Data Sheet: LDS 1039 Date: 11-02-2012

These 3-D Sensors provides fast accurate positioning of the machine spindle in its X, Y and Z axis

These instruments can only be used on conductive materials as it depends on an electrical circuit being made through the machine tool when the probe touches the work piece.

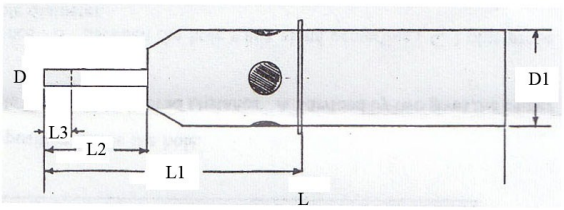
4 x Highly visible red indicator lights placed at intervals of 90˚ around the body of the instrument.

Main Body and Cylindrical Contact manufactured from high quality tool steel, hardened to 60 HRC

Packed Weight and Dimensions

Code	Description	Weight g	W mm	H mm	L mm
3D-Met	3-D Sensor Metric	161	65	35	120
3D-Imp	3-D Sensor Inch	161	65	35	120
Battery	Battery A76 / LR44	2	25	5	25

Specifications



Dimensions

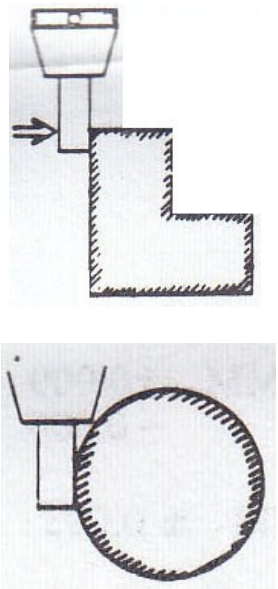
Code	D	D1	L	L1	L2	L3
3D-Met	6mm	20mm	90mm	50mm	19.5mm	5mm
3D-Imp	0.200”	0.750”	3.625”	2”	0.800”	0.200”

Tolerances

Code	D	D1	L1
3D-Met	±0.003mm	+0.000/-0.006mm	±0.006mm
3D-Imp	±0.0001”	+0.0000/-0.0002”	±0.0002”

Code	Repeatability
3D-Met	±0.015mm
3D-Imp	±0.0005”

Edge Location



Inspect the Edge Finder before use by pushing the spindle fully over until it makes contact with the main body and the indicator lamp illuminates

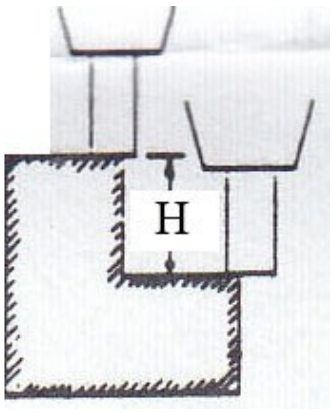
1 Do not place the Edge Finder’s main body below the surface of the work piece
Ensure that the spindle is no more than 5mm below the surface of the work piece

2 Feed the work piece slowly towards the Edge Finder’s spindle
When contact is made with the work piece the indicator lamp will illuminate.

3 The Edge Finder has a spring loaded spindle which can pivot and will protect the instrument from damage due to over travel

4 In the case of over travel, move backwards and re feed until the lamp illuminates.
At this position, the work piece can be moved half the diameter of the spindle to bring the centre line of the machine spindle in line with the edge of the work piece

Height / Depth Measurement



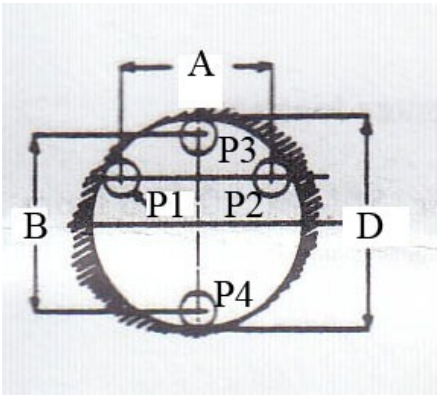
1 Move the work piece below the sensor to position 1
Feed the work piece slowly up towards the Edge Finder's spindle
When contact is made with the work piece the indicator lamp will illuminate.

2 The Edge Finder has a spring loaded spindle which will protect the instrument from damage due to over travel

3 In the case of over travel, move the work piece down and re feed until the lamp illuminates.
Set machine's DRO to zero in this position

4 Move Sensor to position 2 and repeat contact process
When the indicator lamp illuminates, the measurement between the two surfaces will be displayed on the DRO

Hole Diameter Measurement / Hole Centre Location



1 Move the work piece below the sensor and align within the hole.
Position the sensor spindle at a depth between 1 - 5mm from the top of the surface of the hole
Feed the work piece on its X axis slowly towards the sensor spindle so it touches at position P1. Set DRO to zero
Traverse the work piece on its X axis so that the sensor touches the hole at P2. The DRO now indicates the A dimension

2 Move the work piece back along its X axis by half the A dimension

3 The centre line of the sensor now coincides with the centreline of the hole on its X axis.

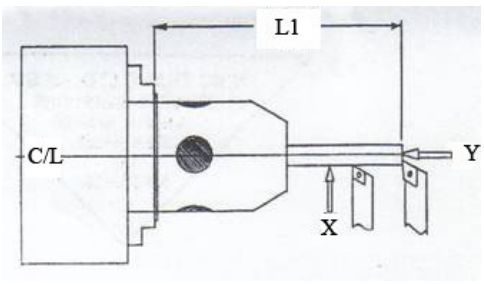
4 Feed the work piece on its Y axis slowly towards the sensor spindle so it touches at position P3. Set DRO to zero

5 Move the work piece slowly back along its Y axis towards the sensor spindle so it touches at position P4. The DRO now indicates the B dimension.

6 To calculate the diameter of the hole: Add B dimension to Sensor Spindle Diameter

7 To align machine spindle centre with hole centre: Move the work piece back along its Y axis by half the B dimension

Tool Pre-Setting



These instruments are also suitable for Pre-Setting the position of turning tools relative to the centreline of the chuck or collet and the starting length from the face of the chuck or collet.