



# AD series

M5 cylindrical  
miniaturized inductive sensors



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miniaturized

## features

- Extremely reduced models: M5 x 30 mm (cable) / 38 mm (plug) length
- Operating voltage: 10...30 Vcc
- Output current: 100 mA
- LED output indicator
- Totally protected against electrical damages
- Cable and M8 plug output
- Stainless steel housing



## web contents

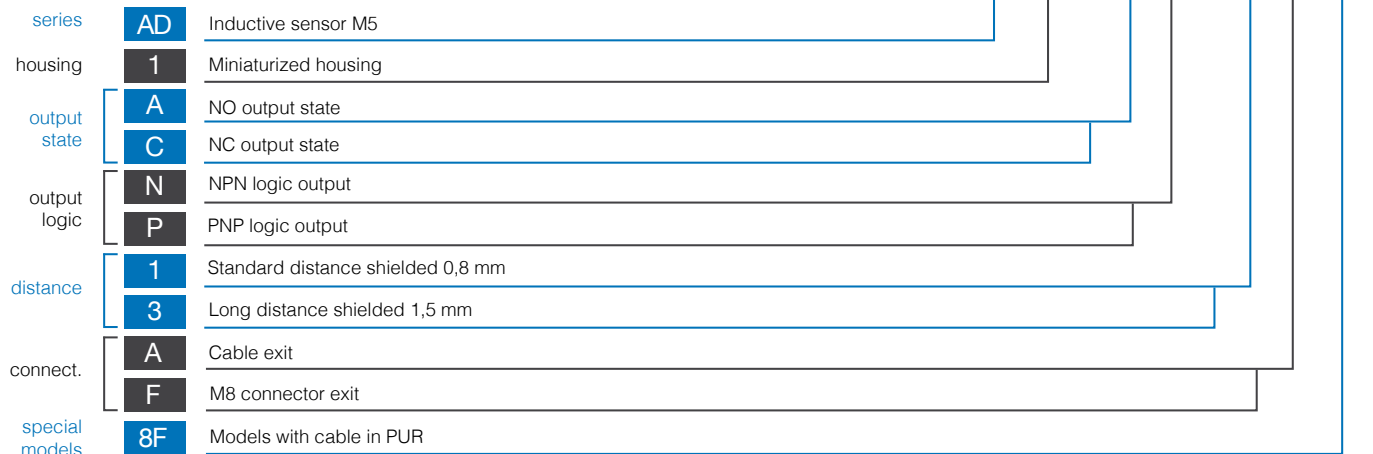


- Application notes
- Photos
- Catalogue / Manuals



## code description (\*)

AD 1 / A P - 1 F 8F



Models with plug or cable exit in PUR → certification

Models with cable exit in PVC → certification or



(\*) ATEX models available, contact our Sales Dept. for further information.

## available models

| model | installation | sensing       | plug  | distance (mm) | PNP/NO    | NPN/NO    | PNP/NC    | NPN/NC    |
|-------|--------------|---------------|-------|---------------|-----------|-----------|-----------|-----------|
| M5    | shielded     | standard      | cable | 0.8           | AD1/AP-1A | AD1/AN-1A | AD1/CP-1A | AD1/CN-1A |
|       |              |               | M8    |               | AD1/AP-1F | AD1/AN-1F | AD1/CP-1F | AD1/CN-1F |
|       |              | long distance | cable | 1.5           | AD1/AP-3A | AD1/AN-3A | AD1/CP-3A | AD1/CN-3A |
|       |              |               | M8    |               | AD1/AP-3F | AD1/AN-3F | AD1/CP-3F | AD1/CN-3F |

AD

## technical specification

|                                | AD1/**-1*   | AD1/**-3*   |
|--------------------------------|---|---|
|                                |  |  |
| nominal sensing distance $S_n$ | 0.8 mm  | 1.5 mm  |
| operating distance             | 0...0.65 mm   | 0...1.21 mm   |
| hysteresis                     | 1...20%   |   |
| standard target                | 5 x 5 mm  |   |
| repeatability                  | 5% @UB=20...30 V; Ta = 23°C ±5°C  |   |
| operating voltage              | 10...30 Vdc   |   |
| ripple                         | ≤ 10%   |   |
| output type                    | NPN or PNP - NO or NC   |   |
| output current                 | ≤ 100 mA  |   |
| output voltage drop            | ≤ 1.5 V @ 100mA   |   |
| no-load supply current         | ≤ 10 mA   |   |
| leakage current                | ≤ 10 µA   |   |
| switching frequency            | 7 kHz   |   |
| power on delay                 | ≤ 50 ms   |   |
| temperature range              | -25°C...+70°C   |   |
| temperature drift              | ≤ 10%   |   |
| power supply protections       | polarity reversal   |   |
| output protection              | short circuit (auto reset), overvoltage pulses                                    |   |
| EMC                            | in conformity with the EMC Directive according to IEC 60947-5-2                   |   |
| shock and vibration            | IEC 60947-5-2   |   |
| protection degree              | IP67  |   |
| housing material               | stainless steel AISI 303  |   |
| active head material           | PBT   |   |
| reduction factor               | see table   |   |
| LEDs                           | on (yellow LED)   |   |
| weight                         | 30 g cable / 4g M8 connector  |   |

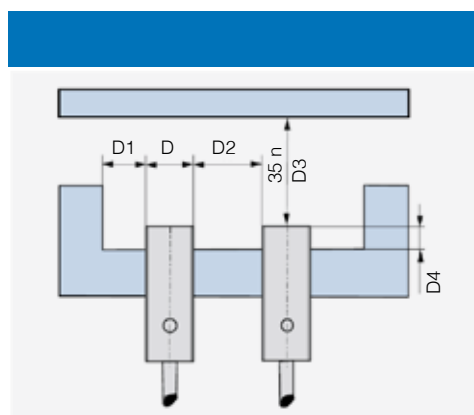
## correction factors

| model     | FE 360 | copper     | aluminium  | brass      | stainless steel |
|-----------|--------|------------|------------|------------|-----------------|
| AD1/**-1* | 1      | 0.32 ± 10% | 0.26 ± 10% | 0.35 ± 10% | 0.66 ± 10%      |
| AD1/**-3* |        | 0.33 ± 10% | 0.27 ± 10% | 0.34 ± 10% |                 |

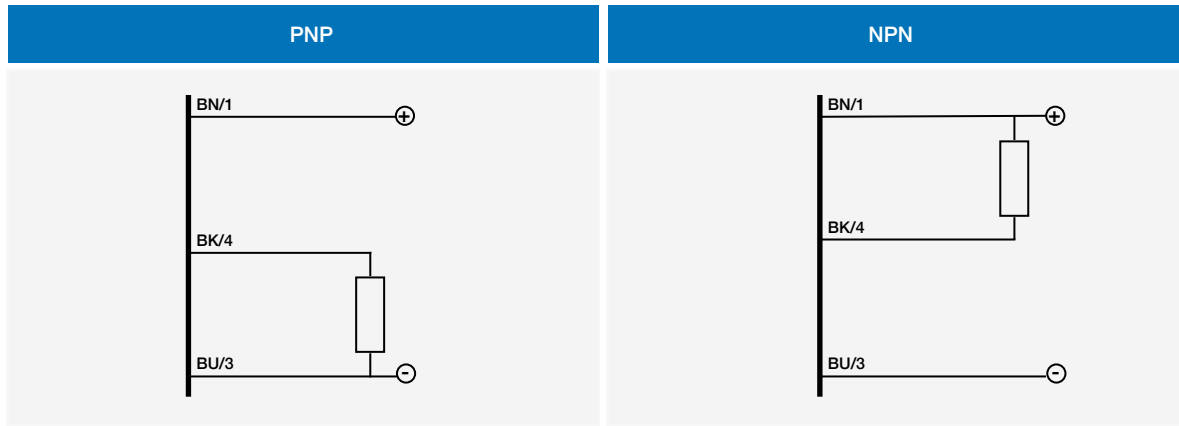
## installation

| model     | D4                    | D1     | D2      | D3       |
|-----------|-----------------------|--------|---------|----------|
| AD1/**-1* | ≥ 2 mm <sup>(1)</sup> | ≥ 5 mm | ≥ 5 mm  | ≥ 2.4 mm |
| AD1/**-3* |                       |        | ≥ 10 mm | ≥ 4.5 mm |

<sup>(1)</sup> ≥ 3 mm without ferro-magnetic material

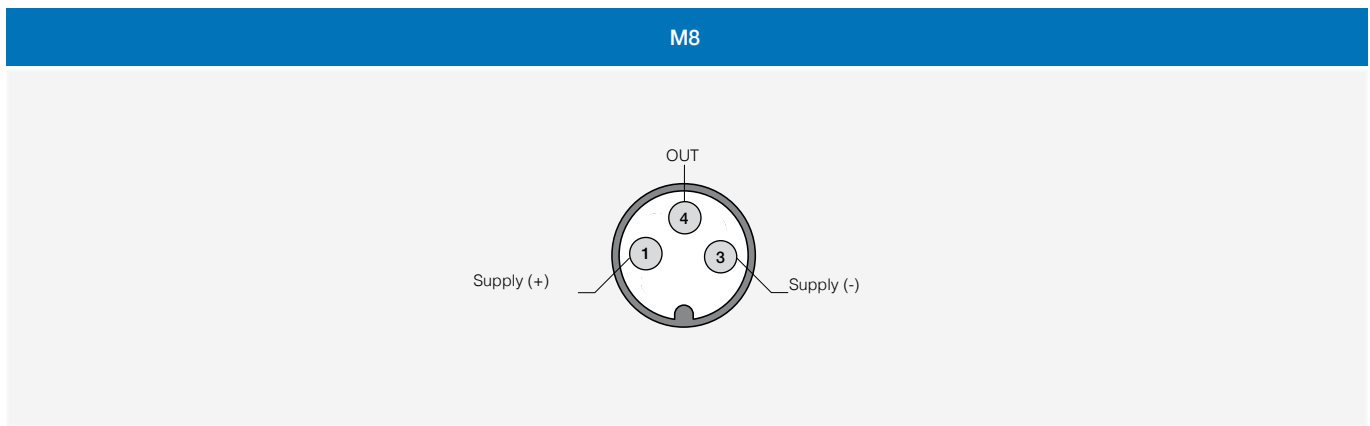


# electrical diagrams of connections

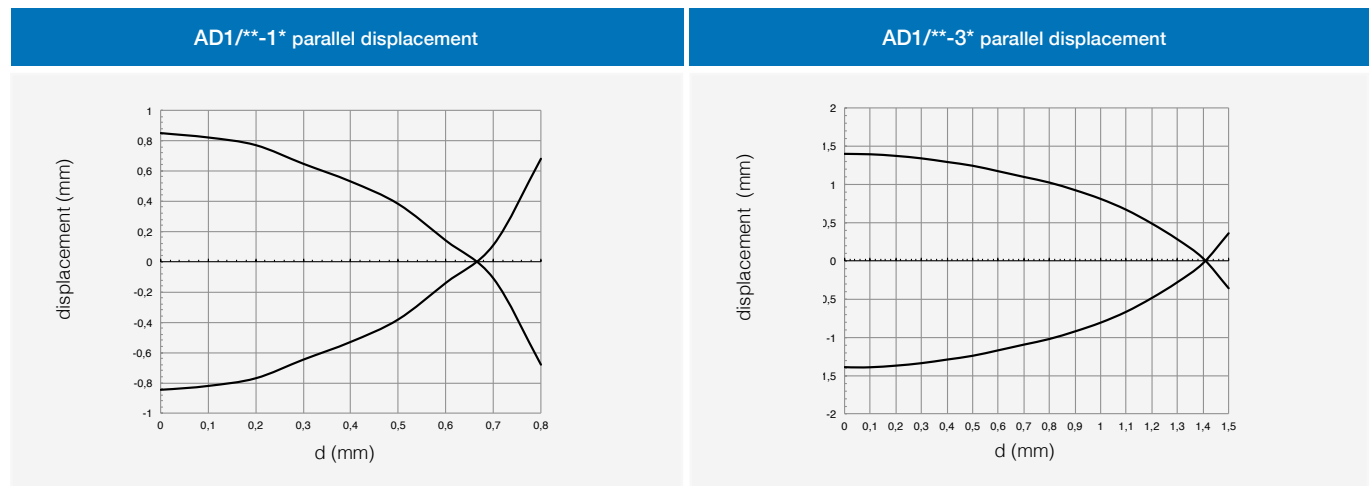


- BN** brown
- BU** blue
- BK** black
- WH** white

# plug



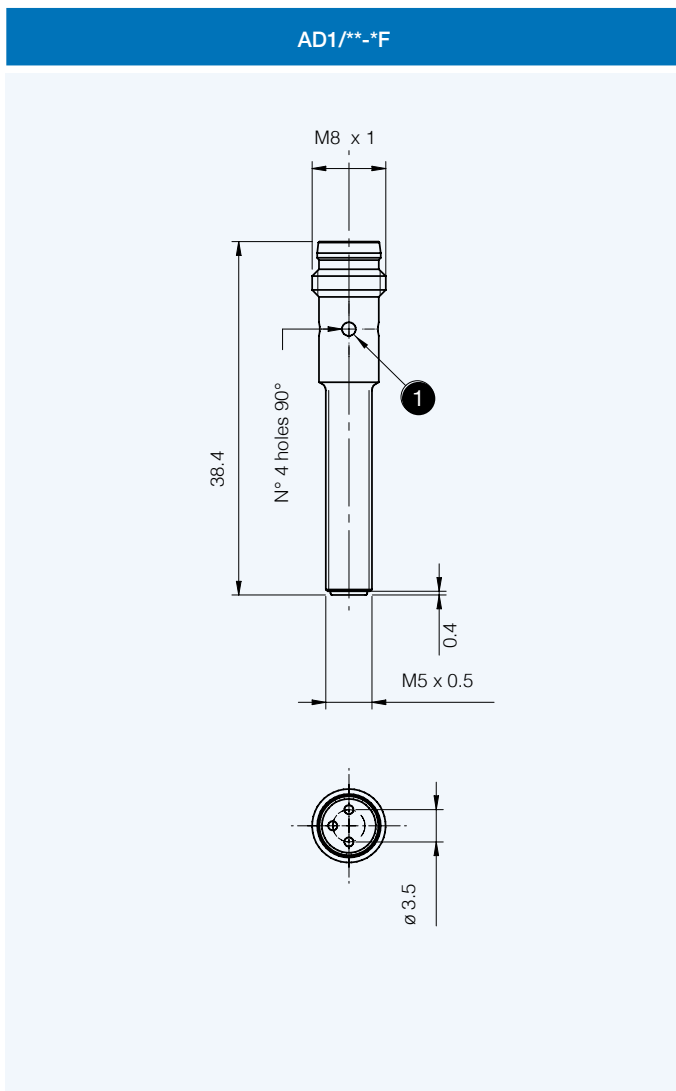
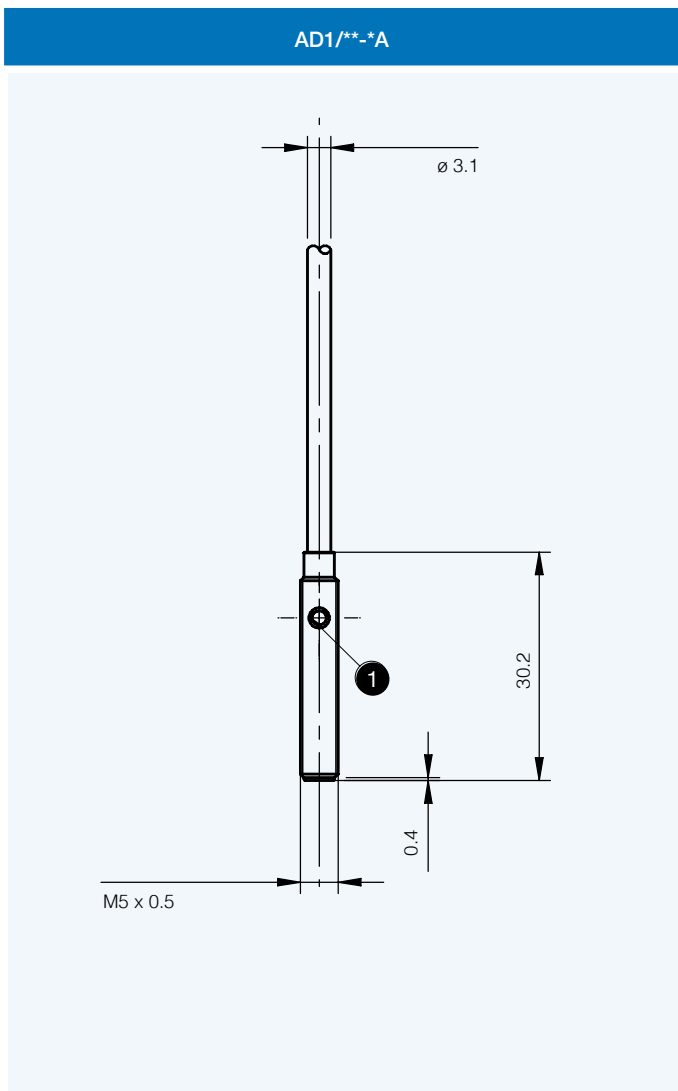
# response diagram





## dimensions (mm)

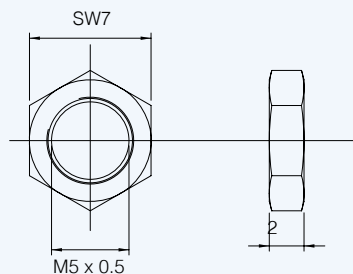
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1 LED

## dimensions (mm)

accessories included in all models



metallic  
nut (2 x)