

Inductive Distance Sensor

BDA-L



- Distance measurement above Eddy current sensor
- High measuring sensitivity

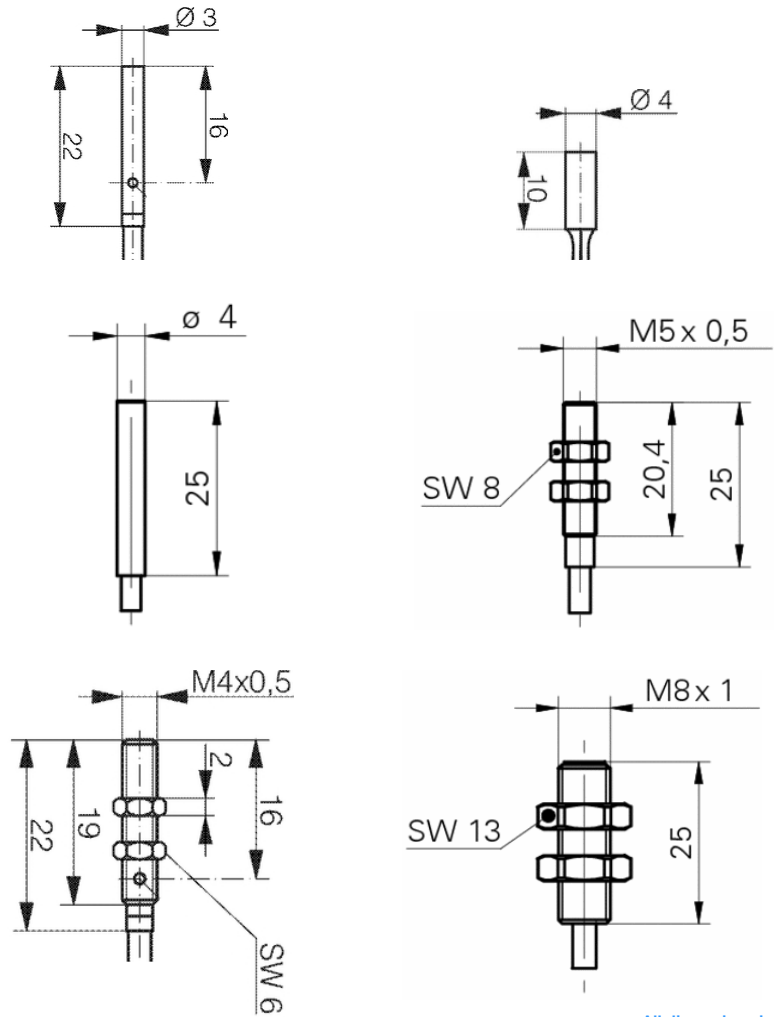
Technical details:	4 x 10	3 x 22	M4 x 22	4 x 25	M5 x 25	M8 x 25
Usable measuring range:	from 0V \pm 0.4mm to 9V \pm 0.7mm	from 0V \pm 0.2mm to 8V \pm 0.8mm	from 0V \pm 0.2mm to 8V \pm 0.8mm	from 0V \pm 0.4mm to 8V \pm 0.7mm	from 0V \pm 0.4mm to 9V \pm 0.7mm	from 0V \pm 0.8mm to 10V \pm 1.7mm
Linear range:	from 2V \pm 0.5mm to 8V \pm 0.65mm	from 2V \pm 0.25mm to 6V \pm 0.4mm	from 2V \pm 0.25mm to 6V \pm 0.4mm	from 2V \pm 0.52mm to 6V \pm 0.67mm	from 2V \pm 0.52mm to 8V \pm 0.67mm	from 2V \pm 1.2mm to 8V \pm 1.6mm
Sensitivity in the linear range: Tolerance: \pm 5mV/ μ m	40 mV/ μ m	30 mV/ μ m	30 mV/ μ m	40 mV/ μ m	40 mV/ μ m	20 mV/ μ m
Resolution:	< 0.1 μ m	< 0.1 μ m	< 0.1 μ m	< 0.1 μ m	< 0.1 μ m	< 0.1 μ m
Temperature drift:	< 1 μ m/K	< 1 μ m/K	< 1 μ m/K	< 1 μ m/K	< 1 μ m/K	< 1 μ m/K
Protection class:	IP67					
Cable to ADDM:	LiYC11Y 3 x 0.25 mm ² / Length 5 m / Outside \varnothing = 5 mm					
Casing:	Chrome nickel steel					

Application:

The sensor **BDA L** is a highly sensitive eddy current displacement transducer which can record the path changes in the area of a few hundredths of a micrometres within a measuring range of 0.6 - 0.85 mm. Therefore, it is suited for the measurement of the strain structures which are caused, for example, by tool forces (or also unbalances). The strain can be used to draw conclusions about the tool load through radial shear forces or feed forces and/or torque. The distance can be also measured relatively between the spindle casing and rotating spindles to gain feed force measured values very close to process (e.g., monitoring of multi-spindle drill heads with force measurement in every spindle). The cylindrical transducer **BDA L** measures the distance at its front. It has a screw thread for fastening.

Another application is the detection of the cogs of especially small cogwheels (module 0.2 - 2) to position the cogwheels before the grinding of the cog gaps at exact angular distribution ("Centering").

Sensors of the series BDA-L:



All dimensions in [mm]

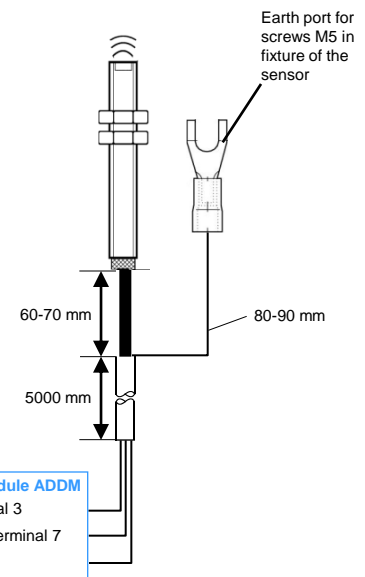
Measuring principle:

Eddy current-distance measurement

Order numbers:

8.1.D3x22	BDA-L 3x22
8.1.D4x10	BDA-L 4x10
8.1.D4x25	BDA-L 4x25
8.1.M4x22	BDA-L M4x22
8.1.M5x25	BDA-L M5x25
8.1.M8x25	BDA-L M8x25

Port diagram:



	To sensor adjustment module ADDM
Brown	Sensor (+) at terminal 3
White	Measured value at terminal 7
Black	Earth at terminal 8