A worldwide leader in precision measurement solutions

MICROTRAK™ 3

THICKNESS MEASUREMENT
DIMENSIONAL DISPLACEMENT
PART PROFILING
VIBRATION TESTING

HIGH SPEED, HIGH RESOLUTION. LASER DISPLACEMENT SENSORS

Accurate and repeatable measurements from highly reflective to dull surfaces

with every system shipped!
Unmatched Features for Different Types of Applications

Microtrak™ 3 - High Quality, Compact and Reliable Non-contact Measurement

The Microtrak™ 3 laser displacement sensor head is the ideal solution for quality and process control applications. Using the latest CMOS sensor technology, the Microtrak™ 3 precisely monitors the intensity of light received on a pixel array and optimizes itself to the sensed conditions. This makes Microtrak™ 3 ideal for even the most difficult measurement challenges such as, black, colored, metallic, wood, ceramic, steel, or plastic surfaces.

Key Features

• No Controller Needed - With the built-in 5-color position indicator, there is no need for an external controller to determine the laser mounting location and attain the precise distance placement.

• Dual Output - Analog (0-10V) and Digital (RS-485 and USB).

• Cut-Time Feature - Ignore holes and cutouts with its bridging function.

• Included Microtrak 3 Basic Software - Intuitive and straight forward buttons makes configuring and acquiring data easy.

• Specular and Glass Models Available - Accurate measurement for shiny surfaces

Bundled with the Microtrak™ 3 Basic Support Software, users are presented with graphical displays of displacement signal. Acquired data can also be stored as a widely supported (.csv) format for further analysis. Compatible with Windows® XP, Vista, Windows® 7 Windows® 8 and Windows® 10.
8 Highly Accurate Models to Choose From

<table>
<thead>
<tr>
<th>Model</th>
<th>LTS 25-02</th>
<th>LTS 25-04</th>
<th>LTS 50-10</th>
<th>LTS 50-20</th>
<th>LTS 120-20</th>
<th>LTS 120-40</th>
<th>LTS 200-100</th>
<th>LTS 300-200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product #</td>
<td>8000-6471</td>
<td>8000-6472</td>
<td>8000-6473</td>
<td>8000-6474</td>
<td>8000-6475</td>
<td>8000-6476</td>
<td>8000-6477</td>
<td>8000-6478</td>
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<tr>
<td>Max. Linearity Error</td>
<td>μm</td>
<td>0.6</td>
<td>1.2</td>
<td>3.0</td>
<td>6.0</td>
<td>12.0</td>
<td>30.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Extended Range</td>
<td>mm</td>
<td>2.5</td>
<td>5.0</td>
<td>12.5</td>
<td>25.0</td>
<td>50.0</td>
<td>125.0</td>
<td>250.0</td>
</tr>
<tr>
<td>Standoff</td>
<td>mm</td>
<td>25</td>
<td>50</td>
<td>120</td>
<td>200</td>
<td>300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Available in Specular Mode (Laser head with ND filter) - specify when ordering.

<table>
<thead>
<tr>
<th></th>
<th>Diffuse Mode</th>
<th>Specular Mode (recommended for shiny surfaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides better accuracy on high contrast changes on fast moving targets</td>
<td>equipped with ND filter</td>
<td></td>
</tr>
<tr>
<td>Diffuse Mode Standoff</td>
<td>90°</td>
<td></td>
</tr>
<tr>
<td>Extended Close Range</td>
<td>23.75</td>
<td>22.50</td>
</tr>
<tr>
<td>Close Range</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>Range</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Extended Far Range</td>
<td>26.25</td>
<td>27.50</td>
</tr>
<tr>
<td>Far Range</td>
<td>26</td>
<td>27</td>
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</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>LTS 25-02</th>
<th>LTS 25-04</th>
<th>LTS 50-10</th>
<th>LTS 50-20</th>
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<th>LTS 120-40</th>
<th>LTS 200-100</th>
<th>LTS 300-200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise² μm RMS</td>
<td>0.325</td>
<td>0.650</td>
<td>1.625</td>
<td>3.250</td>
<td>6.500</td>
<td>16.500</td>
<td>32.500</td>
<td></td>
</tr>
<tr>
<td>Analog Out Scale Factor μm/mV</td>
<td>0.250</td>
<td>0.500</td>
<td>1.250</td>
<td>2.500</td>
<td>5.000</td>
<td>12.500</td>
<td>25.000</td>
<td></td>
</tr>
<tr>
<td>Digital Resolution³ μm</td>
<td>0.038</td>
<td>0.076</td>
<td>0.191</td>
<td>0.382</td>
<td>0.382</td>
<td>0.763</td>
<td>1.907</td>
<td>3.815</td>
</tr>
<tr>
<td>Laser Angle °</td>
<td>0</td>
<td>45°</td>
<td>45°</td>
<td>30°</td>
<td>30°</td>
<td>20°</td>
<td>20°</td>
<td>12°</td>
</tr>
<tr>
<td>Spot Size µm</td>
<td>30</td>
<td>100</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Linearity guaranteed at standard range
(2) ±White photo paper at 500Hz
(3) Minimum Digital Resolution = FSO/65535
(4) Major diameter measured at standoff

**Diffuse Mode**

- Provides better accuracy on high contrast changes on fast moving targets.
- Tilt Angle
- Extended Close Range
- Measurement Range
- Extended Far Range

**Specular Mode**

- Specular Mode
- Equipped with ND filter
- Laser Angle
- Tilt Angle
- Specular Mode = 0.5 x laser angle (half of laser angle)

**What's in the box?**

- Laser Sensor Head
- RS485 Connector-A (Factory Pre-Attached) (2 meters)
- RS485 Connector-B (Factory Pre-Attached) (1.8 meters)
- Flat Head Screwdriver
- Flash Drive (Basic Support Software, Users Manual and etc.)
Technical Specifications

- Laser Power: <5mW
- Laser Class (IEC 60825): 3R
- Frequency Response: Up to 20kHz
- Measurement Rate: 40,000/sec.
- Operating Temperature Range: 0°C to 40°C
- Storage Temperature Range: -20°C to 70°C
- Humidity Range: 10 to 95% Non-Condensing
- Temperature Stability: 0.05% FSR/°C
- Digital Interface: RS-485/USB (Half Duplex)
- Supplied Cable Length: 2m ±0.025m (other cable length optional)
- Supply Voltage: SELV: 15 to 28VDC
- Nominal Supply Voltage: SELV 24VDC
- Maximum Power Draw: 2.8W
- Output Impedance: 50Ω
- Nameplate Range Voltage Output: 1 to 9V
- Extended Range Voltage Output: 0 to 10V
- Software Selectable Filters: 0.1Hz, 1Hz, 25Hz, 200Hz, 1kHz, 4kHz, 20kHz
- Nominal Laser Wavelength: 670nm

[1] Laser power is based on standard products.
[3] Safety Extra Low Voltage

Optional Accessories

FS-5 Laser Head Mount and Positioner
P/N: 8000-6725

FS6-1 Right Angle Bracket
(for 25/50 laser head models)
P/N: 8000-6431

FS6-2 Right Angle Bracket
(for 120/200/300 laser head models)
P/N: 8000-6432

Universal Input Power Supply (DIN Mount) Assembly
P/N: 8000-6925
Includes power cord and 24VDC harness (specify country for correct line cord)

BNC to Ferrule Converter
P/N: 8000-6782

PanelPilot Meter
To bundle a programmed panel meter with your purchase, contact MTI Instruments for support and pricing.

(See App Note)
P/N: 8000-6333

Other Accessories

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2075-0066</td>
<td>SDK with LabVIEW included</td>
</tr>
<tr>
<td>2100-2085</td>
<td>Replacement Connector-A</td>
</tr>
<tr>
<td>2100-2086</td>
<td>Replacement Connector-B</td>
</tr>
<tr>
<td>8000-6923-001</td>
<td>Extension Cable 1m</td>
</tr>
<tr>
<td>8000-6923-002</td>
<td>Extension Cable 2m</td>
</tr>
<tr>
<td>8000-6923-005</td>
<td>Extension Cable 5m</td>
</tr>
</tbody>
</table>

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