Sensors in rectangular housings

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Measuring range [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangular, compact</td>
<td>5 b</td>
</tr>
<tr>
<td>M12</td>
<td>1,5</td>
</tr>
<tr>
<td>Ø 6,5 x 40 x 16 mm</td>
<td>5 b</td>
</tr>
<tr>
<td>Ø 9,5 x 14 mm</td>
<td>5 b</td>
</tr>
<tr>
<td>Ø 9,5 x 10 mm</td>
<td>5 b</td>
</tr>
<tr>
<td>Ø 9,5 x 60 x 40 mm</td>
<td>40 b</td>
</tr>
<tr>
<td>Rectangular, variable</td>
<td>7 b</td>
</tr>
<tr>
<td>15 b</td>
<td>20 b</td>
</tr>
</tbody>
</table>

Sensors in threaded and smooth barrels

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Measuring range [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q14, 52 x 30 x 14 mm</td>
<td>5 b</td>
</tr>
<tr>
<td>Q12</td>
<td>1,5 b</td>
</tr>
<tr>
<td>10 b</td>
<td>2 17 b</td>
</tr>
<tr>
<td>15 b</td>
<td>20 b</td>
</tr>
</tbody>
</table>

Typical curve of TURCK analogue sensors with linear output signal

Sensors in threaded and smooth barrels

- Wire-break protection
- Frequency output, 1 ... 10 kHz
- Reverse-polarity protection
- Current output, 0 ... 20 mA or 4 ... 20 mA
- Short-circuit protection
- Voltage output, 0 ... 10 V or 2 ... 10 V
- Protective circuitries

- Output types:
  - Amplifier electronics integrated in the connector housing
  - Operating voltage UB 15...30 VDC
  - Ambient temperature -10...+70 °C
  - Repeat accuracy ≤ 0.06 %/°C
  - Ambient temperature -10...+70 °C
  - ≤ 0.5 % after 30 minute warm-up
  - ≤ 1 %

- Standard analog
- Linear output signal
- Non-linear

- Ring sensors
- Compact

- Bussystem
- FAX-ANTWORT/FAX REPLY
- BL20 I/O-Busklemmensystem
- Ethernet Netzwerkkomponenten
- Ethernet network components
- excom®
- Magnetfeldsensoren
- Kapazitive Sensoren
- Identifikations-Systeme
- Druckwächter
- Strömungswächter

- Linearweg-Sensoren
- Sensortechnik
- Sensortechnik
- Druckwächter
- Strömungswächter
- levelprox
- Ultraschall-Sensoren
- Photo-Sensoren
- Magnetfeldsensoren
- Capacitive sensors
- Identification systems
- Pressure controls
- Flow controls

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- ID/Phone:                                       Internet: www.turck.com
- Fax/Email:
Analog sensors:

Inductive sensors with analog output for simple measuring and control tasks provide a current or voltage signal which is proportional to the target’s distance. TURCK’s analog sensors provide a linear output signal relative to the distance between the target and the sensor’s active face over the entire measuring range.

When monitoring winding/ unwinding procedures, the analog sensor measures the roller’s thickness and converts this value directly into a proportional current or voltage signal.

Further applications suited to analog sensing are for example:
- thickness, gap or distance measurements
- band eccentricity measurements
- band width measurements
- positioning
- absolute position or angular deviation control

That’s exactly why TURCK’s analog sensors have grown with the addition of new types, series analog. The measuring range of these sensors has once again been extended, so that they are particularly useful applications where large distances have to be detected and expressed by analogue signals.

However, if the application requires detection of minimal motion or deviation, the standard range of analog sensors is even more suitable. Their linearity and accuracy is even better due to the lower upper range value.

Application possibilities of inductive analog sensors

A rotary movement can be performed by a worm drive. Every angular position of the axis can thus be assigned to a measuring value of the sensor. This is also an ideal sensing solution for incomplete rotary actuation by a worm drive. Every angular position of the axis can thus be assigned to a measuring value of the sensor. This is also an ideal sensing solution for incomplete rotary actuation, e.g. positioning plates or swivel arms) where merely small motion (e.g. positioning plates or swivel arms) where merely small motion and converting it into analog signals, the large distance across an oblique plane has to be reproducible by the measuring range of the sensor. Consequently, the sensor’s resolution is spread over the long distance, but generally this method does not create any problems.

When detecting extensive linear motion and converting it into analog signals, the large distance across an oblique plane has to be reproducible by the measuring range of the sensor. Consequently, the sensor’s resolution is spread over the long distance, but generally this method does not create any problems.

Actuation by a worm drive

Application possibilities of analogue ring sensors

When falling through the ring, screws of different size, generate a characteristic output signal, so that the target can be easily identified. Due to the concentrated magnetic field, also flexibly guided parts can be detected reliably.

Identification of small parts

Position control

Position control can be easily accomplished by means of a cone-shaped target. Measuring ranges can be adapted to specific sensing needs by using targets with an appropriate cone length. These sensors enable precise and simple position detection, even if the targets feature a slight offset.