Rugged, stainless steel construction and immune to EMI/RFI/lightning, the EFO fiber optic strain gauge is designed to be embedded in concrete.

**Description**

The EFO is a 70-mm long fiber optic strain gauge designed to be embedded in concrete. It consists of a stainless steel body, with two flanges for better adherence to concrete.

The sensor is based on Fabry-Perot interferometry. The strain gauge is bonded in a very small diameter longitudinal hole located in the center of the steel body.

**Installation**

The EFO embedded strain gauge can be installed into concrete structures in two different ways: it can be cast directly into the wet mix or encapsulated into a concrete briquette which is then cast into the wet mix. It is also possible to set the gauge into hardened concrete by grouting it or the briquette containing the EFO into a pre-drilled hole.

The sensor may be configured for use in special concretes, like high performance and powder reactive concretes.

**Key Features**

- Immune to EMI/RFI/Lightning
- Static/Dynamic response
- High resolution
- Long-term stability
- Signal transmitted over long distances
- No interference due to fiber cable bending

**Applications**

- Dams
- Bridges
- Tunnel linings
- Nuclear power plants
- Buildings
- High performance and reactive powder concrete
- Corrosive environment
- High EMI/RFI environment

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## Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>±1500 με (other ranges available upon request)</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01% F.S.</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>−40 to +55°C, operating temperature is fiber optic cable dependent</td>
</tr>
<tr>
<td>EMI/RFI susceptibility</td>
<td>Intrinsic immunity</td>
</tr>
<tr>
<td>Gauge dimensions</td>
<td>Diameter: 12.5 mm, Length: 70 mm</td>
</tr>
<tr>
<td>Fiber optic cable</td>
<td>CFF-UD3-1F</td>
</tr>
<tr>
<td>Connector</td>
<td>ST</td>
</tr>
</tbody>
</table>

### Ordering Information

Please specify:
- Range
- Cable length (2 meters min.)
- Readout

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EFO Dimensions

![EFO Dimensions Diagram](image)