12.6" x 4.1" (711mm x 321mm x 104mm)
Weight:	10.25 lb complete (4.65 kg)
Battery:	6 x D cells / 4 x AA cells (alkaline recommended)
Battery Life:	Transmitter: 50 hours nominal / Receiver: 50 hours nominal
Automatic Shut-off	1.5 hours

521A WIRE & VALVE LOCATOR

SCAN TO WATCH
THE VIDEO



FEATURES

- Locate irrigation control cables, solenoid valves and similar shallow and direct buried conductors.
- Adjustable transmit power allows you to select the best signal for maximum performance
- Transmitter's high power output offers extended range and use on higher resistance wire paths that other locators can't touch
- Receiver provides both audible and visual indications of signal strength
- Lightweight receiver wand makes it easy for you to move along quickly to locate even the longest wire path
- Rugged headphones block ambient noise and improve "feel" for the signal
- Includes transmitter, receiver, headset, ground stake, and complete instructions
- Battery-operated: (8) "D" Cells and (1) 9V
- Factory repairs available

SPECIFICATIONS:

Power Requirements	Transmitter: (8) "D" Cell; Receiver: (1) 9V battery
Battery Life	Transmitter: 50 hours nominal Receiver: 100 hours nominal
Transmitter Frequency	1748Hz
Transmitter Power	750Vp-p 285Vrms
Voltage Protection	120VAC/250VDC
Construction	Powder-coated aluminum housing in polyethylene case
Case Dimensions	33.5" x 8.25" x 3.75"
Weight	12 lbs. complete

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52025222	521A	Wire and Valve Locator Kit
52033346	521A-R	Receiver
50086952	HS-1	Headset



EML-100 MARKER-MATE®

FEATURES

- Designed to locate buried electronic markers, including Omni Marker™ and SPIKE Marker™ electronic markers.
- Five+ foot depth range with standard markers
- Detects up to nine different marker types
- Scan mode provides simultaneous detection of all marker types
- User-adjustable Detection Threshold
- Digital signal processor accuracy
- Large-character display is easy to read
- Bar graph, numeric & audible signal strength indicators
- Speaker volume adjust
- Headphone jack
- Battery level indicator
- Low battery warning
- Adjustable time out feature prolongs battery life (and can be turned off)
- Weather resistant
- Rugged construction
- Factory repairs available

SPECIFICATIONS:

Electrical		Twelve AA batteries Battery Life: 20 hours typical
Environment		
Operating Temperature		-4°F to 122°F (-20°C to 50°C)
Storage Temperature Weather Resistant		-40°F to 158°F (-40°C to 70°C)
Physical		
Length		30.7 in. (780 mm)
Width		7.8 in. (198 mm)
Height		12.8 in. (325 mm)
Weight		4.5 lbs. with batteries (2 kg)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50607984	EML-100	Marker-Mate™ Electronic Marker Locator



OMNI MARKER-II

Electronic markers are a low-cost, extremely reliable way to mark buried utilities and other plant, making it easy for contractors to find the exact location of critical components like fittings and splices, while helping to avoid expensive damage and unfortunate accidents. Omni Marker II from Tempo Communications builds upon our three decades of experience with the original Omni Marker, providing the same reliability and range in a more compact package. With no active components or potentially hazardous fluids, Omni Marker II can be located by all compatible marker locators. Dig Safe. Dig Right. Save Time.

USE THE OMNI MARKER II TO MARK AND FIND:

- Buried splices
- Buried service drops
- Pipe ends
- Conduit stubs
- Road crossings
- Cable paths
- Fiber optic facilities
- Snow-covered
- Manholes under pavement or grade changes installations
- Military caches
- Survey points
- Septic installations
- Repair points
- Non-metallic lines

SPECIFICATIONS:

Size	4.0 inch diameter (100 mm) Min
Weight	0.3 lb (0.15 kg)
Shipping Weight	11.3 lbs per carton of 30 (5.2 kg per carton of 30)
Range	5 feet typical (1.5 meters)
Field Type	Vertical dipole
Package Material	High-density polyethylene

ORDERING INFORMATION:

CAT. NO.	COLOR	DESCRIPTION
OM-01	Purple	OmniMarker II, Non-Potable
OM-02	Orange/ Black	OmniMarker II, CATV
OM-03	Yellow	OmniMarker II, Gas
OM-04	Yellow/ Black	OmniMarker II, Fiber Optic
OM-05	Orange	OmniMarker II, Telephone
OM-06	Green	OmniMarker II, Sanitary
OM-07	Red/Blue	OmniMarker II, Europower
OM-08	Blue	OmniMarker II, Water
OM-09	Red	OmniMarker II, Power



SCAN TO WATCH
THE VIDEO












SPIKE MARKER

SPIKE MARKER

Spike Markers are designed for marking objects buried in soil up to one meter (3.3ft) deep. This covers most utilities' "distribution" ducts and similar applications such as cable TV drops, fiber drops, traffic light control cables, or power, gas, and district heating lines to properties. Spikes are ideal for shallow, narrow ducts where the Tempo Omni Marker II is impractical.



Ordering Information:

APPLICATION	COLOR	FREQUENCY	SPIKE MODEL #
Non-Potable Water	Purple 	66.4 kHz	SM11
Cable TV	Orange Black 	77.0 kHz	SM12
Gas	Yellow 	83.0 kHz	SM13
Fiber Optic	Yellow Black 	92.0 kHz	SM14*
Telephone	Orange 	101.4 kHz	SM15*
Sanitary	Green 	121.6 kHz	SM16
Europower	Blue Red 	134.0 kHz	SM17
Water	Blue 	145.7 kHz	SM18
Power	Red 	169.8 kHz	SM19

*Fiber Optic version (SM24) and Telephone version (SM25) available with 7mm coupler cap for attachment to microducts with compatible coupler.

Accessories:

MODEL	DESCRIPTION
SMFIX	SPIKE MARKER FIXING KIT (HOLDER AND CABLE TIE) 810025417352
SMAD1	SPIKE MARKER 7MM & 10MM SOFT DUCT ADAPTOR



Example of use with
DUCT COUPLER



Soft Duct Adaptor



Fixing Kit



Specifications:

Materials:	Enclosure HDPE fully sealed. RoHS and REACH compliant
Length:	89 mm (standard), 106mm (coupler option)
Maximum diameter:	19.8mm
Weight	.07 lb (.03 kg) / 3.7 lbs (1.7 kg) per carton of 50

CMA-360B

A clamp meter measuring into the microampere and milliampere range is a necessity for electricians and irrigation technicians. Ideal for diagnosing trouble in today's growing market of 2-wire irrigation. Or in locating the source of "nuisance tripping" of GFCI/RCDs. Testing and troubleshooting a variety of applications in the irrigation and landscape industry requires test equipment that can address multiple problems and environments.

PRECISION MICROAMPERE CLAMP METER CMA-360B

FEATURES

- True RMS
- Backlit display
- Auto-ranging
- 0.001 mA (1 μ A) current resolution
- Auto Power Off
- Includes case and 2 x AAA batteries

SPECIFICATIONS:

FUNCTION	RANGE	RESOLUTION	ACCURACY
ACmA	6.000mA/60.00mA/600.0mA	1 μ A/10 μ A/100 μ A	$\pm 1\%rdg \pm 3dgt$ s
ACA	6.000A/60.00A	0.001A/0.01A	$\pm 1\%rdg \pm 3dgt$ s
DCV	60V/600V	0.01V/0.1V	$\pm 1\%rdg \pm 2dgt$ s
ACV	60V/600V	0.01V/0.1V	$\pm 1\%rdg \pm 3dgt$ s
Ohms	600 Ω /6K Ω /60K Ω /600K Ω	0.1 Ω /1 Ω /10 Ω /100 Ω	$\pm 1\%rdg \pm 2dgt$ s
DISPLAY:	4 digital Liquid display, Maximum reading 6000		
SAMPLING RATE:	2 times/sec		
BATTERY:	1.5V size AAA battery x 2		
DIMENSIONS:	8.1 in x 2.9 in 1.3 in (206 mm x 76 mm x 33.5 mm)		
WEIGHT:	0.6 lb (0.27 kg)		
MAXIMUM JAW OPENING:	\varnothing 0.9 in (23 mm)		

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55504706	CMA-360B	PRO MILLIAMP CLAMP METER



SCAN TO WATCH
THE VIDEO



IRRIGATION & LOCATION CATALOG

STATION MASTER PRO KIT 24BK

FEATURES

- Troubleshoot irrigation systems
- Chatter mode for audible locating of valves
- Activate any 24V AC valve solenoid
- Test solenoids for continuity
- Send tone to identify wires
- Check clock AC voltage
- Low battery indication
- Easy-to-understand LEDs
- Test leads with 'bed-of-nails' and piercing pin clips
- Tracing valve wiring
- Locates underground solenoids

SPECIFICATIONS:

Minimum Voltage for Clock LED (LED intensity increases as voltage increases)	15 VAC
Minimum Battery while Testing	10.5 VDC
Maximum Input Voltage between Test Leads	28VAC
Solenoid Circuit Recharge Time	2.5 seconds
Maximum Distance Range to Activate one Solenoid	12 AWG Loop 3000-13000 feet 14 AWG Loop 2000-8500 feet 18 AWG Loop 500-3000 feet
Power Source	2x 9V alkaline batteries
Battery Life	3 hours continuous
Operating/Storage Temp.	32°F - 122°F (0° - 50°C)



SCAN TO WATCH
THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52025221	24BK	STATION MASTER PRO KIT



MULTIMETERS

Meeting today's stringent safety standards is essential.

Tempo's certification of selected instruments to both the most recent IEC and UL requirements brings you assurance of the highest level of protection currently available.

What you should know about Measurement Category ratings.

IEC Category standards specify protection levels that are far above a system's rated capacity. Without this additional protection, transient overvoltages, which are becoming increasingly common, can lead to serious injury or death.

Measurement Category I is the signal level for telecommunications and electronic equipment or other circuits that are not directly connected to the utility mains.

Measurement Category II is the local level for fixed or nonfixed powered devices – everything from lighting to appliances to office equipment such as copiers; may also be used in Category I areas.

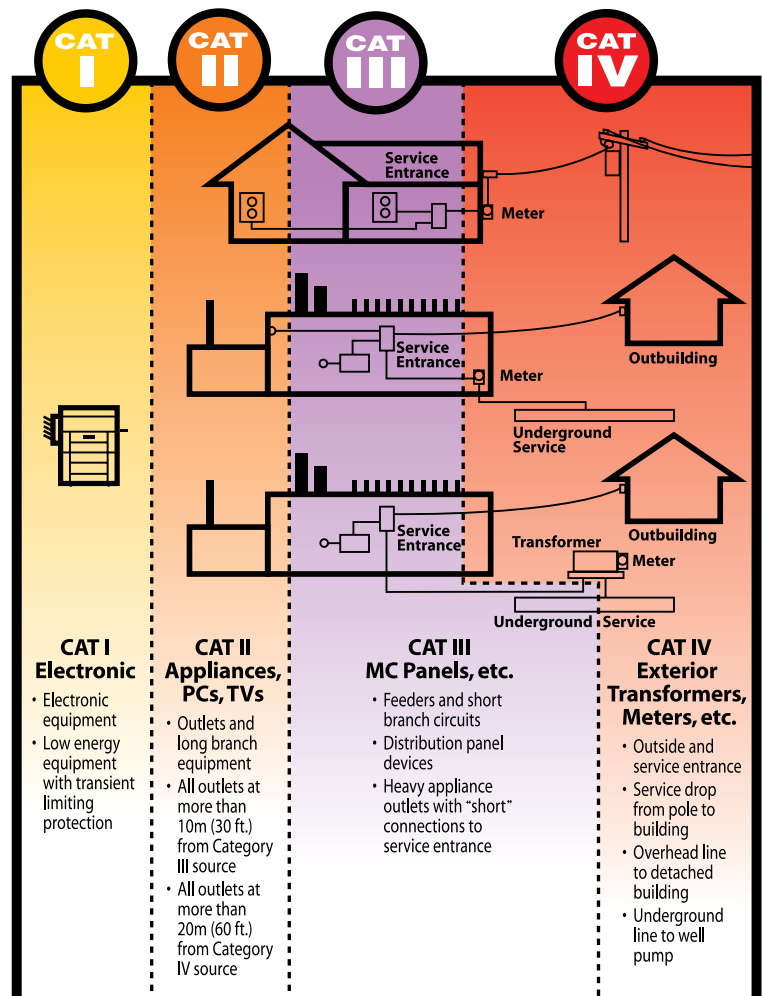
Measurement Category III is the distribution level – fixed primary feeders or branch circuits. These circuits are usually separated from Category IV (whether utility service or other high-voltage source) by a minimum of one level of overvoltage protection; may also be used in Category II and Category I areas.

Measurement Category IV is the primary supply level. Tempo is leading the way in offering protection certified to conform with the highest level of protection as specified by UL & IEC standards; may be used in all Category environments.

Tempo's Instruments – Independently tested and certified to meet the standards. Throughout this catalog, you'll see Category designations for many Tempo's instruments indicating that they comply with UL & IEC Category II, III, IV. All of these designations reflect third-party testing by independent testing organizations such as UL and ETL – added assurance for you. While there is no requirement for independent verification, we believe you deserve it.

Get the right protection for the job.

Wherever you need overvoltage protection, choose at least the rating appropriate to the type of work you expect to be doing. If you have any questions on using Tempo's test instruments to help ensure user safety, please contact Tempo Communications.



IRRIGATION & LOCATION CATALOG

FEATURES	PM100	MM200	MM810
Size	Pocket	Compact	Full
Main Display	6000	6000	6000
Disp. Update Rate	5 per sec	5 per sec	5 per sec
Aux. Display			9999
Bar-Graph (upd. rate)		24 segment (40 Hz)	41 segment (60 Hz)
Autoranging	✓	✓	✓
DCV & ACV	0 to 450 V	0 to 1000 V	0 to 1000 V
DCA & ACA		0 to 10 A	0 to 10 A
True RMS			✓
Frequency Response	50 to 60 Hz	50 to 400 Hz 10 to 50 kHz	50 Hz to 20 kHz 15 Hz to 50 kHz
Frequency Meter	10 Hz to 30 kHz	5 Hz to 1 MHz logic level	5 Hz to 1 MHz logic level
Duty Cycle %			0 to 100% (5 Hz to 10 kHz)
Resistance	0 Ω to 6 M Ω	0 Ω to 60 M Ω	0 Ω to 60 M Ω
Continuity Beeper	✓	✓	✓
Capacitance	100 μ F		25000 μ F
Diode Check		✓	✓
Non Contact EF detect	✓	✓	
Beep-Jack		✓	✓
Auto power off	✓	✓	✓
CAT III	300V	600V	1 kV
CAT IV		300V	1 kV

PM100 POCKET MULTIMETER

FEATURES

- Auto-select mode for hassle-free use
- Low impedance eliminates stray or “ghost” voltage readings
- AC/DC voltage measurement
- Hassle-free, automatic measurement of voltage and resistance
- Autoranging for quick, convenient measurements
- Non-contact voltage detection for identifying live lines without contacting conductors
- Intelligent Auto-Off for longer battery life
- Low battery indicator
- Resistance measurement
- Audible continuity test
- Frequency measurement in voltage mode
- Capacitance measurement
- 6000-count LCD for high resolution
- Accessories included: (1) 3 V battery (CR2032) and carrying case

SPECIFICATIONS:

Display	6000-count LCD
Polarity	Automatic
Display Update Rate	5 per second
Temperature Coefficient	Nominal 0.15 x (specified accuracy) per °C below 18 °C or above 28 °C
Intelligent Automatic Power Off	After 3 minutes of inactivity (approximately)
Noise Rejection	Common Mode Rejection Ratio: > 60 dB from 0 Hz to 60 Hz when measuring ACV; Common Mode Rejection Ratio: > 100 dB at 0 Hz, 50 Hz, and 60 Hz when measuring DCV; Normal Mode Rejection Ratio: > 30 dB at 50 Hz and 60 Hz when measuring DCV
Operating Conditions	Temperature: 0 °C to 40 °C (32 °F to 104 °F)
Relative Humidity	80% maximum for temperatures up to 31 °C (88 °F), decreasing linearly to 50% maximum at 40 °C (104 °F)
Altitude	2000 m (6500') maximum
Pollution Degree	2
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F), 0% to 80% relative humidity (non-condensing)
Battery	3 V standard button battery (IEC-CR2032; ANSI-NEDA-54004LC)
Low Battery	Below 2.4 VDC
Overvoltage Protection	450 VDC/VAC RMS, 50/60 Hz
Measurement Category	450 V Cat III, 300 V



SCAN TO WATCH
THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500083	PM100	PM100 POCKET MULTIMETER

MM200 MULTIMETER

FEATURES

- Testing| Troubleshooting| Accuracy
- Supplied with a zipper case
- high-quality safety test leads
- Fast response 24 segment “bar-graph”
- 6000 Count large digit LCD
- Core accuracy better than 0.5%
- Average responding AC measurements

SPECIFICATIONS:

Display	LCD (6000) and 24-segment bar graph
Polarity	Automatic
Sampling Rate	Numeric Display: 5 per second Bar Graph Display: 40 per second
Temperature Coefficient	Nominal 0.15 x (specified accuracy) per °C below 18 °C or above 28 °C
Automatic Shut-Off	After 34 minutes of inactivity
Noise Rejection	Normal Mode Rejection Ratio > 60 dB at 50 Hz and 60 Hz when measuring DCV Common Mode Rejection Ratio > 60 dB from 0 Hz to 60 Hz when measuring ACV Common Mode Rejection Ratio > 100 dB at 0 Hz, 50 Hz and 60 Hz when measuring DCV
Operating Conditions	0 °C to 40 °C (32 °F to 104 °F)
Relative Humidity	80% maximum for temperatures up to 31 °C (88 °F), decreasing linearly to 50% maximum at 40 °C (104 °F)
Altitude	2000 m (6500') maximum
Pollution Degree	2
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Battery	Two 1.5 V batteries (AAA, NEDA 24A or IEC LR03)
Volts & AutoCheck	1100 V DC/AC rms
mV, Ω, and Others:	1000 V DC/AC rms
μA and mA:	0.4A/1000V DC/AC rms, IR 30kA @ 1000V DC/AC rms; Dimension: 6 x 32 mm
A:	11A/1000V DC/AC rms, IR 20kA @ 1000V DC/AC rms; Dimension: 10 x 38 mm
V/ohms/mA/A to COM:	CAT III 600V and CAT IV 300V AC & DC
E.M.C.	Meets EN61326-1:2013



SCAN TO WATCH
THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500084	MM-200	MM200 MULTIMETER

MM810 MULTIMETER

FEATURES

- True RMS response for AC measurements
- Dual display allows, for example AC V and frequency
- Fast response 41 segment “bar-graph” with 60 updates per second
- 9999 or 6000 Count large digit LCD with 5 updates per second
- Core accuracy better than 0.1%
- Millivolt and microampere ranges for precision measurements

SPECIFICATIONS:

Display	9999 counts: ACV, DCV, Hz, and nS; 6000 counts: mV, μ A, mA, A, ohm, and capacitance
Polarity	Automatic
Sampling Rate	Numeric Display: 5 per second; 41-Segment Bar Graph Display: 60 per second
Temperature Coefficient	Nominal 0.15 x (specified accuracy) per °C below 18 °C or above 28 °C
Automatic Shut-Off	After 30 minutes of inactivity
Noise Rejection	Normal Mode Rejection Ratio > 60 dB at 50 Hz and 60 Hz when measuring DCV Common Mode Rejection Ratio > 60 dB from 0 Hz to 60 Hz when measuring ACV Common Mode Rejection Ratio > 120 dB at 0 Hz, 50 Hz and 60 Hz when measuring DCV
Operating Conditions	0 °C to 45 °C (32 °F to 113 °F), 0% to 80% relative humidity (non-condensing)
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Battery	9-Volt (NEDA 1604, JIS 006P or IEC 6F22)
μ A and mA:	0.44 A/1000 V DC/AC rms, interrupting rating 10 kA, F fuse, 13/32" x 1-1/2"
A:	11 A/1000 V DC/AC rms, interrupting rating 20 kA, F fuse, 13/32" x 1-1/2"
V	1100 V DC/AC rms
mV, Ω , and Others:	1000V DC/AC rms
Safety	Double insulation per IEC/UL/EN61010-1 Ed. 3.0, IEC/EN61010-2-030 Ed. 1.0, IEC/EN61010-2-033 Ed. 1.0, IEC/UL/EN61010-031 Ed. 1.1 and CAN/CSA-C22.2 No. 61010-1-12 Ed. 3.0 to Category IV 1000 VAC and VDC
All Terminals	Category IV 1000 VAC and VDC

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500085	MM-810	MM810 MULTIMETER



SCAN TO WATCH
THE VIDEO



IRRIGATION TECHNICIAN TOOL KITS

The Tempo Communications Irrigation Technician Tool Kits provide multiple kit options to outfit Irrigation Technicians and Specialists with all common tools required to get the job done. Each tool kit is supplied in a ruggedized belt bag that can conveniently be hand carried, worn around the waist, or over the shoulder. Extra pockets are available to hold accessories and additional tools.

ITK SPECIALIST TOOL KIT

INCLUDES

- Belt Bag ITK PA9150
- Irrigation Tester Kit 24BK
- Wire Stripper PA1117
- Contour Cable Cutter PA1175
- Needle Nose Pliers PA1180
- Pocket Multimeter PM100
- 6-in-1 Screwdriver SD6-in-1
- Milliamp Clamp Meter CMA-360B



ITK TECHNICIAN TOOL KIT

INCLUDES

- Belt Bag ITK PA9150
- Irrigation Tester Kit 24BK
- Wire Stripper PA1117
- Contour Cable Cutter PA1175
- Needle Nose Pliers PA1180
- Pocket Multimeter PM100
- 6-in-1 Screwdriver SD6-in-1



SCAN TO WATCH
THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55504773	ITK-SPECIALIST	ITK SPECIALIST TOOL KIT
55504772	ITK-TECH	ITK TECHNICIAN TOOL KIT

These tool kits feature the same collection of the basic required tools for Irrigation Technician and Specialists organized in the Pro Tool Backpack with lots of extra room for additional tools.

ITK SPECIALIST BACKPACK TOOL KIT

INCLUDES

- Pro-Tool Backpack PA9000
- Irrigation Tester Kit 24BK
- Wire Stripper PA1117
- Contour Cable Cutter PA1175
- Needle Nose Pliers PA1180
- Pocket Multimeter PM100
- 6-in-1 Screwdriver SD6-in-1
- Milliamp Clamp Meter CMA-360B



ITK TECHNICIAN BACKPACK TOOL KIT

INCLUDES

- Pro-Tool Backpack PA9000
- Irrigation Tester Kit 24BK
- Wire Stripper PA1117
- Contour Cable Cutter PA1175
- Needle Nose Pliers PA1180
- Pocket Multimeter PM100
- 6-in-1 Screwdriver SD6-in-1



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55504889	ITK-SPECIALIST-BCKP	ITK SPECIALIST BACKPACK TOOL KIT
55504888	ITK-TECH-BCKP	ITK TECHNICIAN BACKPACK TOOL KIT

TOOL BAGS

PRO-TOOL BACKPACK PA9000

FEATURES

- Functional, rugged, modern design
- 40 pockets for tool and cable storage
- Handle supports over 200 lbs
- Separate pocket protects up to 17" laptop from tools
- Molded bottom protects from elements and holds bag upright
- Opens to lay flat for easy accessibility
- Ergonomic fit with padded lumbar support
- Durable material with rugged stitching
- High tool visibility
- Storage for adapters and cables



SCAN TO WATCH
THE VIDEO



5 GALLON BUCKET BAG PA9100

FEATURES

- High quality 600D Fabric with PVC coating
- Holds all your irrigation tools for the most advanced projects
- Fits standard 5 gallon buckets
- 30 pockets, 9 slots and 1 D-ring Tape Loop
- Padded Handle for an easier grip



TECHNICIAN TOOL BAG PA9150

FEATURES

- 13 pockets 4 slots to organize tools
- Made from high quality 1680D Fabric
- Leather Bottom for ultimate protection and support
- 3 different modes: shoulder, waist, and handle



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500963	PA9000	PRO-TOOL BACKPACK
55504709	PA9100	5 BUCKET BAG
55504833	PA9150	ULTIMATE TECHNICIAN TOOL BAG

SIDEKICK® PLUS

COPPER AND DSL TEST SET

SAVES TIME - Easy-to-use mode selection dial and operation - minimizes training needs and saves time on the job

VERSATILE - Combines your copper qualification needs with DSL sync and service testing in one test set

FULLY LOADED - The Sidekick® Plus xDSL comes complete with all you need to perform tests on the copper networks that support DSL services

NO MODULES NEEDED - Advanced cable diagnosis and troubleshooting in a single test set

APPLICATIONS:

Helps technicians diagnose and troubleshoot problems with twisted pair cable Install, qualify, and maintain DSL services

FEATURES

BONDED MODEM WITH XDSL

- Pair bonding
- ADSL2+/VDSL2+
- Vectoring
- Broadcom BCM63168
- Automated test scripts
- USB export/import of test results/profiles
- 35MHz Wideband Noise Spectrum Analysis
- 4.4MHz Loss Measurement Test
- 35MHz Impulse Noise Step TDR with auto bridgetap detection (zero dead zone)

ADSL/VDSL MODEM SYNC AND SERVICE TESTS:

- DSL Showtime
- Bits per Tone Graph
- Signal-to-Noise Ratio Graph
- HLOG Graph
- Error Counter
- Upper Layer Testing: Ping, Trace-route, HTTP, FTP



STANDARD FEATURES:

- Advanced Dual Trace Pulse TDR (Zero Dead Zone)
- Resistive Fault Locator (Detects up to 20MΩ)
- 1GΩ Leakage Test (Insulation Resistance)
- Longitudinal Balance Test
- Ground Resistance Test
- Stress Test
- AC/DC Voltage
- Resistance
- Circuit Loss
- Open Meter (capacitance) with option for Step TDR
- Loop Current
- Tracing Tone Generator
- Reference Tone

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52064728	1155-5001	Sidekick Plus Kit LCC
52064080	1155-5003	Sidekick Plus Kit SCC
52064131	1155-5005	Kit, Sk Plus, Impulse Noise, Step TDR
52064729	1155-5009	Sidekick Plus With Wideband
52064730	1155-5010	Sidekick Plus With Wideband & Adsl/Vdsl Sync LCC
52066485	1155-5011	Sidekick Plus With Wideband & Adsl/Vdsl Sync SCC
52070010	1155-5012	Sidekick Plus Pair Bonded Modem - Fully Featured
52070321	1155-5013	Sidekick Plus Pair Bonded Modem - Fully Featured SCC

SIDEKICK® PLUS DSL FAR-END DEVICE

For use with the Sidekick® Plus as a complete DSL testing solution

APPLICATIONS:

- Helps technicians diagnose and troubleshoot problems with twisted pairs at the far end of the cable
- Install, qualify, and maintain DSL services

BENEFITS

- Helps qualify pairs for DSL service with ease
- Reduces testing time and increases technician productivity

FEATURES

- K-Test™ Far-End-Device straps the pair under test
- TDR™ Far-End-Device can alternately short and open the pair to verify the end-of-line
- Noise™ Far-End-Device provides a line termination
- Loss™ Far-End-Device provides single or multiple reference tones
- Longitudinal Balance™ Far-End-Device provides an IEEE 455-1985 Longitudinal Balanced Termination
- Autotest™ The Sidekick® Plus manages the operation of the Far-End-Device during the test sequence
- Short Pair™ Verifies loop length
- Short Pair to Ground™ Determines pair resistive balance
- Remote activation via Sidekick® Plus
- Ability to connect and disconnect Central Office and Customer Premise equipment
- Supports Second Pair Testing
- Generates tones for pair ID and pair tracing
- Capability to generate tones over a range of frequencies for POTS to ADSL

KIT INCLUDES:

- Sidekick® DSL Far-End Device Unit
- RJ45 to Telco clip leads
- Canvas carry case

*FOR USE WITH THE SIDEKICK® PLUS MODELS

1155-5009 Sidekick® Plus with Wideband
1155-5010 Sidekick® Plus with Wideband & ADSL/VD SL Sync LCC
1155-5011 Sidekick® Plus with Wideband & ADSL/VD SL Sync SCC
1155-5012 Sidekick® Plus Bonded Modem - Fully Featured
1155-5013 Sidekick® Plus Bonded Modem - Fully Featured

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52070454	1157-5001	Sidekick® FED Kit



4-6-8 MODULAR ADAPTERS

FEATURES

- Nylon-reinforced ABS plastic body
- Easy-to-read wire layout
- Removable/replaceable patch cord enables using your own special cable types
- Inline adapters allow testing active circuits
- Snagless plugs (where possible)
- Belt clip
- Barbed copper contacts keep alligator clips attached during testing

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051670	PA1902	RJ45 Modular Adapter (8-way)
52051671	PA1903	RJ11 Modular Adapter (6-way)
52086505	PA1921	UK Modular Adapter (6-way)



FEATURES

- Five transmission and noise tests
- Determines the stressed noise susceptibility of dry and working pairs
- Measures resistance, AC/DC volts, and capacitive kick
- Provides tone for twisted pair or crossed conductor identification
- Single setup for testing Tip-Ring, Tip-Ground, and Ring-Ground
- Minimal drying effect in all ranges
- Field replaceable leads
- Softcase with adjustable strand hook
- Low battery indicator light

SPECIFICATIONS:

Dimensions	10.75" x 4.25" x 2.5"	Stress Test	0 to 82 dBnC
Weight	2 lbs.	Loop Current	0 to 100 mA
Resistance	Rx1: Reads 0 to 2000 Ω Rx1K: Reads 0 to 2 MΩ	Circuit Noise	0 to 75 dBnC
Leakage	Rx10K: Reads 0 to 20 MΩ	Circuit Loss	-15 to +1 dB
DC Voltage	0 to 300 volts DC	Power Influence	50 to 100 dBnC
AC Voltage	0 to 300 Vrms	Operating Temp.	-4°F to +140°F
		Power	Four AA batteries



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
R50605263	1137-5002	Sidekick T&N
50607519	1131-0202	Test Leads
52038822	1134-10025	Case



SIDEKICK® 7B

FEATURES

- Determines the stressed noise susceptibility of dry and working pairs
- Measures resistance, AC/DC volts, and capacitive kick
- Provides tone for twisted pair or crossed conductor identification
- Single setup for testing Tip-Ring, Tip-Ground, and Ring-Ground
- Minimal drying effect in all ranges
- Field replaceable leads
- Softcase with adjustable strand hook
- Low battery indicator light

SPECIFICATIONS:

Dimensions	10.75" x 4.25" x 2.5"
Weight	2 lbs.
Resistance	Rx1: Reads 0 to 2000 Ω; Rx1K: Reads 0 to 2 MΩ
Leakage	Rx10K: Reads 0 to 20 MΩ
DC Voltage	0 to 100 Volts DC
AC Voltage	0 to 200 Vrms
Stress Test	0 to 82 dBrnC



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50605256	1134-5029	Sidekick 7B
52038822	1134-10025	Case
50607519	1131-0202	Test Leads

SIDEKICK® V.O.C.

FEATURES

- Identifies defective inside wire and jacks
- Measures resistance, AC/DC volts, quasi square wave, and pair balance
- Identifies shorts, opens, crosses and grounds
- Replaces the need for other meters
- Provides tone for twisted pair or crossed conductor identification
- Single set-up for testing Tip-Ring, Tip-Ground, and Ring-Ground with ground connection
- Field replaceable leads
- Softcase with adjustable hook
- Low battery indicator light

SPECIFICATIONS:

Dimensions	10.75 x 4.25 x 2.5 inches
Weight	2 lbs.
Resistance	Rx1: Reads 0 to 20000 Rx1K: Reads 0 to 2 MΩ
Leakage	Rx10K: Reads 0 to 20 MΩ
DC Voltage	0 to 100 Volts DC
AC Voltage	0 to 200 Vrms
Stress Test	0 to 82 dBrnC
Operating Temp.	-4°F to +140°F
Power	Four AA batteries



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50605270	1143-5000	Sidekick V.O.C.
52038822	1134-10025	Case

CABLE & SERVICE TESTING

TM-900 TELE-MATE™ TELEPHONE TEST SET

FEATURES

- Two-way Speakerphone
- Detection and Lockout of Data Services: T-1, E1, ISDN (BRI and PRI), SW56, xADSL, VDSL, HDSL
- Built-in Ringer with Adjustable Ring Tones
- 10 x 32 digit Speed Dial Memory
- 10 x 32 digit "Last Number Redial"
- Caller ID & Call Waiting functions
- Display of Line voltage, loop current, ringing freq.
- Intercom & SmartIntercom™ for dead pairs
- Microphone Mute
- Easy-to-use Talk and Monitor Keys
- Audible and Visual Mode Indicators
- Line Polarity Test in any Mode
- DigAlert™ data and overvoltage protection
- Speaker Volume Control
- Unique 'Quick Release' Belt Clip
- Premium braided cordset with bed-of-nails and piercing pin clips

SPECIFICATIONS:

Loop Limit:	5 k ohm
Minimum Loop Current:	10 mA
Maximum Off-hook DC Resistance:	300 ohm
Minimum DC Resistance in Idle, Monitor and Lockout:	10 M ohm at 300 Vdc
Minimum AC Impedance in Monitor:	400 k ohm at 1 kHz
Span Power Lockout Range:	120 Vdc minimum 450 Vdc maximum
Pulse Rate:	10 pps +/- 0.1 pps
Break/Make:	60/40% +/- 1%
Interdigit Interval:	800 +/- 50 ms
Tone Level:	-3 dBm nominal
Tone Frequency Error:	+/- 1% maximum
Tone Twist:	2 dB +/- 1 dB
Flash Duration:	600 ms nominal
Stored Number Capacity:	0 plus 10 x last number redial
Stored Number Length:	32 digits per stored number
PBX Pause:	4 seconds
9Vdc Alkaline Battery Life:	3 months nominal; 30 hours of continuous loudspeaking
Low Battery:	Visual and audible indication
Auto Shut-off:	90 seconds with no line DC 20 minutes with line DC



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
	TM-500	TEST TELEPHONE, TM900, DIGALERT LCD

TM-700 TELE-MATE™ TELEPHONE TEST SET

FEATURES

- Complete telephone set with ringer
- Phone-to-phone intercom, compatible with other SmartIntercom™ devices
- Modular or alligator clip connection
- Amplified loudspeaker line monitor
- Headset or handset operation
- Tone and pulse dialing
- Large 10-location speed dialing memory
- Multi-memory redial
- DTMF digit detection and measurement
- Pair tracing tone output mode
- Caller ID with name display
- Call waiting Caller ID
- Missed call indication
- DSL compatible, high impedance monitor and filters
- Glow-in-the-dark keypad
- Line voltage and current display
- High voltage detect and lockout
- High current detect and lockout
- Uses 2 AA/LR6 batteries (not included)
- Quick release belt-clip



SPECIFICATIONS:

TECHNICAL SPECIFICATIONS

LENGTH	9.25" (235mm)
WIDTH	2.5" (64mm)
HEIGHT	3.25" (83mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52061409	TM-700	TM-700 Tele-Mate™ TELEPHONE TEST SET
52063087	TM-700I	BUTT SET (SML CLIPS & BOX) (TM-700I)
52063088	TM-700UK	BUTT SET (UK PLUG & BOX) (TM-700UK)

SCAN TO WATCH
THE VIDEO



TM-500 TELE-MATE™ TELEPHONE TEST SET

FEATURES

- Luminescent (glow-in-the-dark) keypad
- Can be used safely on a DSL enabled line
- High Impedance Monitor for monitoring line without disrupting existing traffic
- Over voltage and over current protection
- Tone and Pulse dialing
- Headset (included) for hands free operation
- Line powered, no battery needed
- Polarity test with LED indicator
- 32 digit last number redial and pause
- 10 number speed dial
- Adjustable volume control plus mute
- Flash to generate a timed break recall
- Quick release belt-clip
- RJ11 socket

SPECIFICATIONS:

TECHNICAL SPECIFICATIONS

LENGTH	9.25" (235mm)
WIDTH	2.5" (64mm)
HEIGHT	3.25" (83mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52061369	TM-500	Telephone Test Set W/ ABN "Bed-Of-Nails" Croc Clips (POP)
52062073	TM-500i	Telephone Test Set W/ Small Croc Clips (Boxed)
52063086	TM-500UK	BUTT SET (TM500 UK PLUG & BOX)

SCAN TO WATCH
THE VIDEO



NAUTILUS TEST SETS

Nautilus range products are “real-world hardened” to deliver reductions in Whole Life costs. Each product includes a “shell” designed to breathe and safeguard the functional elements from water, dust, impact and humidity and temperature change.

Water resistant to IP67, they can be used in heavy rain or even dropped in a puddle. Tough and drop resistant, they are designed for years of hard use literally “in the field”.

With simple controls, placed in optimal positions for good ergonomics, they are comfortable and easy to use.

Now built for over two decades these are proven “real-world” tough products that have their hardened shells like their namesake the “Nautilus” but their internal functions have been updated over the years to match the changes in the telecommunications networks.



FEATURES/SPECIFICATIONS:

	PE930	PE945	PE961
Digital Services Detection and Lockout			✓
High voltage warning		✓	✓
Speaker-phone with volume control		✓	✓
Luminescent keymat			✓

ALL THREE INCLUDE:

- Waterproof (IP67, buoyant)
- Ten-number speed dial memory (32 digits)
- Microphone mute
- Unique quick-release belt clip
- Audible and visual mode indicators
- Polarity test in any mode
- Chemical resistant
- Digital safe line monitor
- Luminescent keymat
- 3-year warranty
- Last number redial
- Precise hook flash
- Premium cordset with bed-of-nails and piercing pin clips
- Tone or pulse dialing
- Two-tone ringer with adjustable pitch
- Built-in DSL filter



PE930



PE945



PE961

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50604872	PE930	TELEPHONE TEST SET WATERPROOF
50604899	PE945	TELEPHONE TEST SET
50605119	PE961	ADSL TELEPHONE TEST SET

COPPER TELECOMMUNICATIONS CATALOG

A340, D350 & D361 SPECIFICATIONS:

	A340 ETSI	A340 ETSI LCC	D350 90ms	D361	D361 LCC
DigAlert 3			✓	✓	✓
Loudspeaking	✓	✓	✓	✓	✓
Hands Free				✓	✓

ALL FIVE INCLUDE:

- High voltage alarm and lockout
- Waterproof IP67, buoyant
- "ETSI" European telephony setup, with 90 ms TBR (other options available)
- Ten dialing memories (up to 32 digits each)
- Microphone mute
- Polarity test in any mode
- Glass reinforced nylon belt clip
- Audible and visual mode indicators
- Ambidextrous operation of the ergonomically placed controls
- DTMF and pulse dialing (change of mode can be stored in memories)
- Three year warranty
- Options with Angled-nose, bed-of-nails (ABN) large crocodile clips (LCC) or small crocodile clips (SCC)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52040076	M0401/10	DIGALERT 361 ETSI ADSL SCC
52059247	M0401/20	DIGALERT 361 ETSI ADSL LCC
52059241	M0402/10	DIGALERT 350 ETSI ADSL SCC
52059242	M0404/10	ALERT 340 ETSI ADSL SCC
52059246	M0404/20	ALERT 340 ETSI ADSL LCC



D361



D350



A340

CableScout™ TV220E

CableScout™ TV220E

The best just got better! The new **CableScout TV220E** features a new sleek design with full color touchscreen offering higher resolution and modern user interface. The updated unit offers improved speed and functionality over the predecessor TV220, in a smaller, easy to carry case.

The modernised TDR engine offers lower noise and higher bandwidth allowing you to see much more subtle faults more easily. Range is extended by allowing for greater data capture plus inclusion of longer “digital” pulses.

The multi-touch features of the touchscreen make many routine tasks simpler and faster allowing pinch-to-zoom etc. But TV220E retains push-buttons ensuring that control remains straightforward when working in the field. Connectivity for transfer of saved results for later analysis and reporting is improved, starting with simple USB and “thumb drive”.



TV220E EXTRAS

- Compact, lightweight & rugged design
- 7" full-color, high resolution, sunlight readable, touchscreen with “multi-touch”
- Push-button controls allow for gloves and dirty environments
- Improved UI for rapid, intuitive testing
- TestWizard & automatic event detector with configurable event thresholds
- Advanced analysis modes: Test, Intermittent.
- Test vs. Saved, Saved and Difference etc.

CableScout™ TV220EX

The EXTREME cable technician's TDR: Takes all the features of the new TV220E and places this inside a rugged IP67 weathertight carry case. With enough space to store your patch cord and other accessories within the case, this makes CableScout TV220EX very versatile.

TV220EX EXTRAS

- TV220EX encloses TV220E in an extra rugged yet compact carry case
- With sufficient internal space for the mains power supply and all common accessories
- IP67 rain & dust proof* when closed (IP54 when open)
- Rugged attachment points permit aerial suspension while working

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55501435	TV220E	Cablescout TV220E
55501434	TV220EX	Cablescout TV220EX

SPECIFICATIONS:

Maximum range:	5.58 km (Vp=0.93)
Basic Accuracy:	±0.01% ±300ps
Horizontal Resolution (ns):	0.05 to 20 ns (varies with range)
Display resolution:	1024 x 600 full colour capacitive touchscreen (up to 800 nits bright backlight)
Push-button User Interface:	13 mechanical keys, operable with gloves
Input Protection:	400 V peak
Output Pulse Amplitude:	4V to 6V
Output Impedance	75Ω
Pulse Widths:	1, 5, 25, 125, 250, 500 ns.
Pulse Shapes	Raised Cosine (1, 5, 25 ns), Digital (125, 250, 500 ns)
Velocity Factor (Vp)	Range: 0.300 to 1.000 (numeric factor, %, metres per microsecond or feet per microsecond)
Event Markers:	>6
Connection	F-connector with replaceable coupler
Test Modes	Standard Test; Intermittent Fault Detection; Test vs. Saved, Test vs. Saved and Difference
Report Storage	>100 traces
Report Writing Application	Tempo Report Writer for PC (Android and iOS in development)
Size	TV220E, 27 x 16 x 5 cm, (10.3 x 6.4 x 2.2 in) TV220EX 32 x 23 x 11 cm (12.6 x 9 x 4.3 in)
Weight	TV220E 1200g, (2.6 lbs) TV220EX 2109g, (4.6 lbs) excluding accessories
Battery	Four cell, Lithium-ion, 60Wh
Battery Run Time	>8 hours at typical backlight brightness



CABLESCOUT™ TV220 TDR Cable Tester For CATV

FEATURES

- Easier-to-use GUI interface requires little or no training
- PC application is compatible with Windows 10*
- Excellent clarity and trace functionality makes it easier to identify faults on-screen and determine noise versus the fault
- High SNR and resolution makes it easier to identify events that were previously difficult or impossible to find
- Zero dead zone at the launch allows the user to see faults immediately
- Fast trace update rate allows you to see more dynamic faults (5 times/sec.)
- Light weight and long charge life with the lithium-ion battery
- Higher capacity to hold 200 traces
- USB interface for trace download
- TestWizard™ one-button cable analysis
- Automatic Return Loss Measurements
- Automatic Multiple Event Marking
- High-Resolution, Short Pulse Width (1 ns)
- Rugged enough to withstand everyday use in the field



*Must be installed in "admin" mode and may require re-installation following updates due to Microsoft enforced changes

** Overvoltage category I, 60V max without use of supplementary isolation device. Contact Tempo if you require such.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52061155	TV220	TDR for CATV Broadband
50650065	TV220-0350	Soft Carrying Case
52046851	1155-1010	Power Supply, AC-DC
50650010	174173401	Vehicle DC Adapter/Charger

SPECIFICATIONS:

Output	Test Signal Output - 1/2 Sine Amplitude - 4V into 75 Ω Pulse Width - 1 ns, 5 ns, 25 ns Output Impedance - 75 Ω Acquisition System Bandwidth - 400 MHz
Return Loss	Automatic at cursor location Resolution: ± 1 dB **Input Protection: ± 400 VDC + peak AC up to 440 Hz, 30-second duration Maximum Distance Range: 12,000 ft. (3,658 m), depending on cable type and condition Gain: 0 to 72 dB Waveform Storage: Minimum of 20 waveforms with notes
Distance Accuracy (Feet)	0 to 2,000 ft.: ± 2 ft. \pm uncertainty in Vp 2,001 to 6,000 ft.: ± 3 ft. \pm uncertainty in Vp 6,001 to 12,000 ft.: ± 4 ft. \pm uncertainty in Vp Meters: 0 to 610 m: ± 0.6 m \pm uncertainty in Vp 611 to 1830 m: ± 0.9 m \pm uncertainty in Vp 1831 to 3658 m: ± 1.2 m \pm uncertainty in Vp
Display	Resolution: 640 x 440 (281,600 pixels) Size: 7.2 inch Type: High contrast LCD Backlight: Operator switchable Waveform Display Resolution - 0.33% of selected range, 4.5 cm (0.15 ft.) minimum Display Ranges - Twelve display ranges from 6 ft. (1.8 m) to 12,000 ft. (3,658 m), plus single-button zoom window Output Port - USB-B socket Distance Measurements - Meters, feet, nanoseconds

Power	AC Operation: Voltage Ranges: 110 V, 220 V, or 240 V with appropriate AC to DC adapter Line Frequency: 50 Hz to 60 Hz DC Operation: Voltage Range: 9 to 16 VDC @ 1A (charging and operating)	
	Battery Operation: Type: Internal Li-Ion rechargeable battery Operating Time: Typically 12 hours continuous operation (backlight off) Battery Savers (user selectable) Shutoff: 5 to 30 minutes or disabled Backlight: Shutoff 5 to 30 minutes, disabled, or always on	
General Characteristics	Temperature: Operating: -10° C to +40° C (+11° F to +104° F) Non-operating: -20° C to +60° C (-4° F to +140° F) Humidity: 10% to 95% (non-condensing) Field Usage: Shock, water, and dust resistant Durability: Survives drop of 2 meters (6 ft.) to concrete in standard soft case. Drip proof, dust resistant EMI Emissions: EN55011, Class A; EN60555-2 Safety: CE (Low Voltage Directive)	
Physical	Height	9.5 inches; 24cm
	Width	11.5 inches; 30 cm
	Depth	3.5 inches; 9 cm
	Weight (Net)	6.4 lbs.; 3kg

CABLESCOUT CS90/TV90E



THE everyday, every technician, copper network TDR. Aimed squarely at the CATV technician who deals with 75 ohm COAX all day but also suitable for use in 50 ohm COAX or twisted pair fault finding applications. The CS90/TV90E provides a perfect mix of simplicity of use, ergonomics, accuracy and high dynamic range with excellent signal to noise ratio.

FEATURES

- Large, Color, HiRes Backlit Display (Readable Outdoors in Bright Conditions)
- Splash, Dust, and Shock-Resistant Packaging
- Zero Dead Zone
- 1, 5 and 25 ns pulse widths standard
- FastFind™ whole cable overview
- Protected 75 Ω F Connector
- Intermittent Fault Location
- Context-Sensitive Help Available for All Functions
- Save a virtually unlimited number of traces to the SD Card (included) or USB drive
- Small, Portable, Lightweight Package
- Internal Cable Types for Fast, Accurate Testing
- Rechargeable Lithium Ion Battery for 8+ hrs. of use
- Span View Window Shows Entire Cable & Navigation
- Narrow Pulse Width Enables Near-End Fault ID

BENEFITS

- Locate Damage in Drops & Bad Passive Devices
- Find Impedance Mismatches (e.g. corrosion, water or cable type changes)

BASE MODEL KIT INCLUDES:

- CS90/TV90E "CableScout®"
- DC charger (12 V socket)
- AC PSU (universal)
- 2 metre COAX patch lead
- F type barrel connectors
- Shoulder Strap
- Basic Carry Bag
- SD Card (included)
- 1 ns pulse width for precision
- Determine Length of Cable

PRO KIT EXTRAS:

- SV-03 Adaptor
- BNC Adaptor
- Alligator clip cord

CS90 SPECIFICATIONS:

Output Pulse	
Test Signal	Pulse
Type	½ Sine Wave
Width	1 ns, 5 ns, 25 ns
Impedance	75 Ohm
Voltage	>4V Peak
Input	
Protection*	+/- 400VDC
Filtering	1, 2, 4, 8, 16, 32
Physical	
Size	262mm x 162mm x 55mm
Weight	900g
Operating Temp.	-20 to + 50 (0 to 30 charging) Celcius
Storage Temp.	-20 to +60 C

Performance	
Horizontal Resolution	204 ps (approx. 3"/75 mm)
Maximum Distance	9.5 kft (2.9 km) @ Vp=0.93
Display Resolution	800 X 480
Display Size	180mm 7" diagonal
Backlight Brightness	1000nits
Test Result Storage	SD card or USB drive
Battery Type	Li-Ion polymer
Battery Capacity	30 Wh; sufficient for >8 hr use with typical backlight
Battery Life	Battery Management System optimizes charging and lifetime

* Overvoltage category I, 60V max without use of supplementary isolation device. Contact Tempo if you require such.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500017	CS90	CableScout CS90 TDR (Pro Kit)
55501190	TV90E	CableScout TV90E TDR (Pro Kit)
55500220	CS90B	CableScout CS90 TDR (Base Kit)
55501191	TV90EB	CableScout TV90E TDR (Base Kit)

SCAN TO WATCH
THE VIDEO



WIRE & CABLE IDENTIFICATION

CLASSIC 77 SERIES TONE GENERATORS

FEATURES/SPECIFICATIONS:

	77HP-G	77HP-G/6A	77M-G
Selectable Warble Tone	✓	✓	✓
Continuity Testing	LED & Beeper	LED & Beeper	LED
Polarity Testing*	✓	✓	✓
Talk Battery Supply	✓	✓	✓
Two-line Modular Test Lead (RJ-11)	✓	✓	
Three-color LED (identifies AC ring voltage)	✓	✓	✓
Weather-Resistant Design	✓	✓	✓
Angled Nose Clips with Bed-of-Nails Penetrator		✓	
RJ11 plug & RJ45 adapter	✓	✓	
Lanyard	✓	✓	
Battery Operated (9V not included)	✓	✓	✓

*Dual line on 77HP models, single line on 77M models

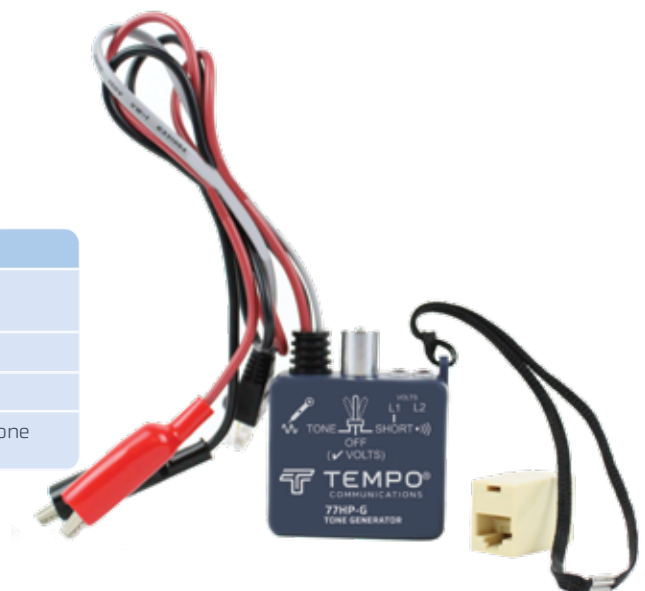


CLASSIC 77 SERIES TONE GENERATORS

Permits technicians to identify the conductor within a bundle, at a cross-connect point or at the remote end. Can be used on twisted pair wiring (telecom, datacom, etc.), single conductors, coaxial cables, de-energized AC wiring and most other wiring.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52047488	77HP-G	77H-GP Tone Generator (standard alligator clips)
52047489	77HP-G/6A	77HP-G/6A Tone Generator (ABN Clips)
52047490	77M-G	77M-G Tone Generator (Basic)
50086863	77CS	Leather Belt Holster for Classic 77 Series Tone Generators



REPLACEMENT PIERCING CLIPS

FEATURES

- These traditional telco-style clips can be used with almost any style cordsets
- Clips feature angled nose design for use on 66 style punchdown blocks and bed-of-nails penetrator for use on insulated wires
- Package of two clips with red and black boots

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50087100	RPC	Piercing Clips



STATION MASTER PRO 24B

FEATURES

- Troubleshoot irrigation systems
- Activate and cycle solenoids
- Test solenoids for continuity
- Send tone to identify wires
- Measure clock voltage
- Low battery indication
- Easy-to-understand LEDs
- Test leads with Bed-of-Nails and piercing Pin Clips
- 1-year limited warranty

SPECIFICATIONS:

Minimum Voltage for Clock LED (LED intensity increases as voltage increases)	15 VAC
Minimum Battery while Testing	10.5 VDC
Maximum Input Voltage between Test Leads	28VAC
Solenoid Circuit Recharge Time	2.5 seconds
Maximum Distance Range to Activate one Solenoid	12 AWG Loop 3000-13000 feet 14 AWG Loop 2000-8500 feet 18 AWG Loop 500-3000 feet
Power Source	2x 9V alkaline batteries
Battery Life	3 hours continuous
Operating/Storage Temp.	32°F - 122°F (0° - 50°C)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52025220	24B	Station Master Pro



COPPER TELECOMMUNICATIONS CATALOG

STATION MASTER PRO KIT 24BK

FEATURES

Includes 200EP-G Amplifier probe

- Troubleshoot irrigation systems
- Chatter mode for audible locating of valves
- Activate any 24V AC valve solenoid
- Test solenoids for continuity
- Send tone to identify wires
- Check clock AC voltage
- Low battery indication
- Easy-to-understand LEDs
- Test leads with 'bed-of-nails' and piercing pin plips
- Locates underground solenoids

SPECIFICATIONS:

Minimum voltage for clock LED	15 VAC
Minimum Battery while Testing	10.5 VDC
Maximum Input Voltage between Test Leads	28 VAC
Solenoid activate output voltage	27 to 18 VAC
Battery (not included)	3x 9V Alkaline Batteries
Operating/storage temp.	32°F to 122°F (0°C to 50°C)
Relative humidity (max.)	80%



SCAN TO WATCH THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52025221	24BK	Station Master Pro Kit

PROFESSIONAL GX SERIES TONE GENERATORS

FEATURES

- Microprocessor controlled precision tone generator
- Two-line polarity indication for fast outlet status check
- Automatic shutoff to prevent battery drain
- Snag-proof boot prevents broken plug tabs
- Convenient wrist/hanging lanyard
- Three distinct, selectable tone signal outputs for multiple line identification
- Two selectable tone power outputs for use on open and shorted pairs
- Independent continuity test function
- Independent talk battery supply with higher output voltage
- Fixed alligator clips and removable modular plug for multiple connection options
- 77GX2 includes premium telco-style angled nose clips with piercing pin and bed-of-nails connectors

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50605560	77GX	77GX Tone Generator with standard alligator clips
52082818	77GX2	77GX2 Tone Generator with ABN clips



ADAPTONER MODULAR BREAKOUT TONE GENERATOR

FEATURES

- The AT8 Tone Generator makes it simple to test continuity, polarity, send tone and even supply talk battery to any configuration of pairs in 8-position modular jacks and plugs
- Ideal for splitting tone across pairs for easier tracing of CAT5 and higher cables
- Combines the features of our tone generators and a modular breakout adapter
- In-line testing is made simple with both a modular plug and jack on each unit
- 8-position "snag-proof" modular plug
- 8-position jack with protective cover
- Quick reference guide with common wiring configurations
- Selectable solid/warble tone signal
- Tone, continuity and talk battery supply using alligator clips
- Weather-resistant design
- Battery operated (9V not included)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086936	AT8	AdapToner Modular Breakout Tone Generator

Note: Not for use on energized AC wiring



LAN TONER WITH HUB BLINK & DETECT

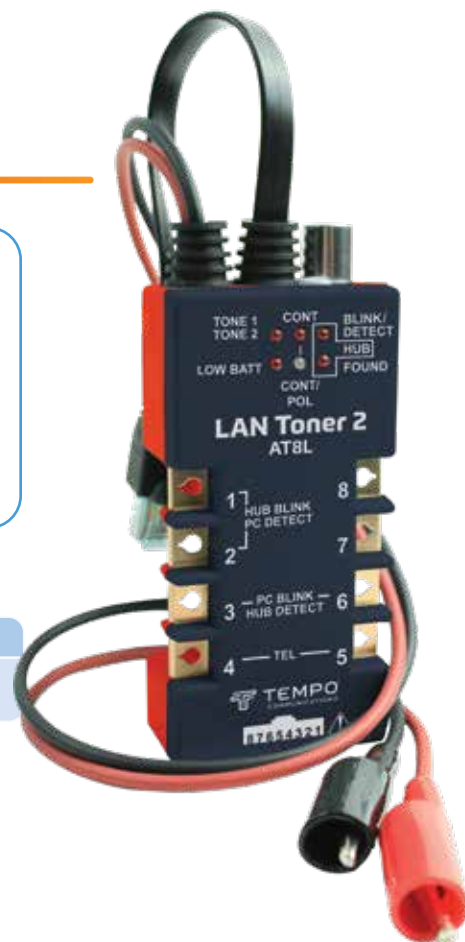
FEATURES

- The LAN Toner is designed for the network installation and maintenance professional and can be used on any wiring system including datacom, telecom, security/alarm, audio and CATV
- Blinks HUB, Switch Port, and PC activity lights for fast identification
- Detect LAN hubs & switches
- Provides tone signaling, continuity testing and telephone line polarity indication combined with a modular breakout adapter
- Selectable tone outputs for identifying multiple cable runs
- Includes multiple connection options

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50605836	AT8L	LAN Toner

Note: Not for use on energized AC wiring



DATA MATE™ PRECISION TRACING TONE GENERATOR

FEATURES

- Trace wire or cable without interfering with digital two-way cable or ADSL services
- The model 7780 Data Mate™ Precision Tone Generator is intended to provide tone for tracing and troubleshooting communication circuits without disrupting digital traffic on the line or adjacent lines
- The high purity of the tracing tones combined with internal isolating filters allows safe tracing on circuits that carry digital services above the baseband (two-way cable and ADSL)
- The high-power differential output of the 7780 makes tones easy to find, even over long distances.
- Useful for continuity testing and polarity testing, the 7780 provides the standard warble tone and talk battery supply
- Line voltage and polarity indication
- High power tone output
- High purity tone signal
- Low crosstalk
- Low battery indicator
- Filter-isolated circuitry
- Two-way broadband compatible
- Modular and Telco pro alligator leads
- ADSL service compatible
- Long range
- Popular, standard warble tone frequencies continuity testing
- Compatible with existing tone

SPECIFICATIONS:

Electrical	
Output Power	+9dBm
Output Signal Frequency	577/982 Hz alternating
Output Impedence	3,500 ohms minimum, 25kHz to 1.1 MHz
Mechanical	
Length	5.5" (140 mm)
Width	2.25" (57 mm)
Depth	1.0" (25 mm)
Weight	0.38 lbs. (0.17 kg)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52082819	PE7780	Data Mate™ Tone Generator

Note: Not for use on energized AC wiring



TONE PROBES SELECTION GUIDE

MODEL NO.	200B-G	200EP-G	200FP	200XP	500XP
Powerful 2" Rear-fire Speaker	✓	✓	✓	✓	✓
One-button Operation	✓	✓	✓	✓	Two Button
Adjustable Gain Control	✓	✓	✓	✓	✓
LED for Visual Signal Strength Indication		✓	✓	✓	✓
Headset Jack (audio shock protected)		✓	✓	✓	✓
LED Flashlight		✓			
Noise Filtration			✓	✓	✓
Replaceable Tip	✓	✓	✓	✓	✓
Five-Minute Auto Shutoff			✓	✓	✓
Low-battery Indicator			✓	✓	✓
9V Battery Operated (not included)	✓	✓			✓
2 AA Battery Operated (not included)			✓	✓	
Water Resistant					✓
"Mains Power" Warning (acAlert® option)					✓
Patented					✓



TOUGH & WATER RESISTANT MULTI-FILTER TONE PROBE

FEATURES

- The tough and water resistant 500XP will help identify signals buried in the worst of noise
- Simple two-button operation with dual signal strength indicating LEDs can work with any tone generator
- Headset allows discrete use in quiet environments and can help in acoustically noisy areas
- Option to enable acAlert®, which helps warn users if brought near hazardous AC power voltages and may be inaudible if using the advanced filtering (note, international models have this enabled by default - can be switched off).

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52061827	500XP	500XP Pair Tracing Probe (POS)
52061826	500XPB	500XP Pair Tracing Probe (Boxed)
52062626	HS001	Replacement Headset
52066899	500XPH	500XP Pair Tracer with Leather Holster
52082917	500XP-BT	500XP With International Presets (acAlert active)



TONE & PROBE PAIR TRACING SYSTEM

FEATURES

- Fast and accurate wire identification
- Sends a tone to identify wires
- Polarity indication and a continuity test conveniently included
- Adjustable volume control for even the loudest environments
- Easy operation
- 2-Line modular test lead
- Rugged and water resistant industrial design

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50450808	M0113	PTS100/200 R111 Kit



TONE PROBE AMPLIFIERS

FEATURES

- Tone Probe Amplifiers permit wire and cable identification without having to make direct metallic contact with the conductor in conjunction with any tone generator
- All models feature high sensitivity and a powerful speaker for noisy environments, recessed on/off button control and high gain for accurate wire identification in congested cable bundles and equipment rooms
- The 200B-G also includes adjustable volume control for precise identification
- The 200EP-G also includes a headset jack (audio shock protected) and an LED Flashlight for working safely behind furniture, inside racks or in dim lighting conditions

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52047483	200B-G	Tone Probe Classic, Basic
52047484	200EP-G	Tone Probe, Standard, with Headset Jack & Flashlight
50086707	200C	Leather Belt Holster for 200 Series Tone Probe Amplifiers



FILTER TONE PROBE

FEATURES

- By selectively filtering out 60Hz (or 50Hz) and its harmonics, the 200FP can be used with any tone generator for faster and more accurate cable and wire identification
- Slim and comfortable design for use in limited-space areas
- Recessed on/off push-button control to conserve battery life
- Adjustable sensitivity/volume control to increase accuracy
- Blended carbon/plastic tip to reduce the risk of shorting terminals
- Headset socket
- 2 x AA cells for lower running cost

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086723	200FP	Filter Tone Probe (60Hz mains)
50604678	200FP/50	Filter Tone Probe (50Hz mains)



MULTI-FILTER TONE PROBE

FEATURES

- The narrowband filter mode is especially well suited for 577Hz Telco tone (983 Hz for the international version)
- Single button selects between default mode and two kinds of powerful noise filters
- Filtering means faster and more accurate pair tracing
- Digital signal processor for accuracy and sensitivity
- Durable and light weight
- Audible and visible signal detection
- Continuous wide-range volume control
- Headset socket
- Field replaceable tip and spare tip included
- Uses 2xAA cells
- One probe for many applications
- Works with any tone generator

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52024457	200XP	Multi-Filter Tone Probe (60Hz mains, 577Hz narrowband)
52025467	200XP/50	Multi-Filter Tone Probe (50Hz mains, 983Hz narrowband)



REPLACEMENT PLASTIC TIPS FOR 200 SERIES PROBES

FEATURES

- Plastic tips perform much the same as traditional metal tips while reducing the risk of shorting terminals
- Specially formulated with a carbon powder and carbon fiber blended plastic
- Tips fit 200B, 200EP, 200FP and 200XP probes
- RPT-1 comes with two pencil-style tips and two spade-style tips



RPT-1

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50087118	RPT-1	Plastic Tips for 200B, 200EP, 200FP and 200XP
52066900	RPT-3	Replacement tips for 500XP.



RPT-3

REPLACEMENT METAL TIPS FOR 200B & 200EP PROBES

FEATURES

- Metal tips provide maximum performance when probing insulated wires or making direct metallic contact
- Made of nickel-plated brass
- Tips fit 200B and 200EP probes
- Package contains two pencil-style tips



RMT-1

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50087096	RMT-1	Metal tips for 200B and 200EP Probes
52066901	RMT-3	Replacement metal tips for 500XP



RMT-3



COPPER TELECOMMUNICATIONS CATALOG

PRECISION TONE GENERATOR

FEATURES

- Used in the telecommunications industry for pair identification and fault locating
- Supplies a precise 577.5Hz crystal controlled signal frequency
- Variable output allows technicians to adjust signal strength to suit field conditions and improve accuracy
- Designed to work with any common amplifier and exploring coil for aerial fault locating
- The unit supplies talk battery to power two telephone test sets (buttsets) for communications over inactive pairs
- Each of the three test leads is equipped with traditional bent nose piercing clips with “bed-of-nails” insulation piercing pins
- The tone generator and test leads fit neatly in a durable and protective woven polyester carrying case with shoulder strap
- Battery-operated (1 - 6V lantern included)

SPECIFICATIONS:

Power Requirements	One 6V lantern battery
Battery Life	40 hours nominal
Transmitter Frequency	577.5Hz pulsed at 1Hz, crystal controlled
Output Voltage	0.1 to 80Vp-p
Output Signal Level	0 to +30dBm
Construction	High impact ABS plastic in woven polyester case
Dimensions	7.25" x 5.5" x 4.5" in case
Weight	3 lbs. with battery

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52083234	177	Precision Tone Generator



TELECOMMUNICATION	PRODUCT	CABLE PAIR ID (CPI)	CADENCE CHANGE FOR MULTI USE	TALK BATTERY	CONTINUITY	POLARITY	IP RATING
	601K-G	✓	✓	✓	✓	✓	
	200B-G						
	77M-G						
	701K-G	✓	✓	✓	✓	✓	
	200EP-G						
	77HP-G						
	711K	✓	✓	✓	✓	✓	
	200EP						
	77GX						
	801K	✓	✓	✓	✓	✓	
	200FP						
	77HP						
	802K	✓	✓	✓	✓	✓	
	200FP						
	AT8L						
	811K	✓	✓	✓	✓	✓	
	200XP						
	77GX						
	500/600	✓	✓		✓		IP67
	TP500						
	TG600						

DATA, COAX & ALARM	AT8LK	✓	✓	✓	✓	✓	
	200EP						
	AT8L						
	402K		✓		✓		
	402T						
	402R						
	620K	✓			✓	✓	
	200EP						
	620						

COPPER TELECOMMUNICATIONS CATALOG

PRODUCT	BATTERY LIFE	OUTPUT V PK-PK	DISTANCE RANGE		ADDITIONAL FEATURES
601K-G		10.2V	~13km	1 year	
200B-G	> 50 hours				Modular test lead and croc clips
77M-G	> 50 hours				52VDC voltage protection
701K-G		6.7V	~ 15km	1 year	150VDC voltage protection
200EP-G	> 50 hours				Headset socket 2.5mm
77HP-G	> 50 hours				LED torch for work in dark closets
711K		High 21.5V Low 8.8V	~ 15km	1 year	
200EP	> 50 hours				Visible and audible signal strength
77GX	> 50 hours				Removable modular jack lead
801K		10.2V	~ 17km	1 year	50/60Hz AC mains filter options
200FP	> 50 hours				
77HP	> 50 hours				
802K		6.0V	~ 17km	1 year	50/60Hz AC mains filter options
200FP	> 50 hours				Built in Modular adaptor (access all 8 wires in Data cable)
AT8L	> 25 hours				Hub/PC link
811K		High 21.5V Low 8.8V	~ 15km	1 year	50/60Hz AC mains filter options
200XP	> 50 hours				1kHz band pass filter (Discriminator mode)
77GX	> 50 hours				Precision Tone
500/600		25.7V	~ 40km	3 years	
TP500	> 60 hours				Headset option
TG600	> 200 hours				Pure sine wave reducing cross talk

AT8LK		6.0V	~ 15km	1 year	Hub / PC detect
200EP	> 50 hours				Built in Modular adaptor (access all 8 wires in Data cable)
AT8L	> 25 hours				Hub / PC blink
402K		20.0V	8km inductive	1 year	
402T	> 25 hours	20.0V	15km direct		ID terminated & non terminated cables
402R	> 25 hours	20.0V	5km magnetic		50Hz AC mains filter
620K		9.3V	~ 11.5km	1 year	
200EP	> 50 hours				Latching facility for intermittent faults
620	> 100 hours				Test normally open and normally closed switches

CLASSIC TONE & PROBE KIT

FEATURES

- 701K-G Kits include the 77HP-G High Power Tone Generator and the 200EP Tone Probe Amplifier in a rugged and woven nylon carrying case (700C)
- 601K-G Kit is a more basic version of the 701K-G kit and includes the 77M-G Tone Generator and the 200B-G Tone Probe amplifier in a zippered nylon pouch



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52047486	601K-G	Classic Tone and Probe Kit, Basic
52047487	701K-G	Classic Tone and Probe Kit, Standard
52047489	701K-G/6A	Classic Tone and Probe Kit, Standard with ABN clips

PREMIUM TONE & PROBE KIT

FEATURES

- Designed for more accurate wire identification
- The 801K virtually eliminates power-related noise from the tone and probe operation
- Kit includes the 77HP/6A High Power Tone Generator and 200 FP Filter Probe in a convenient Cordura® case (700C)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086901	801K	Premium Tone and Probe Kit
50604660	801K/50	Premium Tone and Probe Kit (50Hz)



XPert TONE & PROBE KIT

FEATURES

- Designed for fast and accurate wire identification by combining the features of our tone generators and modular breakout adapter
- Kit includes the 77GX (811K) or 77GX2 (811K/6A) Tone Generator and 200XP Inductive Amplifier in a convenient carrying case (700C)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52025323	811K	Tone and Probe Kit, Xpert
52055997	811K/6A	Tone and Probe Kit, Xpert with ABN clips



AdapToner KIT

FEATURES

- Designed for fast and accurate wire identification by combining the features of our tone generators and modular breakout adapter
- Kit includes the AT8 Modular Breakout Tone Generator and 200EP-G Inductive Amplifier in a convenient carrying case (700C)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086944	AT8K	AdapToner Kit



LAN TONER KIT

FEATURES

- Designed for the network installation and maintenance professional, the LAN Toner sends tone and blinks HUB, Switch Port, and PC activity lights for fast identification. This kit can be used on any wiring system including Datacom, Telecom, security/alarm, audio and CATV
- Kit includes the AT8L LAN Toner and the Inductive Amplifier in a rugged and woven nylon carrying case (700C)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50605843	AT8LK	LAN Toner Kit



CATV CABLE TONE TEST KIT

FEATURES

- Designed specifically for the CATV industry, this kit allows you to tone through splitters, directional couplers and traps
- Simple to use, the 402K provides accurate results and will eliminate long delays trying to figure out non-tagged or mis-tagged cable drops
- Kit includes one transmitter, one receiver, one male F-to-F connector adapter cable, one male F-to-alligator clip adapter cable and a carrying case (700C)
- Transmitter and receiver are equipped with female F-connectors
- Three methods of signal reception: electrostatic pickup for non-terminated cables, electromagnetic pickup for terminated or shorted cables and direct connection when identifying through passive devices such as splitters
- In continuity mode, provides both audible tone and LED display
- Identifies the presence of AC or DC voltage on the cable under test
- Four selectable tone outputs for multiple line identification



COPPER TELECOMMUNICATIONS CATALOG

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086774	402K	CATV Cable Tone Test Set
50603760	402T	Transmitter
50603760	402R	Receiver
50603744	CS9	Male to male F-connector adapter cable
50603787	CS19	F-connector to alligator clip

tone & probe CARRYING CASE

FEATURES

- Allows you to build your own kit using any tone generator and 200 Series probe
- Durable woven nylon
- Fits belts up to 3" wide

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50086839	700C	Tone & Probe Carrying Case
50086707	200C	Leather Case for 200 Series
50086863	77C	Leather Case for 77 Series



STRUCTURED WIRING TESTERS

NETcat® PRO 2 NC-500

FEATURES

- Test and troubleshoot data, telephone and coax wiring
- NETcat Pro 2 Additional Features:
 - Gigabit device capability detection (also detects 10baseT and 100baseT)
 - Cable type, velocity of propagation library, user editable
 - Power over Ethernet (PoE) detection
 - Memo pad
- Detect split pairs, short circuits, broken and crossed wires
- Step TDR technology shows length to open or short of all pairs
- Test shielded twisted-pair (STP), unshielded twisted-pair (UTP) & coaxial cables.
- Test patch cords and remote jacks
- Touch-screen control, included stylus slots into main unit
- Large icons ensure easy use with your finger too
- Large 3" (76mm) backlit high-contrast (user adjustable) monochrome display is highly visible in dark or brightly lit areas
- Remote test and ID unit stores in base of main unit
- Can identify up to 8 remote test ID units (the 7 extra ID units are available in the NC-510 accessory kit along with carrying case)
- Tone generator with four selectable precision frequency tones, compatible with Tempo advanced digital signal processing probes
- Operates on single 9V battery with low battery indication



SCAN TO WATCH
THE VIDEO



COPPER TELECOMMUNICATIONS CATALOG

SPECIFICATIONS:

Dimensions	3.3" x 1.4" x 6.7" (8.5 cm x 3.5 cm x 17 cm)
Weight	0.45 lb. (200 g)
Power	9V Alkaline battery (PP3)
User Interface	
Display LCD	Dot Pixels: 128 x 128 dots
Viewing Area	60.0 x 58.4
Backlight	White LED
Buttons	LCD touch-screen, Single momentary contact push button
Environmental	
Operating Temp	0°C to 50°C
Storage Temp	-20°C to 70°C
Interface	RJ45 shielded jacks
Connections	F-type threaded female coaxial connectors
TDR	User selectable based on a known cable length.
Calibration	40% to 100% in steps of 1%
TDR Range	0 to 2000 ft.
Resolution	1 ft. (0.3 m)
Accuracy to Open/Short	±4% or 2 ft. (0.6 m) whichever is greater
Remote Identifier	2000 ft. (609.6 meters) maximum distance
Wiremap	358 ft (100 meters) maximum distance

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52024556	NC-500	NETcat Pro 2 Digital VDV Wiring Troubleshooter
52024661	NC-510	NETcat Pro 2 Accessory Kit w/carry case
52057701	NC-520	Netcat Pro 2 NC-500 Main Unit plus NC-510 accessory set

NC-500 CONTENTS:

- NETcat Pro 2 main unit with stylus
- Removable remote jack and patch lead test and ID unit
- Twisted-pair (modular RJ45), coax (F) and alligator clip test cords
- 9V alkaline battery

NC-510 NETCAT PRO 2 ACCESSORY KIT CONTENTS:

- Seven additional remote jack test and ID units, RJ45 and F (male)
- Carrying case to hold additional remote test ID units and content of NC-500 main kit

NC-520:

- Netcat Pro 2 Main Unit With Stylus
- Removable Remote Jack And Patch Lead Test and Id Unit
- Twisted-Pair (Modular Rj45), Coax (F) And Alligator ClipTest Cords
- Seven additional remote jack test and ID units, RJ45 and F (male)
- Carrying case to hold additional remote test ID units and content of NC-500 main kit
- 9V Alkaline Battery



NETcat® MICRO NC-100

FEATURES

- Tests shielded twisted pair (STP), unshielded twisted pair (UTP) and coaxial cables
- TIA/EIA standard wiring pair verification
- Detects shorts, opens, reversed polarity, crossed and split pairs
- Generates three distinct, selectable digital tone patterns for cable tracing and troubleshooting
- Tracing modes can be adjusted for high performance LAN cables
- Complete set of connector types standard (telephone, LAN and coax)
- Nested remote allows end-to-end testing of all wiring types
- Simple testing of LAN wiring and phone lines
- Detection of common wiring and connector errors
- Warning if connected to voltage source
- Checks for reversed telephone wires

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52024541	NC-100	NETcat® Micro Digital Voice Data & Video Wiring Tester

SPECIFICATIONS:

Dimensions	150 x 70 x 33mm
Weight	220g including remote unit and battery
Power Source	9V Alkaline battery (PP3)
User Interface	
Display LCD	Icon and seven segment type
Viewing Area	Green LED
Backlight	White LED
Buttons	Four momentary contact push button
Environmental	
Operating Temp	0°C to 50°C
Storage Temp	-10°C to 60°C

Connections	RJ45 8 way shielded socket, RJ12 6-way socket F-type threaded female coaxial connectors
Network Split Pair Detection	Minimum detectable length of split cable 2 to 3 meters (5 to 10 ft.) depending on cable type and length
Pair Tracing Tones	Alternating frequencies of 577Hz and 983Hz are produced at three user selectable rates. Designed for standard tone probes, but compatible with precision digital Tempo tone probes. Can be output on all pairs, individual pairs or individual wires.



SCAN TO WATCH
THE VIDEO



WIREMAP TESTER

FEATURES

- Quickly identifies opens, shorts, reversals and transposed pairs
- Economical tester includes all the basic functions
- Connecting the receiver unit automatically activates the test process
- Sequencing red and green LEDs provide fast, accurate and simple-to-understand results
- Alerts the technician if connected to an active circuit without harming the unit
- Connect any eight-position modular plug to the appropriate jack on the transmitter and a sweeping tone signal is applied to all pairs
- At the far end of the cable, use any Tempo Communications inductive amplifier (probe) to locate the corresponding plug or jack
- Battery operated (9V not included)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52082812	468	Wiremap Tester
50603825	468C	Carrying Case for the Wiremap Tester
52082813	468T	Transmitter
52082814	468R	Receiver
50603817	CS10	Modular Adapter Cable





LAN CABLE-CHECK™

FEATURES

- Identifies cross-over telephone connections
- Automatically scans when cables connected and unit turned on
- Two scan speeds: fast or slow
- Maps connector and cable pin-out
- Tests cables up to 1,650' or 500m
- Can also test RJ11 connections with an RJ11 adapter (not included)
- 2, RJ45 patch cords and 9V battery included
- Contained in a durable nylon carrying case with belt loop



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046967	PA1574	LAN Cable-Check™ Tester

LAN & A/V CABLE-CHECK™

FEATURES

- Tests RJ45 patch cords and network installations to identify good connections, opens, shorts or cross-connections
- Identifies data and telephone connection schemes
- Maps cable pin-out and detects split pairs
- Tests continuity of cords and installed cable runs
- Identifies good connections, opens and shorts
- Automatic scanning
- User selectable slow or fast speeds
- Quickly check cable installations and patch cords
- Easy-to-use with clear LED read-outs



INCLUDES:

- 2 RJ45 patch cords
- 75-ohm male terminator
- Cable TV "F" female adapter
- 9V battery
- Durable, nylon carrying case
- RCA to CATV "F" adapter

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046970	PA1594	LAN and A/V Cable-Check™

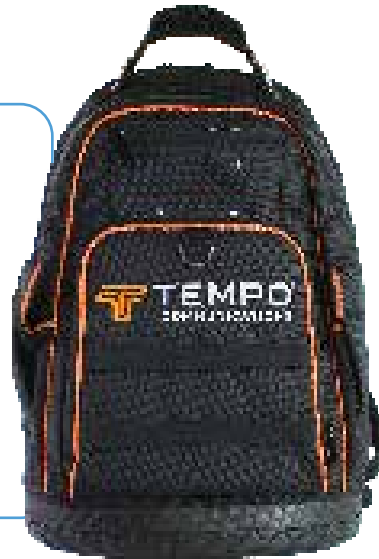


TOOL BAGS

PRO-TOOL BACKPACK PA9000

FEATURES

- Functional, rugged, modern design
- 40 pockets for tool and cable storage
- Handle supports over 200 lbs
- Separate pocket protects up to 17" laptop from tools
- Molded bottom protects from elements and holds bag upright
- Opens to lay flat for easy accessibility
- Ergonomic fit with padded lumbar support
- Durable material with rugged stitching
- High tool visibility
- Storage for adapters and cables



SCAN TO WATCH
THE VIDEO



5 GALLON BUCKET BAG PA9100

FEATURES

- High quality 600D Fabric with PVC coating
- Holds all your irrigation tools for the most advanced projects
- Fits standard 5 gallon buckets
- 30 pockets, 9 slots and 1 D-ring Tape Loop
- Padded Handle for an easier grip



TECHNICIAN TOOL BAG PA9150

FEATURES

- 13 pockets 4 slots to organize tools
- Made from high quality 1680D Fabric
- Leather Bottom for ultimate protection and support
- 3 different modes: shoulder, waist, and handle



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500963	PA9000	PRO-TOOL BACKPACK
55504709	PA9100	5 BUCKET BAG
55504833	PA9150	ULTIMATE TECHNICIAN TOOL BAG



PALADIN TOOLS COMBINE RUGGEDNESS, RELIABILITY AND VERSATILITY.

The Paladin brand is synonymous with quality, reliability, ruggedness and performance. Designed to be the go-to hand tool for communications technicians and complement the tried-and-true Tempo Communications repertoire of test and measurement solutions—Paladin Tools, manufactured by Tempo Communications remain an industry favorite when only the best will do. As always, Paladin Tools are proudly backed by a limited Lifetime Warranty.

RUGGED. Paladin hand tools are built to last, even when tackling the toughest jobs. Tempo Communications is so confident in this that they offer a Lifetime Warranty on all Paladin products.

RELIABLE. Time is money. Today's technician wants to have confidence that their tools are going to perform as promised, time and time again. Paladin proudly delivers this level of optimum reliability!

VERSATILE. By offering a selection of hand tools that tackles virtually any job a communications technician may encounter, Paladin is a one-stop-shop for success.

FIBER HAND TOOLS

ECONOMY FIBER OPTIC STRIPPER

FEATURES

- Pre-calibrated and factory set to ensure precision
- Bright orange rubber dipped handles
- Lock closure for safety and transport
- Tool is for stripping 2.0-3.0 mm Fiber Optic cable, micron-cladded core
- 5" (127 mm) long
- 2mm Jacket
- 250µm Buffer
- 125µm Fiber

SPECIFICATIONS:

WEIGHT	LENGTH
3 oz. (86 g)	5" (127 mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050605	PA1162	Economy Fiber Optic Stripper



ECONOMY KEVLAR® CUTTER

FEATURES

- Cut protective Kevlar strands in fiber optic cable
- Hard-chromed serrated edges to easily cut through Kevlar
- Comfortable handles with large finger openings
- 7.75" (197 mm) long

SPECIFICATIONS:

WEIGHT	LENGTH
2 oz. (57 g)	7.75" (197 mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051283	PA1511	Economy Kevlar Cutter

Kevlar is a registered trademark of E.I. du Pont de Nemours and Company



FIBER OPTIC SCRIBE

FEATURES

- Pen-type scribe with screw-in non-reversible carbide tip
- Wedge shaped tip
- Pocket-clip
- Stainless steel barrel
- 5.25" (197 mm)

SPECIFICATIONS:

WEIGHT	LENGTH
2 oz. (57 g)	5.25" (197 mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050965	PA1922-1	Fiber Optic Scribe



PROGRIP 5-IN-1 FIBER OPTIC STRIPPER

FEATURES

- Precision ground stripping cavities for:
 - 2.0 - 2.4mm outer jacket
 - 2.0 - 3.0mm loose tube
 - 2.8 - 3.0mm outer jacket
 - 900µm buffer insulation
 - 900/125µm and 250/125µm buffer/acrylate
- Factory calibrated
- Dual-durometer ProGrips for improved comfort and control

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055935	PA1171	Pro-Grip Stripper, 5-in-1 Fiber Optic

SPECIFICATIONS:

Weight: 140g
Dimensions: 173mm



PROGRIP 3-IN-1 FIBER OPTIC STRIPPER

FEATURES

- Precision ground stripping cavities for:
 - 2.0mm outer jacket
 - 900µm buffer insulation
 - 250/125µm buffer/acrylate
- Factory calibrated
- Dual-durometer ProGrips for improved comfort and control

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055938	PA1177	Pro-Grip Stripper, 3-in-1 Fiber Optic

SPECIFICATIONS:

Weight: 130g
Dimensions: 160mm



DROP CABLE STRIPPER

FEATURES

- Strips 8.1mm drop cables
- Provides midspan slit operation for 8.1mm drop cables
- Easy secure operation for quick stripping
- Replacement Blade Kit TCDCS-2 contains six individual blades

SPECIFICATIONS:

Weight: 0.15lb (68g)

Dimensions: 3.26" (82.8mm)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52086521	TCDCS	Drop Cable Stripper



SCAN TO WATCH THE VIDEO



TCEXT INSERTION & EXTRACTION TOOL

The Tempo Communications TCEXT is used to remove and connect LC, SC and similar connectors into bulkheads where the technician's fingers may not fit especially as is the case in congested cabinets.

FEATURES

- Secure clamp to insert and remove LC and SC connectors from bulkheads in high density cabinets
- Ergonomic and lightweight design promotes precise alignment of connectors

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500944	TCEXT	LC/SC Connector Extraction Tool



SCAN TO WATCH THE VIDEO



RING AND SLIT STRIPPER

FEATURES

- Ring and Slit stripping for 1.2mm – 6.4mm fiber optic cables
- Easy fast adjustment for various cables diameters
- Ring Blade Kit TCCPS-RING-2 contains one blade, knob and pin
- Slit Blade Kit TCCPS-SLIT-2 contains one blade, lever and screw



SCAN TO WATCH THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52085475	TCCPS	Cable Slit and Ring Stripper

SPECIFICATIONS:

Weight: 0.05lbs (22g)
Dimensions: 2.87" (72.9mm)

MIDSPAN SLITTER

FEATURES

- The Mid Span Slitter is an efficient and indispensable tool for fiber optic cable termination.
- The sharp blade is made of super-alloy, suitable for longitudinal stripping of outdoor optical loose tube cable.
- The stripping opens the tube on upper and lower sides for easy access of the fiber.
- The Mid Span Slitter comes with 4 groove diameters. Select the proper groove, put in the loose tube, press the blade into the tube coating, close and clamp the two half grooves, and move the blade along the tube to strip.



SCAN TO WATCH THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52076413	MSS100	Midspan Slitter, Fiber

SPECIFICATIONS:

Weight: 30g
Dimensions: 50 x 40 x 25mm

FIBER OPTIC TOOL CASE

FEATURES

- Rugged carry case to safely keep all tools organized
- Extra pockets are incorporated to hold accessories and other tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52085476	FIBKITCASE	Fiber Optic Tool Case



COMMUNICATIONS KITS

GripPACK QUICK-RELEASE TOOL HOLSTER

FEATURES

- Easy-on, easy off with new quick-release belt clip
- Belt clip swivels so the holster moves with you and the tools stay out of your way
- Form fitted PVC material ensures that tools don't fall out - even if you drop your kit or they are upside down
- Molded specifically to hold the following Tempo Communications Tools: Data SureStrip® UTP/STP & flat satin cutter/stripper, Datacomm scissors with serrated blades & ergonomic handles, Punchdown tool- either the ergonomic SurePunch Pro or the original SurePunch PDT®, Mini-MagLite® or SurePunch Pro detachable LED, and a Sharpie® marker



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046993	PA4941	GripPack SurePunch Pro Technician's Kit
52046994	PA4942	GripPack SurePunch Pro Installer's Kit
52049537	PA4940	Replacement Belt Pouch

GRIP PACK KITS:

DESCRIPTION	MODEL NO.	PA4941	PA4942
GripPack Tool Holster	PA4940	✓	✓
Data SureStrip® UTP/STP & flat satin cutter/stripper	PA1116	✓	✓
Reversible 110/66 blade	PA4571	✓	✓
SurePunch Pro PDT punchdown tool handle	PA3589	✓	✓
SurePunch PDT® punchdown tool handle	PA3570		
SurePunch Pro detachable LED light & batteries	PA4599	✓	✓
MagLite® with 2 AA batteries	N/A	✓	
Black Sharpie® pen	N/A	✓	



GripPACK PVC POUCH

FEATURES

- Easy-on, easy off with new quick-release belt clip
- Belt clip swivels so the holster moves with you and the tools stay out of your way
- Form fitted PVC material ensures that tools don't fall out - even if you drop your kit or they are upside down
- Molded specifically to hold the following Paladin Tools: Data SureStrip® UTP/STP & flat satin phone cutter/stripper, Datacomm scissors with serrated blades & ergonomic handles, Punchdown tool - either the ergonomic SurePunch® Pro or the original SurePunch® PDT, Mini- MagLite® or SurePunch® Pro detachable LED, and a Sharpie® marker



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049537	PA4940	GRIPPACK PVC POUCH

PRO COAX TOOL KIT

Designed for the professional CATV cable installer. Offers the convenience in having six essential tools needed for coaxial repair and installation with a unique Grip Pack Pouch.

INCLUDES:

- **0251-08D**
8" Diagonal Cutting Pliers, Dipped Grip
- **45591**
RG59/6/6Q, RG7/11 Coaxial Cable Stripper
- **PA70020**
RG59/6/6Q, RG7/11 Coaxial Cable Crimper
- **0153-42C**
6-in-1 Multi-Tool (Screwdriver/Nut Driver Tool)
- **0354-14**
Combo Ratcheting Closed and Open Ended 7/16" Wrench
- **PA5000**
Custom Grip Pack Pouch with Belt Clip



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52063938	46601	PRO COAX TOOL KIT





- ## ORDERING INFORMATION:



SEALTITE® PRO CABLE TV “F” KIT

Tackle all of your compression crimping jobs with the complete SealTite® Pro Kit. Includes all the tools you need to prepare the cable and terminate any compression connector using RG59, RG6 or RG6 Quad shield cables.

INCLUDES:

- PA1179 KT8 round cable cutter
- PA1257 LC CST CATV “F” coax stripper
- PA1917 RG6/RG6 Quad shield flaring tool
- PA1559 SealTite® Pro compression crimper
- N/A RG6/RG6 Quad SealTite® connectors (10)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046985	PA4910	SealTite® Pro Kit



COAXREADY™ COMPRESSION TOOL KIT

Adding to our CoaxReady™ solutions, this kit has everything you will need to terminate any manufacturers' cable TV "F", RCA or BNC compression connectors using RG6, RG6 Quad or RG59 cable sizes.

- 12 piece kit
- Includes zippered Cordura® portfolio case

INCLUDES:

- PA1821 AM 35 Slitter
- PA1179 KT8 Cutter
- PA1119 Data & A/V UTP & Coax Cutter/Stripper
- PA1280 CST Pro Coax tool
- PA2280 CST Pro GRN 3-Level Strip Blade Cartridge
- PA2283 CST Pro OG 3-Level Strip Blade Cartridge
- PA2282 CST Pro BK 3-Level Strip Blade Cartridge
- PA2284 CST Pro Rollers
- PA1927 CATV “F” Flaring & Insertion Tool
- N/A Zippered Cordura® Portfolio Case

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050429	PA906003	KIT COAX COMPRESSION TOOL KIT

Cordura is a registered trademark of E.I. du Pont de Nemours and Company



COAXREADY™ DELUXE KIT

Perfect for LAN/Ethernet or video & CATV installation. For a wide variety of coaxial connectors including mini-coax and HDTV applications, CoaxReady™ Deluxe combines our most popular tools for a complete coax solution in a handy zipper case.

INCLUDES:

- PA1179 KT8 round cable cutter
- PA1255 LC CST-58/59 coax stripper
- PA1302 1300 crimp tool frame with EZI-CHANGE™ thumb screws

DIE SETS:

- PA2034 BNC/TNC - RG58/59/62AU
- PA2649 BNC/TNC - CATV "F" RG59/6/Belden 8281/1694A and 1505A
- PA2653 SMA/SMB/Mini 59 BNC & TNC/Mini-UHF

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050391	PA901081	CoaxReady™ Deluxe Kit



COAXREADY™ KIT

With this kit a technician is set to tackle most coaxial cabling challenges Perfect for the LAN/Ethernet or video installation installer. For a wide variety of coaxial connectors including mini-coax applications, CoaxReady™ combines our most popular tools with the new LC CST coax stripper in a handy zippered case.

INCLUDES:

- PA1179 KT8 round cable cutter
- PA1255 LC CST-58/59 coax stripper
- PA1302 1300 crimp tool frame with EZI-CHANGE™ thumb screws

DIE SETS:

- PA2034 BNC/TNC - RG58/59/62AU
- PA2075 BNC/TNC - RG58/59/62AU RG6 Teflon/Plenum
- PA2653 SMA/SMB/Mini 59 BNC & TNC/Mini-UHF

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050387	PA901054	CoaxReady™ Kit



DATACOMM PRO STARTER KIT MAX

This kit is also a starter kit for datacomm professionals.

- 66 piece kit
- Includes the complete solution for cutting, crimping, and terminating
- All the tools included come in a compact zipper case

INCLUDES:

- PA1116 Data SureStrip® UTP/STP Cutter/Stripper
- PA3570 SurePunch Pro Punchdown Tool
- PA4528 110 Reversible blade
- PA1561 All-in-One Phone/Data Crimp Tool
- PA9520 (10) RJ45 Cat5e Modular Plugs
- N/A Compact Zipper Case

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046983	PA4908	DataComm Pro Starter Kit



DATACOMM PRO STARTER KIT

A complete data cable installation kit providing everything to support the installer using commonly-available connectors, and punchdown termination blocks. All tools contained in a professional-quality, soft-sided zipper case with heavy-duty wrist strap.

INCLUDES:

- PA1116 Data SureStrip® UTP/STP & flat satin cutter/stripper
- PA1923 Untwist Tool
- PA3589 SurePunch Pro punchdown tool
- PA4599 SurePunch Pro detachable LED light
- PA4591 Double 110 blade
- PA4571 110/ 66 blade**
- NC-100 NETcat® Micro Wiring Tester
- PA8000 CrimpALL® crimp frame with EZI-CHANGE™ thumb screws

DIE SETS:

- PA2061 RJ45 WE/SS-style
- PA2062 RJ11/12 WE/SS-style
- PA2063 RJ22 handset
- PA2064 DRJ45 AMP-style
- PA2067 RJ11 DEC-MMJ

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050393	PA901378	DataReady™ PRO Kit



DATAREADY™ KIT

The complete Category 5 datacomm tool set in a handy zipper case. Everything needed for a CAT-5 installation except the cable.

INCLUDES:

- PA1116 Data SureStrip® UTP/STP & flat satin cutter/stripper
- PA1561 All-in-One Phone/Data tool*
- PA3570 SurePunch Impact Punchdown Tool
- PA4571 110/ 66 blade**
- PA1576 Data Link/ID and Cable-Check™ Tester
- N/A (20) RJ45 plugs, Cat5e, solid/stranded; flat/round cable
- N/A Zipper Case with Carrying Strap

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050388	PA901053	DataReady™ Kit

* WE/SS - style replaced with AMP - style #1557

** Contains 110 & Krone blades PA4575 (only with PA9010531 Kit)

† 68 spring- compression blades precisely adjust to the insulation.



PREMISE SERVICE KIT

Our biggest data, voice, and coaxial LAN installation kit provides everything for twisted pair and coaxial cable installation. All tools contained in a professional blow-mold case complete with form-fitting foam.

INCLUDES:

- PA1179 KT8 round cable cutter
- PA1257 LC-CST CATV "F" coax stripper*
- PA1116 Data SureStrip® UTP/STP & flat satin cutter stripper
- PA8000 CrimpALL® crimp frame with EZI-CHANGE™ thumb screws
- PA3589 SurePunch Pro punchdown tool
- PA4599 SurePunch Pro detachable LED light
- NC-100 NETcat® Micro Wiring Tester
- 77M-G Tone Generator
- 200B-G Tone Probe
- PA1573 Telephone Test Set & LAN Cable-Check™
- PA1902 RJ45 8-way adapter

DIE SETS:

- PA2062 RJ11/12 WE/SS-style**
- PA2687 RJ45 WE/SS-style & RG6/RG6 QS CATV "F"***

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050389	PA901039	Premise Service Kit



KIT LAN PRO NAVIGATOR



FEATURES

- Simple PASS/FAIL test results in one second allows technicians to quickly move on to the next test site
- Generates oscillating audio tone for use with tone probes to locate cables
- Tests data and telephone cables up to 320 feet (100 meters) for proper pairing for EIA/TIA-568A, EIA/TIA-568B, Token Ring, 10 Base T, and common Category 5 configurations
- Tests unshielded UTP and shielded STP data cable
- Detects good connections, open connections, crossed wires and split pairs
- Tests common BNC connected 50 and 75 ohm coaxial cables up to 320 feet (100 meters) for continuity
- Tests coaxial cable types RG58, RG59, RG6, RG6 Quad, Belden 8281, RG8, RG11 and more
- Belt clips provided and lanyard holes embedded in case to attach to belt or wrist
- Features low battery test and auto-off function to preserve battery life
- Includes standard 9V battery

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051666	PA901066	KIT LAN PRO - NAVIGATOR



HAND TOOLS

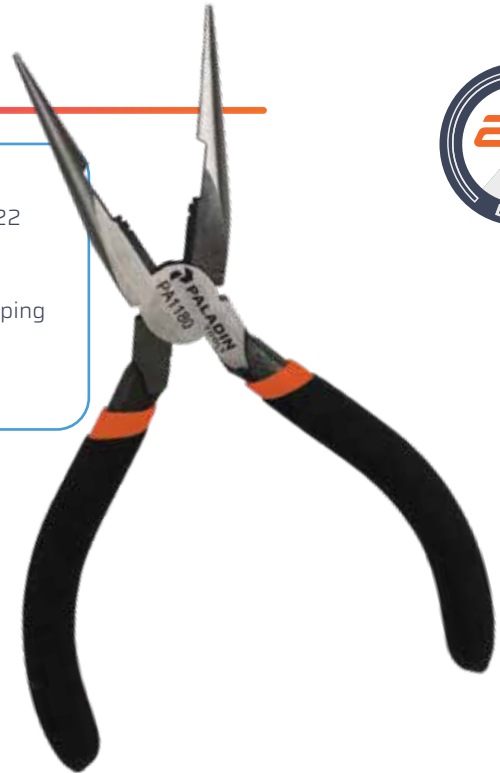
TELECOM SPLICE CRIMPERS

FEATURES

- Side cutter for AWG 19-26 copper
- Non-slip grips for precision control
- Limited lifetime warranty
- Crimp capacity
 - UR: AWG 19-26
 - UY: AWG 22-26
 - UG: AWG 19-26

PA1180 ONLY

- Stripping cavity for AWG 22 wire
- Needle-nose with knurled surface for gripping, wrapping and looping



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055941	PA1180	4-in-1 Telecom Splice Crimper
52055939	PA1178	Telecom Splice Crimper

ROUND CABLE CUTTERS

FEATURES

- Cuts solid or stranded cable up to AWG 6
- Precise and effortless cuts
- Round cutting form won't deform cables
- Ideal for UTP and Coax, RG58, RG59 and RG6/6Q; RG7 and RG11 with PA1175
- Limited lifetime warranty



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055936	PA1175	Contour Round Cable Cutter
52055940	PA1179	Dual-Contour Round Cable Cutter

CABLE SPLICER'S KNIFE & SPLICER'S SNIPS

FEATURES

- Cuts cable, telephone wire and strips insulation
- Tough, tempered steel knife blade holds its edge longer
- Full-sized knife handle provides greater comfort
- Knife has a short, coping-type blade made of the finest cutlery steel
- Scissors have an upper blade with two stripping notches to strip most insulations from 19-24 AWG.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52056118	PT-K01A	Scissors and Knife Kit in Pouch



DATAComm SNIPS, ELECTRICIAN'S SNIPS

FEATURES

- Cuts, strips and trims data and phone cables
- Ergonomic design nests in hand for comfort and added cutting power
- One fully serrated blade for clean cuts
- "V" stripping notches for 19 and 23 AWG wire
- Manufactured from high-carbon steel, chrome over nickel plate

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046765	PT-T03	Snips



BLADE DURO-STRIPAX

FEATURES

- Replacement blade for the stripax tool
- Strips 28-26 AWG wire

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050568	PA2143	BLADE DURO-STRIPAX



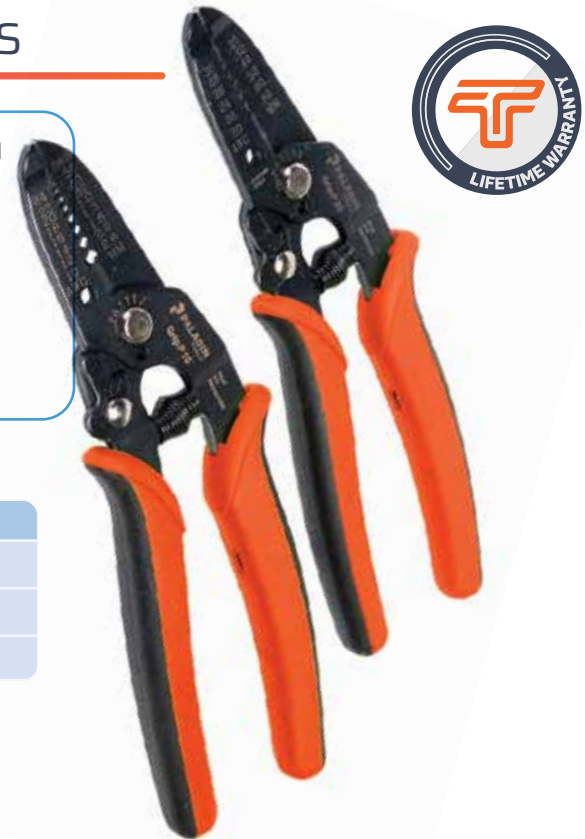
DATACOMM SNIPS, ELECTRICIAN'S SNIPS

FEATURES

- Head of tool and handles designed at optimum 22° angle to prevent awkward wrist bends
- Precision ground blades ensure consistent stripping and cutting
- Features screw cutter and wire loops embedded in frames
- Built-in safety lock
- Gripping jaws on front of tool for pulling wire
- PA1117 will work on Romex household cable
- Note: This is not an insulated tool

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050609	PA1117	GripP 10 cutter/stripper; Solid: 10-22; Stranded: 12-24
52050610	PA1118	GripP 20 cutter/stripper Solid: 20-30; Stranded: 22-24
52050616	PA1123	Wire Stripper Bundle, includes both PA1117 and PA1118



MINI-STRIPAX® PLUS

FEATURES

- Strips flexible and solid conductors with PVC, Teflon, silicone and other special insulations
- Strips multiple conductors and thin ribbon-cable conductors simultaneously
- Adjustable wire stop and built-in wire cutter
- 28-18 AWG (0.80-1.0 mm²) PVC blade included
- See replacement blades in next section
- Limited lifetime warranty

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050558	PA1115P	mini-stripax® plus (28-18 AWG)



ADJUSTABLE WIRE STRIPPER & CUTTER

FEATURES

- Economical wire stripping tool for multiple cables
- Made of high carbon steel and heat treated for long life
- Adjustable settings for wire sizes from 30-10 AWG

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050603	PA1161	Adjustable wire stripper & cutter (30-10 AWG)



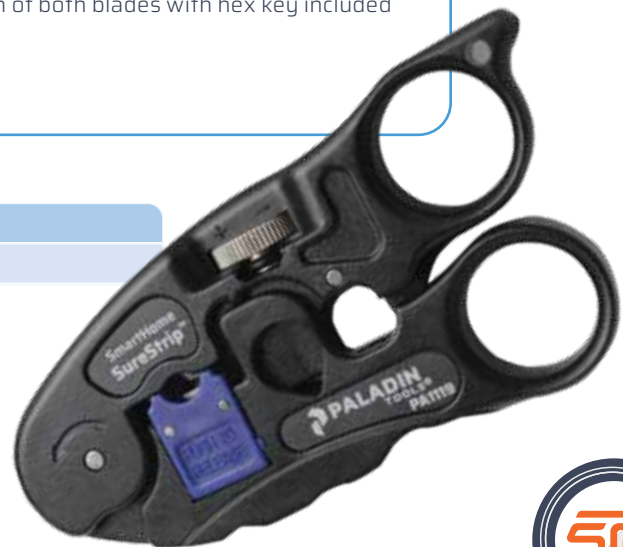
COMBO UTP/COAX SURESTRIP®

FEATURES

- Professional all-in-one cutter/stripper for coaxial and twisted pair cables
- Cuts and strips multiple cable types:
 - Coax: RG6, RG6 Quad and RG59
 - Twisted Pair (UTP/STP): Cat6, Cat5e and Cat5
- Easy-to-use combination cutter/stripper
- Adjustable stripping blade for UTP/STP; accommodates different insulation thicknesses without damaging conductors
- Self-regulating cassette blade prevents nicks
- Coax blade cassette is removable to adjust stripping depth of both blades with hex key included (Note: Hex key stores securely in bottom of tool)
- Contoured finger grips for cutting power

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046962	PA1119	Combo UTP/Coax SureStrip®



DATA SURESTRIP®

FEATURES

- Small, compact tool that cuts and strips multiple cable types:
 - 4-, 6- and 8- conductor flat satin cables
 - 4-, 6- and 8- conductor UTP/STP data cables
 - 25- vpair UTP/STP data and telephone cables
- Multi-conductor round bundled cables with a maximum diameter of .5" (12.7 mm)
- 14-8 AWG (2.5-75mm²) wire
- Nylon reinforced ABS plastic with stainless steel blade
- Fully adjustable with simple thumb screw
- Self-regulating to prevent nicking
- Contoured finger grips for power cutting



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050597	PA1116	Data SureStrip®

PUNCHDOWN STRIPPER

FEATURES

- Self-regulating strip depth
- Fast and easy to use
- Great for CAT-5, CAT-5e, and CAT-6 data cable
- Built-in 110 punchdown (punch only)



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051290	PA1913	Punchdown stripper

CST VARIO STRIPPER

FEATURES

- Most flexible coax stripping tool on the market
- Easy to set up and adjust
- Two- and three-level stripping
- Minimum center-to-center strip length is 0.13" (3.2 mm)
- Maximum total strip length is 0.67" (17 mm)
- Adjustable blade positioning in 0.04" (1 mm) increments
- Lifetime warranty on frame only

Not recommended for use on LMR or Teflon cables



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050510	PA3240	CST vario stripper

KWIK STRIPPER® TWISTED PAIR STRIPPER

FEATURES

- No tool is better for trimming the jacket from twisted pair cable without damaging the individual conductors
- Blade depth adjustment ensures precise cutting depth
- Blade penetration controlled by tension loop
- Strip length gauge

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50455796	45579	Kwik Stripper® Twisted Pair Stripper



CST STRIPPER

FEATURES

- Fixed blade system that accommodates 0.1"-0.315" (2.5-8.0mm) cable diameters including RG58/59/62AU, RG6, RG6 Quad, RG174,
- Belden 1505A, 1855A and 8281
- Cam adjustment ensures precise and repeatable hold on cable
- Memory blocks reduce set-up time and are easy to interchange and mark for various applications
- Blades are two-sided for longer use
- No cable jacket distortion during stripping process
- Blade cassettes easy to change
- Lifetime warranty on frame only

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050503	PA1240	CST Green - 3 Level (A=.279, B=.201)
52050570	PA2240	Green Blade Cassette only
52050508	PA1247	CST Orange - 3 Level (A=.327, B=.146)
52050576	PA2247	Orange Blade Cassette only
52050515	PA1248	CST Black - 3 Level (A=.344, B=.094)



CST PRO COAX STRIPPER

FEATURES

- Coax stripping system for precision & accuracy
- Works with a wide range of cable diameters from .1" - .315" (2.5-8.0mm) including: RG58/59/62AU, RG6/6QS, RG174, Belden 1505A, 1855A & 8281 and mini-coax
- Pre-set for standard 2- and 3- level strip lengths
- Coax stripper designed for pros requiring precision, versatility & ease of use
- Reversible-rollers easily adjust for various cable sizes including mini-coax
- Dual roller mechanism perfectly centers cable & applies equal pressure to eliminate cable distortion
- Quick-change pre-set blade cassettes
- Cam adjustment ensures precise hold on cable
- Fixed blade cassettes pre-set for standard 2- and 3- level strip lengths
- Interchangeable blades reduce set-up time

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52052366	PA1280	CST Pro Green 3-level (A=.279, B=.201)
52050521	PA1281	CST Pro Orange 3-level (A=.327, B=.146)
52050618	PA2281	Orange Blade Cassette only
52052367	PA1282	CST Pro Black 3-level (A=.344, B=.094)
52050619	PA2282	Black Blade Cassette only
52050522	PA1283	CST Pro Blue 2-level (A=.250)
52050620	PA2283	Blue Blade Cassette only



LC CST STRIPPERS

FEATURES

- Self-regulating tension
- Adjust cutting depth on each blade for varying cable thicknesses with the included hex key
- Pre-set for common strip lengths
- Blades adjust for strip dimensions other than our standard pre-set units*

*To adjust strip lengths simply change blade locations in the lower jaw to attain the following:

.157" (4 mm), .236" (6 mm), .315" (8 mm), .394" (10 mm) and .472" (12 mm)

Not recommended for use on LMR or Teflon cables.

Teflon is a registered trademark of E.I. du Pont de Nemours and Company



SPECIFICATIONS:

	PRESET STRIP LENGTH	CABLE USAGE
LC CST-58/59	0.315" outer jacket 0.157" inner dielectric	RG58, RG59, RG62 AU & RG6
LC CST-11	0.315" outer jacket 0.157" inner dielectric	RG8, RG11 & RG213
LC CST CATV "F"	0.236" outer jacket	RG59, RG6 & RG6 QUAD CATV"F" (preset for RG6 CATV "F")
LC CST-Mini	0.344" outer jacket 0.094" inner dielectric	RG178, RG179, RG188, AT&T 735(A), NT735, Belden 1855A, Belden 8218, RG180, RG187, RG188A, RG405 and more

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050513	PA1255	LC CST-58/59 - 2- & 3-Level, Adjustable
52050514	PA1256	LC CST-11 - 2- & 3--Level, Adjustable
52050517	PA1258	LC CST-Mini

UNIVERSAL SLITTER

FEATURES

- Strips and slits 0.18" to 1.0" (4.5-25mm) diameter Round Cables
- Precision stripping and slitting of rubber, PVC, nylon and most insulation materials
- Adjustable depth of cut
- Swivel blade for circular, longitudinal and spiral cuts
- Cable is supported during use
- Cable support arm edge is used to pry off thick insulation
- Laser-trimmed, stainless-steel blade for long use
- A perfect tool for mid-point taps
- Spare blade not included

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050604	PA1822	Universal Splitter
52050563	PA2109	Replacement Blade



AM 25 STRIPPER

FEATURES

- Strips and slits 0.18" to 1.0" (4.5-25mm) diameter Round Cables
- Adjustable cutting depth
- Swivel blade for circular, longitudinal and spiral cuts
- Spare blade in handle
- Cable holding clip with integrated edge for removing slit insulation
- Laser-trimmed, stainless-steel blade for long use
- Slits PVC, Teflon and THHN
- Perfect for armored cable

NOTE: Do not use on live circuits. Not for polyethylene, polypropylene or XLP insulations Teflon is a registered trademark of E.I. du Pont de Nemours and Company

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050560	PA1820	AM 25
52050563	PA2109	Replacement Blade



SEALTITE® ProM COAX CRIMPER

FEATURES

- Crimps weatherproof linear CATV "F", BNC, RCA & right-angle compression-type connectors from all manufacturers
- Works with RG6, RG6 Quad, RG59 & RG62AU coax cables
- Versatile tool - accommodates multiple connectors
- The only tool with a single, reversible head eliminating need for adapters
- No additional parts, attachments or other tools required to change from one crimp style to another
- Quickly & easily adjust crimp height
- Once properly set, lock with adjustment lock
- Rated life cycle 30,000 (unloaded)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055946	PA1559	SealTite® ProM Coax Crimper



PA70020 PRO COAX COMPRESSION TOOL

FEATURES

- Versatile tool crimps RG59, RG6, RG6 Quad, RG 7/11, BNC and RCA Compression Connectors
- Cable holder rotates to accommodate different connector sizes
- Adjustable Crimp length accommodates most manufacturers' connectors
- Once adjusted, no additional parts or adapters are needed to change from one crimp style to another

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52057138	PA70020	RG59/6Q-7/11 Pro Coax Compression Tool



CONNECTORS & ADAPTERS

SEALTITE® CABLE TV "F" COMPRESSION CONNECTORS

FEATURES

- Large hex nut for easy installations
- Patented design with 360° cable gripping sleeve
- Solid brass construction with nickel plating to prevent UV degradation

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051354	PA9611	RG6 & RG6 QUAD; 20 pack



SEALTITE® RCA COMPRESSION CONNECTORS

FEATURES

- Patented design with 360° cable gripping sleeve
- Full gold contacts for low signal loss
- Includes slip-on color bands for easy cable identification
- A set of bands includes 4 red, 2 green, 2 blue, 2 yellow and 2 white per ten connectors
- Constructed from solid brass with nickel plating

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051390	PA9714	RG6 & RG6 Quad; 10 pack



SEALTITE® BNC COMPRESSION CONNECTORS

FEATURES

- Patented design with 360° cable gripping sleeve
- Full gold contacts for low signal lossIncludes slip-on color bands for easy cable identification
- A set of bands includes 4 red, 2 green, 2 blue, 2 yellow and 2 white per ten connectors
- Constructed from solid brass with nickel plating

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051397	PA9740	RG6 & RG6 Quad; 50 pack



PUNCHDOWN TOOLS

SUREPUNCH PRO PUNCHDOWN TOOL

FEATURES

- Terminate cable in single punch - including 23 AWG Cat6
- Detachable light with long-life LED specially designed to focus the light on the panel work area
- Luminous intensity of the LED is 2200 mcd
- Finger grips and non-slip rubber-embedded cushioned handle for comfort
- Multi-use spudger that can be used as a screwdriver or an IDC contact insertion tool
- Hook to feed wires through holes
- Pick to separate bonded twisted-pair cables or to strip insulation and cut wire
- Adjustable HI/LO spring compression for all cable types LO = 27.5 lbs (122 N), HI = 37.5 lbs (167 N)
- Uses twist-and-lock style blades
- Blade storage area in end of handle with comfortable latch cover

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050824	PA3588	SurePunch Pro PDT with 1110/66 combination cut-only
52046976	PA3596	SurePunch Pro PDT with 110 reversible cut & punch/punch-only blade and light
52050826	PA3586	SurePunch Pro PDT with 110 & 66 reversible cut & punch/punch-only blades



SUREPUNCH PRO PUNCHDOWN TOOL

FEATURES

- Cushion grip, molded to the shape of your hand, for comfort and a sure, non-slip hold
- Increased HI/LO impact force to meet demands of new cable types and AWG sizes: LO= 30 lbs (133 N), HI= 40 lbs (178 N)
- For 28-22 AWG (0.08 - 0.34 mm²), solid or stranded wire
- Uses twist-and-lock style blades
- Cushioned heel for comfort in the palm of your hand
- New latch cover blade storage area in end of handle
- Lanyard holes in end



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050800	PA3570	SurePunch PDT® handle (no blade)
52050801	PA3571	SurePunch PDT® with 110/66 combination cut-only blade
52049236	PA3572	SurePunch PDT® with 110 reversible cut & punch/punch-only blade
52049269	PA3579	SurePunch PDT® with both 110 and 66 reversible cut & punch/punch-only blades
52046977	PA4571	SurePunch 110/66 combination cut-only blade
52046978	PA4572	SurePunch 110 reversible blade
52046979	PA4573	SurePunch 66 reversible blade
52046980	PA4574	SurePunch BIX™ cut-only blade
52046981	PA4575	SurePunch Krone® LSA cut-only blade
52046982	PA4591	SurePunch Double - 110 blade



PA4591

PA4573

PA6514

PA4571

PA4574

PA4572

PA4575



PROPUNCH™ 110 MULTI-PAIR PUNCHDOWN

FEATURES

Terminates and cuts up to five pairs of data/voice cable at the same time! We designed it to perform over 30,000 cycle punches and to terminate most 23 AWG cable pairs in one punch! This tool delivers more than one and a half times the force of other multi-punchdown tools on the market today. The rugged "no-slip" handle fits comfortably in your hand with the handle end contoured to the heel of your hand.

- Fewer punches saves time
- Smooth operation and rugged, comfortable handle absorbs punch recoil
Terminates 28-22 AWG (.08 - .34 mm²) solid or stranded wires with single insulation
- Cut and punch blade cassette or switch blades for punch only
- Designed to work with 23 AWG CAT 6 cable

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046974	PA3560	ProPunch 110 with 5-pair head
52050797	PA3561	ProPunch 110 with 4-pair head



NON-IMPACT PUNCHDOWN TOOLS WITH FIXED BLADES

FEATURES

- Non-impact, low-cost punchdown tools for 110, 66 & BIX
- Works with 28-22 AWG (.08 - .5 mm²)
- Solid or stranded, single insulation wire
- Comfortable rubber handle grip
- Performs both cut and punch functions
- Perfect for small jobs and the do-it-yourself installer
- Fits in the palm of your hand
- Typically lower in cost than replacement blades for punchdown tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050807	PA3580	110 Punchdown Tool



POCKET PROBE PICK

FEATURES

Probe pick for pulling wire, slicing, stripping cable and cleaning debris off terminal panels. Small and lightweight—pen-sized with clip for carrying in pocket.

- Spudger tip
- Wire hook
- Wire stripper and slitting tooth
- Non-conductive scraping tip

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049188	PA1915	Pocket Probe Pick



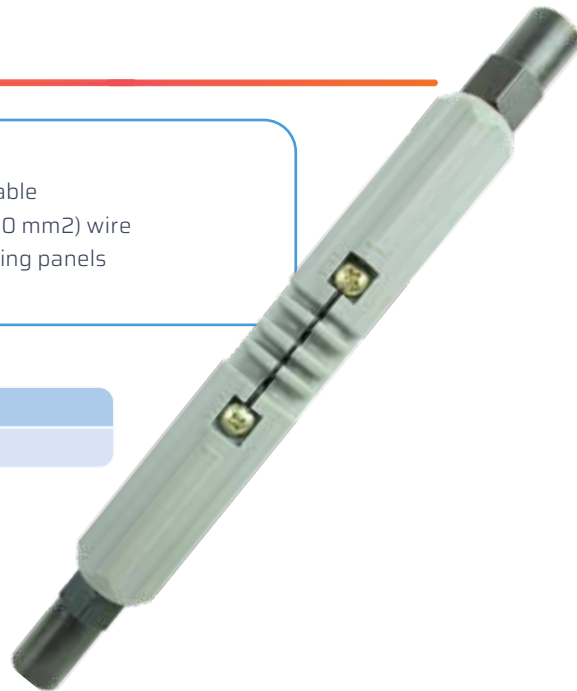
CAN WRENCH

FEATURES

- Strips PVC insulation
- Strips outer jacket of AWG 22/4 and 24/4 telephone cable
- Strips insulation of AWG 22 (.34 mm²) and AWG 24 (.20 mm²) wire
- 3/8" (9.5 mm) and 7/16" (11 mm) hex sockets for accessing panels
- Durable shock-resistant design

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049187	PA1900	Can Wrench



JACK TERMINATOR

FEATURES

- High-grade, hardened steel frame offers superior performance and durability
- Ratcheted action to ensure proper, consistent termination
- Adjustment feature for extra leverage applications
- Quick-change punch sets require no tools
- Removable jack cradle allows for alternate lacing option
- Punch heads can be purchased separately
- Rubber-embedded handles provide extra comfort
- For use with Modular Jacks listed below including CommScope® (Systimax®, Uniprise®), Leviton®, OCC®, HellermannTyton®, Hubbell® Premise Wiring and Legrand® (Ortronics®)
- Lifetime Warranty (crimper frame only)

SPECIFICATIONS:

	PA8100	GENERAL JACK TERMINATOR™ WITH PUNCH DOWN HEAD-SET	GENERAL PUNCHDOWN HEAD-SET	GENERAL PUNCH HEAD ONLY
Length	9.6" (245 mm)	9.75" (248 mm)	1.6" (40 mm)	1" (26 mm)
Height	3.25" (80 mm)	4" (102 mm)	4" (102 mm)	2.1" (55 mm)
Width	1.25" (32 mm)	1.25" (32 mm)	1.25" (32 mm)	1.25" (32 mm)
Weight	1.25 lbs (575 g)	1.4 lbs (652 g)	2 oz (54 g)	0.8 oz (23 g)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52057026	PA8106	Jack Terminator™ with Punchdown Head-Set Systimax® - MGS400, MGS500, MGS600
52057027	PA3712	Replacement Punchdown Head-Set Compability: Systimax® - MGS400, MGS500, MGS600
52057300	PA8109	Jack Terminator™ with Punchdown Head-Set Compability: OCC® - KMJA5E, KMJA6, K6A
52057302	PA8111	Jack Terminator™ with Punchdown Head-Set Compability: Hubbell® - HXJ Series



ALL-IN-ONE UTP PASS-THROUGH CRIMPER

FEATURES

- Cuts and strips round or flat cable
- All metal construction
- Cushion grips for improved comfort and control
- Works with Pass Through connectors

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55501089	PA1562	All-in-One UTP Pass Through Crimper
55504646	PA9560	Open-Pass CAT5E Modular Plugs
55504647	PA9562	Open-Pass CAT6E Modular Plugs



ALL-IN-ONE UTP SNAGLESS CRIMPER

FEATURES

- Cuts and strips round or flat cable
- All metal construction
- Cushion grips for improved comfort and control
- For standard and "snagless" RJ45 connectors
- Also crimps RJ11/22 and RJ22 WE/SS style plugs

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055947	PA1561	All-in-One UTP Snagless Crimper



ALL-IN-ONE PRO TELEPHONE TOOLS

FEATURES

- Crimps 4- position RJ22 connectors
- Crimps 4- and 6- position RJ11/RJ12 connectors
- Crimps 8- position RJ45 (non-keyed) connectors
- Embedded cable cutter and stripper
- Crimps 28-24 AWG (.08 - .20 mm2) telephone and data cables
- Comfortable rubber-embedded handles
- Built-in safety ratchet release

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049987	PA1540	All-in-One Pro Telephone Tool AMP (Tyco)
52047010	PA1530R	All-in-One Pro Telephone Tool (WE/SS)



MODULAR PLUG CONNECTORS

FEATURES

- RJ45 8-conductor modular plugs
- 50 micron gold plating
- Meets or exceeds EIA/TIA specifications



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051453	PA9549	Round, Flat or Oval; 100pack



TELEPHONE RATCHET CRIMPER

FEATURES

- Combination tool terminates 8- position, 6- position and 4- position (45575 only) modular style plugs
- No need to change crimping dies
- Full-cycle ratchet mechanism provides consistent quality terminations every cycle
- Straight action ensures uniform crimp
- Small, compact design
- Built-in wire cutter and stripper for flat cable
- All-steel frame has rust-resistant, black oxide finish

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50455532	45553	Telephone Ratchet Crimper
50455753	45575	Telephone Ratchet Crimper



45553

Typically used for Modular Plug Connectors.



45575

Typically used for Modular Plug Connectors our Telephone Ratchet Crimper was designed with a compact head to fit into tight spaces and ergonomic handles for operator comfort.



ADAPTER RJ11-UK 6-WAY BLISTER

FEATURES

- Nylon-reinforced ABS plastic body
- Easy-to-read wire layout
- Removable/replaceable patch cord
- Inline adapters
- Belt clip
- Notched copper contacts keep alligator clips attached during testing
- With "UK" BS6312 BT631A telephone plug cord as used in UK, Botswana, Cyprus, Eswatini, Gibraltar, Israel, Malta, New Zealand, Oman, Saudi Arabia, UAE, Zimbabwe etc.



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52086505	PA1921	Adapter RJ11-UK 6-way Blister

ADAPTER RJ45 MODULAR 8-WAY BLISTER

FEATURES

- Nylon-reinforced ABS plastic body
- Easy-to-read wire layout
- Removable/replaceable patch cord
- Inline adapters
- Snagless plugs
- Belt clip
- Notched copper contacts keep alligator clips attached during testing

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051670	PA1902	Adapter RJ45 Modular 8-way Blister



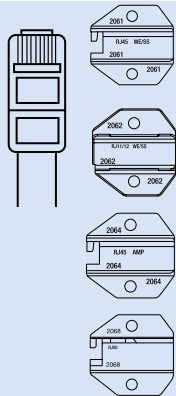
CRIMPERS & DIESETS

FEATURES

- Fully-ratcheting cycle with built-in safety release
- Interchangeable die sets of heat-treated steel for long life
- Easy to use and maintain
- Available as complete tool with die set inserted or separate tool frame and individual die sets
- Foam-lined case available to hold frame and 6 die sets together
- Lifetime warranty on tool; one-year on die sets
- EZI-Change™ die screws make changing dies quick and easy -no screwdriver required
- Most precise and tightest tolerances on die sets in the industry
- Six ratchet gear settings for optimum crimp performance

SPECIFICATIONS:

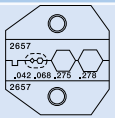
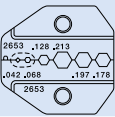
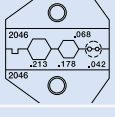
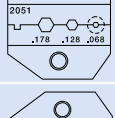
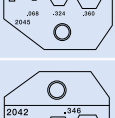
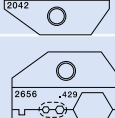
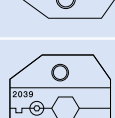
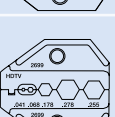
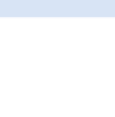
CrimpALL® INTERCHANGEABLE DIE SETS FOR MODULAR PLUGS

	CABLE TYPE	CONNECTION	CRIMP SIZE	TOOL/DIE	DIE ONLY	REMARKS
	RJ45 - 8P8C (8 Pin)	Flat/Round, Solid/Stranded	RJ45 Unkeyed WE and SS	PA1307	PA2061	Western Electric (WE)/Stewart Connector (SS)
	RJ11 & RJ12 - 6P6C, 6P4C, 6P2C	Flat/Round, Solid/Stranded	RJ11 & RJ12 Unkeyed WE and SS	PA8031 PA1340	PA2062	Western Electric (WE)/Stewart Connector (SS)
	RJ45 - 8P8C (8 Pin)	Flat/Round, Solid/Stranded	RJ45 Unkeyed AMP	PA1342	PA2064	AMP (Tyco) Inc Connectors Only
	RJ50 - 10P10C (10 Pin)	Flat/Round, Solid/Stranded	RJ50 Unkeyed WE and SS	PA1345	PA2068	Virginia Plastics

CrimpALL® INTERCHANGEABLE DIE SETS FOR COAXIAL CONNECTORS

	CABLE TYPE	CONNECTION	CRIMP SIZE	TOOL/DIE	DIE ONLY	REMARKS
	RG58, RG59, RG62AU	BNC/TNC & 3 Piece	0.256" (6.5mm), 0.213" (5.4mm), 0.068" (1.7mm) HEX	PA1317	PA2034	COMMON 2-PIECE & 3-PIECE BNC/TNC
	RG174, RG59/62, mini-coaxial 75-ohm	HDTV SMA, True 75-ohm BNC/TNC, Mini-UHF	0.255" (6.5mm), 0.197" (5.0mm), 0.178" (4.5mm), 0.068" (1.7mm) HEX & 0.042" (1.0mm) SQ	PA1366	PA2648	COMMON 2-PIECE & 3-PIECE BNC/TNC (KINGS, ADC, AMPHENOL, ETC.)
	RG59, RG6, Belden 8281, Belden 1694A	HDTV BNC/TNC/CATV "f" True 75-ohm	0.324" (8.2mm), 0.255" (6.5mm), 0.068" (1.7mm) HEX & 0.052" (1.3mm), 0.042" (1.0mm) SQ	PA1367	PA2649	COMMON 2-PIECE & 3-PIECE BNC/TNC (KINGS, ADC, AMPHENOL, ETC.)

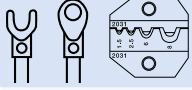
CrimpALL® INTERCHANGEABLE DIE SETS FOR COAXIAL CONNECTORS

	CABLE TYPE	CONNECTION	CRIMP SIZE	TOOL/DIE	DIE ONLY	REMARKS
	RG6, Belden 1694, Belden 1694A	HDTV BNC/TNC True 75-ohm	0.278" (7.0mm), 0.275" (6.9mm), 0.068" (1.7mm) HEX & 0.042" (1.0mm) SQ	PA1368	PA2657	COMMON 3-PIECE BNC/TNC (KINGS, ADC, AMPHENOL, ETC.)
	RG58, Mini-59, RG174, small coaxial	SMA, SMB, Mini-59 BNC/TNC, Mini-UHF	0.128" (3.2mm), 0.213" (5.4mm), 0.197" (5.0mm), 0.178" (4.5mm), 0.068" (1.7mm) HEX & 0.042" (1.0mm) SQ	PA1363		
	RG58, RG174, AT&T 735, 50 and 75-ohm	Thinnet, BNC/TNC, Mini-UHF	0.213" (5.4mm), 0.178" (4.5mm) 0.068" (1.7mm) HEX & 0.042" (1.0mm) SQ	PA1335	PA2046	50/75 ohm small 2-piece & 3-piece BNC/TNC (Kings, ADC, etc)
	RG174, RG179 and Small Cable Connection	BNC/TNC	0.178" (4.5mm), 0.128" (3.2mm), 0.068" (1.7mm) HEX	PA8008	PA2051	COMMON 2-PIECE & 3-PIECE BNC/TNC/SMA/SMB
	RG6 and RG6 Quad, Belden 1694A	BNC and CATV "F" Type & HDTV	0.360" (9.1mm), 0.324" (8.2mm), 0.068" (1.7mm) HEX	PA1356	PA2045	COMMON 2-PIECE & 3-PIECE BNC/TNC and CATV "F" 2-PIECE
	RG59, RG6 Video Cable	CATV "F" Type	0.346" (8.8mm)m 0.319" (8.2mm), 0.256" (6.5mm) HEX	PA1328	PA2042	CRIMPS FERRULES OR SLEEVES ONLY
	RG8, RG11, RG213	N-Type	0.429" (10.9mm), 0.100" (2.54mm), 0.080" (2.03mm) HEX	PA1365	PA2656	COMMON 2-PIECE & 3-PIECE "N" TYPE (KINGS, ADC, AMPHENOL, ETC.)
	RG8, RG11, RG213, RG216	N-Type, M539012 Type	0.415" (10.5mm), 0.095" (2.4mm) HEX	PA1319	PA2039	CRIMPS PINS AND FERRULES
	Belden 1855A, 1865A, 1505A, 1505F, 1694A, 1694F, 179DT	HDYV BNC/TNC True 75-ohm	0.178" (4.5mm), 0.255" (6.5mm), 0.278" (7.0mm), 0.068" (1.7mm), 0.041" (1.0) HEX	PA8049 PA1389	PA2699	KINGS, ADC, B&L TROMPETER, AMPHENOL, SWITCHCRAFT



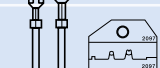
CrimpALL® INTERCHANGEABLE DIE SETS FOR INSULATED TERMINAL CRIMPERS

	CABLE TYPE	CONNECTION	CRIMP SIZE	TOOL/DIE	DIE ONLY	REMARKS
		Solid or Stranded Wire, 22-10 AWG (.34 - 6 mm ²)	12-10 (Yellow), 16-14 (Blue), 22-18 (Red), (6-4 / 2.5 - 1.5 / .34 - .75 mm ²)	PA8021 PA1305	PA2035	FOR LARGE PROFESSIONAL TERMINALS (PANDUIT, T & B ETC.)
		Solid or Stranded Wire, 22-12 AWG (.34 - 4 mm ²)	12-10 (Yellow), 16-14 (Blue), 22-18 (Red), (4/1.5 - 2.5 / .34 - .75 mm ²)	PA8022	PA2040	FOR STANDARD COMMERCIAL TERMINALS (HARDWARE STORE BRANDS)
		Solid or Stranded Wire, 26-14 AWG (.10 - 2.5 mm ²)	16-14 (Blue), 22-18 (Red), 22-26 (Yellow) (1.5 - 2.5 / .34 - .75 / .34 - .10 mm ²)		PA2029	FOR SMALLER WIRE BARREL TERMINALS

CrimpALL® INTERCHANGEABLE DIE SETS FOR NON-INSULATED TERMINAL CRIMPERS

	CABLE TYPE	CONNECTION	CRIMP SIZE	TOOL/DIE	DIE ONLY	REMARKS
	Non-Insulated Terminals and Lugs	Solid or Stranded Wire, 22-8 AWG (.34 - .10 mm²)	10-8 / 14-12 / 18-16 / 22-20 (6 - 10 / 2.5 - 4 / .75 - 1.5 / .34 - .50 mm²)		PA2031	FOR STANDARD COMMERCIAL TERMINALS

CrimpALL® INTERCHANGEABLE DIE SETS FOR OPEN BARREL, BOX & TERMINAL SYSTEMS

	CABLE TYPE	CONNECTION	CRIMP SIZE	TOOL/DIE	DIE ONLY	REMARKS
	Open Barrel Non-Insulated Terminals, Narrow Lugs and Power Contacts	Solid or Stranded Wire, 22-10 AWG (.34 - 6 mm²), F Type*	22-18 / 16-14 / 12-10 (.34 - .75 / 1.5 - 2.5 / 4-6 mm²)	PA1306	PA2033	FOR STANDARD COMMERCIAL TERMINALS
	Open Barrel Non-Insulated Terminals, Wide Lugs and Power Contacts	Solid or Stranded Wire, 22-14 AWG (.34 - 2.5 mm²), F Type*	16-14 / 22-18 (1.5 - 2.5 / .34 - .75 mm²)		PA2096	FOR STANDARD COMMERCIAL TERMINALS
	Open Barrel D-Sub Contact Pins RS-232	Solid or Stranded Wire, 28-20 AWG (.08 - .50 mm²), F Type*	28-24 / 22-20 (.08 - 2 / .34 - .5 mm²)	PA1359		

DIE BNC/TNC CATV "F"

FEATURES

- Common 2-piece and 3-piece BNC/TNC
- 4140 steel with black-oxide plating
- Use with both 8000 and 1300 series crimp tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051037	PA2649	DIE BNC/TNC CATV "F" RG59/Beldon 8281/169A and 1505A



DIE AMP 2.0/2.5/3.0 SC BLISTER

FEATURES

- Most precise and tightest tolerance
- 4140 steel with black-oxide plating
- Use with both 8000 and 1300 series crimp tools



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051060	PA2695	DIE AMP 2.0/2.5/3.0 SC BLISTER



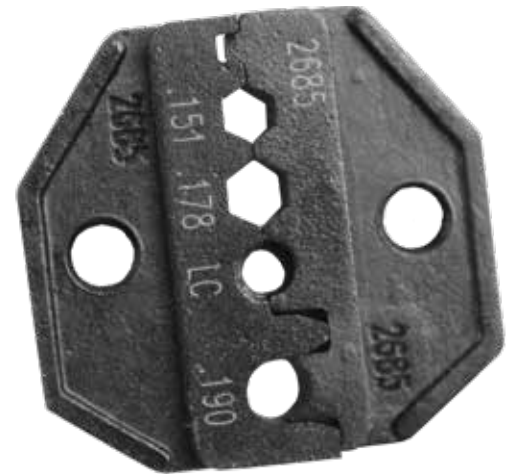
DIE FIBER LC/SC/ST/FC BLISTER

FEATURES

- Most precise and tightest tolerance
- 4140 steel with black-oxide plating
- Use with both 8000 and 1300 series crimp tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051053	PA2685	DIE FIBER - LC/SC/ST/FC BLISTER



DIE FIBER SMA/SMB/SC FOC-A2

FEATURES

- Most precise and tightest tolerance
- 4140 steel with black-oxide plating
- Use with both 8000 and 1300 series crimp tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051031	PA2652	DIE FIBER SMA/SMB/SC FOC-A2



DIE KINGS/ADC-1694A BLISTER

FEATURES

- Most precise and tightest tolerance
- 4140 steel with black-oxide plating
- Use with both 8000 and 1300 series crimp tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051038	PA2657	DIE KINGS/ADC-1694A BLISTER



DIE 1300/8000

FEATURES

- Most precise and tightest tolerance
- 4140 steel with black-oxide plating
- Use with both 8000 and 1300 series crimp tools

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051062	PA3703	DIE,1300/8000



POLISHING PUCK FIBER LC

FEATURES

- Manufactured from aluminum with tungsten coating
- Cleaner than conventional plastic pucks because less debris left behind
- Double the lifetime of conventional plastic pucks

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051276	PA1926-1	POLISHING PUCK FIBER LC



POLISHING PUCK FIBER SC ST FC

FEATURES

- Manufactured from aluminum with tungsten coating
- Cleaner than conventional plastic pucks because less debris left behind
- Double the lifetime of conventional plastic pucks

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051275	PA1920-1	POLISHING PUCK FIBER SC ST FC



D-SUB INDENT CRIMPERS

FEATURES

- Adjustable Pin Height Locator
- Cushion Grips for comfort

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52055943	PA1460	D-sub 4 Indent Crimper 26-20 AWG
52055944	PA1461	D-sub 4 Indent Crimper 20-12 AWG
52055945	PA1462	D-sub 8 Indent Crimper 26-20 AWG



1300 FIBER CRIMPER

FEATURES

- Fully-ratcheting cycle with built-in safety release
- Interchangeable die sets of heat-treated steel for long life
- Easy to use and maintain
- Available as complete tool with die set inserted or separate tool frame and individual die sets
- Foam-lined case available to hold frame and 6 die sets together
- Lifetime warranty on tool
- EZI-Change™ die screws make changing dies quick and easy – no screwdriver required
- Most precise and tightest tolerances on die sets in the industry
- Six ratchet gear setting for optimum crimp performance
- New packaging includes brown box instead of clamshell

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050014	PA1362	Crimper 1300 Fiber SMA/SMB/SC



OPEN BARREL CONTACT PIN CRIMPER

FEATURES

Professional crimping tool for open-barrel box and round connector contacts with a wire range of 30-18AWG (0.05-.75 mm²).

- Precision fixed dual-plate dies for crimp accuracy
- Crimps non-insulated terminal lugs, cable lugs and parallel and serial splices or "F-Type"
- Works with Molex, Waldom & Leoco-type connectors
- Durable steel construction for long life
- Rubber-embedded ergonomic handles for low-effort operation



SPECIFICATIONS:

WEIGHT	RANGE
14 oz. (400 g)	Small: 30-24 AWG (0.05-.20 mm ²) Medium: 22-18 AWG (.34-.75 mm ²)

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049995	PA1645	Open Barrel Contact Pin Crimper



EDAC/ELCO CRIMPER

FEATURES

Crimp tool for broadcast professionals terminating loose 28-18 AWG (.08-.75 mm²) EDAC and ELCO rack and panel open barrel contacts

- Crimps EDAC pins 516-290-590 & 516-290-591 along with ELCO pins 000-60-8017-03-13
- Embedded pin locators properly align pins to ensure accurate reliable crimping
- Fully-ratcheted to prevent under crimping
- Requires low hand force and provides superior crimp force
- True ergonomic design for extreme comfort and performance
- Non-slip, soft rubber handles
- Double-plated for extended long-life and crimping accuracy
- Factory-calibrated and set for precision



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050102	PA1670	EDAC/ELCO Crimper



PZ6 ROTO CRIMPER

FEATURES

- Professional-quality rotary crimping tool for insulated and non-insulated wire ferrules with a wire range of 24-10 AWG (0.25-6.0 mm²)
- Rotating die for front or side ferrule insertion
- Crimps conform to EN 60947-1 & DIN 46228 Pt. 1 and 4
- Hardened steel die system for long life
- Single tool for entire wire range (no additional dies are required)
- Durable steel construction for long life
- Ergonomic handles for low-effort operation



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050272	PA901435	Crimper PZ6 ROTO

ECON AMP/TYCO ALL-IN-ONE CRIMPER

FEATURES

- Crimps multiple AMP (Tyco) size modular plugs:
- RJ45 (8P8C), RJ11/RJ12 (6P4C, 6P6C) & RJ22 handset (4P4C).
- Cuts & strips flat and round cables.
- Comfortable to use with rubber-embedded handles & advanced ratchet.



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050101	PA1557	CRIMPER ALL-IN-ONE ECON AMP/TYCO

CRIMPER 1600 FRAME ONLY

FEATURES

- Low hand force & superior crimp force.
- Precision calibrated crimp profiles.
- Powerful & precise - the tool does the work, not your hand.



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049988	PA1600	CRIMPER 1600 Frame Only

CRIMPALL BROADCAST KIT

FEATURES

- Crimp tool and five coax die sets in a rugged nylon pack with outer holster and strap for belt or wrist.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52050403	PA4802	CrimpALL Broadcast Kit



CASE ZIPPER

FEATURES

- Versatile pocket and handle design keeps tools organized
- Keep your tools protected and easy to access

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049555	PA4391	Case Zipper 10x7x3



HEAT GUN

FEATURES

- Electronic variable heat control ranging from 250-1100° F (120-590° C)
- Two speeds: high & low
- Double insulation safeguards injury from possible electrical failure inside gun
- Comfortable, lightweight design reduces operator fatigue
- Three nozzles included: window nozzle, deflection nozzle and .47" (12 mm) focusing nozzle
- UL listed

SPECIFICATIONS:

POWER REQS.	CURRENT DRAW	POWER CONS.
120VAC 60 Hz	7.5 amps max	1200 watts max.

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52049268	PA1873	Heat gun



KNIFE PT-T01A

FEATURES

- Full size, no slip textured handle
- Blade designed to stay sharp
- Handle fits comfortably in your hand

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52056119	PT-T01A	KNIFE, PT-T01A



DESOLDERING TOOLS

FEATURES

- Removes solder with simple push-button operation
- Professional-grade desoldering tool made of high-quality metal with a heat-resistant nozzle.
- Powerful vacuum makes the removal and repair of solder quick and easy.
- Durable metal frame

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52051260	PA1700	Desoldering tool (standard)



KWIK CYCLE CABLE TIE GUNS

FEATURES

- Tension adjustment allows the user to adapt the tool to the size of the tie
- Automatic cut-off eliminates sharp edges on ties

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
50453009	45300	Heavy-Duty Cable Tie Gun



6-IN-1 MULTI-TOOL

FEATURES

- Versatile multi-bit screwdriver, 6 tools in one
- Precision machined, hardened steel bits
- High-grade, rust resistant, chrome-plated finish
- Cushion grip handle for extra comfort and torque
- Lifetime limited warranty

*Note: This is not an insulated tool

ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
55500511	SD6-in-1	Multi Bit 6-in1 Driver



LAN CABLE-CHECK

FEATURES

- Identifies cross-over telephone connections
- Automatically scans when cables connected and unit turned on
- Two scan speeds: fast or slow
- Maps connector and cable pin out
- Tests cables up to 1,650' or 500 m
- Also tests RJ11 connections using an RJ11 adapter (not included)
- 2, RJ45 patch cords and 9V battery included
- Contained in a durable nylon carrying case with belt loop
- Patented - Patent # 6466885



SCAN TO WATCH THE VIDEO



ORDERING INFORMATION:

PART NO.	CAT. NO.	DESCRIPTION
52046967	PA1574	CableCheck-LAN



North America

1.800.642.2155

Latin America

1.760.510.0558

EMEA

+44 (0) 1633.927.050

FOR PRODUCT VIDEOS,
DEMONSTRATIONS & MORE, VISIT:

TEMPOCOM.COM

1390 Aspen Way Vista, CA • 92081

@2024 Tempo Communications Inc. • An ISO 9001 Company

EMEA Address: Tempo Europe Limited

Brecon House • William Brown Close • Cwmbran • NP44 3AB • UK

India & SAARC Region Sales

Email Sales: indiasales@tempocom.com • Email Support: indiasupport@tempocom.com

SCAN TO VIEW OUR
OTHER CATALOGS



LAST UPDATED 05.24.2024
55501513_REV5