DISTANCE MEASURING
contactless and reliable

Accuracy 1 mm
Measuring range 50 m / 150 m / 500 m
Measuring rate 250 Hz
Highest measuring performance for uncompromising results

Highlights of the Dimetix Laser Distance Sensors are precision, robustness, flexibility and speed. Our Laser Distance Sensors measure over the complete measuring range with an accuracy of 1 mm and with a repeatability of 0.3 mm. The measuring range is between 0 and 500 meters. The devices work with a measuring rate up to 250 Hz and have an output rate up to 1 kHz.

Due to many years of innovations and continuous development, Dimetix Laser Distance Sensors work under arduous external conditions. It is possible to even measure on black surfaces with solar irradiation. Extreme working temperatures from -40 up to +60 °C and a robust housing help them withstand the hardest environments.

The Dimetix Laser Distance Sensors are equipped with a multitude of serial interfaces as standard. Besides synchronous and asynchronous interfaces, PROFINET, EtherNet/IP, EtherCAT and PROFIBUS are also available.

An analog 0/4 ... 20 mA output and digital in- and outputs are standard. While the serial interfaces as well as further features can be configured by the customer.
# Laser-Distance-Sensors D-Series

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DPE-10-500</td>
</tr>
<tr>
<td></td>
<td>500630</td>
</tr>
</tbody>
</table>

**Typical Accuracy @ ± 2σ (± 1σ)**
- ± 1 (± 0.5) mm
- ± 0.3 (± 0.15) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 1kHz
- – 40... +60°C
- 12...30 VDC
- 0.5 A
- ✓
- **Analog output, programmable***
- 0/4...20 mA
- ± 0.1%
- 1
- 2/1
- NPN / PNP / Push-Pull
- ✓

**Typical Repeatability @ ± 2σ (± 1σ)**
- ± 0.7 (± 0.35) mm
- ± 0.3 (± 0.15) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 1kHz
- – 40... +60°C
- 12...30 VDC
- 0.5 A
- ✓
- **Digital input, programmable***
- 1
- 1
- 1
- 1
- RS-232*
- ✓

**Measuring range on natural surfaces**
- ± 3 (± 1.5) mm
- ± 0.7 (± 0.35) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 1kHz
- – 40... +60°C
- 12...30 VDC
- 0.5 A
- ✓
- **Digital output programmable/error display***
- 2/1
- 2/1
- 2/1
- 0/1
- RS-422 / RS-485*
- ✓

**Max. measuring rate**
- ± 0.5 (± 0.25) mm
- ± 1 (± 0.5) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 50Hz
- – 10... +50°C
- IP65
- ✓
- **Degree of protection***
- 0.5 A
- ✓
- **Digital output type, programmable***
- 1
- 1
- 1
- 1
- NPN / PNP / Push-Pull
- ✓
- **Optional**
- ✓

**Measuring range on reflective foil**
- ± 3 (± 1.5) mm
- ± 3 (± 1.5) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 50Hz
- – 10... +50°C
- NPN / PNP / Push-Pull
- ✓

**Max. output rate**
- ± 0.5 (± 0.25) mm
- ± 0.5 (± 0.25) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 50Hz
- – 10... +50°C
- **RS-422 / RS-485***
- ✓

**Operating temperature**
- ± 0.5 (± 0.25) mm
- ± 0.5 (± 0.25) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 50Hz
- – 10... +50°C
- **SSL, programmable***
- ✓

**Power supply, voltage range**
- ± 0.5 (± 0.25) mm
- ± 0.5 (± 0.25) mm
- 0.05...~ 100 m
- ~ 0.5...500 m
- 50Hz
- – 10... +50°C
- **USB, configuration only***
- ✓

**Current consumption@ 24 VDC**
- 12...30 VDC
- 12...30 VDC
- 12...30 VDC
- 12...30 VDC
- IP65
- ✓
- **Power supply, voltage range**
- 12...30 VDC
- 12...30 VDC
- 12...30 VDC
- 12...30 VDC
- IP65
- ✓
- **Degree of protection***
- 12...30 VDC
- 12...30 VDC
- 12...30 VDC
- 12...30 VDC
- IP65
- ✓

**Max. error analog output**
- – 40... +60°C
- – 40... +60°C
- – 40... +60°C
- – 40... +60°C
- IP65
- ✓

**Dimension (L × W × H)**
- 140 × 78 × 48 mm
- 140 × 78 × 48 mm
- 140 × 78 × 48 mm
- 140 × 78 × 48 mm
- NPN / PNP / Push-Pull
- ✓

**Weight**
- 350 g
- 350 g
- 350 g
- 350 g
- **Optional**
- ✓

**INTERFACES**
- ✓

**PROFIBUS (extern)**
- ✓

**PROFINET / EtherNet/IP / EtherCAT**
- ✓

**integrated interfaces***
- ✓

**optional interfaces**
- ✓

**Part Numbers**
- 500630
- 500636
- 500637
- 500638
The D-Series Dimetix Laser Distance Sensors are at the forefront of our continuous development and innovation. They measure long distances with the highest precision reliable and speed, even in the most difficult situations. The D-Series can measure on dark surfaces even in bright outdoor environments. The Laser Distance Sensors have the ability to measure distances at rates up to 250 Hz with a maximal output rate of 1 kHz for applications involving fast moving targets.

### Highlights
- Measuring range 0 to 500 m
- Max. measuring rate 250 Hz
- 1 mm accuracy
- Serial interfaces
- High precision analog output (0.1%)
- Digital input
- Two programmable digital outputs
- Digital output for error signalization
- PROFIBUS interface (optional)
- PROFINET, EtherNet/IP and EtherCAT interfaces (optional)
- Solid housing IP65
- Extended temperature range – 40 ... + 60 °C

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SPECIFICATION</th>
<th>DAN-10-150 500632</th>
<th>DAN-30-150 500634</th>
<th>DAE-10-050 500633</th>
<th>DBN-50-050 500635</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Accuracy @ ± 2σ (@ ± 1σ)</td>
<td>±1 (±0.5) mm</td>
<td>±3 (±1.5) mm</td>
<td>±1 (±0.5) mm</td>
<td>±3 (±1.5) mm</td>
<td></td>
</tr>
<tr>
<td>Typical repeatability @ ± 2σ (@ ± 1σ)</td>
<td>±0.3 (±0.15) mm</td>
<td>±0.7 (±0.35) mm</td>
<td>±0.3 (±0.15) mm</td>
<td>±0.7 (±0.35) mm</td>
<td></td>
</tr>
<tr>
<td>Measuring range on natural surfaces</td>
<td>0.05... – 100 m</td>
<td>0.05... – 100 m</td>
<td>0.05... – 50 m</td>
<td>0.05... – 50 m</td>
<td></td>
</tr>
<tr>
<td>Measuring range on reflective foil</td>
<td>~ 40...150 m</td>
<td>~ 40...150 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. measuring rate</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>10 Hz</td>
<td></td>
</tr>
<tr>
<td>Max. output rate</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>10 Hz</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10... + 50 °C</td>
<td>-10... + 50 °C</td>
<td>-10... + 60 °C</td>
<td>-10... + 50 °C</td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP66</td>
<td>IP66</td>
<td>IP66</td>
<td>IP66</td>
<td></td>
</tr>
<tr>
<td>Power supply, voltage range</td>
<td>12...30 VDC</td>
<td>12...30 VDC</td>
<td>12...30 VDC</td>
<td>12...30 VDC</td>
<td></td>
</tr>
<tr>
<td>current consumption@ 24 VDC</td>
<td>0.15 A</td>
<td>0.15 A</td>
<td>0.5 A</td>
<td>0.15 A</td>
<td></td>
</tr>
<tr>
<td>Laser red, visible (Laser Class 2, &lt; 1 mW)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Typical diameter of laser dot@10 m/ @50 m</td>
<td>7×3 mm / 28×13 mm</td>
<td>7×3 mm / 28×13 mm</td>
<td>7×3 mm / 28×13 mm</td>
<td>7×3 mm / 28×13 mm</td>
<td></td>
</tr>
<tr>
<td>Dimension (L × W × H)</td>
<td>140×78×48 mm</td>
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<td></td>
</tr>
<tr>
<td>Weight</td>
<td>350 g</td>
<td>350 g</td>
<td>350 g</td>
<td>350 g</td>
<td></td>
</tr>
</tbody>
</table>

### Interfaces
- Analog output, programmable* | 0/4...20 mA | 0/4...20 mA | 0/4...20 mA | 0/4...20 mA |
- Max. error analog output | ±0.1% | ±0.1% | ±0.1% | ±0.2% |
- Digital input, programmable* | 1 | 1 | 1 | 1 |
- Digital output programmable/error display* | 2/1 | 2/1 | 2/1 | 2/1 |
- Digital output type, programmable |
  - NPN / PNP / Push-Pull* | ✓ | ✓ | ✓ | ✓ |
  - RS-232* | ✓ | ✓ | ✓ |
  - RS-422 / RS-485* | ✓ | ✓ | ✓ |
  - SSL programmable* | ✓ | ✓ | ✓ |
  - USB, configuration only* | ✓ | ✓ | ✓ |
- Optional |
  - PROFIBUS (extern) | ✓ | ✓ | ✓ |
  - PROFINET, EtherNet/IP, EtherCAT | ✓ | ✓ | ✓ |
Distance monitoring
Level measuring
Collision prevention
Positioning
Dimension measuring
Monitoring
Swiss quality
For more than 15 years, Dimetix has developed and produced in Switzerland high quality Laser Distance Sensors for the international market. According to our highest quality claims, we guarantee 100% Swiss quality for all our sensors. Our perfectly educated and motivated team works towards this and continuous product development. Thanks to the permanent high availability we can keep the delivery times short.

Short communication paths, continuous contact with clients and partners worldwide are of great importance to us as well as the highest quality of our Laser Distance Sensors. Customer service doesn’t end at Dimetix with selling a Laser Sensor: Unbureaucratic technical support is for Dimetix a matter of course.

The good cooperation with our international clients – with you – motivates us to develop and improve our Laser Distance Sensors continuously.

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