Portable Force Measurement Instrument FCS

Scope of Supply
Portable Force Measurement Instrument with 5 m cable (PVC) and connection variant T: cable gland, straight

In combination with PAD2 the FCS is supplied with connection plug

Additional Options
For size 3 and 4:
Option D1 Prism for force transmission for rolls up to ø 200 mm
Option D2 Prism for force transmission for rolls up to ø 480 mm

Additional Accessories
Portable amplifier PAD2

Special Features
• Extremely flat design
• 4 Sizes are available
• Nominal force ratings from 100 N to 2 kN

Options

Option D1

Option D2

The portable system FCS was designed for the measurement of compression forces in confined spaces and in narrow gaps, specially for the nip forces between rolls.

The special design of the sensor element with strain gauges in full bridge circuit is the core of the force sensor. The amplification of the measurement signal to standardized levels is accomplished with amplifiers of the HAEHNE product program.

This enables stationary solutions with DIN rail or field enclosures, as well as portable systems, e.g. PAD2.

Ordering example

FCS3-10k-TD1

Type
Size
Nominal force
Options
### Technical Data

<table>
<thead>
<tr>
<th></th>
<th>FCS1</th>
<th>FCS2</th>
<th>FCS3</th>
<th>FCS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal force (measuring range)</td>
<td>500 N</td>
<td>1; 2 kN</td>
<td>5; 10 kN</td>
<td>20; 50; 100** kN</td>
</tr>
<tr>
<td>Max. operating force</td>
<td>120 %</td>
<td>140 %</td>
<td>140 %</td>
<td>140 %</td>
</tr>
<tr>
<td>Absolute max. force</td>
<td>200 %</td>
<td>200 %</td>
<td>200 %</td>
<td>200 %</td>
</tr>
<tr>
<td>Nominal rating</td>
<td>1,5 mV / V</td>
<td>1 mV / V</td>
<td>1 mV / V</td>
<td>1 mV / V</td>
</tr>
<tr>
<td>Combined error</td>
<td>1 %</td>
<td>0,5 %</td>
<td>0,5 %</td>
<td>0,5 %</td>
</tr>
</tbody>
</table>

Higher accuracy on request

- Nominal ambient temperature: +10° ... +60° C (+50° ... +140° F)
- Operational temperature range: -10° ... +70° C (14° ... 158°)

### Values (%) based on nominal force

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>L</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>20</td>
<td>340</td>
<td>160</td>
<td>51</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>30</td>
<td>340</td>
<td>160</td>
<td>56</td>
<td>40</td>
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<tr>
<td>3</td>
<td>47.5</td>
<td>50</td>
<td>531</td>
<td>332.7</td>
<td>187</td>
<td>43</td>
</tr>
<tr>
<td>4</td>
<td>53.5</td>
<td>70</td>
<td>531</td>
<td>332.7</td>
<td>187</td>
<td>43</td>
</tr>
</tbody>
</table>

Dimensions in mm (1 mm = 0.03937 inches)

With the sizes 3 and 4 can be ordered in place of the pressure plate also the prisms D1 and D2.

### Size 1 and 2

![Diagram of Size 1 and 2]

### Size 3 and 4

![Diagram of Size 3 and 4]

D1 for rollers up to ø 200

D2 for rollers up to ø 480