## Total Earth Pressure Cell

Total Earth Pressure Cells are designed to measure stress acting on plane surfaces. Total Earth Pressure Cells are constructed from two circular stainless steel plates, welded together around their periphery. The annular space between these plates is filled with deaired glycol. The cell is connected via a stainless steel tube to a transducer forming a closed hydraulic system. The stress is then converted to a signal and may be remotely read on a variety of portable readout units or data loggers.

RST Total Earth Pressure Cells are calibrated as a complete assembly (rather than just the sensor) to capture the calibration of the complete cell for highest quality of data.

### APPLICATIONS
- Earth embankments and dams
- Foundations, retaining walls, and piles
- Pipelines and culverts
- Railroad bases
- Beneath raft foundations
- Tunnel linings
- Mine backfill monitoring

### FEATURES
- Long term stability
- High accuracy and sensitivity
- Constant monitoring capability
- Ease of data logging
- Stainless steel construction
- Either vibrating wire or strain gauge transducers
- The transducer is located 46 cm (18 in.) from the cell to avoid any influence from the transducer housing
- A 20:1 height to diameter ratio minimizes the effects of stress distribution on the mean plane (9 in. and 12 in. models)

### ORDERING INFO
- **Product Category:** Load Cells + Pressure Sensors + Stress Meters
- **Part number:**
  - Vibrating Wire Cable: EL380004
  - Mounting Ears (4 tabs): LPTPC-EARS4
- **Pressure range requirements:**
  - Standard pressures (<0.35 MPa)
  - High pressures (>3 MPa – 20 MPa)
  - Low pressures (<0.35 MPa)

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MODELS</th>
<th>LPTPC-V</th>
<th>LPTPC-S</th>
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</thead>
<tbody>
<tr>
<td>Transducer Type</td>
<td>Vibrating Wire</td>
<td>Silicon Strain Gauge</td>
<td></td>
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<tr>
<td>Range - Standard Calibration</td>
<td>Up to 2.0 MPa (300 psi)</td>
<td>Up to 2.0 MPa (300 psi)</td>
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<tr>
<td>Range - Max Available</td>
<td>20 MPa (3000 psi)</td>
<td>20 MPa (3000 psi)</td>
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<tr>
<td>Calibrated Accuracy</td>
<td>0.15% F.S.</td>
<td>0.15% F.S.</td>
<td></td>
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<tr>
<td>Resolution</td>
<td>0.025% F.S. minimum</td>
<td>Infinite</td>
<td></td>
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<tr>
<td>Excitation Voltage</td>
<td>5 V sq. Wave</td>
<td>Dependent on sensor</td>
<td></td>
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<tr>
<td>Signal Output</td>
<td>1200 - 2000 Hz</td>
<td>4-20 mA</td>
<td></td>
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<tr>
<td>Thermistor</td>
<td>Yes (standard)</td>
<td>Optional (can be added)</td>
<td></td>
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<tr>
<td>Conductor</td>
<td>4 X #22 (2 for VW, 2 for Thermistor)</td>
<td>4 X #22</td>
<td>2 X #22</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-29° to +65°C</td>
<td>-20° to +150°F</td>
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</table>

*Various types of strain gauge transducers are available, contact RST for info.*