Load Sensors
Load Pins, Compression Cells, Tension Links & Instrumented Shackles

McCoy Global offers four key types of load sensors:

- **Load pins**: A load pin goes through and holds equipment together such as in a sheave nest and senses load or tension.
- **Compression cells**: A compression cell goes underneath something and senses load weight.
- **Tension links**: A tension link goes in between two devices, rope is tightened or pulled, a tension link senses tension on a wire rope or a cable.
- **Instrumented shackles**: An instrumented shackle sense tension on an anchor line, the shackle goes through the stationary piece and a load pin is connected to measure tension or load on the line.

What we can measure:
- Linear force
- Sheer force
- Tension
- Compression
- Torque
- Bi-directional
- Dual axis

What's unique about our load sensors?

- **Extreme load capacity**: our load cells and pins measure a load up to 6,000,000 lbf (26.7 MN). All load cells and pins are traceable back to NIST up to 6,000,000 lbs with a 1% accuracy.
- **The operating temperature**: all our load sensors have a high temperature option that is not offered by our competitors that ensure our load sensors meet the most extreme conditions, offering a temperature range from -40°C to 200°C. (Our standard is ----40°C to 85°C).
- **Shock and vibration tested**: all our load sensors are shock and vibration tested to ensure the electronics inside the sensor do not fail due to harsh shock loads or vibrations in the field.
- **Robust EMI/RFI protection**: we test all of our load sensors to 200 volts per meter – so for example, if you are a shipyard, building destroyer ships, the electro-magnetic interference on a ship will not impact our load sensors used on that ship.
- **Machined from stainless steel**: all McCoy Global load sensors are engineered for rugged, harsh and hazardous area applications using 17-4 PH stainless steel. We have never had a sensor break in the field.
- **Custom designed**: McCoy Global load sensors are custom designed specifically to address your exact need.
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Instrumented shackles
An instrumented shackle senses tension on an anchor line. The shackle goes through the stationery piece and a load pin is connected to measure tension or load on the line.

Features

- Internal or external signal conditioners with digital or analog outputs
- Customized firmware to communicate with an existing system
- Data logging
- Robust EMI/RFI protection
- High shock and vibration resistance
- Engineered to survive physical abuse and wide temperature ranges

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
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<tbody>
<tr>
<td>Capacity</td>
<td>≤6,000,000 lbf [26.7 MN]</td>
</tr>
<tr>
<td>Static Error Band</td>
<td>±1% Full Scale</td>
</tr>
<tr>
<td>Overload Rating</td>
<td>250% (no calibration shift)</td>
</tr>
<tr>
<td>Outputs</td>
<td>4-20mA, Digital (wired or wireless), direct to relay</td>
</tr>
<tr>
<td>Material</td>
<td>17-4 PH Stainless Steel, Condition H1150 per AMS 5643</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to 170 °C [Standard: -40 to 77 °C]</td>
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