BRUsens Strain Sensing Cables

BRUsens DSS 3.2mm V9 grip

Fiber optic strain sensing cable, mini, flexible, armored with central metal tube, structured PA outer sheath, one optical fiber, strain range up to 1% (10000 ustrain).

Description
- Compact design, good flexibility, small bending radius
- Metal tube, central, extra small, with one strain locked optical fiber, hermetically sealed
- Outer sheath, robust, abrasion resistant, halogen free, structured for better strain transfer
- High chemical resistance
- Good rodent protection
- Laterally watertight
- High strain sensitivity
- Good tensile strength and crush resistance

Application
- Strain
- Soil movement
- Pipeline monitoring
- Structural monitoring
- Precision measurement and alarm systems
- Brillouin, FBG
- Outdoors, harsh environment, subsea
- Direct burial in soil, concrete

Technical data

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. no. of fibres</th>
<th>Cable ø</th>
<th>Weight</th>
<th>Max. tensile strength</th>
<th>Typical Load at 1% elongation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>units</td>
<td>mm</td>
<td>kg/km</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>1F</td>
<td>1</td>
<td>3.2</td>
<td>10.5</td>
<td>260</td>
<td>470</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>with tensile load</th>
<th>without tensile load</th>
<th>Max. crush resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min. bending radius</td>
<td>Min. bending radius</td>
<td>N/cm</td>
</tr>
<tr>
<td>1F</td>
<td>64 (20xD)</td>
<td>48 (15xD)</td>
<td>250</td>
</tr>
</tbody>
</table>

Optical fiber data (cabled) at 20°C

<table>
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<tbody>
<tr>
<td></td>
<td>dB/km 1550 nm</td>
<td>Typical Brillouin parameters BOTDR or BOTDA at 1550 nm MHz/°C</td>
<td>Typical Brillouin parameters BOTDR or BOTDA at 1550 nm MHz/%</td>
<td>Typical Brillouin parameters BOTDR or BOTDA at 1550 nm GHz</td>
</tr>
<tr>
<td>SMF</td>
<td>≤0.5</td>
<td>2.0</td>
<td>450</td>
<td>10.8</td>
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</tbody>
</table>

Remarks
- Standard fiber color code: 1 red, 2 green, 3 yellow, 4 blue, 5 white, 6 violet, 7 orange, 8 black
- For improved UV resistance, black cable sheath available upon request
- Deployment training upon request
- Standard cable marking with meter marks, special labeling of outer sheath upon request
- Other cable designs and temperature ranges upon request
- Accessories such as mounting brackets, loops, fan-outs, splice enclosures, connectors, patch-panels, repair kits etc. are available
- Final test reports OTDR, BOTDA measurement available upon request

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