

OPTICAL COMMUNICATION PRODUCT MANUAL



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OPTICAL COMMUNICATION EQUIPMENT

Optical Fiber Fusion Splicer - S3

S3 Optical fiber splicer is a four-motor, 50KM trunk line dedicated optical fiber splicer. With high precision, high stability, fully automatic V-slot cored automatic fiber fusion mode.



Standard configuration:

Main machine, TFN fiber cleaver, TFN fiber stripper, TFN leather wire stripper, TFN kevlar scissors, 2 packs of heat shrink tubing, alcohol pot, power adapter, power cord, cooling rack, electrode rod, large-capacity battery, shoulder strap, operating instructions, carrying case

Product advantage

- High precision core alignment
- Automatic fiber welding mode
- Color HD capacitive touch screen
- Button and touch screen dual operation mode
- Four core internal processor, boot only 3 seconds
- V-groove core adjustment
- 4.3-inch high resolution
- 380x optical fiber amplification bare fiber core
- Lightweight design, 1.965KG(main engine + battery)
- Welding time up to 6s, heating time up to 15s
- Equipped with 5200mA pluggable large capacity battery, typical connection 240 core (welding + heating)
- Dust proof, wind proof, high temperature resistance, high altitude, adapt to harsh environment



Performance technical indicators:

Average loss of welding	SM (0.02dB) /MM(0.01dB)/DS(0.04dB)/NZDS(0.04dB)/G.657(0.02dB)
Return loss	>60dB
Welding time	SM Standard welding time: 7s/SM , SM FASTmode: 6 s
Rod life	Electric discharge 5000 times
Applicable fiber type	SM (ITU-TU.625) , MM (ITU-T G.653) , NZDS(ITU-T.655),G657A,G657B 0.25mm,0.9mm,2.0mm,2.4mm,3.0mm,FLAT(indoor cable)
Optical fiber placement and cutting length	Coating layer: 0.125-1mm/ Cutting length: 8-16mm
Optical fiber alignment system	Core alignment
Heater for heat shrink tube	40mm, 60mm, SOC-3.0, SOC-0.9
Typical heating time	20s, 10-900S Optional/High precision mode 7 seconds
Welding mode	Preset 41 welding modes, can store 100 modes
Weld result	Internal storage of 2000 latest records
Storage battery welding and heating times	Typical number is 240 (welding + heating)
Observation and display mode	Dual camera, 4.3-inch color HD LCD display
Optical fiber amplificatio and display	X,YX/Y, double click 380X
Power supply	Ac 100-240V input or DC 9-14V

Optical Fiber Fusion Splicer - S5

S5 optical fiber welding machine is a six motor, 80KM trunk line special optical fiber welding machine. Fully automatic fiber fusion mode with high precision core alignment and V-slot focus core-tuning.



Standard configuration:

Main machine, TFN fiber cleaver, TFN fiber stripper, TFN leather wire stripper, TFN kevlar scissors, 2 packs of heat shrink tubing, alcohol pot, power adapter, power cord, cooling rack, electrode rod, large-capacity battery, shoulder strap, operating instructions, carrying case

Product advantage

- High precision core alignment
 - Automatic fiber welding mode
 - Color HD capacitive touch screen
 - Button and touch screen dual operation mode
 - Four core internal processor, boot only 3 seconds
 - Equipped with 5200MA pluggable large capacity battery, typical connection 240 core (welding + heating)
 - Dust proof, wind proof, high temperature resistance, high altitude, adapt to harsh environment
- v-groove focus core adjustment
 - 5.0 inch high resolution
 - 500x optical fiber amplification bare fiber core
 - Lightweight design, 1.965KG(main engine + battery)
 - Welding time up to 6s, heating time up to 15S

To meet the needs of different projects:



80KM trunk line



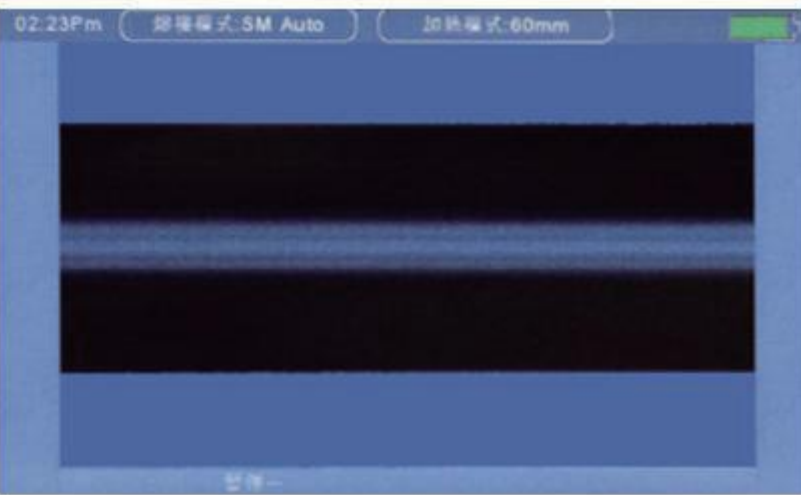
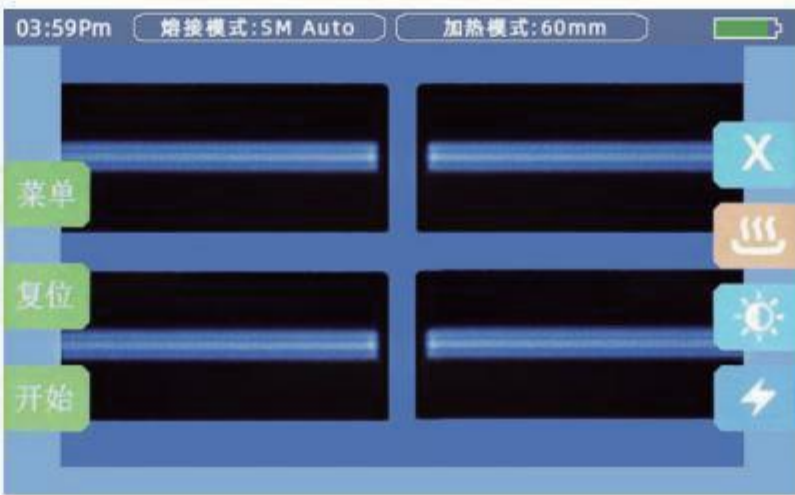
Urban line line



Security monitoring



Machine room installation and maintenance



Performance technical indicators:

Average loss of welding	SM (0.02dB) /MM(0.01dB)/DS(0.04dB)/NZDS(0.04dB)/G.657(0.02dB)
Return loss	>60dB
Welding time	SM standard welding time 7s/SM, SM FAST mode: 6 s
Rod life	Discharge 5000 times
Applicable fiber type	SM (ITU-TU.625) , MM (ITU-T G.653) , NZDS(ITU-T.655),G657A,G657B 0.25mm,0.9mm,2.0mm,2.4mm,3.0mm,FLAT(indoor cable)
Optical fiber placementand cutting length	Coating layer: 0.125-1mm/ Cutting length: 8-16mm
Optical fiber alignment system	Core alignment
Heater for heat shrink tube	40mm, 60mm, SOC-3.0, SOC-0.9
Typical heating time	20s, 10-900S Optional/High precision mode 7 secondsrese
Welding mode	Pre set 41 welding modes, can store 100 modes
Welding results records	Internal storage of 2000 latest records
Battery welding andheating times	Typical number is 240 (welding + heating)
Observation and display mode	Dual camera, 5.0-inch color HD LCD display
Optical fiber amplification and display	X,Y,X/Y, double click 500X
Power supply	AC 100-240V input or DC 9-14V

Optical Fiber Fusion Splicer - S7

S7 optical fiber welding machine is a six motor, 100KM trunk line special optical fiber welding machine. Fully automatic fiber fusion mode with high precision core alignment and V-slot focus core-tuning.



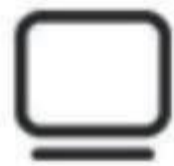
Standard configuration:

Main machine, TFN fiber cleaver, TFN fiber stripper, TFN leather wire stripper, TFN kevlar scissors, 2 packs of heat shrink tubing, alcohol pot, power adapter, power cord, cooling rack, electrode rod, large-capacity battery, shoulder strap, operating instructions, carrying case

Product advantage

FUNCTION

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5 inch HD screen



High precision alignment



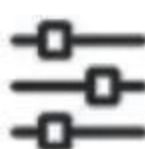
6 second weld



Ultra-low loss



Large capacity battery



3-in-1 fixture



Performance technical indicators:

Average loss of welding	SM (0.02dB) /MM(0.01dB)/DS(0.04dB)/NZDS(0.04dB)/G.657(0.02dB)
Return loss	>60dB
Welding time	SM standard welding time 7s/SM, SM FAST mod
Rod life	Discharge 5000 times
Applicable fiber type	SM (ITU-TU.625) , MM (ITU-T G.653) , NZDS(ITU-T.655),G657A,G657B 0.25mm,0.9mm,2.0mm,2.4mm,3.0mm,FLAT(indoor cable)
Optical fiber placementand cutting length	Coating layer: 0.125-1mm/ Cutting length: 8-16mm
Optical fiber alignment system	Core alignment
Heater for heat shrink tube	40mm , 60mm , SOC-3.0 , SOC-0.9
Typical heating time	20s, 10-900S Optional/High precision mode 7 seconds
Welding mode	Preset 41 welding modes, can store 100 modes
Welding results records	Internal storage of 2000 latest records
Battery welding andheating times	Typical number is 240 (welding + heating)
Observation and display mode	Dual camera, 5.0-inch color HD LCD display
Optical fiber amplification and display	X,Y,X/Y , double click 500X
Power supply	Ac 100-240V input or DC 9-14V

Optical Time Domain Reflectometer (OTDR) - F7

F7 is a high performance multi-function test instrument designed for optical fiber backbone networks. The product can achieve a maximum 45DB dynamic range, a maximum range resolution of 0.05M, a minimum test blind area of 0.8M, with dual wavelength, three wavelengths, four wavelengths, as well as single, multi-mode integration and other rich configuration function modules, among which the optional online test module to achieve the link with light non-destructive testing, unique test results self-diagnosis function. The reliability and validity of the test results are greatly guaranteed. According to customer requirements, the light source, optical power meter, VFL,optical fiber end detection, optical loss test, fault location, optical eye (MAP view), single mode and multi-mode test and Model number other test functions.



Product advantage

- Ultra-short event blind zone of less than 0.8M, test fiber jumper easily
- Integrated 5.7-inch color TFT LCD display, button/touch dual operation
- Dynamic range: 35/33DB, up to 45DB
- Optical eye (MAP view of optical link Intelligent analysis) fault location
- Built-in stable light source function 1310/1550NM;
- Built-in optical power meter test function;
- Built-in Visual red Light fault Location (VFL)
- Built-in light loss test
- Built-in optical fiber end detection; Support USB probe
- Unique test result self-diagnosis function;

The nine major functions are



Performance technical indicators:

Mode Number Items	S1	S3	S4	T1	T2	T3	F1	M1	SM1
Type	Single Mode							Multi Mode	SM & MM
Reveal	8 inch color LCD + Touch screen								
Wavelength	1310/1550nm			1310/ 1490/ 1550nm	1310/ 1550/ 1625nm	1310/ 1550/ 1650nm	1310/ 1490/ 1550/ 1625nm	850/ 1300nm	850/ 1300/ 1310/ 1550nm
Dynamic Range	35/33dB	40/38dB	45/43dB	38/36 /36dB	38/36 /36dB	38/36 /36dB	37/35/ 35/35dB	26/28dB	26/28/ 35/33dB
Event Dead Zone	1m	0.8m					1m		
Attenuation Dead Zone	5m	4m					5m		
Test range	500m /1km /2km /4km /8km /16km /32km /64 km /128km /256km								
Test pulse width	5ns/ 10 ns/ 50ns/ 160ns/320ns/ 500ns/ 1000ns/ 5000ns/ 10000ns/20000ns								
Ranging accuracy	± (0.75m+ sampling interval + 0.005%X test distance)								
Reflection accuracy	±3dB								
Optical port type	FC/PC (interchangeable SC, ST)								
VFL output	>/mwW								
Light source output	>-5dBm								
Optical power meter	+26dBm ~ -50dBm (Replaceable: +6dBm ~ -70dBm)								
Power supply mode	AC/DC adapter: AC: 100V ~ 240V,50/60Hz,0.6A lithium battery: 7.4V 6700mAh, lithium ion								
Operating temperature	-5℃~50℃								
Storage tempreature	-20℃~70℃								
Relative	no condensation								
Machine weight	<1.1kg								
Volume	227mm X 160mmX70mm								

High-performance Optical Time Domain Reflectometer RM7

RM7 has a 10.1-inch multi-touch capacitive touch screen. The product has a starting dynamic range of 42/40dB and can be configured to a 50dB dynamic range. It has a test resolution of 0.05m and a test blind area of 0.6m. It has rich configuration function modules such as dual-wavelength, three-wavelength online testing, four-wavelength, and single-mode and multi-mode integration. Its excellent algorithm and comprehensive analysis capabilities greatly guarantee the high accuracy and reliability of the test results

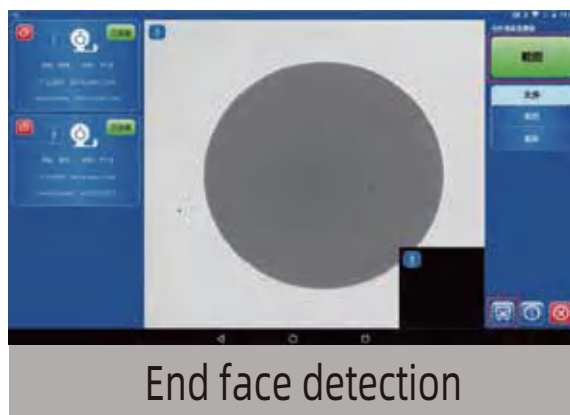
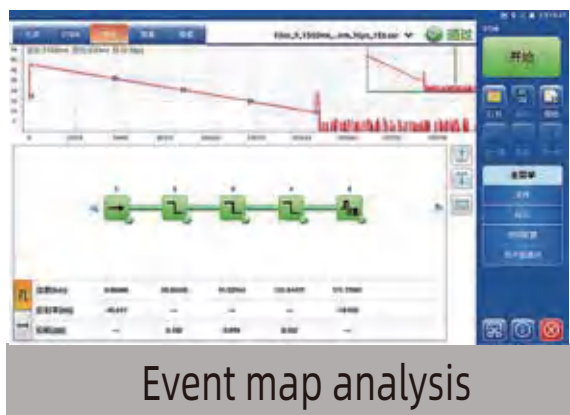
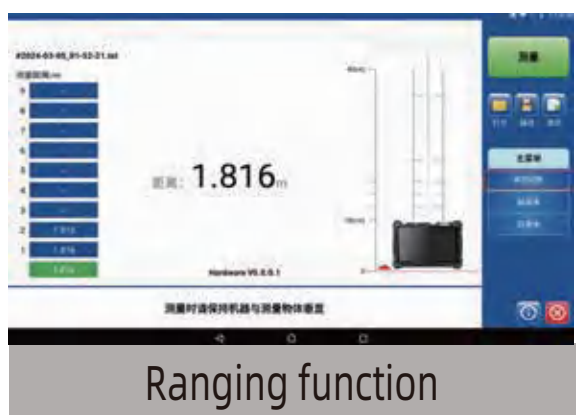
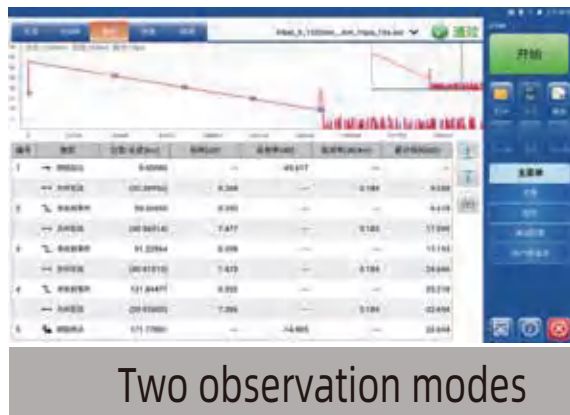
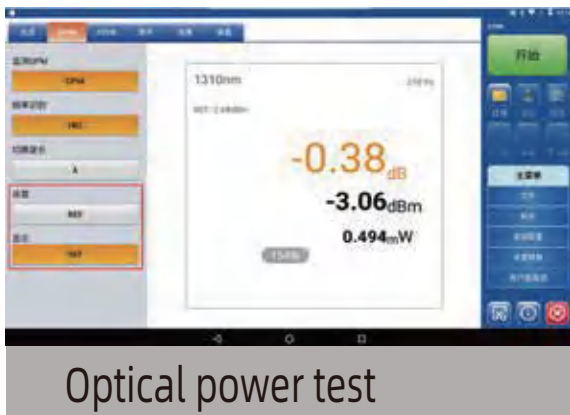
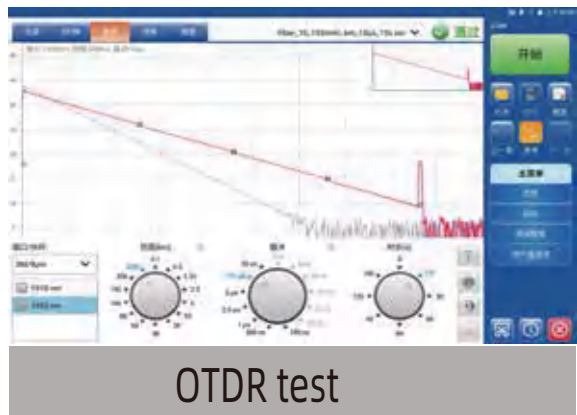
It has comprehensive functions and is equipped with optical power meter, VFL, fiber end face detection, optical loss test, fault location, optical eye (intelligent optical link analysis), laser distance measurement, and line finder network function test. Its OPM&VFL module and laser distance measurement module can be plugged in and used independently and integrated in the system.



Product Advantages

- 10.1-inch large-screen color LCD display, brightness can be adjusted manually
- Ultra-large dynamic range of 50/48dB, supports ultra-long distance testing
- DC/AC dual-power supply
- Data interface USB (host and client), supports multiple data backup methods
- Randomly comes with PC management and analysis software for later archiving and management of measurement data
- Large-capacity battery, can work continuously for more than 15 hours after a full charge
- Multi-touch touch screen operation, easy and fast operation
- 16G large-capacity data storage
- Automatic screen saver function, saves power consumption

Independent pluggable module



Performance Technical indicators:

MODEL	RM7-S3	RM7-S4	RM7-S5	RM7-M1	RM7-C1	RM7-SM1
Wavelength (nm)	1310±20 1550±20	1310±20 1550±20	1310±20 1550±20	850±20 1300±20	1310±20 1550±20 1625±20	850±20 1300±20 1310±20 1550±20
Number of optical interfaces	1 PIECE				2 PIECE	
Connector end face	UPC/APC				APC/APC	UPC/APC
Test range(km)	0.1,0.5,1,2.5,2.5,5,10,20,40,60,80,100,150,200,330,Custom					
Pulse width (ns)	SM:3,5,10,25,50,100,250,500,1000,2500,5000,10000,20000					
	MM(850):5,10,25,50,100,250,500,1000					
	MM(1300):5,10,25,50,100,250,500,1000,5000					
Dynamic range(dB)	42/40	45/43	▲50/48	26/32	44/42/40	26/32/40/38
OPM Parameters				VFL Parameters		
Custom	800~1700NM			Wavelength	650±20NM	
Calibration wavelength	850,980,1270,1300,1310,1490,1550,1577,1625,1650NM			Modulation mode	CW,Output power(约 2HZ)	
Power range	50DBM~+30DBM			Output power	10MW	
Connector	2.5MM universal interface			Output power	2.5mm universal interface	
★Is it possible to plug and unplug the module: Yes						
Laser distance measurement						
Measurement range	0.03~40M					
Resolution	0.01 M					
Accuracy	0.02M					
Measurement unit	M/FT					
★Is it possible to plug and unplug the module: Yes						
★Display screen		10.1-inch 1280*800 high brightness, color, TFT screen				
Wireless technology	Cellular network	FDD-LTE/TDD-LTE/WCDMA/TD-SCDMA/GSM/EDGE				
	WiFi	2.5G+5G,802.11A/B/G/B/AC				
	Cellular network	BT4.2(BR/EDR+LE)				

Optical Communication Comprehensive Tester - GP200

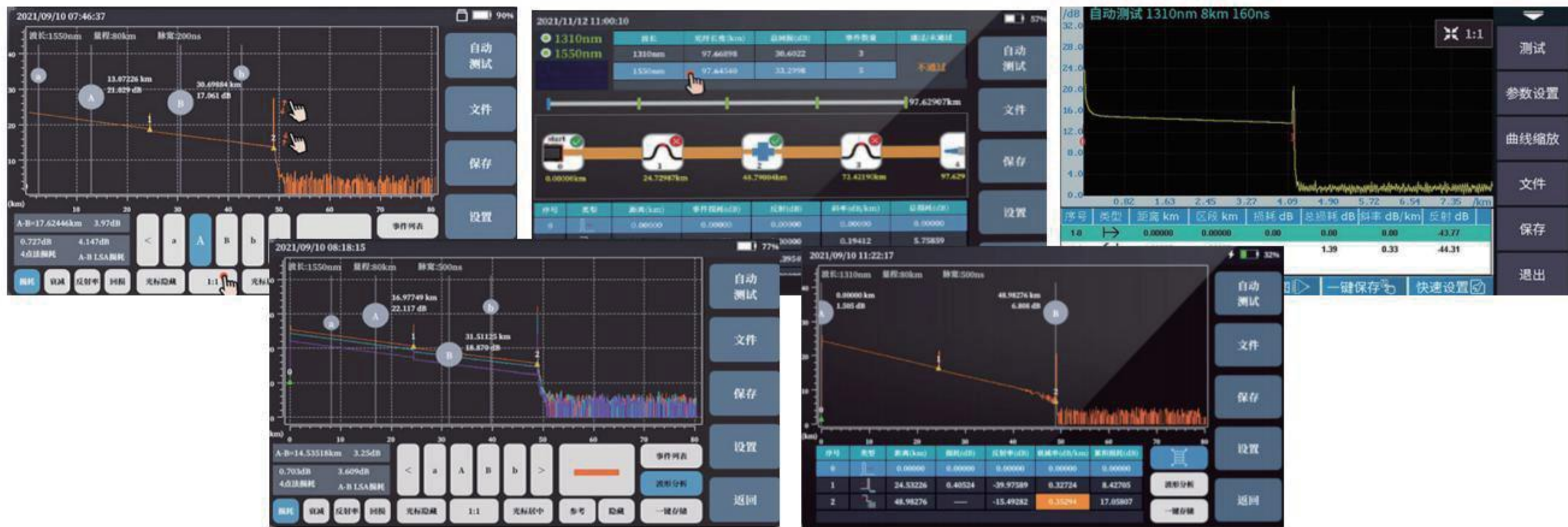
GP200 series optical communication comprehensive tester is a collection of OTDR, optical cable census instrument, optical eye, optical work, light source, red light, end detection of the integrated machine is a fiber optic cable testing instrument, can meet the optical cable construction and maintenance process required by most of the functional requirements.



Product advantage

- Touch screen + button operation, easy to use
- Support low power mode, longer working time
- Mechanical vibration of hundreds of kilometers long distance sensing cable
- Locate the target cable through audio and visual signals (bar chart/ECG mode is optional) i n complex environments
- In the harsh environment of the line is still responsive, clear sound, visual image, fast searc h
- Strong adaptability to the line environment (terminal PC, APC, fracture, etc.)
- Working mode automatic, manual optional
- Non-destructive testing, high identification accuracy

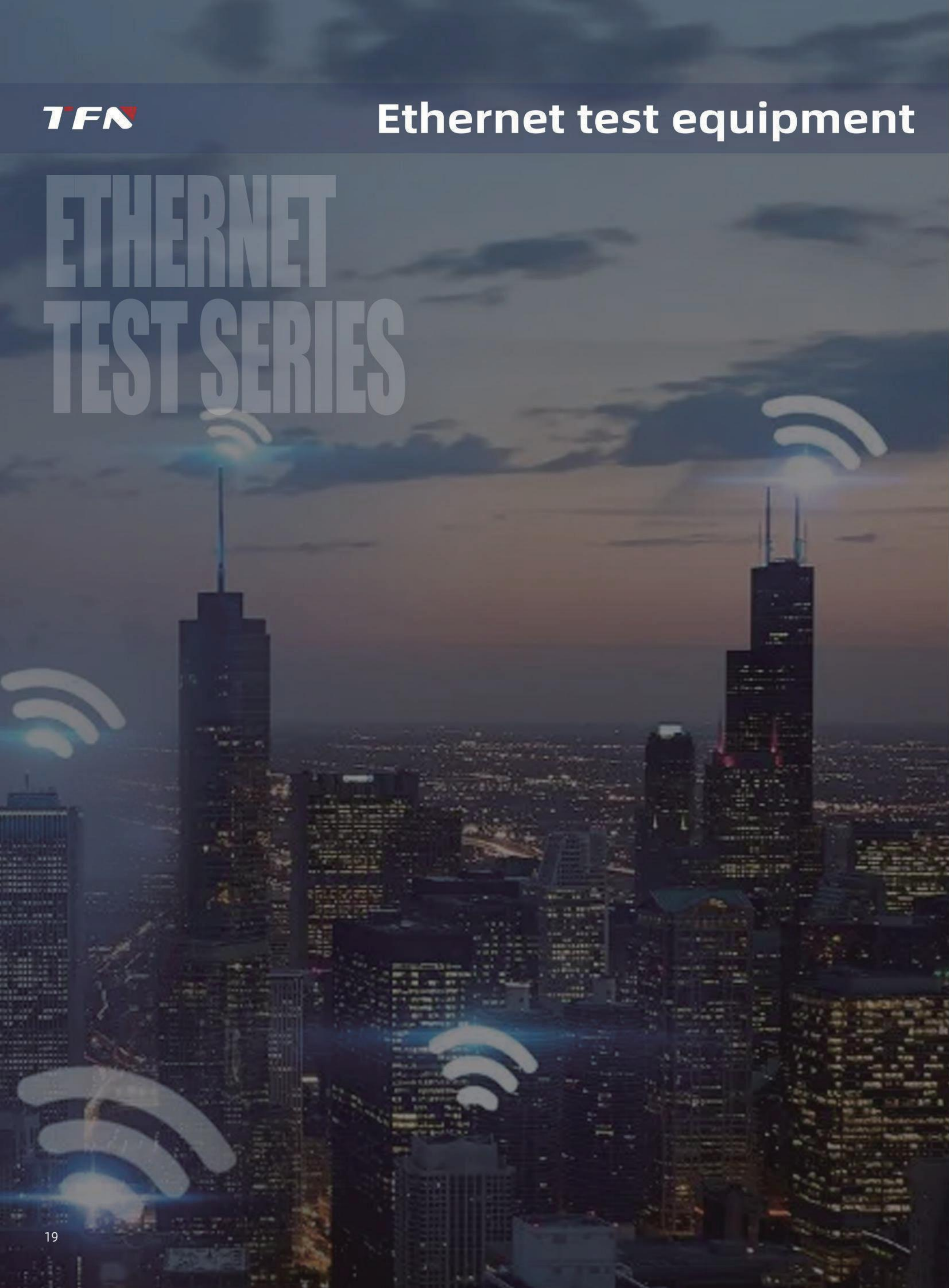
One machine multi-function intelligent operation:



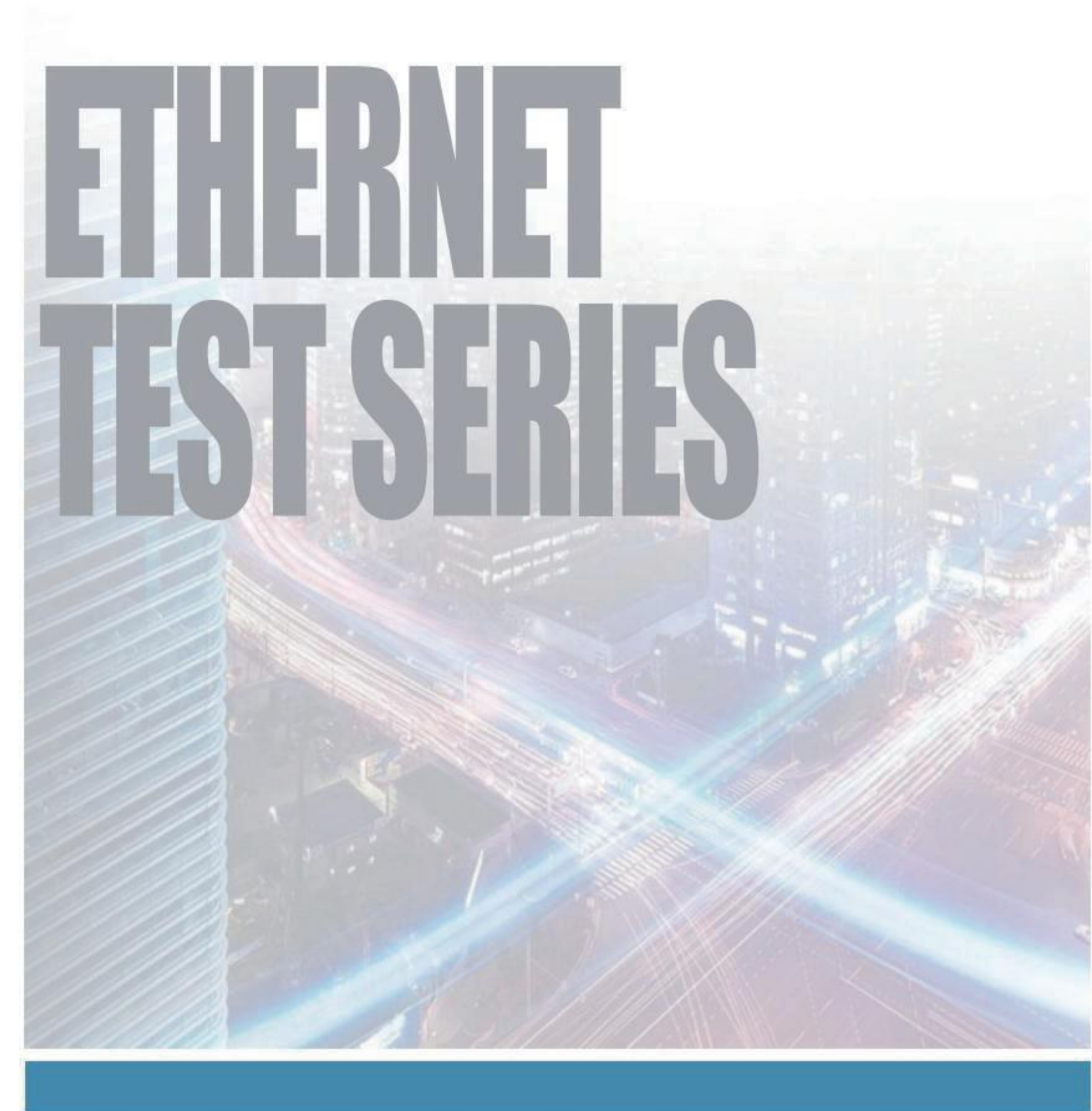
Performance technical indicators:

Optical cable censer			
Type number		GP200	
Measurement mode		Single fiber test (no loopback required)	
Operating wavelength		1550nm+20nm	
Test distance		40km	100km
Unidirectional cable loss		14dB	24dB
Output mode	Real-time waveform display	support	support
	Real-time audio alerts	support	support
Initial blind area		Non-blind area	
Signal-to-noise ratio		>10dB	
Fiber type		SMF	
Optical connector		FCAPC	
Optical time domain reflectometer			
Type number		S1	S2 S3
Generic type		Single mode	
display		5.8-inch color LCD + touch screen	
Wave length		1550nm±20nm	
Maximum dynamic range		30dB	32dB 36dB
Event blind/attenuation blind		1m/6m	
Test range		500m/1km/2km/4km/8km/16km/32km/64km/128km/256km	
Test pulse width		5ns/10ns/50ns/80ns/160ns/320ns/500ns/800ns/1000ns/5000ns/8000ns/10000ns/20000ns	
Ranging accuracy		± (0.75m+ sampling interval + 0.005% × test distance)	
Loss accuracy		±0.05dB/dB	
Reflection accuracy		±3dB	
Data storage		≥2000	
Optical connector		FC/APC(Interchangeable SC、ST)	
Data interface		USB, Mini-USB, 10M/100M Ethernet port (optional)	

ETHERNET TEST SERIES



ETHERNET TEST SERIES



10 Gigabit Ethernet tester - T3000A

Used to provide a complete test solution for the next generation network, the test suite with multiple functions is a field test tool for opening and verifying the network performance, supporting 10/100/1000Mb/s electrical Two 10GIGE interfaces SFP+ optical port(10G)lnterface, 100/1000M SFP optical interface and dual 10Gbps SFP+ optical interface. Capable of generating Ethernet test for various business traffic generation and data analysis. It provides services such as instal-lation and maintenance of Ethernet systems and activation of new services. By integrating in a single platform, it can provide a variety of test function at the same time, which can verify and evaluate various QoS indicators of the network, and has a full EtherSAM function.



Product advantage

- Supports two 10/100/1000BASE-TRJ45 electrical ports, two 100/1000BASE-XSFP optical ports, and two 10GE SFP+ optical ports
- It can generate 10M~10GB/S traffic and support LAN/WAN mode
- Support 1~4 layer error rate test
- Support up to 16 business traffic generation for multi-service testing
- Support standard RFC2544 testing
- Support for standard Y.1564 testing
- Support OAM testing (optional)
- Support VLAN testing and priority configuration, and support VLAN Q-IN-Q testing
- Support MPLS testing and level 3 MPLS nested testing
- Support business service interruption time measurement
- Support COS and TOS/DSCP service priority testing. Capture and analyze various data packets. Intelligent detection and remote loopback testing are supported



Performance technical indicators:

Optical interface	Two GIGE interfaces		
	1000Base-SX	1000Base-LX	1000Base-ZX
Wavelength (NM)	850	1310	1550
Laser type/connector/transceiver type	VCSEL/LC/SFP	FP/LC/SFP	DFB/LC/SFP
Electrical interface	2 pieces 10/100BASET half/full duplex, 1000BASET full duplex, select through or cross cable		
	10BaseT	100BaseT	1000BaseT
Coupler	RJ-45	RJ-45	RJ-45
SFP+ optical port(10G)	Two 10GIGE interfaces		
	10GBase-SR/SW	10GBase-LR/LW	10GBase-ER/EW
Wavelength (NM)	850	1310	1550
Laser type/connector/transceiver type	VCSEL/LC/SFP+	DFB/LC/SFP+	CML/LC/SFP+
Test item			
Y.1564	Network configuration and service testing according to ITU-T Y.1564. Tests can be performed using remote loopback or dual test equipment modes for bi-directional results		
RFC2544	Throughput, back-to-back, frame loss and latency can be measured in accordance with RFC 2544. Frame size: RFC-defined size, user-configurable from 1 to 7.		
BERT error test	Layer 1 to Layer 4 support with or without VLAN Q-in-Q		
Punch through mode	Segmentation of information flows between the service provider's network and customer premises equipment		
Service interruption time(SDT)	Includes statistics including shortest interrupt time, longest interrupt time, last intermediate time, average interrupt time, total interrupt time and pass/fail thresholds		
Multistream generation	The ability to transmit and monitor up to 16 data streams over Ethernet and IP networks		
Information flow generation and monitoring	Ability to generate traffic and monitor Ethernet and IP traffic, and ability to shape traffic based on the following statistics: throughput, frame loss, frame sorting, packet jitter, delay, frame size, flow type, and traffic monitoring.		
VLAN stack	The ability to generate data streams with up to 2 layer vlans (including IEEE802.1ad Q-in-Q tagged vlans) by VLAN ID or VLAN priority on any stacked VLAN layer		
IPV6 test	Includes BERT, RFC2544, Flow generation and monitoring, background flow, intelligent loopback, Ping, and traceroute		

Network comprehensive tester

T6300A

T6300A-PRI network tester integrates 10/100/1000M Ethernet, E1,PRI, V.35/V.24, OTDR, optical power meter test a variety of physical interfaces,supporting ISDN PRI handheld test as one comprehensive tester.Through handheld verification of 30B+D signaling and voice channel resources, intelligent operation, can quickly get test results, support loop discovery, intuitive verification of ring status, 7.0 inch touch screen, professional and fast user experience easy to use,simple operation,language can be customized.



Product advantage

- 10/100/1000M independent dual electrical and optical ports
- Automatic identification of 10/100/1000M network services
- Support for RFC2544 standard throughput, delay, jitter, frame loss and back-to-back testing
- RFC2544 remote loopback, dual-system test mode
- Traffic generation and online monitoring, historical event list
- Support through-through, packet capture, data filtering functions
- With L1 to L4 layer loopback function
- Route equivalent loopback
- Line speed PING
- Support MSTP test function



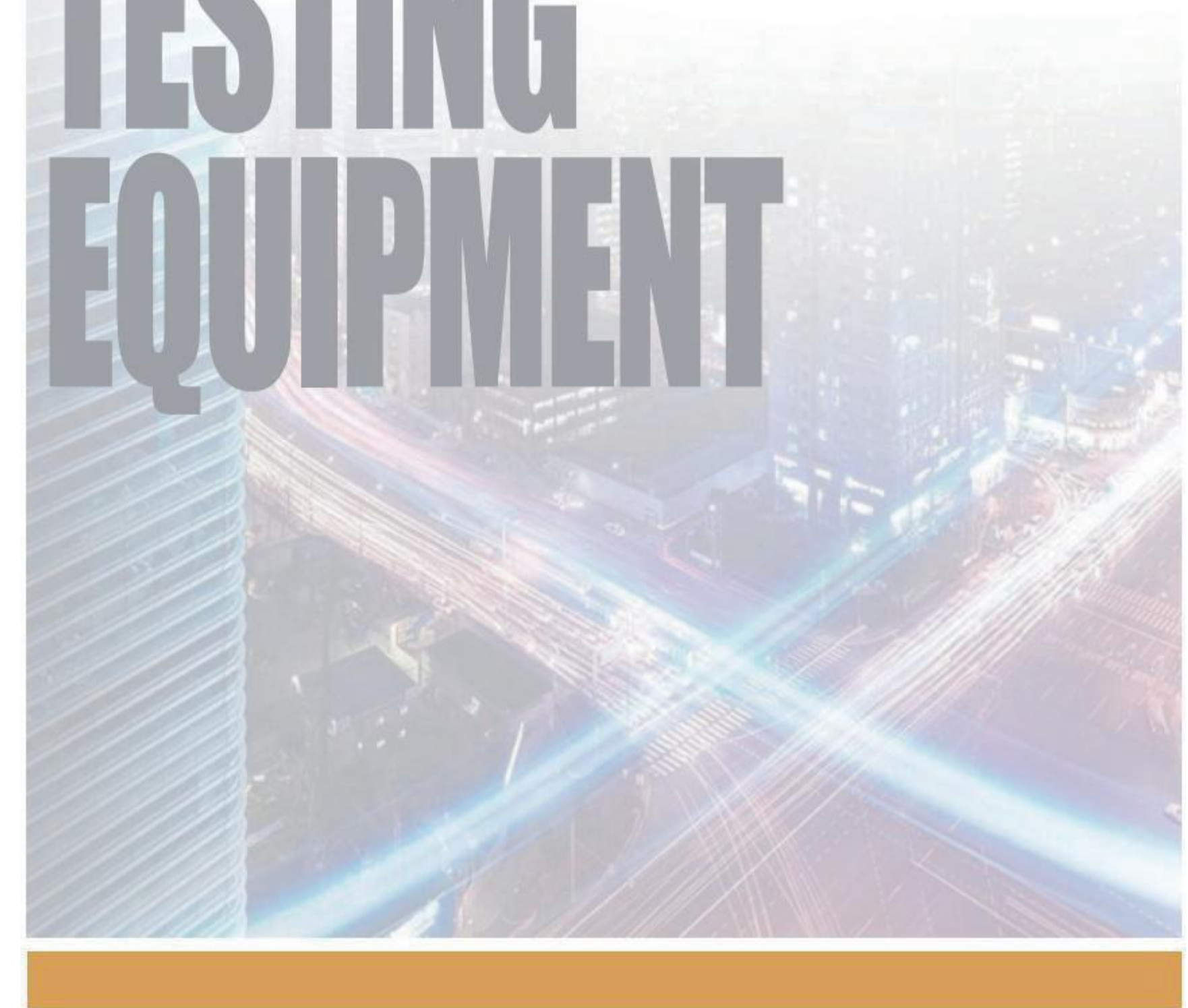
Performance technical indicators:

10/100/1000M Ethernet test	<ul style="list-style-type: none"> ● 10/100/1000M independent dual electrical and optical ports ● Automatic identification of 10/100/1000M network services ● Support for RFC2544 standard throughput, delay, jitter, frame loss and back-to-back testing ● RFC2544 remote loopback, dual-system test mode ● Support through-through, packet capture, data filtering functions ● Route equivalent loopback ● Support MSTP test function ● Support network discovery, detect and discover the topology of the Intranet link layer, and visually display the Intranet hierarchy. Support aggregation port does not need to ring to achieve point-to-multipoint, point-to-point testing ● Support loop discovery, intuitive verification of ring status ● Traffic generation and online monitoring, historical event list ● With L1 to L4 layer loopback function ● Line speed PING ● Support IP-RAN circuit test
PRI functional test	<ul style="list-style-type: none"> ● Support 30B+D, B channel state, D channel state, set the calling number and called number, for voice channel monitoring ● Link layer supports LAPD, ITU-TQ.921 specification ● The network layer supports ITU-TQ.931 specifications ● Support voice incoming and outgoing calls ● Can simulate TE and NT ● Insert and remove voice through headphones and microphones ● Support call parameter setting
E1/ V.35 /V.24 Function test	<ul style="list-style-type: none"> ● Provide E1, V.35/V.24 interface test ● BERT error characteristic test (G.821,G.826, M.2100/550) ● Support FRAME RELAY, HDLC, PPP, Ethernet protocol test ● Supports PING and loopback PING tests on E1, V.35 / V.24 links ● Automatic detection of destination IP address (HDLC/PPP/FR) function ● Automatic detection of link status and automatic configuration of port parameters ● Automatic display of loop discovery
Optical power meter red light source test	<ul style="list-style-type: none"> ● Low light power test wavelength: 850/980/1300/1310/1490/1550 ● Test range :800NM~1700NM ● Red light source operating wavelength: 650NM ● Fiber output power: >10MW

WIRELESS TESTING EQUIPMENT



WIRELESS TESTING EQUIPMENT



Antenna Feeder Tester

150L (2MHZ-4.4GHZ)
150H (2MHZ-6GHZ)

The 150 series is TFN's third generation integrated handheld antenna feeder tester, which is a field-optimized, reliable, rugged, and easy to operate value product. In the antenna feeder system, the operation status of the base station RF/optical transmission and antenna system can be quickly evaluated to improve the installation and maintenance efficiency of the base station. The 150 series is the trusted, reliable and preferred antenna feeder tester for wireless Performance technical indicators:s communication operators and wireless signal coverage installation, maintenance engineering contractors Scientific research, teaching and production.



Product advantage

- Built-in E-CAL electronic calibration module
- One calibration is suitable for all frequency bands
- Strong resistance to RF interference
- External GPS
- Backlit buttons
- Built-in optical power meter, visual fault locator (red light source), WIFI
- Quick automatic calibration with one connection
- 4.4GHZ terminal power meter
- Shock resistance, dust resistance and splash resistance
- USB optical fiber magnifier
- Robust, durable and reliable



Performance technical indicators:

Model number	150L	150H
Frequency range	2MHZ-4.4GHZ	2MHZ-6GHZ
Frequency resolution	0.5kHz	
Frequency accuracy	±2 ppm	
Output level	≥0dBm	
Scanning speed	1mS/ point (return loss) 1.2mS/ point (fault location)	
Data points	130,259,517,1033,2065	
Interference suppression	+10 dBm(less than 10 Hz) +25 dBm(more than 1.0 MHz)	
directivity	≤-42dB(after mechanical calibration) ≤-38dB(after electronic calibration)	
Return loss		
Radius	0.00-60.00dB	
Resolution	0.01dB	
Standing-wave ratio		
Radius	1-65	
Resolution	0.01	
Cable loss		
Radius	0.00-30.00dB	
Resolution	0.01dB	
Fault location		
Return loss range	0.00-60dB	
Standing wave ratio range	1-65	
Distance range	0 to (points -1)/(bandwidth x2) x Vp(the speed factor of the cable)x C(the speed of light)	
Resolution (M)	=Vp(speed factor of cable)x C/(bandwidth x2)	
Data points	130,259,517,1033,2065	
Optical power meter		
accuracy	±0.17dB(±3%)	
Detector type	InGaAs Φ300μm	

Handheld Spectrum Analyzer - RMT Series

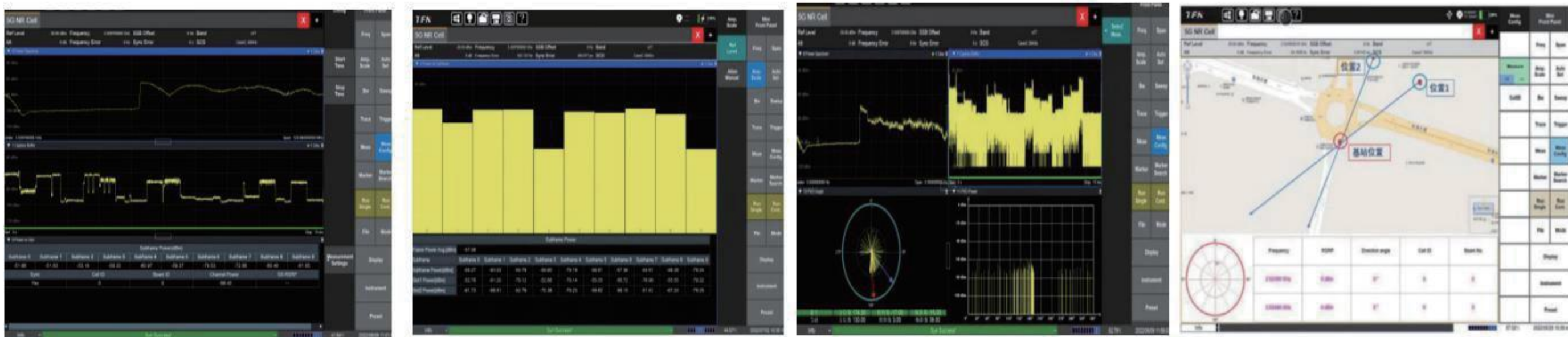
RMT714A(5KHZ-4.5GHZ)	RMT719A(5KHZ-9GHZ)
RMT716A(5KHZ-6.32GHZ)	RMT720A(5KHZ-20GHZ)
RMT717A(5KHZ-7.5GHZ)	RMT740A(5KHZ-40GHZ)

RMT handheld spectrum analyzer is a kind of handheld test instrument which integrates high-performance signal analysis module and multi-standard analysis algorithm software.- Meet the military, scientific research, communication operators to test the wireless communication and the newly launched platform, with higher test frequency, greater parsing bandwidth, faster scanning speed, lower receiving sensitivity rich interface, At the same time, it has a variety of measurement functions such as basic spectrum, real-time spectrum, interference analysis, formance technical indicators:wireless signal, direction finding and positioning, field strength testing, 5GN-R/TDD-LTE/ FDD-LTE /NB-IOT/WCDMAGSM signal analysis. The RMT series is small in size, light in weight, flexible in power supply, and supports cloud control, making it ideal for field wireless testing and deployment.



Product advantage

- Spectrum testing analysis :
Spectrum scanning, field intensity measurement, channel power, occupied bandwidth, adjacent channel power, 100MHZ real-time spectrum, field intensity measurement, harmonic distortion, spectrum emission template, carrier-to-noise ratio, phase noise, audio demodulation, vector analysis.
- Interference analysis :
waterfall map measurement, afterglow spectrum, signal direction finding, interference positioning, map positioning, four-window interference troubleshooting, TDD system interference troubleshooting
- Base station analysis :
5G NR, TDD-LTE, FDD-LTE, NB-IOT, WCDMA, GSM, etc
- Road test covers indoor signal coverage, outdoor road test, 5G 4G 3G 2G outdoor road test, etc



Performance technical indicators:

Model number	RMT714A	RMT716A	RMT717A	RMT719A	RMT720A	RMT740A
Frequency range	5KHZ-4.5GHZ	5KHZ-6.32GHZ	5KHZ-7.5GHZ	5KHZ-9GHZ	5KHZ-20GHZ	5KHZ-40GHZ
Frequency accuracy	±0.01ppm					
Phase noise	≤-114dBc/Hz@10kHz Offset at 1GHz; ≤-115dBc/Hz@100kHz The offset is 1GHz; ≤-131dBc/Hz@1MHz Offset at 1GHz;					
Average noise display level	Amplifier off			Amplifier on		
	100KHz ~ 30MHz-145dBm/Hz			100KHz ~ 30MHz-156dBm/Hz		
	30MHz ~ 6.3GHz-146dBm/Hz			30MHz ~ 6.3GHz-170dBm/Hz		
	6.3GHz ~ 9GHz-147dBm/Hz			6.3GHz ~ 9GHz-163dBm/Hz		
	9GHz ~ 20GHz-152dBm/Hz			9GHz ~ 20GHz-163dBm/Hz		
Levelaccuracy	±1.5dB					
Level resolution	0.1dB					
Maximum input safe power	25.7dBm					
Third order intermodulation intercept point	Typical value > +12dBm					
Second harmonic suppression	< -75dBc					
Third order intermodulation	+12dBm （Typical value）					
Residual response	< -90dBm					
Reference level range	-130dBm ~ +30dBm					
Standing-wave ratio	< 2.0					
Spectral sweep	9kHz ~ 6.3GHz:18GHz/s@25KHz			9kHz ~ 9G/20GHz:137GHz/s@25KHz		
Real-time spectrum analysis bandwidth	Max100MHz					
Demodulation analysis support mode	5G-NR, LTE, NB-IOT, WCDMA, GSM, Vector signal					
Demodulation Index	5G NR	1.2%@2.6GHz(PSS channel)				
		1.3%@2.6GHz(SSS channel)				
		1.0%@2.6GHz(PBCH channel)				
	LTE	0.7%@1.8GHz(QPSK channel)				
		0.7%@1.8GHz(QAM16 channel)				
	Vector signal	0.8%@1.8GHz(symbol rate 1Msps QPSK)				
0.8%@1.8GHz(symbol rate 1Msps QAM64)						

Handheld Spectrum Analyzer

FAT801(5KHz-9GHz)
FAT811(5KHz-20GHz)

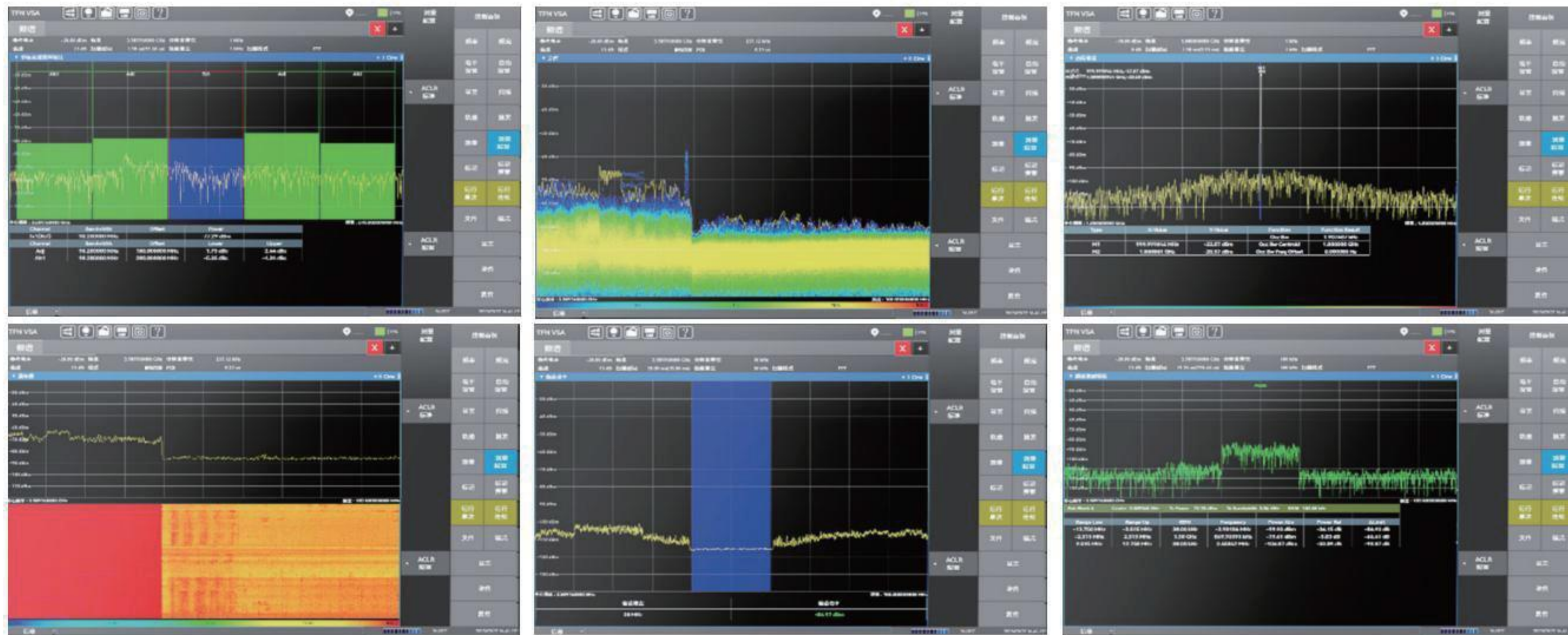
FAT840(5KHz-40GHz)

The FAT Series Handheld Spectrum Analyzer is a wide band, high performance :portable spectrum analyzer designed for field operations, it is lightweight, portable,fast and accurate, rugged, and has a wealth of measurement functions. The technical specifications are comparable to benchtop spectrometers, with mid-mirror frequency suppression up to 80dB and minimal residual response indicators to meet the higher demands of radio monitoring. It has a variety of intelligent measurement functions such as spectrum analysis, network measurement, field intensity measurement,channel scanning, third-order intermodulation, harmonic distortion, carrier-to-noise ratio and Pass-Fail. Built-in GPS/ Beidou and electronic compass function modules Performance technical indicators: are suitable for field use.



Product advantage

- Maximum real-time bandwidth: 40MHZ
- Single-sideband phase noise: < -98DBC/ HZ@10KHZ
- With field intensity measurement, frequency counting, channel measurement, third-order intermodulation, harmonic distortion, carrier-to-noise ratio, chromatogram, audio demodulation and PASS-FAIL measurement functions
- Built-in GPS, electronic compass function module
- With IF output, external reference input, external trigger input, USB, LAN, headphones and other interfaces



Performance technical indicators:

Model number	FAT801	FAT811	FAT840
Frequency range	9KHz-9GHz	9KHz-20GHz	5KHz-40GHz
Frequency reading accuracy	±(frequency standard reading×frequency reference accuracy+1%×sweepwidth+10%×RBW+0.5×[sweep width/(scan Phase noise±1)]+1Hz		
Internal bench(10MHZ)	Standard configuration	Aging rate:<1ppm/year;temperature drift:<0.5ppm(15Cto35C)Aging	
	High stable time base option	rate:<0.2ppm/year;temperature drift:<0.1ppm(15°Cto35°C)	
Resolution bandwidth (RBW)			
Radius	1Hz to 5MHz, in 1,3,5 steps		
Selectivity(60DB/3DB)	RBW≤1MHz	<5: 1 Typical values (numerically realized, close to Gaussian shape)	
Precision		<10% Typical value	
Video Bandwidth(VBW)	10Hz to 5MHz		
Displays the average noise level			
Preamplifier switch	5kHz to 1MHz<-120dbm Typical value -130dBm 1MHz to 10MHz; <-130dbm Typical value -140dBm 10MHz to 2GHz; <-138dbm Typical values -142dBm 2GHz to 3.1GHz; <-136dbm Typical values -140dBm 3.1GHz to 5GHz<; -136dbm Typical values -140dBm 5GHz to 8GHz<-135DBM Typical value -138DBM		
Preamplifier on	1MHz to 10MHz<-140dbm Typical value -145dBm 10MHz to 2GHz; <-158dbm Typical value -162dBm 2GHz to 3.1GHz ; <-156dbm Typical value -160dBm 3.1GHz to 5GHz; <-155dbm Typical value -159dBm 5GHz to 8GHz<-153dbm Typical value -155dBm		
Phase noise			
fc=1GHz	-98DBC/Hz When the frequency is off set by 10KHZ.		
	-106DBC/Hz When the frequency is off set by 1MHz		
Note: Typical FC=1GHZ, sampling detection, average trace number≥10			
Amplitude accuracy (20°C to 30°C)			
Overall amplitude accuracy (90%)		Input signal range 0dBm to-50dBm	±1.5dB
Range			
Measuring range	Display average noise level to +20dBm		
Maximum safe input level	average continuous power		+27dBm
Maximum DC input voltage	50Vdc		
Input attenuator ranges	from 0 to 30dB with a step of 1dB		

Handheld Signal Analyzer FMT715C/760C

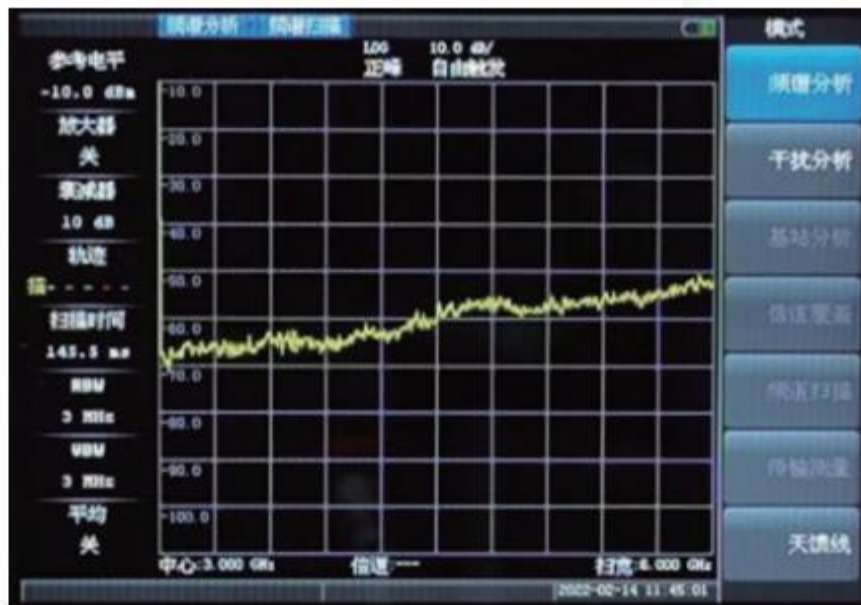
FMT series wireless comprehensive tester is a handheld comprehensive instrument for antenna, feeder and cable testing and spectrum analysis measurement launched by TFN instruments. Used in engineering field measurement of return loss, standing wave ratio, cable loss, fault location, reflection phase. Smith diagram spectrum analysis and interference analysis. Options include interference location, base station analysis power meter and GPS to make your job easier.



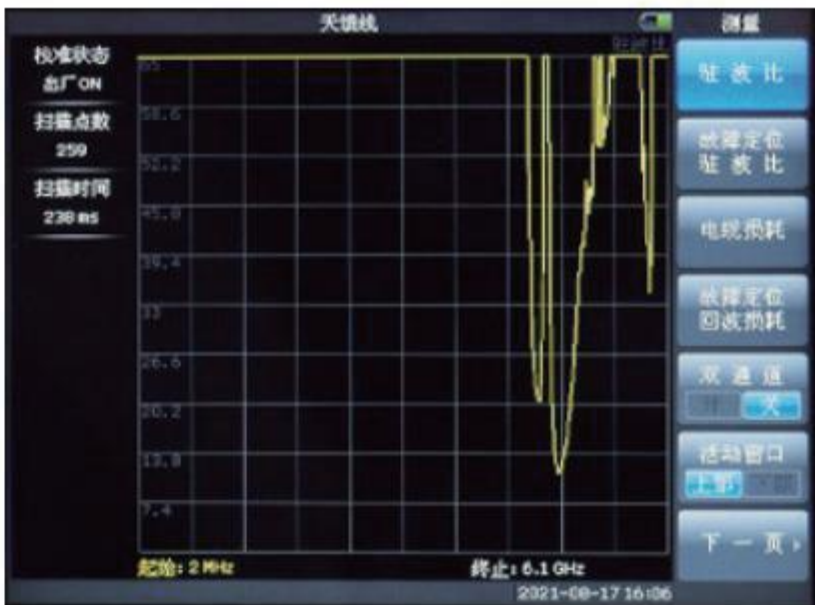
Product advantage

- Two-channel test to test whether the standing wave is qualified while locating the problem fault point. Improve the work efficiency of field testers.
- Automatic judgment of qualified line According to construction requirements, set the corresponding qualified threshold value. Automatically determine whether the test results are qualified.
- Professional anti-interference performance Compared with the same type of instrument, the use of more professional anti-interference design. The antenna feeder system can be accurately tested in complex multi-signal co-existing base station test
- Highly integrated wireless comprehensive tester is equipped with antenna feeder tester, spectrum analysis, transmission measurement options, power meter options, GPS satellite test options. Avoid the hassle of engineers carrying and learning multiple instruments.

Interference analysis test



Spectrum analysis test



Antenna feeder test



Performance technical indicators:

Model number	FMT715C	FMT760C
Frequency range	2MHz ~ 4400MHz	2MHz ~ 6100MHz
Frequency stability	± 2ppm （0 ~ 50℃）	
Frequencyaccuracy	± 2ppm （25±5℃）	
Frequency resolution	1Hz	
Electric level		
Output level range	≥0dBm	
System		
Scan number	130, 259, 517, 1033, 2065	
Measuring speed	0.8mS/ point (return loss)	1mS/ point (fault location)
Interference suppression	Frequency:10dBm (±10kHz within) Channel:25dBm (partial>1MHz)	
Port characteristics	Return loss ≤ -10dB	
Directivity	≤-42dB(after standard calibration) ≤-38dB(after full band calibration)	
Failure level	+25dBm (RF signal) ±50V (DC voltage)	
Return loss	Measuring range: 0dB ~ 60dB Resolution: 0.01dB	
Standing-wave ratio	Measuring range: 1 ~ 65 Resolution: 0.0001	
Cable loss	Measuring range: 0dB ~ 30dB Resolution: 0.01dB	
Fault location	Return loss measurement range: 0dB ~ 60dB Standing wave ratio measurement range: 1 ~ 65 Ranging range: (points -1)/(span*2)*Vf (cable speed factor)*C(light speed) Distance resolution: ranging range /(points -1)	
Phase	Measuring range: -1800~+1800 Resolution: 0.010	
Smith diagram	Resolution:0.01	
Input/output port		
Rf input port	50Ω Nfemale	
Rf outputport	50Ω Nfemale	

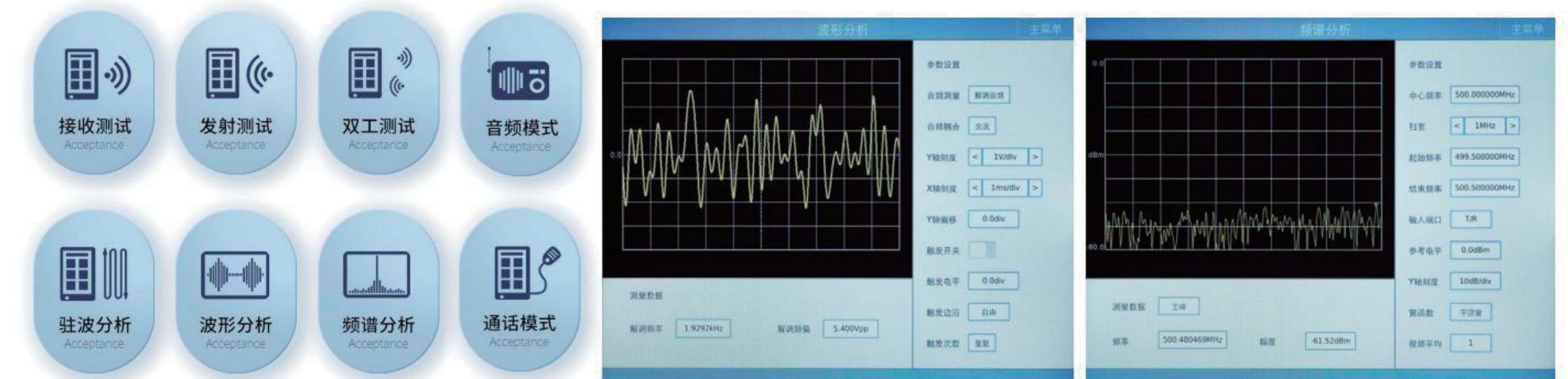
Handheld High Performance Radio Comprehensive Tester - PM1200

The PM1200 handheld radio comprehensive tester performs reception, transmission and duplex testing for FM, AM and single sideband radio stations and can measure a variety of radio parameters. Built-in RF synthesis source, RF power meter, RF frequency meter, RF modulation instrument, dual audio synthesis source, audio voltmeter, sound frequency meter, reception meter, distortion meter, oscilloscope, spectrum analyzer, standing wave meter, cable fault meter and other test instrument functions.



Product advantage

- Frequency error measurement
- Audio waveform analysis
- Standing wave, insertion loss and cable testing
- RF synthetic signal source (CW/AM/FM/SSB)
- Power measurement (narrowband power, broadband power)
- Audio analysis (frequency, voltage, distortion, information and other modulation system measurement)
- Spectrum analysis
- Dual audio signal source



Performance technical indicators:

Radio-frequency synthesizer	
Frequency range	2MHz ~ 1300MHz。
Frequency error	$\leq \pm$ (Preset value \times internal reference oscillator operating error +1Hz)
Internal reference oscillator	Temperature stability: ± 0.5 ppm; Aging rate: 1×10^{-6} / year
Output amplitude range	-5dBm ~ -125dBm
Output amplitude error	± 2 dB (≥ -100 dBm) ; ± 3 dB (< -100 dBm)
Output impedance	50 Ω
Standing wave coefficient	≤ 1.4
Single sideband phase noise	≤ -90 dBc/Hz (20kHz away from carrier)
The relative harmonic content of the carrier	≤ -30 dBc
The relative in harmonic content of the carrier	≤ -40 dBc (20kHz away from carrier)
Residual frequency modulation	≤ 40 Hz (average value, demodulation bandwidth: 300Hz ~ 3kHz)
Internal frequency modulation (Audio1 and Audio2)	
Modulation frequency range	20Hz ~ 20kHz
Frequency offset range	(0 ~ 100) kHz
Radio-frequency error meter	
Rf input signal amplitude range	-80dBm ~ -10dBm(antenna input port) - 20dBm ~ +44dBm (radio frequency input and output)
Input frequency range	2MHz ~ 1300MHz
Measuring range	± 500 kHz
Radio-frequency power meter	
Input frequency range	2MHz-1300MHz
Measuring range	-50dBm ~ +44dBm
Antenna port	-90dBm ~ -10dBm
Antenna port (open front)	-110dBm ~ -10dBm
Resolution	0.01dB Measurement error: $\leq \pm 3$ dB
Radio-frequency power meter	Rf power meter (broadband power; Rf input/output)
Measuring range	0.1W ~ 20W (Continuous) 0.1W ~ 30W (10s/1min)

High Performance Radio Comprehensive Tester - PM5100

The PM5100 high performance radio comprehensive tester has a frequency range of 100Hz-3000MHz. It has the characteristics of strong comprehensive, portable,high reliability, fast test speed, strong environmental adaptability, full Chinese display,etc., especially suitable for the field needs of the army. It can meet the test requirements of radio receiving, transmitting and duplex working mode, from parameter measurement to waveform measurement, from time domain analysis to frequency domain analysis,from weak signal to high power signal and other aspects of the radio performance characteristics to complete the comprehensive measurement and analysis.



Product advantage

- High integration, powerful function, can meet the needs of diverse military missions integrated more than a dozen kinds of test instrument functions, widely used in short wave, ultra-short wave, millimeter wave and other electronic equipment technical support.
- Fully independent and controllable design, high degree of localization completely by Qingdao F a t e Technology Co., Ltd. independent independent forward design, with independent intellectual property rights. The performance index is comparable to that of similar imported products.
- Good performance indicators, high measurement accuracy is a high-performance radio comprehensive tester, which can provide high-precision measurement results for users.
- Fast test speed, high work efficiency Fast test response speed, with duplex test function, the test efficiency is much higher than the general simplex test instrument test speed.
- Multiple modulation methods to meet the needs of different standard communication with AM, FM, single sideband AM, pulse modulation, I/Q modulation functions, can meet the test needs of a variety of standard communication equipment.



Performance technical indicators:

Carrier frequency	100Hz-3000MHz
Carrier frequency error	Same as internal reference oscillator
Carrier frequency resolution	1Hz
Internal reference oscillator	Frequency and error Frequency: 10MHz Error: $\leq \pm 1 \times 10^{-7}$. Aging rate $\leq \pm 1 \times 10^{-7}$ /year (after 48h preheating)
Output amplitude range	-139dBm to -20dBm (RF IN/OUT port) -113dBm to +6dBm (duplex output port)
Output amplitude error	$\leq \pm 1.5$ dB (typical 1dB) (RF IN/OUT port, carrier frequency ≥ 400 kHz, output amplitude ≥ -127 dBm) $\leq \pm 1.5$ dB (typical 1dB) (duplex output port, carrier frequency ≥ 400 kHz)
Output impedance and voltage VSWR	Output impedance: 50Ω Voltage VSWR: ≤ 1.4 (RF input/output port) ≤ 1.6 (t duplex output port, output amplitude ≤ 0 dBm)
Carrier Spectrum Characteristics	Relative harmonic content ≤ -30 dBc Relative non-harmonic content $\leq (-60 + 20 \lg N)$ dBc (10kHz away from the carrier; N is the band factor) Single-sideband phase noise (away from carrier 20kHz) $\leq (-100 + 20 \lg N)$ dBc/Hz (away from carrier 20kHz; N is the band factor) Residual FM $\leq N \times 20$ Hz (RMS frequency deviation, demodulation bandwidth: 300Hz~3kHz; N is the band coefficient) Residual modulation amplitude $\leq 0.5\%$ (RMS modulation amplitude, demodulation bandwidth: 300Hz ~ 3kHz)
Modulation Characteristics	
Carrier frequency range: 100kHz ~ 3000MHz	Range of modulation amplitude: (carrier frequency $\geq 10 \times$ modulation frequency) 0 ~ 100% (duplex output port, peak amplitude $\leq +6$ dBm; RF input/output port, peak amplitude ≤ -20 dBm)
Resolution: 0.1%	AM distortion: $\leq 2\%$ (at 30% AM, modulation frequency 1kHz, THD, demodulation bandwidth 300Hz~3kHz)
Modulation amplitude error: $\leq \pm (5\% + 1.5\%$ of the pre-modulation value) (modulation frequency is 1Hz)	AM frequency response: $\leq \pm 1$ dB (DC, 20Hz ~ 100kHz, 80% AM, modulation frequency 1kHz as a reference)
External modulation input port: external modulation BNC port	External modulation sensitivity: 1V peak corresponds to the indicated amplitude modulation depth.
FM Characteristics	
Frequency Bias Range	100Hz ~ N×400kHz, (when carrier frequency - FM frequency deviation ≥ 150 kHz, carrier frequency - modulation frequency ≥ 150 kHz)
Resolution	N×1Hz (frequency deviations $\leq N \times 4$ kHz) N×10Hz (N×4kHz < frequency deviations $\leq N \times 40$ kHz) N×100Hz (N×40kHz < frequency deviations $\leq N \times 400$ kHz)
Frequency deviation error: $\leq \pm$ (pre-modulation value×7%+20Hz) (modulation frequency 1kHz)	frequency deviation ≥ 1 kHz FM distortion: $\leq 1\%$ (at frequency deviation = N×100kHz, modulation frequency 1kHz, THD, demodulation bandwidth is 300Hz~3kHz)
External modulation input port: external modulation BNC port	FM Frequency Ranges: $\leq \pm 3$ dB (DC, 20Hz~100kHz, Frequency Bias = N×100kHz, with modulation frequency 1kHz as reference)
External modulation sensitivity: 1V peak corresponding to the indicated frequency offset	
RF Analysis	
Frequency measurement range	400kHz to 3000MHz
Resolution	1Hz
Frequency Measurement Error	$\leq \pm$ (reading value × internal reference oscillator operating error + 1 word)
Input Level Range	RF input/output port: 10mW ~ 60W (continuous), 10mW ~ 150W (10s/min); Antenna input port: 5μW (RF power measurement (RF input/output port)
Frequency range of power measurement	400kHz ~ 1000MHz
Power measurement range	10mW ~ 60W (continuous), 150W (10s/min)
Power resolution	1mW (input power <10W) 10mW (input power ≥ 10 W)
Voltage VSWR	≤ 1.4 (RF input/output port); ≤ 1.6 (antenna input port)

OPTICAL CABLE DETECTION

OPTICAL CABLE DETECTION

Underground Pipeline Detector

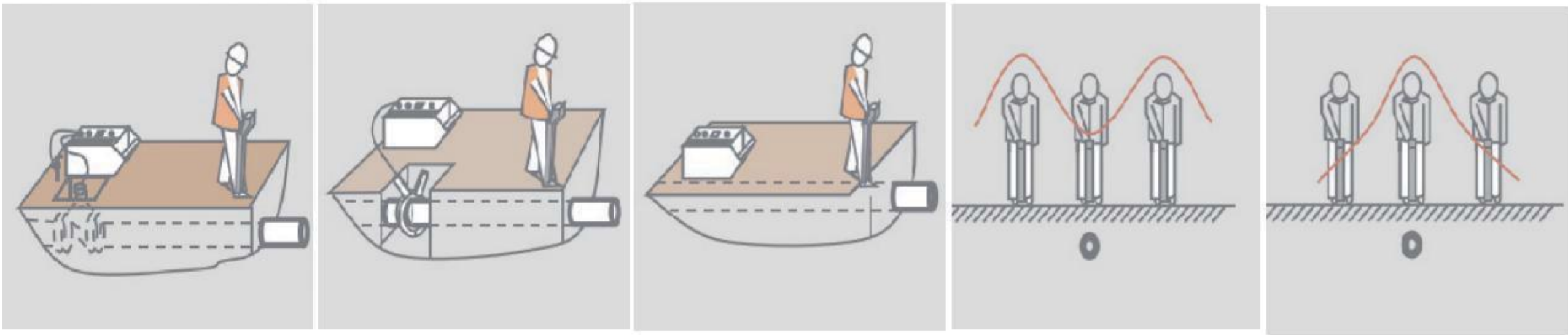
A1500

A1500 underground pipeline detector, also known as optical cable routing detector, is a TFN instrument launched for engineering site measurement of underground metal pipeline routing and buried depth, with signal strength indication, left and right arrow indication, compass direction indication. The maximum depth of the detection line is 6 meters



Product advantage

- Large screen LCD full Chinese graphic display
- 6 watts high power output, greater detection distance and depth
- A wide range of optional detection frequencies
- Professional narrowband filtering, the strongest anti-interference ability
- Continuous automatic impedance matching without manual intervention
- Multi-antenna, multi-channel, directly display cable buried depth
- With rechargeable battery, no mains power, easy to use in the field
- Find the 50HZ running cable path
- Dry battery work is optional
- Fully guarantee the power supply time and save the detection cost
- Built-in ohmmeter can measure loop resistance
- Multimeter function: test the connectivity and insulation quality of the cable
- Suitable for detecting buried deep and long distance pipelines



Performance technical indicators:

Receiver	
Active frequency	Low frequency, medium frequency, high frequency, radio frequency
Passive frequency	50~60Hz
Depth range	0~6M
Acoustic indication	An FM tone that varies with signal strength
Signal strength indication	LCD display, sound prompt
Signal Strength representation	Bar chart, digital range 0-999
Gain dynamic range	100db
precision	Low frequency and intermediate frequency: ±(1-5)% High frequency and radio frequency: ±(5-12)%*are related to the site environment, the shape of non-concentric lines and the distribution of adjacent pipelines
Liquid crystal display	Digital signal and power display, Running frequency, depth, volume, left/right direction display
battery	6x AA rechargeable for 8 hours
Battery status	Continuous display
volume	700X 110 x 200mm
weight	2kg
Transmitter	
Output frequency	Low frequency, medium frequency, high frequency, radio frequency
Output mode	Direct connection, induction, coupling
Output power	Automatic adjustment with matching load 0.6~6 watts, resistance is 1-99999 ohm
Liquid crystal display	automatic backlight, display output energy, operating mode, self-check state, load resistance and others
Battery type	6 book 1 rechargeable battery, continuous operation for 4-8 hours (related to the selected frequency and power gear)
Superheat overcurrent	Automatic protection
Battery status	Continuous display
recharger	220 volts, 50-60 Hz; It can be equipped with 12-volt separate charging device
volume	320 X 160 X 130mm
weight	4kg

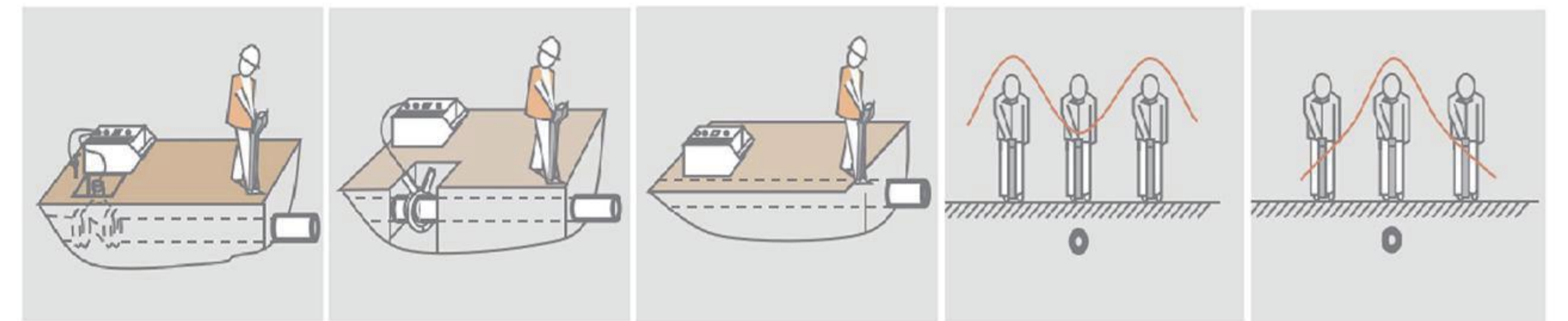
Underground Pipeline/Cable Detector T6000

T6000 underground pipeline detector is a comprehensive high precision detector launched by TFN, which is suitable for detecting optical cable buried depth and long distance pipelines. It is used to measure the direction and depth of underground metal pipelines in engineering field, with signal strength indication, left and right arrow indication, compass direction indication. With 31 frequencies to choose from, the probe line can reach a maximum depth of 20 meters



Product advantage

- Large screen LCD full Chinese graphic display
- 6 watts high power output, greater detection distance and depth
- A wide range of optional detection frequencies
- Professional narrowband filtering, the strongest anti-interference ability
- Continuous automatic impedance matching without manual intervention
- Multi-antenna, multi-channel, directly display cable buried depth
- With rechargeable battery, no mains power, easy to use in the field
- Find the 50HZ running cable path
- Dry battery work is optional
- Fully guarantee the power supply time and save the detection cost
- Built-in ohmmeter can measure loop resistance
- Multimeter function: test the connectivity and insulation quality of the cable
- Suitable for detecting buried deep and long distance pipelines



Performance technical indicators:

Transmitter technical parameters

The machine is a multi-frequency high-power transmitter with constant power output and automatic matching of external load to ensure that the machine works in the best state. With ohmmeter function, it can detect external voltage and test continuous loop resistance, which can help determine the fault nature

① You can select a frequency

Output 31 kinds of frequency sinusoidal AC signals, respectively 98HZ, 128HZ, 256HZ, 480HZ, 491HZ, 512HZ, 577HZ, 640 HZ, 815HZ, 982HZ, 1.02KHZ, 1.17KHZ, 1.45KHZ, 1.52KHZ, 4.1KHZ, 8.01KHZ, 8KHZ, 8.44KHZ, 9.5KHZ, 9.82 KHZ, 29.4KHZ, 33 KHZ, 38 KHZ, 65.5 KHZ, 78.1KHZ, 80.43 KHZ, 82KHZ, 83.1KHZ, 89KHZ, 133KHZ, 200KHZ.

② Signal location mode and tone sending mode can be used for fault detection

③ They also have the functions of detecting external resistance and external dangerous voltage

④ Three kinds of signal transmission modes: direct connection method, coupling method, induction method

⑤ Display contents: Frequency setting, battery status, digital display output current and loop resistance, Output mode, External power supply, External Voltage warning

⑥ The output power is adjustable, and there are four kinds of gears: low, medium, high, and full gear

⑦ The maximum output current is not less than 1A; The maximum output power is not less than 12W

Receiver technical parameter

The receiver uses 3.5-inch true color LCD display to display signal strength digital, amplitude light bar, compass pointing, left and right arrow pointing, current direction indication, used to indicate the strength of the signal, optical cable positioning, depth measurement.

① Broad peak value, valley value, narrow peak value, broad peak value arrow, and peak plus valley value are displayed in two modes

② With broadband reception technology, the company can provide personalized customization according to customer needs (within 100HZ-200KHZ).

③ Frequency selection: 8 kinds, 50HZ, 60HZ, LF, 577HZ, 8KHZ, 33KHZ, 82KHZ, 133KHZ

④ Number direct reading depth range :0-20 meters. Accuracy: within 3 meters $\pm 5\%$, within 8 meters $\pm 10\%$.

⑤ Signal strength, signal amplitude strip, left and right arrow indicator, compass direction indicator, realtime depth indicator, signal gain.

⑥ Compass guiding instruction function is provided in the area of endeavor

⑦ It has a 24-bit color LCD display of 3.5 inches. The backlight brightness can be adjusted to adapt to various environments

Cable Fault Tester

FB11/FB18/FB28/FB41

FB11



FB18



FB28



FB41



Product advantage

- Can measure the high and low resistance faults of all cables of 35KV and below, and adapt to a wide range
- The use of international advanced "three-stage pulse method" and "three-stage multiple pulse method" test technology. At the same time, it also has the traditional high-voltage flashover method and low-voltage pulse method.
- Any high-resistance fault presents simple waveform characteristics similar to low-voltage pulse short-circuit fault, which is easy to interpret.
- User-friendly software and full Chinese menu. The key definition is simple and clear. The measurement method is simple and fast.
- The central control unit is used to control the signal output of three levels in sequence to ensure safety and success rate. The central controlunit can prompt operation steps and monitor work progress.
- With the test waveform storage function, the field test waveform can be conveniently stored in the instrument according to the specified order for observation at any time. A large number of field test waveforms can be stored.
- The measured fault point waveform and the full-length open-circuit waveform of the good phase can be displayed on the screen at the same time for comparison and superposition comparison, and the fault distance can be automatically judged.
- 11-inch super bright color touch LCD display, with powerful data processing capabilities and friendly display interface.
- With extremely safe sampling high voltage protection measures.
- With 232 computer communication interface and USB communication interface, it is convenient to save data and graphics in the computer.
- Built-in power supply, can test the open circuit and low resistance short circuit fault of the cable in the environment without power supply.
- With cable fault detector operating system software copyright;
- Issue product quality inspection reports of provincial and ministerial level testing institutions

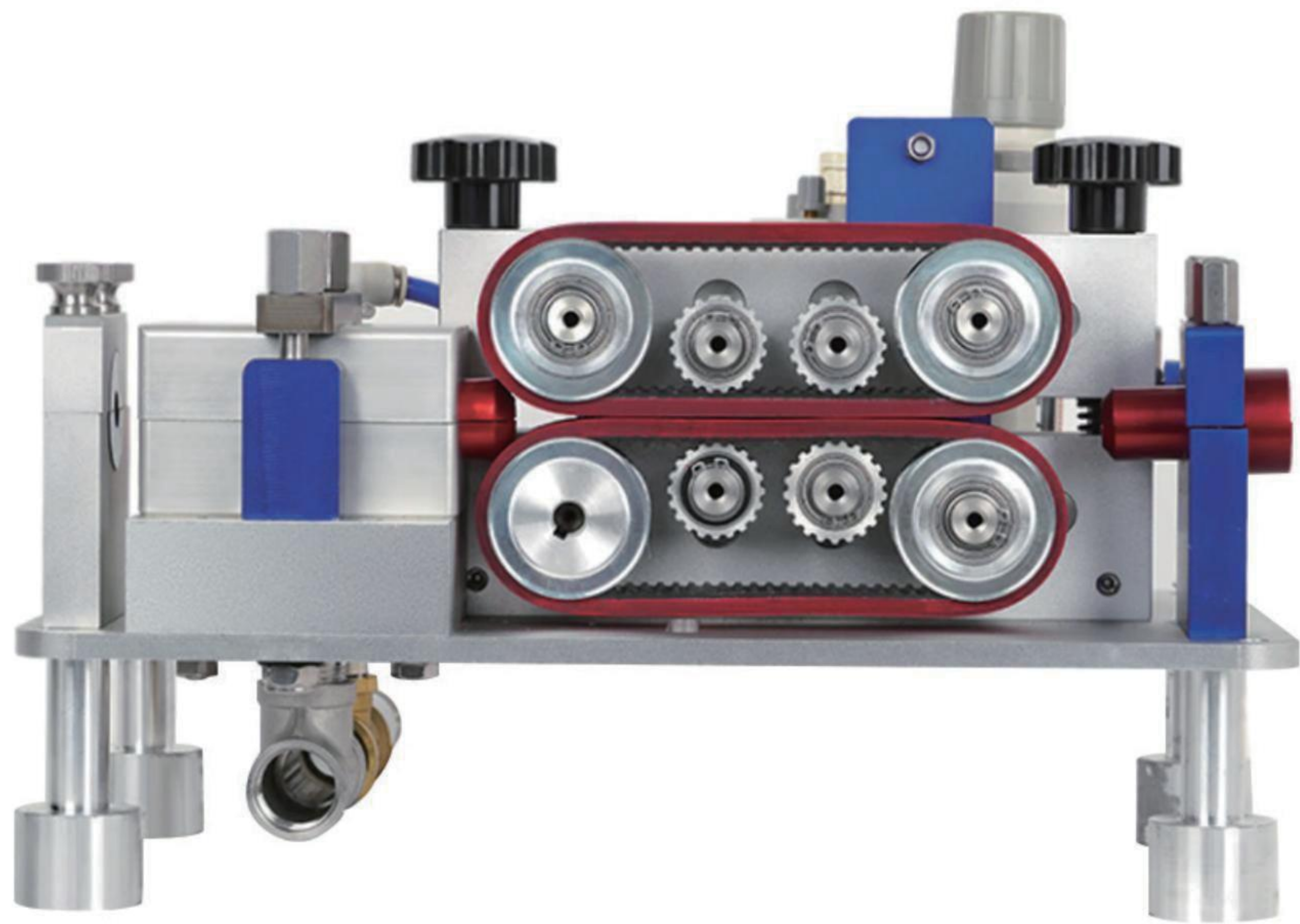
Performance technical indicators:

Fault location unit	All test waveforms are displayed as low-voltage pulse waveforms by the three-stage advancedarc reflection prepositioning technology, which realizes the automatic location of fault point distance and makes fault location simple and easy. The central control unit is an active energy storage device, which can automatically control the primary high voltage breakdown fault, the secondary active arc continuation, and the tertiary pulse sampling. It is necessary to realize the three-stage pulse method and improve the success rate of sampling.
Tracking an d identification unit	It can solve the fault of short circuit and open circuit of the faulty cable to the ground insulation quickly and accurately locate, and can also locate the buried underground cable path and measure the cable laying depth. It is a new generation of cable fault test instrument, which reduces thecom- plexity and difficulty of cable fault test and improves the safety.
Fault point unit	The precise locator equipped with the system has many functions, such as acoustic wave and electromagnetic wave digital size display, fault point distance warning, path monitoring, frequency band selection, storage and so on. At the same time, it is equipped with a noise-preventing pickup probe and a high-resistance military headset, so that it has a strong anti-interference abilityand greatly reduces the human experience factor.
High volta ge signal uni t	The energy supply part of the cable fault is predetermined and provides high voltage and high energy electrical pulses to the outside. (The high voltage generator equipped with the system has ihe advantages of automatic voltage setting, single or continuous discharge, simple wiring, smalvolume and light weight.) The high voltage source of the system is the traditional control box, booster, pulse capacitor discharge ball gap, discharge rod, digital processing with industrial controtechnology, scientific integration, to achieve the real sense of integration, the high voltage pulsepower supply abandoned the need to adjust the ball gap discharge has sound troubles. The interface is a digital liquid crystal display, showing the working state of the instrument, voltage, pulse frequency, residual voltage and other information; Simple connection (only need to connect: a power cord, a high voltage wire, a ground wire) small size and light weight, basically does not occupy the work site.

Microcable blower T500W

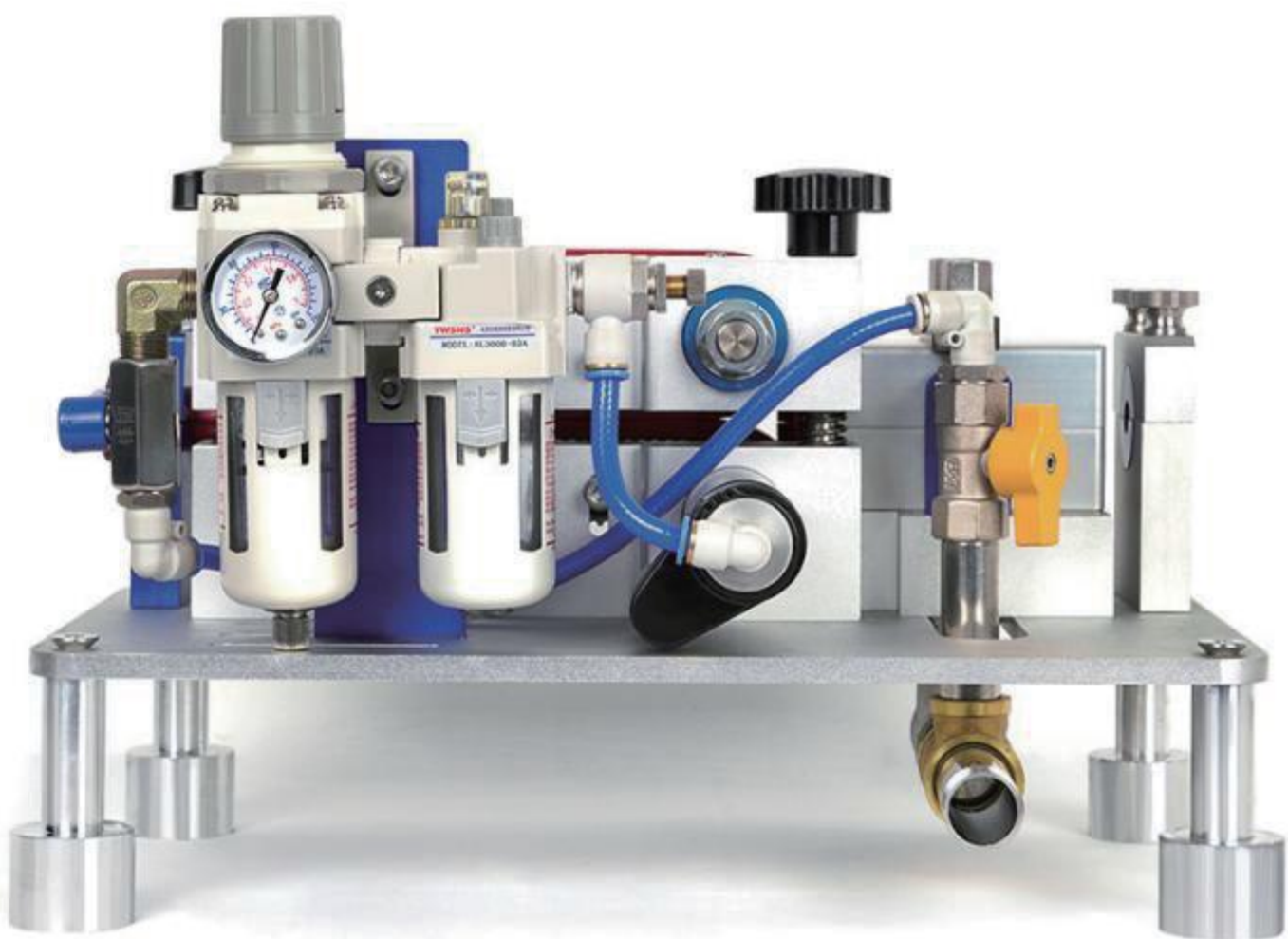
TFN cable blowing machine technology is widely used in communication Internet operation, highways, information railways, petroleum and petrochemical pipelines ,national defense communications, water conservancys, shopping malls,residential buildings, office space,etc

The T500W micro cable blowing machine has less interference with the external climate and the conditions in the pipeline and the well. The air blowing speed is fast and the one-time air blowing distance is long, which greatly shortens the construction period.



Product advantage

- Suitable for a variety of microcables suitable for 3~10MM microcables (non-armoured non metal reinforced core fiber optic cable) or beam tube type micro-fiber optic cable, push fast,easy to operate, easy to maintain
- No damage to the cable using the appropriate flexibility of the conveyor belt is easier to protect the cable, to avoid the construction of the cable skin damage or cable core damage
- Efficient push the use of air blowing laying optical cable, high construction efficiency, more safe optical cable greatly reduce the loss caused by optical cable in the construction
- High-quality and efficient air blowing cable into the pipeline, relative to traction cable into the pipeline, to relax, can make the cable free from short-term and long-term tension,effectively extend the service life of the cable



Performance technical indicators:

T500W Microcable air blower	
Machine model(Imported movement)	T500w
Adapts to cable diameter	3-10mm
Adaptive diameter (outside)	8-20mm
Thrust (N)	0-500N
Push speed (lengthof push per minute)	0-120m/min
Main engine rated pressure	13bar
Main engine weight	14kg
Host volume (L W H)	400*300*300mm
Host packaging volume (L W H)	600*400*440mm
Main package weight	32kg

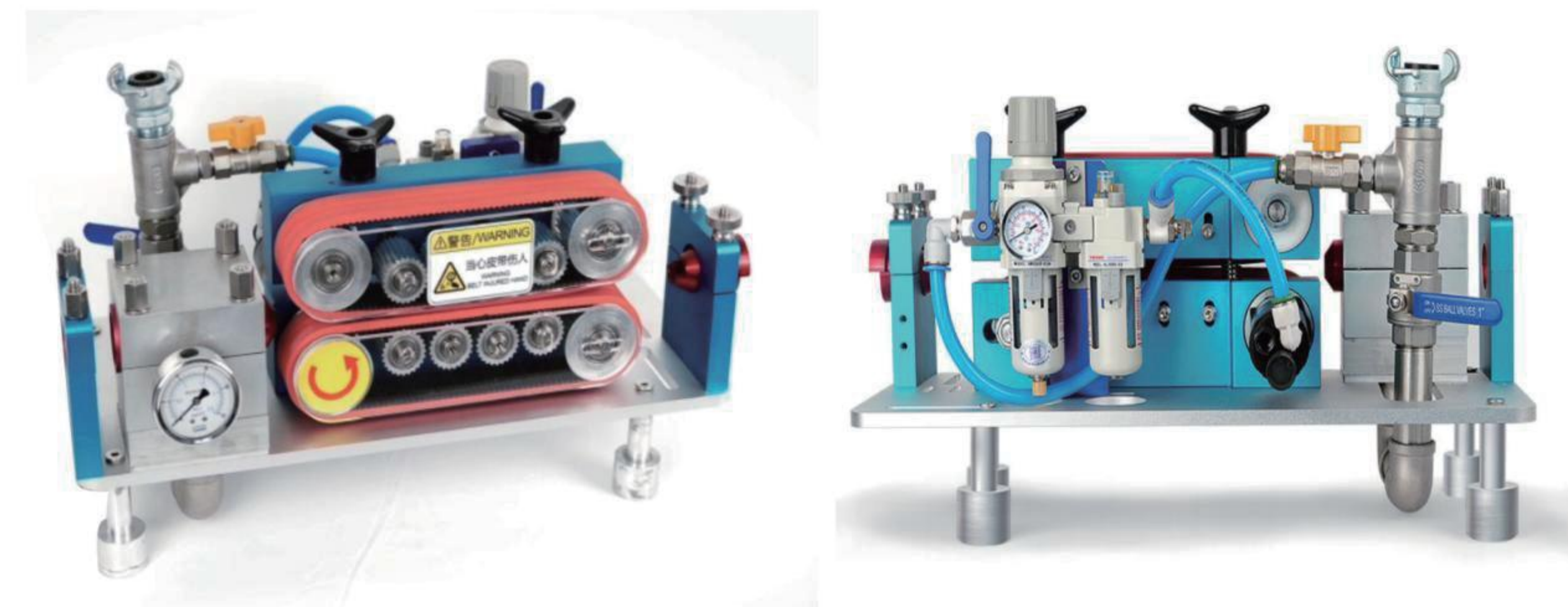
High performance cable blower T700CQ

The cable blower uses the air compressor to send a strong air flow through the sealed bin of the air blower into the pipeline, and this high-speed air flow forms adrag force on the surface of the optical cable to promote the optical cable to move-forward. Improve work efficiency and protect the outer protective layer of opticalca ble.Cable blowing machine technology is widely used in communication internet operation, highways, information railways, petroleum and petrochemical pipe-lines,national defense communications, water conservancy projects large build-ings,office space, shopping malls and residential buildings. The high performance airblowing cable blower T700CQ has less interference to the external climate and theconditions in the pipeline manhole,and the air blowing speed is fast and the onetime air blowing distance is long, which helps to shorten the construction period



Product advantage

- Suitable for gas-blown petroleum and petrochemical pipelines with cable, highway and other 14MM diameter cable, push fast, easy to operate, easy to maintain
- No damage to the cable, the use of flexible conveyor belt is easier to protect the cable, to avoid damage to the cable skin or fiber core during construction
- Efficient push, the use of air blowing laying optical cable, high construction efficiency, more secure optical cable greatly reduce the loss caused by optical cable in the construction
- High quality and high efficiency, the air blowing cable into the pipeline, relative to the traction cable into the pipeline, to relax, can make the cable free from short-term and long-term tension,effectively extend the service life of the cable



Performance technical indicators:

T700CQ High performance cable blower	
Machine model(Imported movement)	T700CQ
Suitable pipeline	It is mainly suitable for electrical optical cables with a diameter of 6 to16mm. It is suitable for HDPE or PE pipes with an external diameter of 32 to 40mm
Host machine Net weight	22kg
volume	500*280*320mm(length*width*height)
Power source	6bar~12bar compressed air
Working pressure	8bar ~ 16bar
Applicatron scope	144core GYTA,GYTS pipeline cable; 16mm or less power cable; 1--3 outer 10mm, 8mm,6mm HDPE micro tubules
Air blowing length	600~2000m(depending on terrain and quality of silicon tube laying)
Maximum pushing speed	120m/min, recommended speed: 60m/min

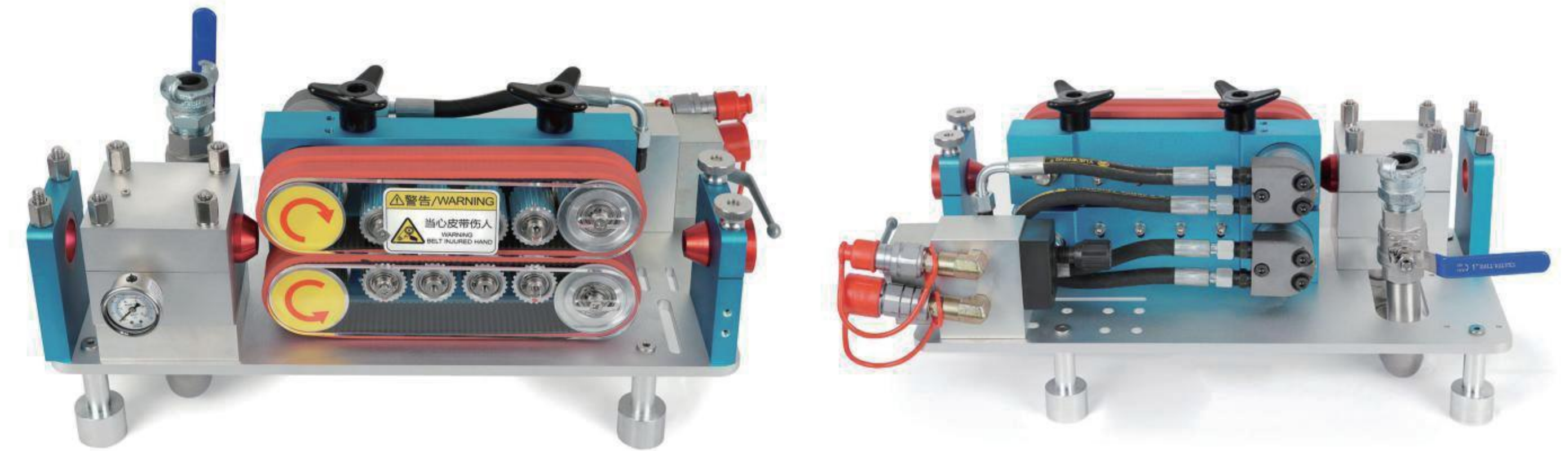
Multi-function hydraulic cable blowing machine T700CY

Cable blowers are designed for laying communication cables (mainly optical fiber coaxial cable and multi-stranded cable) into pre-coated pipes. The TFN T700CY series is operated in an air blowing" mode: a mechanical cable pushing device is used to push the communication cable, cable or power cable into the pipeline, while the air compressor sends a strong air flow through the sealed bin of the air blowing machine into the pipeline, and this high-speed air flow forms a drag force on the surface of the cable to promote the cable forward. Improve work efficiency and protect the outer protective layer of optical cable. The multi-functional hydraulic cable blower 700CY has the advantages of less interference to the external climate and the conditions in the pipeline man-hole, fast gas blowing speed, long one-time gas blowing distance, etc., which can greatly shorten the construction period.



Product advantage

- Compact and lightweight, easy to operate, suitable for a variety of environments
- T700CY hydraulic optical cable air blower suitable for air blowing diameter 8MM ~ 25MM optical cable, powerful power
- T700CQ type cable blowing machine is more suitable for air blowing oil and petrochemical pipelines accompanied by optical cables, highways and other optical cables below 14MM diameter,
- T700CY hydraulic cable blowing machine compared to the need to carry the hydraulic power source device, the air compressor can not be in place in special environment, can use buried silicon core pipeline to introduce high pressure gas, blowing cable layout



Performance technical indicators:

T700Cy multi-function hydraulic cable blowing machine	
Machine model(Imported movement)	T700CY
Suitable pipeline	It is mainly suitable for electrical optical cables with a diameter of 8 to 25mm Suitable for HDPE or PE pipes with an external diameter of 32 to 50mm
Host machine Net weight	24kg
volume	520*280*280mm,length*width*high
Power source	Hydraulic,3~5MPa
Working pressure	8bar ~ 16bar
Applicatron scope	288 core or less GYTA53, GYTA, GYTS53 pipeline cable,diameter of 25mm or less electrical cable
Air blowing length	1 to 4 HDPE microtubules with an outer diameter of 12mm,10mm,8mm,6mm 600 to 2000meters (depending on the terrain and the quality of the silicon core tube laying);
Maximum pushing speed	120M/MIN,RECOMMENDED SPEED: 60M/MIN