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SAT-18F Series OTDR

An Optical Time Domain Reflectometer (OTDR) is a core test instrument covering the full lifecycle of fiber optic networks, used for engineering acceptance, daily maintenance, and fiber fault diagnosis in telecommunications.

The Aitelong SAT-18F series OTDR is equipped with an 8 inch high definition display and multi functional integration. It supports measurement not only for conventional G.652, G.657 single mode and multi-mode, but also for G.654E SM fibers, covering PON, FTTx and trunk network scenarios.

It is well suited for fiber optic network construction, project commissioning & acceptance, optical cable production, long haul cable installation, emergency repair testing, maintenance and fault troubleshooting, which covers military, electric power, railway, metro, telecom operators, energy and other industries.

Features

- Easy-operation (One Button · Auto Test · Smart Diagnosis)
- 8 inch large colorful TFT touch screen with high definition
- Support testing for SM/MM/SM+MM up to 4 wavelength
- PON network online test
- Extra-short (0.6m) event dead zone and 3m attenuation dead zone
- Dynamic range max. up to 49dB
- Integrated functions: OTDR/VFL/OPM/OLS/Loss test/RJ45 tracker/RJ45 sequence
- Built-in Bluetooth/WIFI/Camera/Beidou+GPS/Level & temp. meter
- Built-in camera support on site test conditions recording.
- Support iOLA (Intelligent Optical Link Analysis)
- Support Remote Control (Optional)
- Support Fiber Optic Microscope (Optional)

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Models and Ordering Information

Model	Wavelength	Dynamic range
SAT-18F01	1310/1550nm	49/47dB
SAT-18F02	1310/1550nm	46/44dB
SAT-18F03	1310/1550nm	41/39dB
SAT-18F04	850/1300/1310/1550nm	23/32/40/38dB
SAT-18F05	1310/1550/1625nm	41/39/39dB
SAT-18F06	1310/1550/1650nm	41/39/39dB
SAT-18F07	1310/1490/1550nm	41/39/39dB
SAT-18F08	850/1300nm	23/32dB
SAT-18F09	1310/1550/1625nm	45/43/41dB
SAT-18F10	1310/1550/1650nm	44/42/40dB
SAT-18F11	1310/1550/1625nm	44/42/40dB
SAT-18F12E	1310/1550/1625nm	42/40/40dB
SAT-18F13E	1310/1550/1625nm	45/43/43dB
SAT-18F14	850/1300/1310/1550nm	26/32/46/44dB

Remark:
①Model SAT-18F12E and SAT-18F13E can be used for G.654E fiber testing.
②Models with 1625nm or 1650nm are equipped with a filter to support PON in service testing.

General Specification

Display	8 inch TFT LCD color touch screen, 1024×768 resolution, LED backlight
Data Communication Interface	HDMI output×1; USB: version 2.0×2; Type-C×1; TF card slot×1; Nano SIM card slot×1; 3.5mm earphone port×1(optional); RJ45 Ethernet×1(10/100/10000 BASE-T)(optional); WIFI interface(optional); Bluetooth interface(optional)
Storage	Internal: 8G (≥10,000 traces); External: USB/TF card(≥5,000 traces)
Support Data File Format	Write: SOR/PDF/PNG/CSV; Read: SOR/PNG/CSV
Languages	English (can be customized as required)
Carry Case	Soft Carry Case
Battery and Power Supply	Rechargeable Li Ion battery; With charger and Type-C cable for charging Battery Capacity: 8000 mAh (standard); 13000 mAh available (optional) Operation time: 6 hours; Standby time: 10 hours; Charging time<3hours
Size and Weight	Dimension: 235(H)×170(W) ×55(D)mm; Weight: 1.3kg
Working Environment	Temperature: Operating: -10℃ to 50℃; Storage: -20℃ to 70℃ Relative Humidity: 0% to 95% (non-condensing)

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Technical Specification

Event Dead Zone	Dynamic range>40dB: 0.6m; Dynamic range<40dB:1m
Attenuation Dead Zone	Dynamic range>40dB: 3m; Dynamic range<40dB:4m
Pulse Width	SM:3ns~20 s; MM850:5ns~1000ns; MM1300:5ns~5000ns
Distance Range	0.1/0.5/1.25/2.5/5/10/20/40/60/80/100/150/200/330 km
Max Sampling Points	256000 points
Sampling Resolution	0.04m
Linearity (Loss Measurement Accuracy)	±0.05 dB/dB
IOR (Refractive Index)	1.000000 to 2.00000
Reflection Accuracy	± 3.0 dB
Laser Safety Standard	IEC-60825-1
Distance Uncertainty	±(0.75+0.005%×distance + sampling resolution)m Distance Uncertainty at 100 km: ±4 m
Loss Threshold	0.01 dB
Loss Resolution	0.001 dB
Measurement Time	5s to 180s, Real time
Visual Fault Locator (VFL)	Wavelength: 650±20nm; Output Power:>10mW; Operation mode: CW, 2Hz flash; Connector Port: Universal 2.5 mm
Optical Power Meter (OPM)	Wavelength: 800 to 1700 nm; Power Range: -50~+30dBm; Display Resolution: 0.01 dB; Calibrated Wavelength:850, 980,1270,1300, 1310, 1490, 1550, 1577,1625,1650 nm Accuracy: ±0.1dB; Modulation Detection: CW; Connector Port: Universal 2.5 mm
Optical Light Source (OLS)	Wavelength: Same with OTDR; Output Power: >-5dBm; Deviation ± 1.5 dBm Operation Mode: CW, 270Hz, 1KHz, 2kHz,1KHz+flash, 2kHz+flash Output Stability: ± 0.1 dBm; Connector: same as OTDR port
Network Wire Sequence Collation(optional)	Suitable for UTP/STP network wire; Port: RJ45; Testing Range:600m
Audio network wire search function(optional)	Mode: Digital, Analog; Frequency:455kHz; Testing Range: 600m

Packing List

No.	Item	QTY
1	OTDR	1 set
2	Li-ion rechargeable battery (built-in OTDR)	1pc
3	Battery charger	1 pc
4	Type-C cable	1 pc
5	Universal Power Converter	1 pc
6	Connector: FC/PC (fixed), SC/PC(spare)	1 pc
7	RJ45 tracker(optional)	1 pc
8	RJ45 cable(20cm)(optional)	1 pc
9	Earphone(optional)	1 pc
10	Pen-type connector Cleaner	1 pc
11	VFL's ceramic core	5 pcs
12	U disk (E- user manual +software)	1 pc
13	Cotton swabs	1 bag
14	Ejection Pin	1 pc
15	Alligator Clip's cable	1 pc
16	Carry Bag	1 pc
17	Handheld strap for OTDR	1 pc

No.	Item	QTY
18	Shoulder strap for carry bag	1 pc
19	QC Pass/Warranty Card	1 pc
20	Packing List	1 pc
21	User Manual	1pc
22	Calibration Certificate	1pc