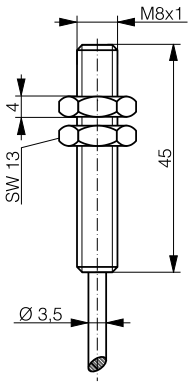
CONTRINEX

# INDUCTIVE SENSOR
# ANALOG OUTPUT
## DW-Ax-509-M8

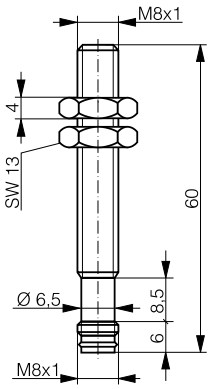
| HOUSING | OPERATING DISTANCE | MOUNTING |
|---|---|---|
| M8 | 4 mm | Quasi-embeddable |

- ✓ Long sensing range
- ✓ Outstanding accuracy and temperature stability
- ✓ Resolution in µm range
- ✓ Exceptional price-performance ratio
- ✓ IP67

HM 2004




DW-AD-509-M8




DW-AS-509-M8-001

| DETECTION DATA | | INTERFACE | |
|---|---|---|---|
| Sensing distance ($S_d$) | 4 mm | IO-Link | × |
| Repeat accuracy (IEC 60947-5-2) | ± 0.2 mm | MTTF (@40°C) | 732 y |
| Static resolution* (@0.67·$S_d$) | ≤ 0.1 µm | | |
| Dynamic resolution* (@0.67·$S_d$) | ≤ 0.52 µm | | |
| Temperature drift of $S_d$ | ≤ 5% (0... +70°C)<br>≤ 10% (-25... 0°C) | | |
| Standard target | 12 x 12 x 1 mm³, FE360 | | |

*Static resolution is measured when the target is moving at 20 Hz. Dynamic resolution when the target is moving at the sensor bandwidth limit.

| ELECTRICAL DATA | | MECHANICAL DATA | |
|---|---|---|---|
| Supply voltage range ($U_B$) | 10...30 VDC | Mounting | Quasi-embeddable |
| Residual ripple | ≤ 20% $U_B$ | Housing material | Chrome-plated brass |
| Power consumption (no-load) | ≤ 10 mA | Sensing face material | PBTP |
| Max. load at voltage output | ≤ 10 mA | Max tightening torque | 8 Nm (2.5 Nm first 7 mm) |
| Max. load at current output | N/A | Ambient operating temperature | -25...+70°C[1] |
| Bandwidth | 1600 Hz | Enclosure rating | IP 67 |
| Time delay before availability | 20 ms | Weight (cable / connector) | see page 2 |
| Recovery time | 20 ms | Shock and vibration | IEC 60947-5-2 / 7.4 |
| Short-circuit protection | ✓ | | |
| Voltage reversal protection | ✓ | | |
| Cable length max. | ≤ 300 m | | |

Note: all data measured according to IEC 60947-5-2 standard with $U_B$= 20…30VDC, $T_A$= 23°C ± 5°C.

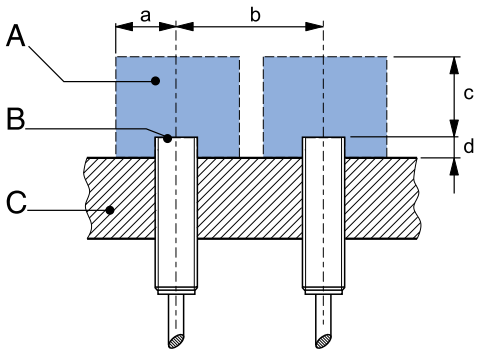
[1]Maximum temperature according to UL: 70°C.

## CORRECTION FACTORS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Steel FE 360 | **1** | Copper | **0.34** | Aluminum | **0.4** | Brass | **0.5** | Stainless S. V2A 1 / 2 mm | **0.76** |

Note: the operating distance of the sensor must be multiplied by the correction factor of the material. For example, the operating distance on Aluminum is $S_{n,\,Al} = S_n \times CF_{Al}$. In case of embeddable mounting, the distance is multiplied by the additional correction factor of the support, thus $S_{n,\,Al} = S_n \times CF_{Al} \times CF_{emb,\,Al}$.

## INSTALLATION CONDITIONS



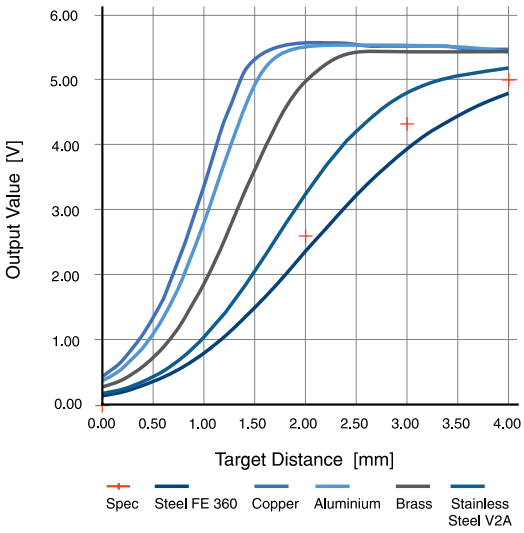

A : metal free zone
B : sensing face
C : support

a : 8 mm
b : 12 mm
c : 12 mm

d : steel 1 mm

Note: additional installation information can be found in the glossary of the Contrinex General Catalog.

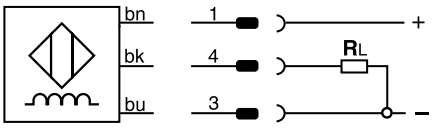
## RESPONSE DIAGRAM



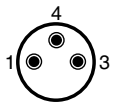

| | | |
|---|---|---|
| Output voltage | s = 0 mm | 0 V / -0.0 + 0.2 V |
| | s = $S_d$/2 mm | 2.6 V ± 0.2 V |
| | s = $S_d$ mm | 5.0 V ± 0.2 V |
| | s > $S_d$ mm | 5…6 V ± 0.2 V |

| | | |
|---|---|---|
| Output current | s = 0 mm | N/A |
| | s = $S_d$/2 mm | N/A |
| | s = $S_d$ mm | N/A |
| | s > $S_d$ mm | N/A |

## WIRING DIAGRAM




## PIN ASSIGNMENT




M8

## AVAILABLE TYPES

| Part number | Part reference | Connection | Output on pin 2 / wh | Output on pin 4 / bk | Weight |
|---|---|---|---|---|---|
| 330-020-356 | DW-AD-509-M8 | PUR, 2 m, 3 wire | - | 0...5 V | 45 g |
| 330-020-358 | DW-AS-509-M8-001 | M8 3-pin | - | 0...5 V | 17 g |


HEMOMATIK
Nyckelvägen 7
142 50 SKOGÅS, Sweden
Tel: +46 (0) 771 02 20
info@hemomatik.se
www.hemomatik.se


Note: part reference may include additional suffix to indicate a revision version or special version. Further information is available on request.