

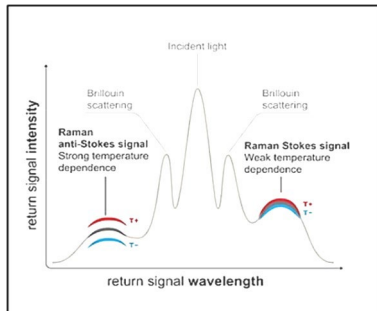
Product Overview

The PTSenR PTSG1 is a real-time, online, constantly temperature sensing system and a high-tech product which gathered photoelectric signal monitoring and computer technology as one. The features are real-time monitoring, high accuracy of temperature measurement, long monitoring distance, precise localization of abnormal points, intrinsic safety and resisting electromagnetic interference.

This kind of controller has built-in optic fiber sensor module, industrial computer, and touch screen. It uses DC24V power supply (or directly adopt fire power). The functions are display real-time data, temperature measurement, information storage and fire linkage. The advantages are small structure, easy to install, high stability, good compatibility, safety, and reliability.

Technology Working Principle

DTS utilizes the Raman effect to measure temperature. An optical laser pulse sent through the fiber results in some scattered light reflecting back to the transmitting end, where it is analyzed. The intensity of the Raman Scattering is a measure of the temperature along the fiber. The Raman anti-Stokes signal changes its amplitude significantly with changing temperature, the Raman Stokes signal is relatively stable.



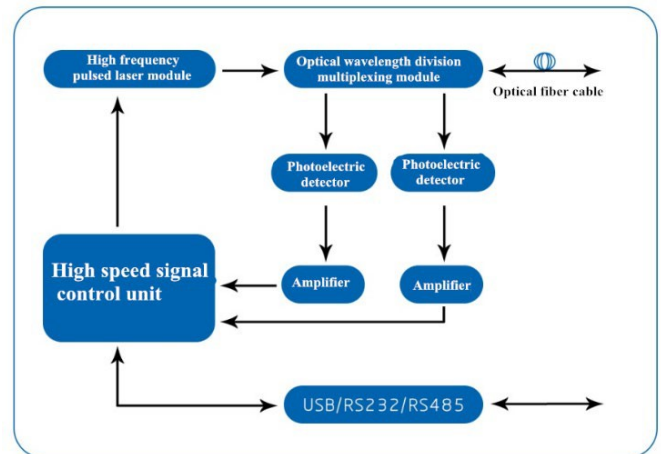
The position of the temperature reading is determined by measuring the arrival timing of the returning light pulse similar to a radar echo. This method is called OTDR (Optical Time Domain Reflectometry).

Application

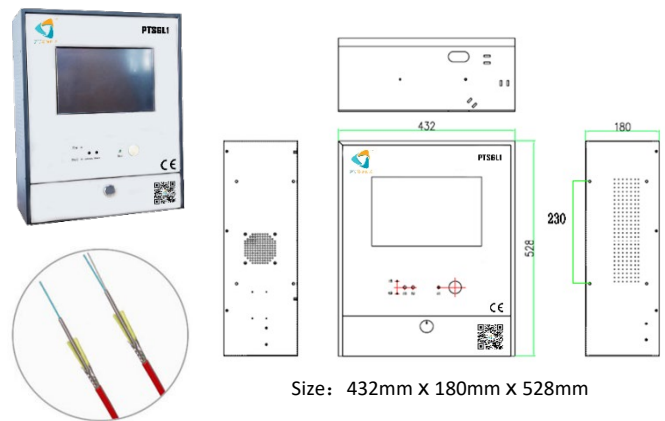
Security issues directly affect the running of the whole plant in large industrial places. There are many electrical devices, such as cable trays, busducts, various kinds of transformers and oil tanks in the aforesaid places. It is very important to monitor the temperature of such devices and detect overheating to prevent fire. PTSG1 suitable to detect infrastructure fire in cable tunnel, road tunnel, petrol chemical storage, airport, and substations.



The System Architecture



Dimensions



Specification

Power Supply Input Voltage	24VDC
Number of Channel	4
Operating Temperature Setting	-40°C ~ 120°C (Default Alarm 85°C)
Temperature Accuracy	±1.0°C
Temperature Resolution	±0.1°C
Test Frequency	2s / Channel
Measuring Distance Per Channel	2.5km / channel
Over Current Power Protection	8A
Relative Humidity (RH)	<95%RH (non-condensing)
Working Temperature	-10°C ~ 50°C
Storage Temperature	-20°C ~ 65°C
Temperature measuring range	-40 ~ 125°C
Number of Relays	24
Communication Ports	USB / RS 232 / RS 485
Alarm Mode	Rate of rise and fixed temperature
Detection Method	Distributed
Restore Performance	Recoverable
Functional Composition	Detection & Alarm Type
Standard Alarm Length	3meter
Fiber Optic Connectors	FC / APC standards Fiber
Fiber Optic Cable	IP 67 & EX II C TG Gb
Laser	Class I
Certification	EN 55014-1:2006/A2:2011; EN 55014-2:1997/A2:2008; EN 60335-1:2012/A11:2014; IEC 60815-1:2014; GB 16280-2014; GB 25286.1-2010

Ordering Information

Part Number	Product Description
PTSG1	PTSenR DTS System
PTSG2	PTSenR Optic Fiber Cable