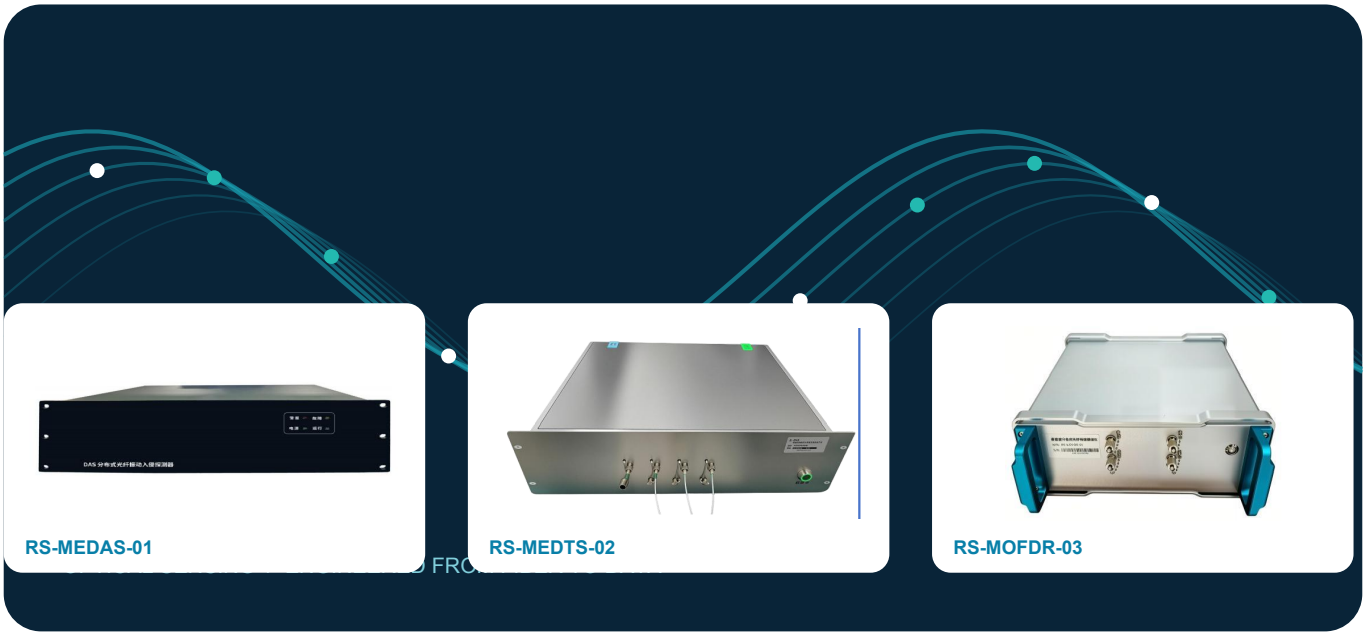
SERIES 06 / TECHNICAL PRODUCT GUIDE

Distributed sensing systems

Three optical routes.
One engineering portfolio.



Ultra-weak FBG arrays, engineered cables and optical interrogation systems for position-aware strain, temperature and acoustic measurement.

2026 EDITION / RS MODEL DESIGNATIONS

PORTFOLIO / SELECT THE MEASUREMENT PATH

A connected sensing chain

Select the sensing element, packaging and interrogator together. Distance, spacing, optical response and installation conditions define the complete measurement.

SENSE	Controlled optical reflection or distributed backscatter
TRANSFER	Cable structures that couple strain, heat or vibration
INTERROGATE	Wavelength, phase, time or frequency-domain analysis

RS-MEDAS-01 / Distributed Rayleigh DAS system

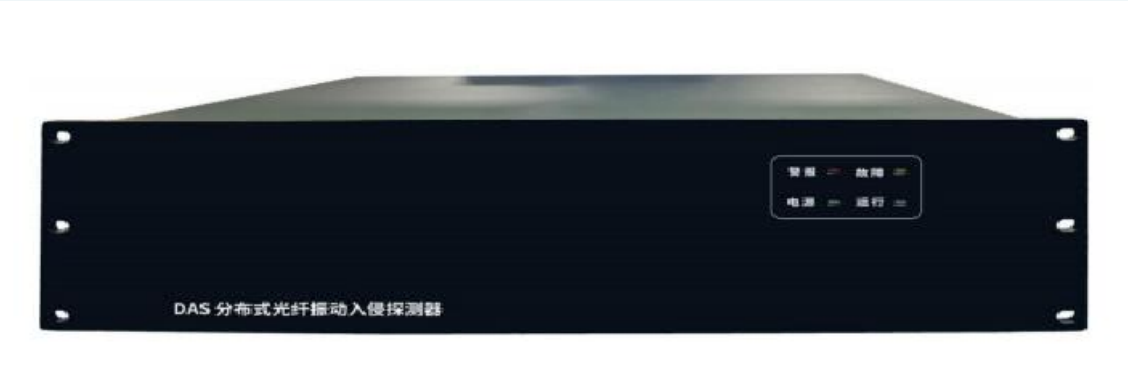
RS-MEDTS-02 / Distributed Raman DTS system

RS-MOFDR-03 / Distributed OFDR analyzer

SERIES 06 / DISTRIBUTED SENSING SYSTEMS

RS-MEDAS-01

Distributed Rayleigh DAS system



OPERATING PRINCIPLE

Coherent Rayleigh backscatter from ordinary sensing fiber is processed to recover distributed vibration and acoustic signals. The rack system supports time- and frequency-domain analysis, audio reconstruction and AI-assisted event classification. Monitoring software provides zoned alarm thresholds, historical storage, reports and remote configuration.

TYPICAL APPLICATIONS

- Structural monitoring of tunnels, railways, highways and dams
- Oil/gas production and production logging
- Debris-flow ground acoustics and avalanche monitoring
- Pipeline leakage and third-party interference detection
- Perimeter security and boundary intrusion monitoring

RS-MEDAS-01

Distributed Rayleigh DAS system

TECHNICAL SPECIFICATIONS

Center wavelength	1550.12 nm
Channels	1 / 2
Acquisition rate	20 kHz at 5 km; length-dependent
Measurement distance	40 km
Data interface	Gigabit Ethernet
AOM option	80 / 200 MHz
OS & integration	Windows 10/11, Linux, Kylin; secondary development
Power	12 V DC / 27 W full load

CONFIGURATION NOTE / The source describes a 2U system but specifies 12 V DC input. Confirm the supplied power arrangement for cabinet integration.

Typical values. Custom spacing and configurations are available where specified. Confirm the complete sensing-chain configuration before ordering.

SERIES 06 / DISTRIBUTED SENSING SYSTEMS

RS-MEDTS-02

Distributed Raman DTS system



OPERATING PRINCIPLE

Raman backscatter is spatially resolved using optical time-domain measurement. The relative Stokes and anti-Stokes signals are analyzed to calculate temperature along the sensing cable. The system provides continuous temperature profiles, localization and abnormal-temperature alarms.

TYPICAL APPLICATIONS

- Temperature monitoring in tunnels, transport infrastructure and dams
- Power-cable temperature monitoring
- Fire detection and temperature alarms
- Pipeline leakage and oil/gas monitoring

RS-MEDTS-02

Distributed Raman DTS system

TECHNICAL SPECIFICATIONS

Position accuracy	±0.5 m
Sensing dimension	±0.5 m (source terminology)
Temperature accuracy	±0.1°C at 5 km / ±0.15°C at 10 km
Measurement distance	10 km
Displayed temperature resolution	±0.01°C
Channels	4 standard / up to 16
Scan time	≤3 s per scanned channel
Power	220 V AC, 50 Hz / 20 W excluding server
Dimensions	482 × 328 × 132 mm
Weight	6 kg

CONFIGURATION NOTE / Displayed temperature resolution is not measurement accuracy. The source term "sensing dimension" should be confirmed for spatial-resolution acceptance testing.

Typical values. Custom spacing and configurations are available where specified. Confirm the complete sensing-chain configuration before ordering.

SERIES 06 / DISTRIBUTED SENSING SYSTEMS

RS-MOFDR-03

Distributed OFDR analyzer



OPERATING PRINCIPLE

Frequency-swept interrogation maps the distributed optical response of ordinary sensing fiber, with compatibility for weak-reflection gratings. Changes in the local optical response are converted into temperature and strain profiles. Four-channel acquisition supports precision deformation and shape measurement.

TYPICAL APPLICATIONS

- Scientific equipment and laboratory instrumentation
- Bridge monitoring and wind-blade deformation
- Battery-pack temperature monitoring
- Shape sensing
- Precision research measurement

RS-MOFDR-03

Distributed OFDR analyzer

TECHNICAL SPECIFICATIONS

Maximum length	20 m; customizable
Spatial resolution	10 mm typical
Strain range	±5000 με
Strain accuracy	≤2 με
Temperature range	-200 to +200°C
Temperature accuracy	≤1°C
Channels	4; customizable
Typical demodulation rate	1 Hz
Fiber connector	FC/APC
Communication	Ethernet

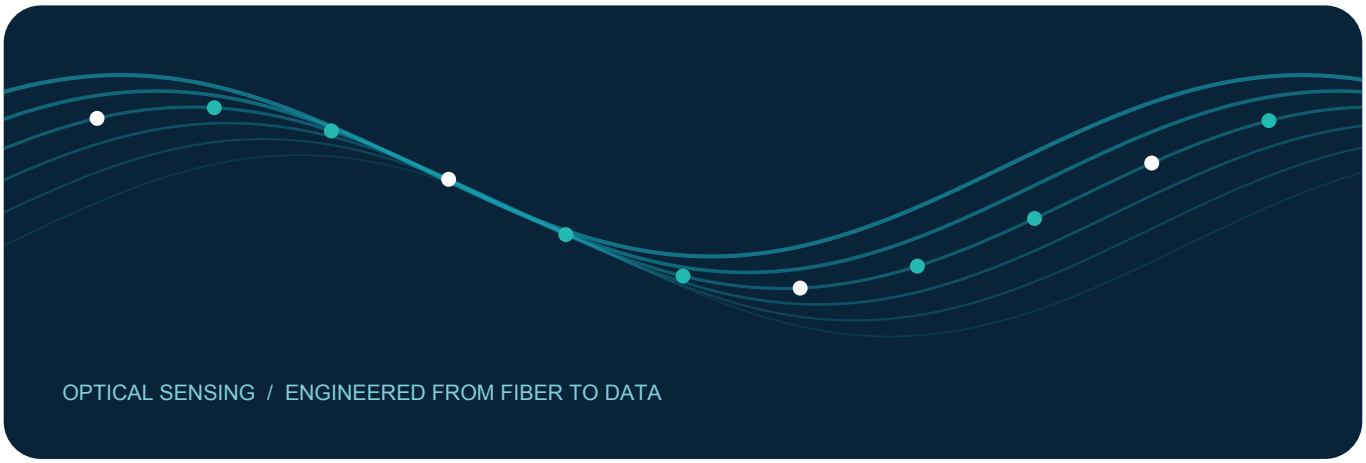
CONFIGURATION NOTE / The source description also mentions 5 mm. This edition uses the specification-table value of 10 mm typical; confirm a 5 mm configuration before ordering.

Typical values. Custom spacing and configurations are available where specified. Confirm the complete sensing-chain configuration before ordering.

PROJECT PLANNING

Specify the complete sensing chain.

Share the measurand, sensing length, point spacing, environmental limits, installation method and preferred integration format. Our team can help define the appropriate product combination.



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