MODULOC Control Systems

MLS02 LASER TRIANGULATION SCANNER

- ***Laser Triangulation with 50 degrees arc rotating mirror scan***
- ***Non-Contact Measurement of distance and angle of all surfaces.***
- ***High temperature versions for surface temperatures of 1200°C (2192°F)***
- ***Measurement ranges: 100 to 14000 mm with 450 to 1500 mm stand offs.***
- ***Resolution: 0.01 mm to 0.3 mm***
- ***Robust, yet compact size of 320 x 205 x 70 mm***
- ***RS232 or RS422 Serial Interfaces***
- ***2 kHz Class 2 / 3R Laser Output Models with 300 or 600 scans/min***
- ***6kHz Class 3R / 3B Laser Output Models with 450, 900 or 1800 scan rates***
- ***Environmental Air Purged Enclosure available with Air or Water Cooling***

Performance

Model	***MLS02-505***	***MLS02-1155***	***MLS02-1950***	***MLS02-1400***
Measured range (mm)	100	300	900	1400
Radial/Polar Mirror distance (mm)	450—550	1000—1300	1500—2400	700—2100
Scan Length at 50 deg arch (Close / far distance)	419/ 464	932 / 1098	1398 / 2028	652 / 1774
Radial / Polar Resolution/Reproducibility	0.01	0.1	0.2	0.3
2 kHz Angular Resolution (50 degrees) **	<0.2 to 0.4º	<0.2 to 0.4º	<0.2 to 0.4º	<0.2 to 0.4º
6 kHz Angular Resolution (50 degrees) **	<0.1 to 0.4 °	<0.1 to 0.2 °	<0.1 to 0.2 °	<0.1 to 0.2 °

*****NOTE: Where 10 degree Angular Scan the Resolution is 5 x Better***

Typical Applications

- ***Width Measurement***
- ***Thickness Measurement***
- ***Weight/Volume Control***
- ***Profile Measurement***
- ***Molten Metal Level***
- ***Tension Control***

Can provide 2D profile measurement in any kind of industrial application with the output in a software converted form. The Y coordinates can be used for width or thickness according to the resolution and scan angle.

General Description

These MLS02 Laser Triangulation Scanners provide precision measurement in two dimensions. The measurement is performed by oscillating the triangulation plane by up to 50 degrees. A fine collimated and focused laser beam is diffusely reflected from the surface of the material or liquid being measured and the internal CCD Camera records the image. This image is then processed by digital signal processor to calculate the radial distance from the centre of the mirror axis to the object surface as well providing an angular track off its position.

These Scanners are compact stand–alone units containing the Optics. Signal processing and camera unit. The Scanner view shown is a side view of the Scanner and shows the triangulation plane sweep about the horizontal plane, both 25 degrees below the horizontal plane and 25 degrees above the horizontal plane. The distance and angular values are provided at frequency of 6 kHz as a digital signal for application running under Windows using the MLS02 driver DLL software.

The scanners are delivered with a CD containing the DLL software and a Windows test/demo program. The PC application program receives the output data from the Scanner over RS422/RS232 serial interface and a COM port via the DLL. The software either converts the polar coordinates of a measured point to orthogonal X,Y co-ordinates or presents a profile (table of X, Y values\0 for each sweep form one side to the other. The user can specify the size of the Y increment in the application program and thus the length the output and thus the length of time the output contains the profile data.

Each Scanner can be supplied with 4 different measuring ranges and each in two versions with differing measuring angle either 10 or 50 degrees. Also can be provided with 2kHz or 6 kHz scan rates giving high or lower resolution. Where required customized versions can be supplied with non-standard scan angles and measuring ranges. Models are available for measuring off product at 1200 deg C (2192°F).

MODULOC Technology - Lasers for Precise Product Measurement

MODULOC Control Systems Ltd.
Wheathamstead, Hertfordshire, AL4 8SB United Kingdom
Phone: +44 (0)1727 821313 FAX: +44 (0)1727 826804
E-Mail: sales@moduloc-intl.com Website: www.moduloc-intl.com

MODULOC Control Systems, Inc.
500 Garden City Drive. - Suite 2B, Monroeville, PA 15146 USA
Phone: 412-824-1260 FAX: 412-824-8890
E-Mail: sales@moduloc-usa.com Website: www.moduloc-usa.com

MODULOC Technology - Lasers for Precise Product Measurement

MODULOC
Control Systems

We reserve the right to alter specifications without prior notice. Specifications without tolerances are typical values.

Your Local Sales Representative:

nqa. ISO 9001 Registered

UKAS QUALITY MANAGEMENT 015

Bulletin. MC-MLS02-09-08
August 2009