

# MESAX 70 multi-spot

The unique laser distance sensor for shiny and very rough surfaces.



# Stable distance measurement even under the most difficult conditions



With the new *MESAX* multi-spot laser distance sensor, Baumer presents an innovative and compact measuring unit for measurement of demanding surfaces:

- shiny, non-reflective metal objects
- extremely rough surfaces

The compact sensor provides exact and reproducible measuring results without any complicated conversion or external software. The *MESAX* multi-spot sensor is the ideal solution for a large number of applications in measuring and testing technology.

## *MESAX* multi-spot laser distance sensor – the compact solution with added value.

### Outstanding functions

- Average value of up to 600 distance values per measurement with a measuring rate of 1540 Hz
- Resolution of up to 2  $\mu\text{m}$
- Factory-calibrated
- Measured values displayed in millimeter
- Three integrated modes: Average, Minimum, Maximum

### User benefits

- Stable, reproducible measurements, even on non-homogeneous glossy and extremely rough surfaces
- High measuring accuracy even under varying ambient light conditions
- Fast installation and start-up of the calibrated sensor
- Compact measuring system without complicated external software

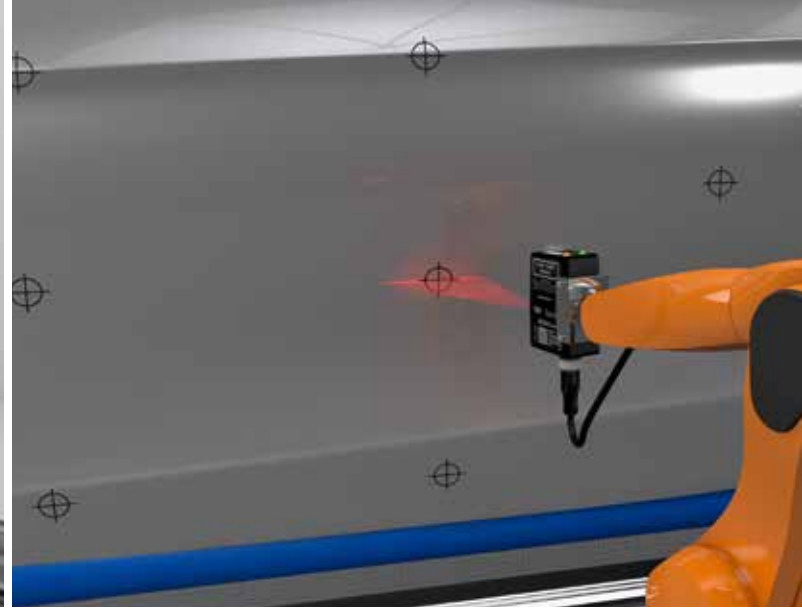
## The multi-spot measuring principle – a new level for precise distance measurement

The innovative multi-spot measuring principle from Baumer is based on the light section method. In the sensor, up to 600 measured values of an object are recorded and the distance is then calculated on the basis of intelligent analysis. The sensor takes up to 1540 distance measurements per second at a resolution of up to 2  $\mu\text{m}$ , providing extremely stable and precise measurement results.





Measurement of the diameter of a grinding wheel in a CNC machine



Quality inspection of metal objects

## Distance measurement on extremely rough surfaces

Distance measurements on extremely rough surfaces always represent a challenge. *MESAX* multi-spot sensors record a large number of distance values over a defined measuring range. The sensor then calculates a precise mean value for such applications. In this way, for example, grinding wheels with rough surfaces can be optimally positioned in relation to a work object. In this case, the measuring range can be restricted. Measurement is effected using the "Average" mode. The distance value recorded by the sensor with an absolute accuracy of less than 0.1 mm is used directly in the controller of the CNC machine.

## Distance measurement on shiny surfaces

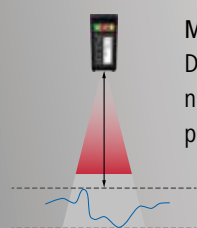
With non-homogeneous shiny objects, the light of a laser spot reflected from the surface does not always find its way back to the optical receiver. Thanks to the *MESAX* multi-spot technology with over 500 measured values, there is generally enough distance information in the sensor to be able to carry out precise measurement of the distance in "average" mode. In this way, shiny preformed parts can also be measured accurately during quality inspection.

# The innovation for efficient measuring and testing applications.

Thanks to the multi-spot technology used, critical measuring problems are solved quickly and simply. Whether in assembling and handling, wood or ceramics processing, or in the construction of special machines, *MESAX* multi-spot makes quality and precision easily measurable.

## Measuring mode

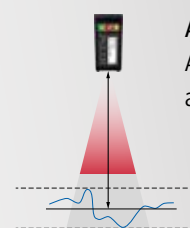
*MESAX* multi-spot offers three different modes for the distance measurement. The distance value is calculated in millimeters and output as analog or by RS485.



**Minimum Distance**  
Distance to the nearest measuring point



**Maximum Distance**  
Distance to the farthest measurement point

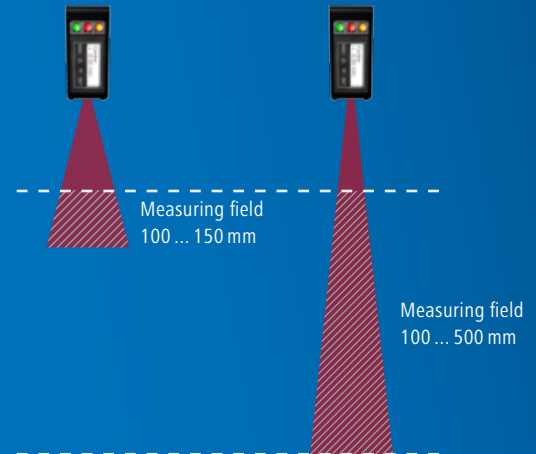


**Average Distance**  
Average distance to all measuring points

# MESAX 70 multi-spot – Product data

## General data

	OM70-X0150	OM70-X0500
Measuring range (z axis)	100 mm ... 150 mm	100 mm ... 500 mm
Measuring field (x axis)	48 mm ... 72 mm	13 mm ... 66 mm
Housing size	26 × 74 × 55 mm	26 × 74 × 55 mm
Resolution (with filtering)		
Mode AVG distance, MAX, MIN distance	2 µm ... 4 µm 6 µm ... 12 µm	4 µm ... 25 µm 25 µm ... 45 µm
Measuring rate	< 500 Hz	< 1540 Hz
Ambient light immunity	< 35 kLux	< 35 kLux
Laser class	Laser class 1	Laser class 2
Interface	Analog RS485	Analog RS485
Order code	OM70-11155463	OM70-11112069



## MESAX – laser distance sensors by Baumer.

Multi-spot is the latest measuring principle in the *MESAX* family of laser distance sensors by Baumer. This portfolio also includes different performance classes, sizes and beam shapes. Thus Baumer always offers you the optimum solution for your application with the high precision for which Baumer is known worldwide.

MESAX-Portfolio	laser point For small objects	laser line For rough surfaces	multi-spot For non-homogeneous glossy surfaces and very rough surfaces
Series 12	OADM 12		
Series 13	OADM 13	OADM 13	
Series 20	OADM 20 OADR 20 (washdown)	OADM 20 OADR 20 (washdown)	
Series 21	OADM 21	OADM 21	
Series 70			OM70-X
Series 250/260	OADM 250 OADM 260		

You can find more information at

[www.baumer.com/multi-spot](http://www.baumer.com/multi-spot) or [www.baumer.com/MESAX](http://www.baumer.com/MESAX)

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