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Sumitomo Electric Industries, Ltd.

## **Sumitomo Electric Launches OPTHERMO™ FTS3500 Fiber-Optic Distributed Temperature Sensing System**

**Sumitomo Electric Industries, Ltd. will launch its OPTHERMO™ FTS3500 fiber-optic distributed temperature sensing system in April 2020. FTS3500 inherits the compact housing size and interface compatibility from its predecessor, FTR3000, while improving the sampling interval performance.**

OPTHERMO™ utilizes an optical fiber as a temperature sensor, measuring temperature distribution along the optical fiber, thus measuring temperature and distance at the same time. The system has the following features:

- (1) The system monitors long-distance, wide-range temperature distribution with just one optical fiber.
- (2) As it is not affected by electromagnetic induction noise, the system achieves high accuracy and high reliability.
- (3) As the sensor does not require a power supply, the system is suitable for highly explosion-proof devices such as gas tanks.
- (4) The durable and long-life optical fiber can reduce running costs.
- (5) The narrow and light-weight sensor provides excellent workability.

With these features, OPTHERMO™ is not only applied for monitoring the temperature of power cables, but is also applicable to a wide range of equipment and facilities, including tunnels (fire detection), conveyors (abnormal heat), and computer server rooms and food warehouses (temperature).

In addition, by leveraging the Company's knowledge as a world-leading power cable manufacturer, Sumitomo Electric has a track record of delivering numerous dynamic rating system (DRS) that calculate conductor temperature and allowable current in real time, based on the power cable surface temperature, measured with the OPTHERMO™, and load current.

# News Release

There are two OPTHERMO™ products:  
the compact FTR3000 for short-distance  
measurement and the high-performance  
FTR3000X for long-distance  
measurement. OPTHERMO™ FTS3500  
maintains the same size and price level as



FTR3000, however, has improvement of the sampling interval performance. FTS3500 can be installed to replace FTR3000 in a space-saving environment, because both have the same interface.

Sumitomo Electric will continue striving to develop products that meet market needs and contribute to the development of the industry by providing comprehensive solutions.

- Performance comparison with the conventional FTR3000

	Brand new product, FTS3500	Current product, FTR3000
Operating temperature range [°C]	0 to 40	
Power supply voltage [V]	10.5 to 13.5 VDC 90 to 264 VAC	
Dimensions: L x W x H [mm]	160 x 300 x 37	
Weight [kg]	2.0	2.5
Optical fiber type	GI 50/125	
Measuring range [m]	2000	
Sampling interval [m]	0.25/0.5/1.0	1.0
Temperature accuracy*1 @2 km [°C]	±1.0	
Temperature resolution*2 @2 km [°C]	≤1.0	

\*1 Temperature accuracy: Maximum Deviation between actual temperature and average value of 50 temperature OPTHERMO™ measured.

\*2 Temperature resolution: One standard deviation of 50 temperature OPTHERMO™ measured.

- Reference

Sumitomo Electric's Website <https://sumitomoelectric.com/>