More Precision

capaNCDT 6120 // Compact capacitive single-channel measurement system
Compact capacitive single-channel measurement system

System construction
The capaNCDT 6120 single channel capacitive electronics is compatible with all Micro-Epsilon capacitive sensor ranges. The measurement system stands out due to its compact designed together with high performance.

Due to the miniaturized design and its ease of use, the capaNCDT 6120 is ideally suited to integration in machines and facilities. With power supply options between 9 - 28V, the system can also be operated in passenger cars and trucks. As well as an analog output, a RS485 interface is also available. The capaNCDT 6120 stands out due to its excellent price/performance ratio, which makes it particularly suitable for high volume applications.

The measurement system consists of:
- Capacitive displacement sensor
- Sensor cable
- Controller
- Supply and signal output cable

Accessory:
- Power supply

Block diagram

- Compact and robust construction
- High temperature stability
- Nanometer repeatability
- Suitable for all conductive materials
- 24V (9 – 36V) standard power supply for industrial applications
- Ideal for OEM applications
- Digital output RS485
- Suitable for all sensors
### Controller

<table>
<thead>
<tr>
<th>Controller type</th>
<th>DT6120</th>
<th>DT6120/ECL2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution static</td>
<td>0.01 % FSO</td>
<td>0.01 % FSO</td>
</tr>
<tr>
<td>Resolution dynamic</td>
<td>0.015 % FSO (1kHz)</td>
<td>0.015 % FSO (1kHz)</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>1kHz (-3dB)</td>
<td>1kHz (-3dB)</td>
</tr>
<tr>
<td>Linearity (typ.)</td>
<td>±0.05% FSO</td>
<td>±0.05% FSO</td>
</tr>
<tr>
<td>Max. sensitivity deviation</td>
<td>±0.1% FSO</td>
<td>±0.1% FSO</td>
</tr>
<tr>
<td>Long-term stability</td>
<td>&lt;0.05% FSO/month</td>
<td>&lt;0.05% FSO/month</td>
</tr>
<tr>
<td>Synchronous operation</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Insulator measurement</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Temperature stability</td>
<td>200ppm</td>
<td>200ppm</td>
</tr>
<tr>
<td>Temperature range (operation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensor</td>
<td>-50...+200°C</td>
<td>-50...+200°C</td>
</tr>
<tr>
<td>Controller</td>
<td>+10...+60°C</td>
<td>+10...+60°C</td>
</tr>
<tr>
<td>Temperature range (storage)</td>
<td>-10...+75°C</td>
<td>-10...+75°C</td>
</tr>
<tr>
<td>Supply</td>
<td>24VDC/60mA (9...28V), RS485</td>
<td>24VDC/60mA (9...28V), RS485</td>
</tr>
<tr>
<td>Output</td>
<td>0 ... 10V (short-circuit-proof), optional: ±5V, 10 ... 0V</td>
<td>0 ... 10V (short-circuit-proof), optional: ±5V, 10 ... 0V</td>
</tr>
<tr>
<td>Digital interface</td>
<td>RS485, 230400 Baud (adjustable), 24 bit measuring values, max. 2kSamples (adjustable)</td>
<td>RS485, 230400 Baud (adjustable), 24 bit measuring values, max. 2kSamples (adjustable)</td>
</tr>
<tr>
<td>Sensors</td>
<td>suitable for all sensors</td>
<td>suitable for all sensors</td>
</tr>
<tr>
<td>Sensor cable</td>
<td>CC cable ≤ 1m</td>
<td>CC cable ≤ 2 m</td>
</tr>
<tr>
<td></td>
<td>CCM cable = 1.4m</td>
<td>CCM cable = 2.8m</td>
</tr>
<tr>
<td></td>
<td>CCg cable = 2m</td>
<td>CCg cable = 4m</td>
</tr>
</tbody>
</table>

FSO – Full Scale Output

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Mounting holes for M4 screws

Controller type: DT6120, DT6120/ECL2

- Compact and robust construction
- High temperature stability
- Nanometer repeatability
- Suitable for all conductive materials
- 24V (9 – 36V) standard power supply for industrial applications
- Ideal for OEM applications
- Digital output RS485
- Suitable for all sensors

Controller type: DT6120

- Resolution static: 0.01 % FSO
- Resolution dynamic: 0.015 % FSO (1kHz)
- Bandwidth: 1kHz (-3dB)
- Linearity (typ.): ±0.05% FSO
- Max. sensitivity deviation: ±0.1% FSO
- Long-term stability: <0.05% FSO/month
- Synchronous operation: no
- Insulator measurement: no
- Temperature stability: 200ppm
- Temperature range (operation): Sensor -50...+200°C, Controller +10...+60°C
- Temperature range (storage): -10...+75°C
- Supply: 24VDC/60mA (9...28V), RS485
- Output: 0 ... 10V (short-circuit-proof), optional: ±5V, 10 ... 0V
- Digital interface: RS485, 230400 Baud (adjustable), 24 bit measuring values, max. 2kSamples (adjustable)
- Sensors: suitable for all sensors
- Sensor cable: CC cable ≤ 1m, CCM cable = 1.4m, CCg cable = 2m

Controller type: DT6120/ECL2

- Resolution static: 0.01 % FSO
- Resolution dynamic: 0.015 % FSO (1kHz)
- Bandwidth: 1kHz (-3dB)
- Linearity (typ.): ±0.05% FSO
- Max. sensitivity deviation: ±0.1% FSO
- Long-term stability: <0.05% FSO/month
- Synchronous operation: no
- Insulator measurement: no
- Temperature stability: 200ppm
- Temperature range (operation): Sensor -50...+200°C, Controller +10...+60°C
- Temperature range (storage): -10...+75°C
- Supply: 24VDC/60mA (9...28V), RS485
- Output: 0 ... 10V (short-circuit-proof), optional: ±5V, 10 ... 0V
- Digital interface: RS485, 230400 Baud (adjustable), 24 bit measuring values, max. 2kSamples (adjustable)
- Sensors: suitable for all sensors
- Sensor cable: CC cable ≤ 2 m, CCM cable = 2.8m, CCg cable = 4m
High performance sensors made by Micro-Epsilon

Sensors and systems for displacement and position

Sensors and measurement devices for non-contact temperature measurement

2D/3D profile sensors (laser scanner)

Optical micrometers, fiber optic sensors and fiber optics

Color recognition sensors, LED analyzers and color inline spectrometer

Measurement and inspection systems