

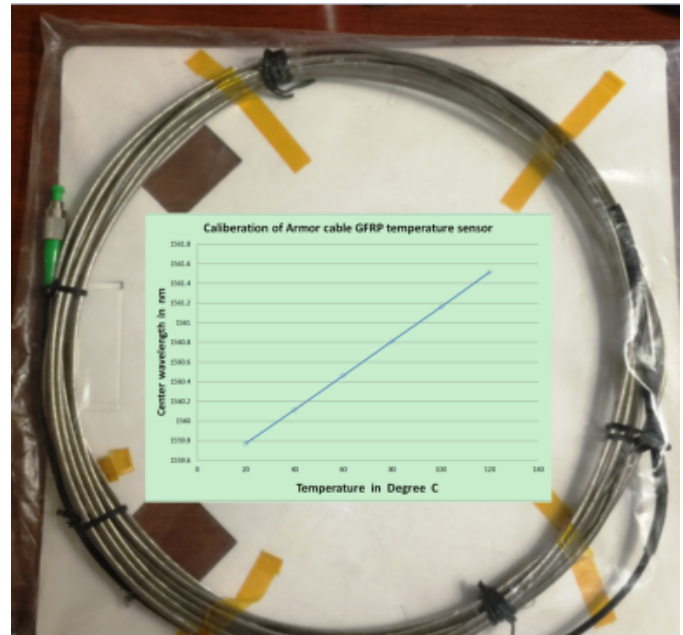
Description

The T140 is an optical armored temperature cable sensor designed for monitoring temperature in harsh environments.

At its core, the T140 optical cable consists of an array of Fiber Bragg Grating (FBG) sensors. The next layer of the cable is the Glass Fiber Reinforced Polymer (GFRP) coat which protects the FBG sensors and ruggedizes the inner construction of the cable. The cable's final layer is the extremely rugged armored structure.

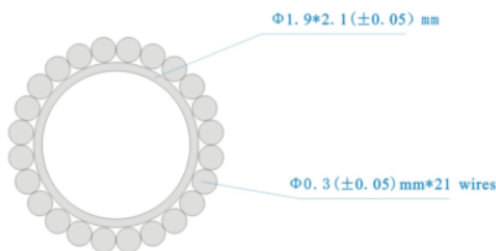
The T140 Optical Armored GFRP Temperature Cable is designed to make handling and installation fast, easy and intuitive. The T140 delivers the many advantages inherent to all FBG based sensors while elevating the degree of ruggedness to be consistent with, if not exceeding, industry expectations.

The cable specifications listed herein represent the most popular configuration. The manufacturing process for the T140 allows for significant variations in cable construction including sensors at other wavelengths, termination by other types of optical connectors, as well as cable availability in custom lengths and with customer defined spacing between sensing points.



Key Features

High strength cable. High cable tensile strength and matching tensile modulus is ideally suited for demanding applications where cable integrity must be maintained despite installation challenges that include deployment of long cables and laying of cables over uneven and rough surfaces.



Easy handling and deployment. The original design of this cable eliminates the tradeoffs and compromises that field applications often have to take into consideration when selecting an optical solution over legacy electrical solutions.

Long term operation. The T140 cable construction focuses on demanding projects where ongoing measurements are required over the long term.

Parameter	Specifications
Wavelength / Tolerance	1460 to 1620 nm, +/-0.5
Temperature Sensing Sensitivity	0.059 C/pm
Reflectivity %	>70%
Reflection FWHM	0.2 to 0.3 nm
FBG Length	5 to 10 mm
Each FBG Sidelobe Suppression Ratio	Minimum 15 dB
Armored Cable Diameter	2.1 mm
GFRP Cable Diameter	0.9 mm
Cable Tensile Strength	>1100 MPa
Cable Tensile Modulus	>50 Gpa
Temperature Calibration Constant for -20C to 120C	~17 pm/C
Optical Connector	FC/APC, FC/UPC

Applications in Civil Engineering, Fire Monitoring, Geotechnical, Mining, Energy, Industrial

Technica undertakes a rigorous development process before products release. The company is also firmly committed to continuous improvements after release to insure performance to the highest standards, hence, specifications are subject to update without notice.

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