

MICROTRAK™ 4

HIGH SPEED DIGITAL LASER DISPLACEMENT SENSOR

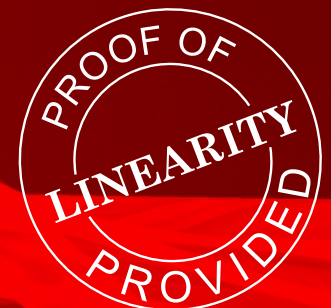
- RANGES
- FROM 2mm
- TO

200mm



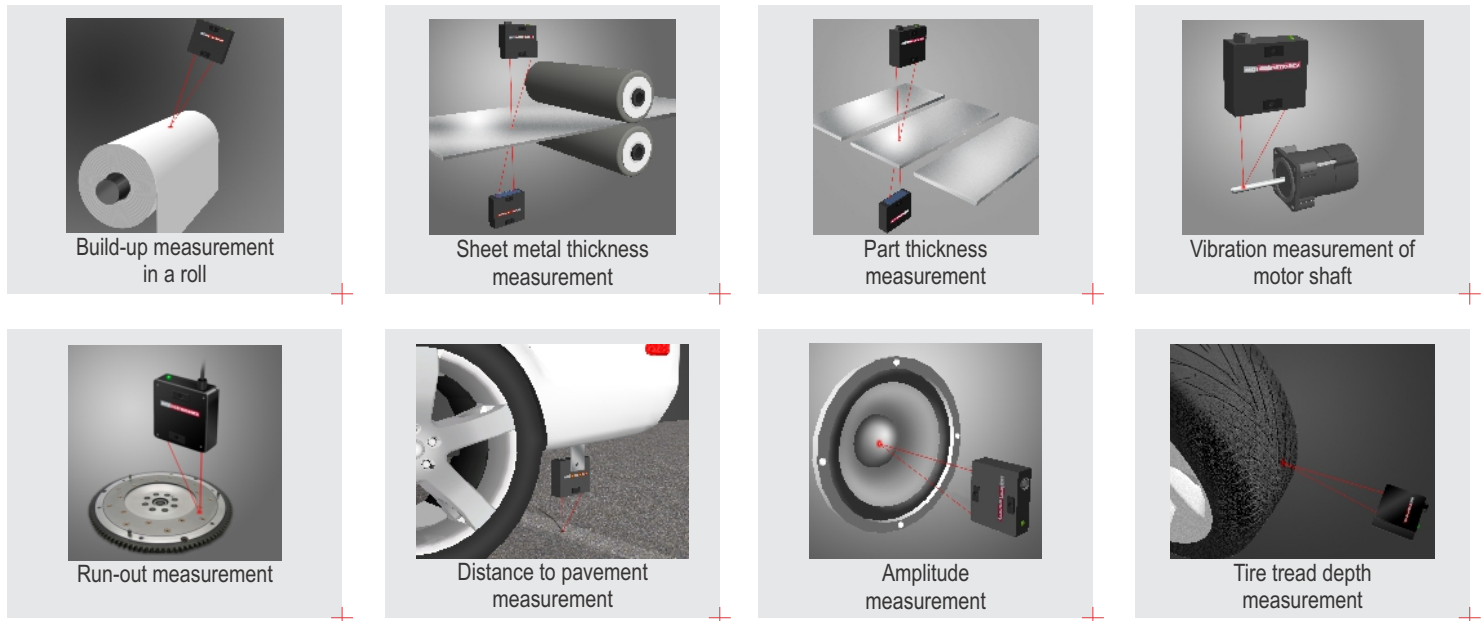
- Direct power from USB port
- ~40kS/sec. CMOS sensor full frame rate
- Included Software Development Kit (NI LabVIEW, DLL and .NET)

Accurate and repeatable measurements from highly reflective to dull surfaces



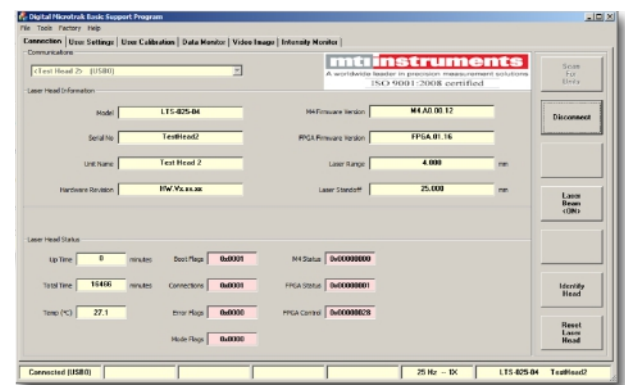
with every system shipped!


Unmatched Features for Different Types of Applications



Key Features

- **No External Controller Needed** - Out of the box, the MTI basic program runs on your PC to make measurements. Intuitive and straight forward buttons makes configuring and acquiring data simple.
- **Software Development Kit Included** - for custom programs used by system integrators.
- **Visible Laser Spot** - Allows for easy positioning and alignment of the laser head.
- **Easy Setup** - 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.
- **Built-in Low Pass Filters**
- **Auto Gain Circuitry** - Automatically determines and adjusts the ideal laser power needed for accurate and repeatable measurements on different surface types.
- **Cut-Time Feature** - Ignore holes and cutouts with its bridging function.



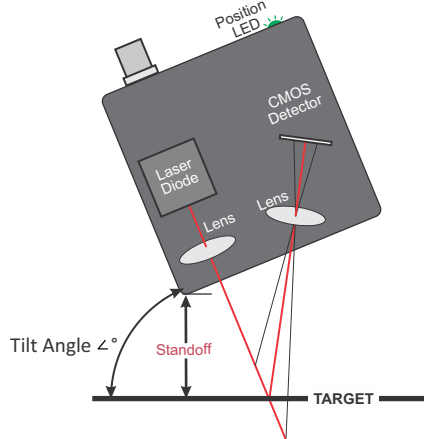
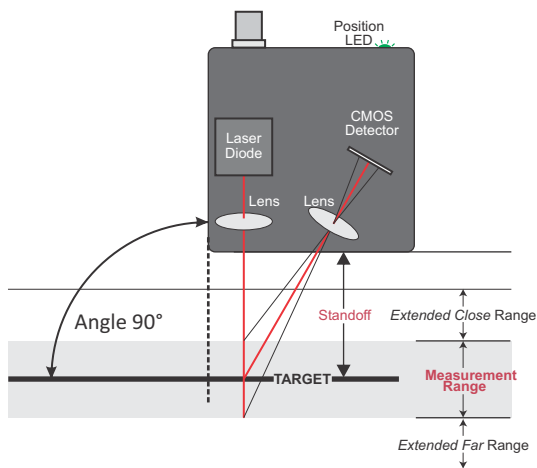
- **Reliable measurements for very dark or very shiny (mirror-like) targets** - using available 2X exposure function
- **Plug and Play USB** 
 - No separate power supply needed
 - All digital output

Applications

- Thickness
- Warpage
- Alignment
- Displacement
- Vibration
- Step Height
- Shaft Run-out
- Road Profile
- Presence
- Fill Height
- Flatness
- Profiling
- Thermal Expansion/ Contraction
- Structural Dynamics
- Dimensional Gauging

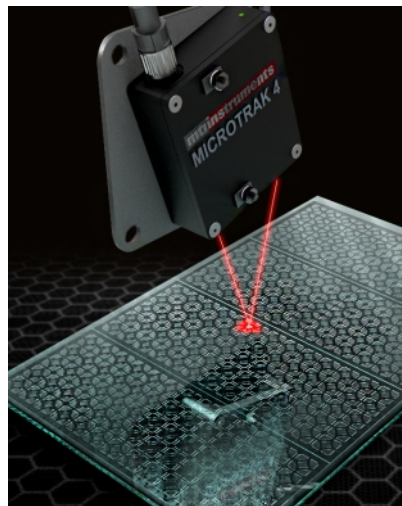
Diffuse Mode Models - recommended for matte surfaces

Model		DTS-025-02	DTS-025-04	DTS-050-10	DTS-50-20	DTS-120-20	DTS-120-40	DTS-200-100	DTS-300-200
Product Number		8000-7040	8000-7032	8000-7033	8000-7034	8000-7035	8000-7036	8000-7037	8000-7038
Standard Range	mm	2	4	10	20	20	40	100	200
Standoff	mm	25	25	50	50	120		200	300
Displacement									
Close Extended Mode	mm	23.75	22.5	43.75	37.5	107.5	95	137.5	175
Close Standard Mode	mm	24	23	45	40	110	100	150	200
Far Standard Mode	mm	26	27	55	60	130	140	250	400
Far Extended Mode	mm	26.25	27.5	56.25	62.5	132.5	145	262.5	425
Linearity (standard range)									
1X exposure, 20kHz	% FSO	0.0375%							
2X exposure, 5kHz	% FSO	0.0300%							
1X exposure, 20kHz	µm	0.75	1.50	3.75	7.50	7.50	15.00	37.50	75.00
2X exposure, 5kHz	µm	0.6	1.2	3	6	6	12	30	60
Noise (2X, 500Hz)									
At standoff to white	µm RMS	0.125	0.25	0.625	1.25	1.25	2.5	6.25	12.5
Spot Size									
Major at standoff	µm	30	30	25	25	100			130
Maximum Resolution	nm	38	76	191	381	381	763	1,907	3,815



Specular Mode Models - recommended for shiny/glass surfaces

Model		DTS-025-02/S	DTS-025-04/S	DTS-050-10/S	DTS-050-20/S
Product #		8000-7040-001	8000-7032-001	8000-7033-001	8000-7034-001
Standard Range	mm	1.8	3.7	9.7	19.3
Stand-off	mm	16.7		44.0	
Tilt Angle	°	67.5°		75°	



Specular glass head features 2nd surface reject to measure top glass surface.

Model	DTS-025-04/G	
Product #	8000-7032-002	
Standard Range	mm	3.7
Stand-off	mm	16.7
Tilt Angle	°	67.5°

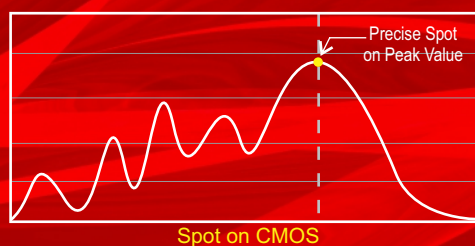
*Linearity is defined as the peak measured variation, using bandwidth limited data, from the best fit linear line constructed from all the points taken over the full scale range.

++ Please refer to the Users Manual for complete instructions for mounting specular heads.

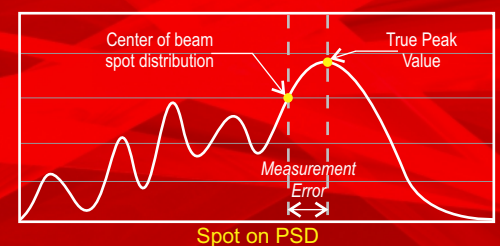
MICROTRAK™ 4 uses Highly Precise CMOS Technology

The Microtrak™ 4 laser displacement sensor head is the ideal solution for quality and process control applications. Using the latest CMOS sensor technology, the Microtrak™ 4 precisely monitors the intensity of light received on a pixel array and optimizes itself to the sensed conditions.

Accurate advanced CMOS sensor



Errors occur using competitive PSD sensors



What's in the box



(1) MICROTRAK™ 4
Laser Sensor Head



(1) USB drive
Software, Manual & Drivers

NOTE: USB/Power cable is available as a separate item. Please check optional accessories for length selections.

Maximum Sampling Rate	40k (38277.5) Frames/s
Exposure Time	
1x	25 μ s
2x	50 μ s
Filter	0.1Hz to 20kHz (1st order, exponential)
Practical Maximum Bandwidth	15kHz
Interfaces Supported	
Digital	USB2.0
Analog	None
Supported Datarates	100, 200, 500, 1k, 5k, 10k, 20k, 40k Samples/s

Software	
MicroTrak™ 4 Basic	Windows® 7, 8, 10
Supported Interface Software	
DLL	Windows® 7, 8, 10
.NET	Windows® 7, 8, 10
LabVIEW™	Windows® 7, 8, 10

Laser Wavelength	630nm to 670nm
Maximum Power Level (factory set)	
Maximum	4.9mW
Typical	2mW
Laser Power Class	3R IEC60825

Nominal Supply Voltage	
SELV from USB2.0	5 V
Maximum Supply Ripple	100 mVpp
Nominal Supply Current	100 mA During Enumeration
Nominal Supply Current	500 mA During Operation
Maximum Power Draw	2.25 W During Operation

Intrusion Protection	IP67 IEC60529
Operational Temperature Range	0 to 40 °C
Storage Temperature Range	-20 to 70 °C
Humidity	5 to 95 % Non-Condensing

Optional Accessories

USB/Power Cable



2 meters	8000-7020-002
4 meters	8000-7020-004



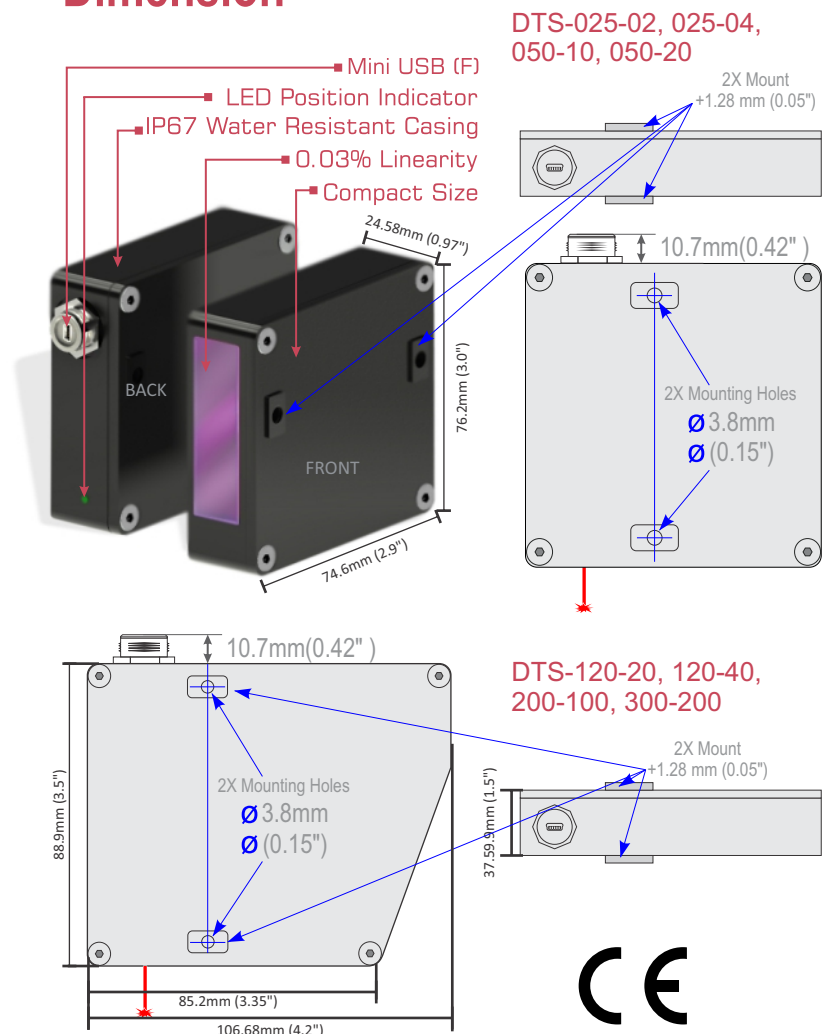
FS-5 Laser Head Mount
and Positioner
P/N: 8000-6725



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

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

Dimension



MTI Instruments, Inc.

325 Washington Avenue Extension
Albany, NY 12205-5505

PH: +1-518-218-2550

OR USA TOLL FREE: 1-800-342-2203

FAX: +1- 518-218-2506

EMAIL: sales@mtiinstruments.com

www.mtiinstruments.com

mtiinstruments

A subsidiary of Mechanical Technology, Inc.(MKTY)