

# MICROTRAK™ 3

**THICKNESS MEASUREMENT**

**DIMENSIONAL DISPLACEMENT**

**PART PROFILING**

**VIBRATION TESTING**

**mti instruments** SDK with NI LabVIEW available

**HIGH SPEED. HIGH RESOLUTION.**

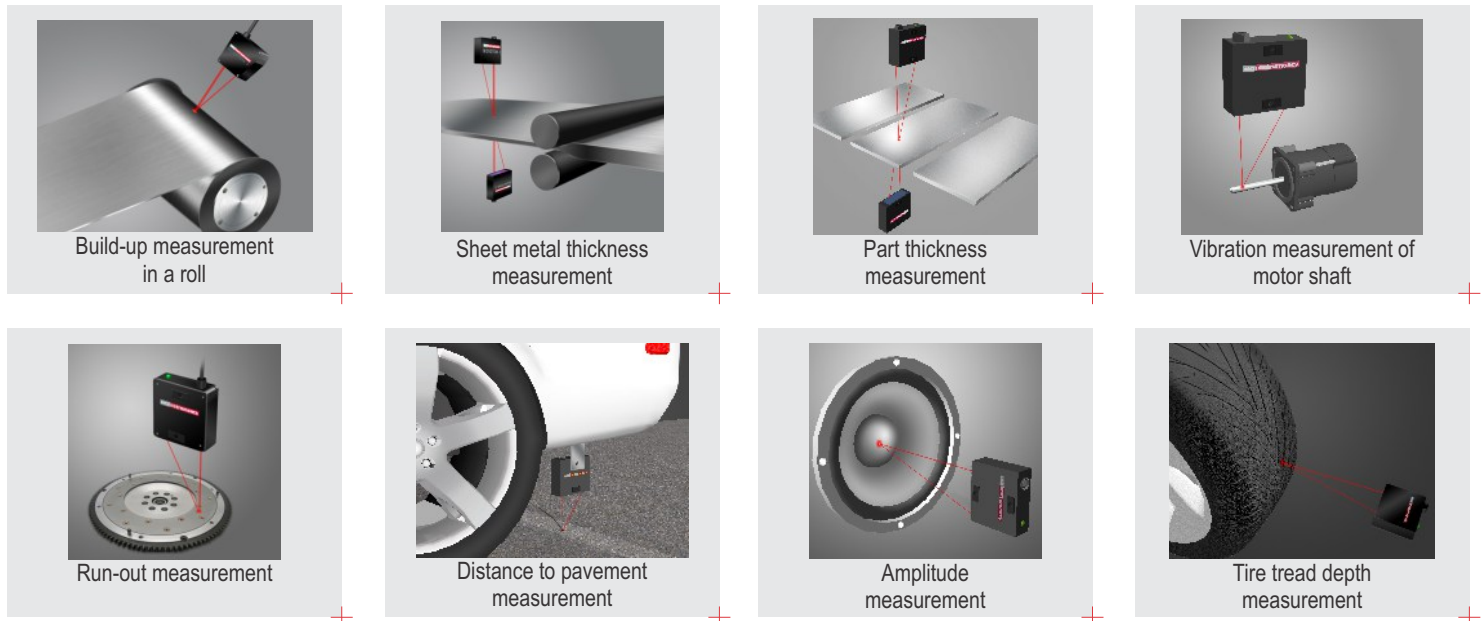
**LASER DISPLACEMENT SENSORS**

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 for the most difficult measurement challenges such as, black, colored, metallic, wood, ceramic, steel, or plastic surfaces.

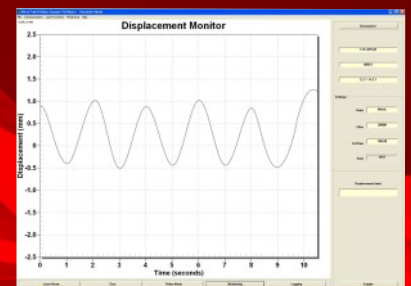
## Key Features

- 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


**SDK** with  **NI LabVIEW**  
 Software Development Kit Available

## Simple Software Interface

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 and Windows® 8.



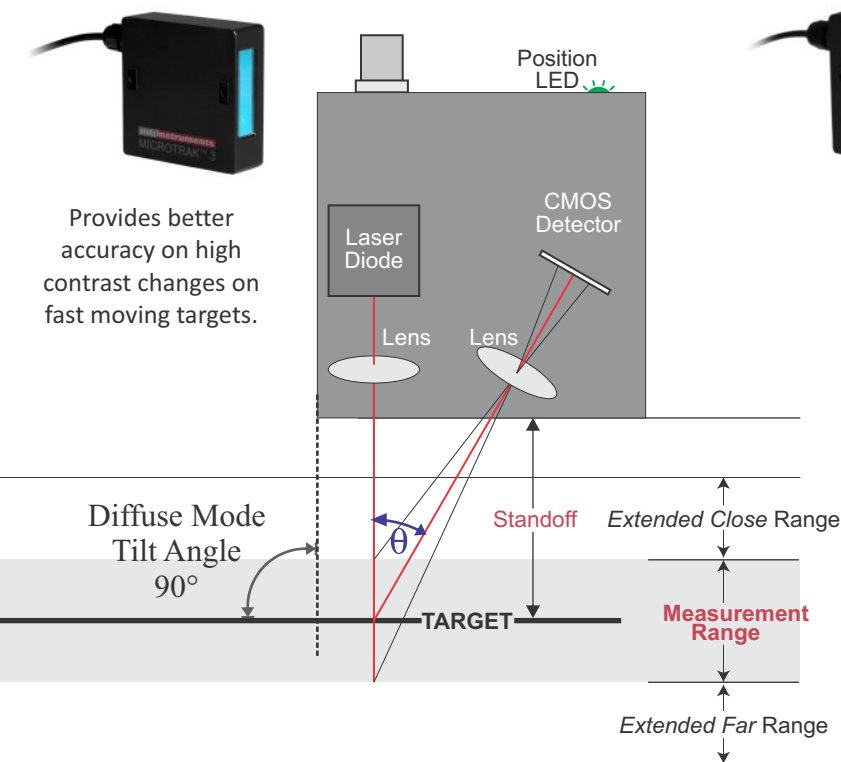
# 8 Highly Accurate Models to Choose From

Model		LTS 25-02	LTS 25-04	LTS 50-10	LTS 50-20	LTS 120-20	LTS 120-40	LTS 200-100	LTS 300-200
Product #		8000-6471	8000-6472	8000-6473	8000-6474	8000-6475	8000-6476	8000-6477	8000-6478
Max. Linearity Error	$\mu\text{m}$	0.6	1.2	3.0	6.0	12.0	30.0	60.0	
Extended Range <sup>1</sup>	mm	2.5	5.0	12.5	25.0	50.0	125.0	250.0	
Standoff	mm	25	50	120	200	300			
<i>Available in Specular Mode (Laser head with ND filter) -specify when ordering</i>									
Extended Close Range	mm	23.75	22.50	43.75	37.50	107.50	95.00	137.50	175.00
Close Range	mm	24	23	45	40	110	100	150	200
Range	mm	2	4	10	20	40	100	200	
Extended Far Range	mm	26.25	27.50	56.25	62.50	132.50	145.00	262.50	425.00
Far Range	mm	26	27	55	60	130	140	250	400
Noise <sup>2</sup>	$\mu\text{m RMS}$	0.325	0.650	1.625	3.250	6.500	16.500	32.500	
Analog Out Scale Factor	$\mu\text{m/mV}$	0.250	0.500	1.250	2.500	5.000	12.500	25.000	
Digital Resolution <sup>3</sup>	$\mu\text{m}$	0.038	0.076	0.191	0.382	0.382	0.763	1.907	3.815
Laser Angle	$\theta$	45°	45°	30°	30°	20°	20°	12°	8°
Spot Size <sup>4</sup>	$\mu\text{m}$	30	36	36	100	130	140	250	400

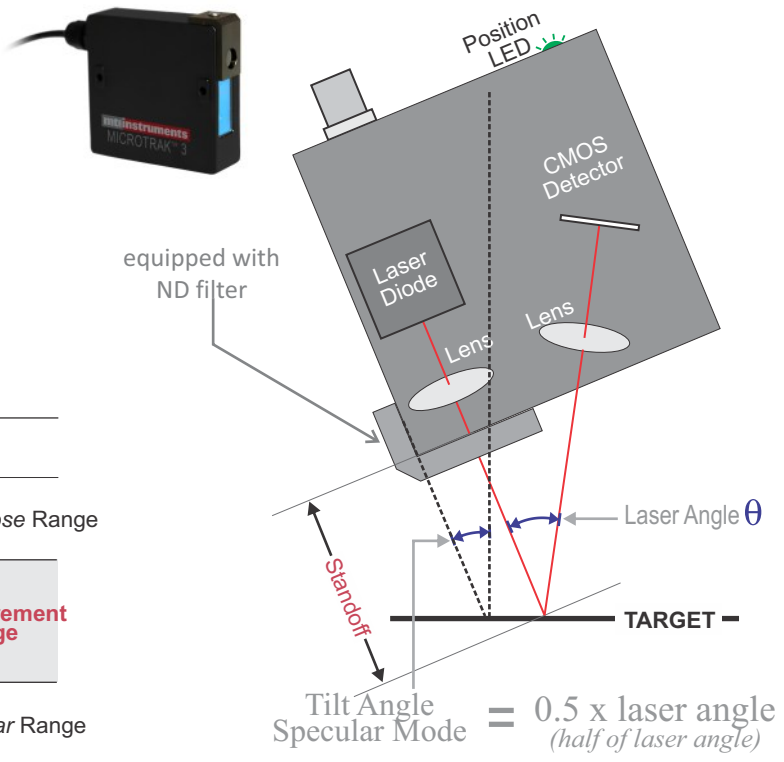
[1] Linearity guaranteed at standard range  
 [2]  $\pm$ White photo paper at 500Hz

[3] Minimum Digital Resolution = FSO/65535  
 [4] Major diameter measured at standoff

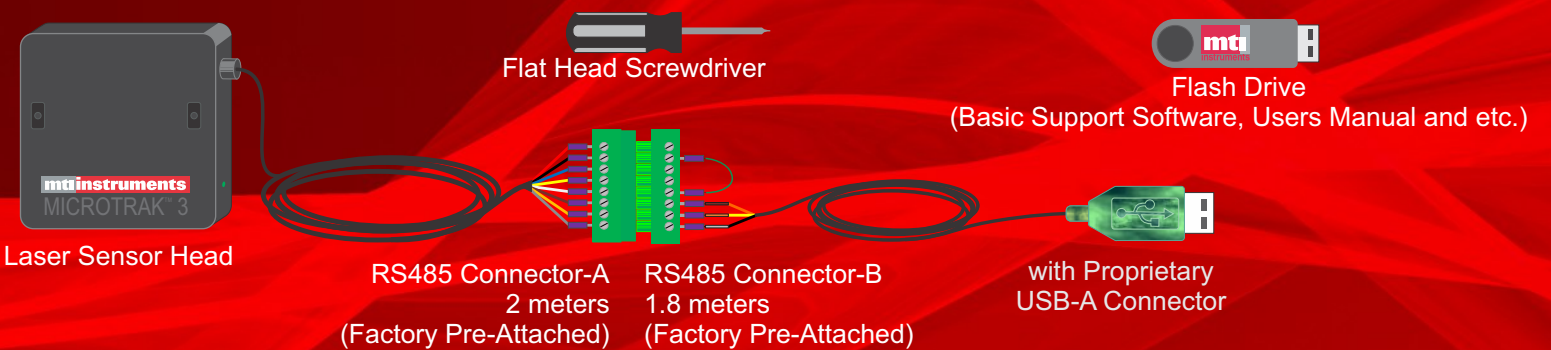
## Diffuse Mode



## Specular Mode (recommended for shiny surfaces)



## What's in the box?



# Technical Specifications

- Laser Power<sup>1</sup>: <5mW
- Laser Class (IEC 60825): 3R
- Frequency Response: Up to 20kHz<sup>2</sup>
- 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<sup>3</sup>: 15 to 28VDC
- Nominal Supply Voltage: SELV<sup>3</sup> 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<sup>4</sup>: 670nm

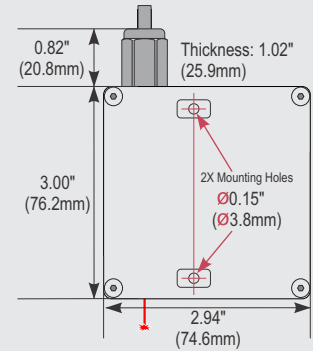
<sup>[1]</sup>Laser power is based on standard products.

<sup>[2]</sup>Measurement based on analog output

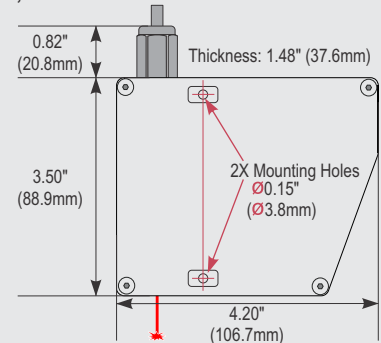
<sup>[3]</sup>Safety Extra Low Voltage

<sup>[4]</sup>Nominal laser wavelength is based on standard products.

## 25 and 50mm Standoff Models



## 120, 200, and 300mm Standoff Models



# 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)

### Other Accessories

Other Accessories	Product Number
SDK with LabVIEW included	2075-0066
Replacement Connector-A	2100-2085
Replacement Connector-B	2100-2086
Extension Cable 1m	8000-6923-001
Extension Cable 2m	8000-6923-002
Extension Cable 5m	8000-6923-005

BNC to Ferrule Converter  
P/N: 8000-6782



Digital Display  
P/N: 8000-6227



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