DiTemp Reading Unit

DiTemp

HIGH-ACCURACY AND LONG RANGE DISTRIBUTED TEMPERATURE SENSING SYSTEM (DTS)

Reliable and high performance Raman OTDR interrogator for field applications.
Measures full temperature profile over fiber optic sensing cables.

Description

The DiTemp Reading Unit is designed for distributed temperature measurements for distances of up to 30km, with 1m spatial resolution and 10s measurement time. It is available in multimode and singlemode versions. This rack-mountable unit can be complemented with external multiplexers (4, 8, 16 channels), a relay module and a self-testing system (ATTS).

Depending on configuration and redundancy, the DiTemp system has been assessed as SIL 1 or SIL 2 compatible (Safety Integrity Level).

The system is used in a wide range of applications that require distributed temperature sensing, such as temperature monitoring of concrete in massive structures, leakage detection of pipelines, seepage monitoring in dams and levees, waste disposal sites, smart buildings, just to name a few.

Key Features

- Up to 30 km
- Single channel
- External multiplexer
- Spatial resolution 1m
- High temperature resolution 0.01 °C
- Long term stability
- Easy configuration
- Remote control
- SIL 1/2 Assessment
- ATEX Certified

Applications

- Pipeline leak detection
- Dam and Levee seepage monitoring
- Smart buildings
- Power Cable Rating and hot spot detection
- Distributed temperature sensing

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Technical features

Distance range :	15 km / 30 km
Spatial resolution :	down to 1 m
Sampling resolution :	1 m
Measuring time:	10 seconds / 30 seconds / 60 seconds / 5 minutes / 30 minutes / 60 minutes (user-defined)
Temperature resolution :	down to 0.1°C (project specific performance estimations available upon request)
Number of channels :	1 (up to 4/8/16 with external multiplexer)
Fiber typology :	MMF 50/125 mm (ITU.T G.651) SMF 9/125µm (ITU.T G.652)

Technical specifications

Operating temperature :	5°C to 40°C
Storage temperature :	-15°C to +65°C
Humidity :	5% to 95% RH, non condensing
AC Power :	100V - 240V, 50Hz – 60Hz
DC Power :	24V or 48V supply option
Power consumption :	120W maximum
Dimension (HxWxD) :	180x435x480 mm
Weight :	21 kg
Communication options :	Modbus, Ethernet, Volt free alarm module, TCP (through DiView Software)

Certification and compliance

SAFETY

The DiTemp XR system is classified to EN 60825-1 (2001-03) as a class 1M laser product. The DiTemp XR system (1mW mean power output) is suitable to monitor Zone 0 Hazardous areas according to the European Commission report no. EUR 16011 EN (1994)

EMC

EN 61326:1997/A1:1998; Conducted Emission: Class B; Radiated Emission: Class A**; EN 61000-4-3: 1996; EN 61000-4-6: 1996; EN 61000-4-4: 1995; EN 61000-4-2: 1995/A1: 1998/A2: 2001; EN 61000-4-11: 1994; EN 61000-4-5: 1995; EN 61000-3-2: 1995; EN 61000-3-2: 2000; EN 61000-3-3: 1995 ** excluding monitor and keyboard

CE MARK

Accordance with 89/336 EEC EMC directive accordance with LVD 72/23 EEC directive: EN 41003; EN 50178; EN 60065; EN 60825-1; EN 60950; EN 61010 -1

ATEX

Accordance with Directive 94/9/EC

Accessories and ordering information

- 14.2010 DiTemp Reading Unit
- 14.2010.rm DiTemp Alarm Relay Module
- 14.2010.om DiTemp External Channel Multiplexer
- 20.2010 DiView Data Management Software
- 40.1010 DiTemp Installation Rack

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