9QGPS5100L
Tension load cell
Measurement made easy
Tension load cells combining sturdiness and easiness to install

Wide range of capacities: 2 t up to 100 t

Easy to install, compact design

IP rating IP 66

Material
- Stainless steel (5100L)
- Nickel plated steel (5105L)

Available options (non exhaustive list)
- ATEX intrinsic safety
- High service temperature (up to 180 °C [356 °F])
- IP rating IP 68 or special for marine environment
- Amplified output (V or mA) and digital output signal (RS-232C, RS-485, USB)
Applications
The load cells 5100L-5105L are perfectly designed to the following applications:
- Towing force measurement (marine)
- Force measuring on rigging
- Weighing of hanging load
- Tensile test benches

Materials

<table>
<thead>
<tr>
<th>Model 5100L</th>
<th>Model 5105L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel</td>
<td>Nickel plated alloy steel</td>
</tr>
</tbody>
</table>

Capacities
1 - 2 - 3 - 5 - 7.5 - 10 - 15 - 20 - 30 - 50 - 75 - 100 t

Explosion protection (Option)
ATEX intrinsic safety:
- Ex II 1GD Ex ia IIC T6 or T4 Ga Ex ia IIIc T80°C Da

Specification

<table>
<thead>
<tr>
<th>Measurement</th>
<th>SL - HOIST 0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring accuracy</td>
<td></td>
</tr>
<tr>
<td>Combined error (non-linearity + hysteresis)</td>
<td>&lt; ±0.5 % F.S.</td>
</tr>
<tr>
<td>Repeatability error</td>
<td>&lt; ±0.25 % F.S.</td>
</tr>
<tr>
<td>Creep error over 30 min.</td>
<td>&lt; ±0.3 % F.S.</td>
</tr>
<tr>
<td>Zero shift after loading</td>
<td>&lt; ±0.05 % F.S.</td>
</tr>
<tr>
<td>Sensitivity tolerance</td>
<td>&lt; ±0.5 %</td>
</tr>
<tr>
<td>Temperature coefficient of the sensitivity</td>
<td>&lt; ±0.2 % F.S./10 °C</td>
</tr>
<tr>
<td>Temperature coefficient of zero signal</td>
<td>&lt; ±0.2 % F.S./10 °C</td>
</tr>
<tr>
<td>Reference temperature</td>
<td>23 °C (73.4 °F)</td>
</tr>
</tbody>
</table>

Temperature data
- Nominal temperature range: -10 to 45 °C (14 to 113 °F)
- Service temperature range: -25 to 70 °C (-13 to 158 °F)
- Storage temperature range: -50 to 85 °C (-58 to 185 °F)

Electrical Data
- Input resistance: 350 Ω ±2 Ω
- Output resistance: 350 Ω ±2 Ω
- Insulation resistance (50 V): > 5000 MQ
- Reference excitation voltage: 10 V DC
- Nominal range of excitation voltage: 3 to 12 V DC
- Zero balance: ±0.02 mV/V
- Nominal sensitivity: 1 mV/V 1.5 mV/V

Load limits
- Safe load limit: 200 % F.S. 150 % F.S.
- Breaking load: > 500 % F.S. > 300 % F.S.
- Static lateral force limit: 10 % F.S. 10 % F.S.
- Permissible dynamic loading: 75 % F.S. 40 % F.S.

F.S.: Full scale
Dimensions

Load cells model 9QGPS5100L (stainless steel), 9QGPS5105L (alloy steel)

Range 2 to 100 t
All dimensions in mm (in)

<table>
<thead>
<tr>
<th>Capacities t</th>
<th>Ø A</th>
<th>P</th>
<th>Ø Q</th>
<th>R</th>
<th>S</th>
<th>Ø T</th>
<th>CL</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoist Force</td>
<td>&gt; 500 %</td>
<td>&gt; 300 %</td>
<td>m (ft)</td>
<td>kg (lb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 2</td>
<td>2 to 3</td>
<td>50 (1.97)</td>
<td>144 (5.67)</td>
<td>18 (0.71)</td>
<td>108 (4.25)</td>
<td>20 (0.79)</td>
<td>35 (1.38)</td>
<td>3 (9.84)</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>60 (2.36)</td>
<td>160 (6.30)</td>
<td>24 (0.94)</td>
<td>112 (4.41)</td>
<td>30 (1.18)</td>
<td>45 (1.77)</td>
<td>3 (9.84)</td>
</tr>
<tr>
<td>4 to 7.5</td>
<td>7.5 to 10</td>
<td>80 (3.15)</td>
<td>240 (9.45)</td>
<td>35 (1.38)</td>
<td>170 (6.69)</td>
<td>44 (1.73)</td>
<td>64 (2.52)</td>
<td>3 (9.84)</td>
</tr>
<tr>
<td>10 to 15</td>
<td>15 to 20</td>
<td>100 (3.94)</td>
<td>310 (12.20)</td>
<td>42 (1.65)</td>
<td>226 (8.90)</td>
<td>52 (2.05)</td>
<td>86 (3.41)</td>
<td>6 (19.68)</td>
</tr>
<tr>
<td>20 to 30</td>
<td>30 to 50</td>
<td>139 (5.47)</td>
<td>430 (16.93)</td>
<td>58 (2.28)</td>
<td>290 (11.42)</td>
<td>78 (3.07)</td>
<td>109 (4.29)</td>
<td>12 (39.37)</td>
</tr>
<tr>
<td>40 to 75</td>
<td>75 to 100</td>
<td>180 (7.09)</td>
<td>520 (20.47)</td>
<td>80 (3.15)</td>
<td>348 (13.70)</td>
<td>100 (3.94)</td>
<td>149 (5.87)</td>
<td>12 (39.37)</td>
</tr>
</tbody>
</table>

* Breaking load (% full scale)

Wiring code

Figure 1: Standard dimensions

Figure 2: Cable connection options
Notes
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