

## Line Laser Displacement Sensing Measurement Solutions

Rapid line-scan dimensional profiling

Model		MHLL-02020 020×020	MHLL-06040 060×040	MHLL-15580 155×080	MHLL-15090 150×090	MHLL-220120 220×120	MHLL-280140 280×140	MHLL-570250 570×250	
Mounting Distance (mm)		20	60	155	150	220	280	570	
Measurement Range	Z-axis (height) (mm)	± 2.3 (F.S.=4.6)	± 6.1 (F.S.=12.2)	± 15 (F.S.=30)	± 14 (F.S.=28)	± 21 (F.S.=42)	± 30 (F.S.=60)	±85 (F.S.=170)	
	X-axis (width) (mm)	Proximal	19	39	74	85	116	129	225
		Base Line	20	40	78	90	120	140	250
	Far	20	40	78	90	120	140	250	
Sampling Frequency	Full field of view scanning frame rate	1000 frames/s							
	ROI Frame Rate	Up to 4000 frames/s							
Contour data points*1		3840							
biometrics	Z-axis (height)*2	±0.1% F.S.							
Repeatability*3	Z-axis (height) (um)*4	0.4	0.6	3	3	4	7	20	
Resolution	Z-axis (height) (um)	0.16	0.4 3	0.9	0.9	1.3	2	5.5	
Contour Data Interval	X-axis (width) (um)	5.2	10.5	20 .5	23 .5	31.5	36.5	66	
light source	Typology	Blue Semiconductor Laser					Red Semiconductor Laser		
	Wavelength	405 nm (blue violet)					650 nm (red)		
	Laser Classification	Class 2m/2 Laser Products							
Data Interface		Gige Gigabit Ethernet							
Temperature Characteristics*5		0.01% F.s./°C							
Environmental Resistance	Shell protection class	Ip67							
	Environmental Temperature	0 To +50°C							
	Environmental humidity	20 To 85 Per Cent (non-condensing)							
	Vibratory	10 - 57 Hz Dual Amplitude 1.5 Mm, 2 Hours Each In X, Y And Z Directions							
	Impact Resistance	15g Semi-sinusoidal Shock With A Period Of 6ms, Positive And Negative In The X, Y And Z Directions.							
Input Voltage		+24 V							
Makings		Aluminium							
Weights		Reduce 800g	Reduce 950g	Reduce 950g	Reduce1200g	Reduce1300g	Reduce1200g	Reduce1300g	
Dimensions (mm)		165.5×105.5 ×50	180×100 ×57	193×105 ×57	255.5×110.5 ×57	284.5×110.5 ×57	255×110 ×57	284×105 ×57	

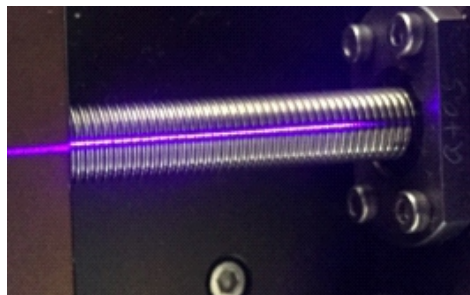
### PRODUCT ADVANTAGE

- ◆ High-speed, high-precision, non-contact, easy to install, simultaneous measurement of a number of dimensions on a contour.
- ◆ Realise the measurement of any contour line dimension of the object, such as height difference, width, angle, radius, etc. It can also realise the defect detection, appearance dimension scanning, surface feature tracking and other functions.

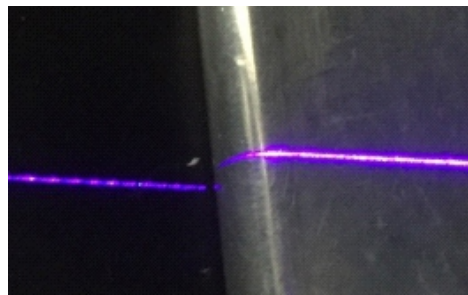
### AREAS OF APPLICATION

- ◆ Automotive industry, for example: automotive assembly position, gap detection, automotive handle surface detection, tyre detection, complex contour size detection, etc.;
- ◆ Mobile phone industry, for example: mobile phone panel assembly alignment, mobile phone component size detection, mobile phone screen thickness detection, mobile phone indicates curved surface measurement;
- ◆ Semiconductor industry, for example: PCB board inspection, electronic components height, width, angle detection, IC pin spacing and skew measurement;
- ◆ Hardware industry, for example: gear jamming alignment detection, gear tooth pitch detection, bearing height detection, etc..

### PRODUCT CASES



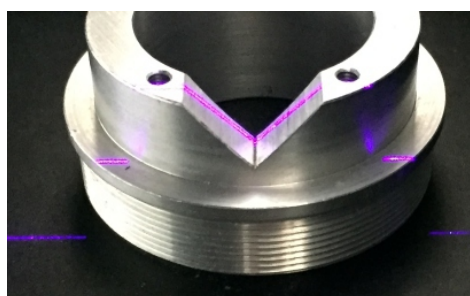
Screw Tooth Pitch Measurement



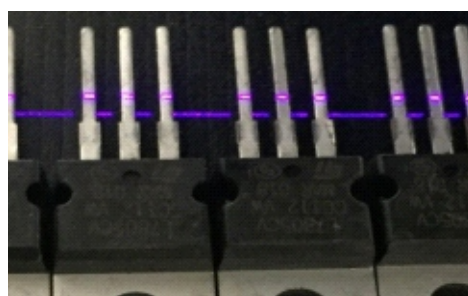
Surface Curvature Measurement



Measurement Of Complex Contour Dimensions



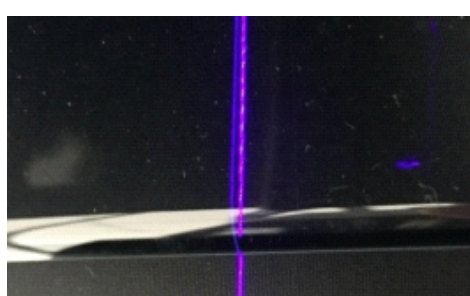
Height, Width, Angle Measurements



Electronic Device Pin Spacing And Bend Measurement



Assembly Dimension Measurement



Curved Glass Measurement



Hardware Mould Measurement

