

Dongya Temperature Measurement Optical Cable Factory



AI Overview

Dongya likely manufactures distributed temperature sensing (DTS) optical fiber cables that measure temperature continuously along the cable length for industrial applications. Distributed Temperature Sensing (DTS) Technology DTS optical cables use the fiber itself as a continuous temperature sensor, allowing precise temperature measurements along the entire length of the cable rather than at discrete points. This is achieved using Raman or Brillouin scattering principles, where a laser pulse sent through the fiber interacts with the fiber material, producing backscattered light. The ratio of Stokes and anti-Stokes signals in Raman scattering, or frequency shifts in Brillouin scattering, is used to calculate the temperature at specific positions along the fiber.

Key Features of DTS Optical Cables

- Continuous Measurement:** Temperature is monitored along the entire cable, providing a high-resolution thermal profile over long distances, often exceeding 10–50 km.
- High Accuracy:** DTS systems can achieve spatial resolution of 1 meter and temperature accuracy within $\pm 1^{\circ}\text{C}$.
- Flexibility:** The cables can be installed in areas difficult to access, such as pipelines, tunnels, bridges, or large industrial plants.
- Durability:** Armored or reinforced DTS cables are available for harsh environments, offering protection against mechanical stress and electromagnetic interference.

Applications

DTS optical cables are widely used in industries requiring continuous temperature monitoring:

- Energy and Utilities:** Monitoring long-distance power cables, oil and gas pipelines, and storage tanks.
- Safety and Fire Detection:** Tunnel, bridge, and industrial facility fire detection systems.
- Industrial Process Control:** Chemical plants, metallurgy, and nuclear facilities for precise temperature management.
- Infrastructure Monitoring:** Bridges, roads, and subway systems to detect temperature anomalies or structural stress.

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Article Content

Smart Fibres DPTS Brochure

Our deployment string has gauges pre-assembled at factory, so is easy to deploy and reduces rig cost. We can integrate partners' DTS and DAS onto our fibre, allowing a complete integrated monitoring

Optical Fiber Application for Temperature Monitoring of Cable Line ...

The article considers the possibility of measuring the temperature of cable transmission lines with the help of specially manufactured narrowed quartz optical fiber. The study of technological processes of

Internal temperature measurement and conductor temperature calculation ...

Highlights • The temperature measurement effectiveness of optical fiber in the cable was studied. • The temperatures of the cable were measured by the BOTDR and thermocouples. • The

Fiber Optic Temperature Sensor: Complete Guide to Advanced Optical ...

Fiber optic temperature sensors represent the cutting-edge of industrial temperature measurement technology, offering unparalleled accuracy, reliability, and safety in demanding

Fiber Optic Temperature Sensing and Measurement

Measure temperature with fiber optic sensors for high-resolution distributed and multipoint monitoring in batteries, processes, and harsh environments.

Application Research on Online Power Cable Temperature Detection

Research and application of distributed optical fiber sensor temperature measurement system based on Raman scattering. Drilling and Production Technology, 042 (003), 72-75.

Distributed Temperature Sensing (DTS) | AP Sensing

Distributed Temperature Sensing (DTS) systems provide temperature information for accurate thermal monitoring, fire detection, and condition assessment by utilizing standard fiber optic cables.

Distributed fiber optic temperature measurement system for power cables ...

Why do power cables need temperature measurement In power supply lines, cable joints are the weakest link in the safe operation of the power system. According to statistics, cable joint

Analytical study on fibre optic temperature measurement of 110kV

Distributed fibre optic temperature measurement systems are widely used in power cable temperature monitoring due to the advantages of strong resistance to electromagnetic interference and high

Distributed Temperature Sensing Applications

The distributed optical fiber temperature measurement system is mainly composed of three parts: temperature measurement host, temperature sensing fiber and

Power Cable Monitoring for Overheating

The DTSX distributed optical fiber temperature sensor is a solution for monitoring abnormal cable temperatures and cable tunnel fires. It is a powerful tool for maintenance of critical power

Armored Fibre Optic Cable for Distributed Temperature Sensing

The temperature-sensing optical cable is placed inside a stainless steel threaded tube, with Kevlar tightly wrapped and stainless steel wire tightly woven outside the threaded tube for reinforcement.

DTSX200 Distributed Temperature Sensor

What Is Distributed Temperature Sensing? Distributed temperature sensing (DTS) measures temperature distribution over the length of an optical fiber cable using the fiber itself as the sensing

Fiber Optic Temperature Sensor DTSX

The DTSX can provide uninterrupted, highly accurate measurements over long distances of up to 50 km using fiber optic cables, allowing real-time monitoring of temperature changes.

Fiber Optic Temperature Sensor DTSX | Yokogawa Poland

Using sensing technology that takes advantage of the characteristics of fiber optic cable, DTSX is a temperature sensor that can be laid out following the shape of the object to be measured. By

Cable optical fiber temperature measurement system

The cable optical fiber temperature measurement system is laid along the cable. Supported by advanced technology, it can detect the temperature change along the cable in real time, detect the

TST cable GaAs fiber optic temperature measurement

TST cable GaAs fiber optic temperature measurement system is a fiber optic temperature measurement system that can directly monitor hot spot

TECCA DE Fiber optic temperature measurement systems

Technical data Fiber optic sensors ... Service & Calibration Re-calibration is typically not necessary throughout the entire lifespan of the fiber optic temperature measurement system. However, if

[dongya-outdoor-general-purpose-optical-cable-factory](#) Manufacturer ...

All suppliers for [dongya-outdoor-general-purpose-optical-cable-factory](#) Manufacturer/Producer Find wholesalers and contact them directly B2B marketplace Find companies now!

Temperature Measurement of Power Cable Based on Distributed Optical ...

To measure the temperature of the power cable onboard ships efficiently, a design scheme based on distributed optical fiber sensor is proposed. In this paper, its principle and

Factory Direct Fiber-Optic Distributed Temperature Sensing (DTS)

It specializes in providing advanced intelligent temperature control equipment and fiber optic temperature measurement systems, and offers customers a complete set of online monitoring solutions.

A distributed optical fiber sensor for temperature detection in power ...

The temperature profile obtained from measurements performed with optical fiber DTS method on a 126 m long 154 kV power cable is shown in Fig. 3. In the first 16 h of the total test

Factory Direct Fiber-Optic Distributed Temperature Sensing (DTS)

The distributed optical fiber temperature sensing system consists of optical fiber temperature measuring host, temperature sensing fiber, system management software and related accessories. It uses

[Dongya Underground Temperature Measurement Optical Cable](#)

Dongguan Guangjia Optoelectronics Technology Co., Ltd. specializes in the production and sales of temperature-sensitive optical cables, stress optical cables, and field optical cables.

Fiber Optic Temperature Sensor DTSX

Using sensing technology that takes advantage of the characteristics of fiber optic cable, DTSX is a temperature sensor that can be laid out following the shape of the object to be measured. By

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