

## Inductive full-metal sensor

IEK3002BANKG/AM/US-104



## Product characteristics

|                    |                 |
|--------------------|-----------------|
| Electrical design  | NPN             |
| Output function    | normally open   |
| Sensing range [mm] | 2               |
| Housing            | threaded type   |
| Dimensions [mm]    | M8 x 1 / L = 60 |

## Application

|                         |                                                                   |
|-------------------------|-------------------------------------------------------------------|
| Special feature         | Gold-plated contacts; Increased sensing range; Full-metal housing |
| Application             | Use in machine tools, coolants and lubricants                     |
| Pressure rating [bar]   | 50                                                                |
| Pressure rating [MPa]   | 10                                                                |
| Note on pressure rating | sensing face                                                      |

## Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 10       |
| Protection class            | III        |
| Reverse polarity protection | yes        |

## Outputs

|                                                      |               |
|------------------------------------------------------|---------------|
| Electrical design                                    | NPN           |
| Output function                                      | normally open |
| Max. voltage drop switching output DC [V]            | 2.5           |
| Permanent current rating of switching output DC [mA] | 100           |
| Switching frequency DC [Hz]                          | 100           |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

## Detection zone

|                               |               |
|-------------------------------|---------------|
| Sensing range [mm]            | 2             |
| Real sensing range $S_r$ [mm] | $2 \pm 10 \%$ |
| Operating distance [mm]       | 0...1.62      |
| Increased sensing range       | yes           |

## Accuracy / deviations

|                   |                                                                             |
|-------------------|-----------------------------------------------------------------------------|
| Correction factor | steel: 1 / stainless steel: 0.7 / brass: 0.7 / aluminium: 0.6 / copper: 0.5 |
|-------------------|-----------------------------------------------------------------------------|



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|                    |           |          |
|--------------------|-----------|----------|
| Hysteresis         | [% of Sr] | 1...20   |
| Switch point drift | [% of Sr] | -10...10 |

## Operating conditions

|                     |      |                           |
|---------------------|------|---------------------------|
| Ambient temperature | [°C] | -25...70                  |
| Protection          |      | IP 67; IP 68; ("Coolant") |

## Tests / approvals

|                   |                           |                         |
|-------------------|---------------------------|-------------------------|
| EMC               | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD       |
|                   | EN 61000-4-3 HF radiated  | 10 V/m                  |
|                   | EN 61000-4-4 Burst        | 2 kV                    |
|                   | EN 61000-4-6 HF conducted | 10 V                    |
|                   | EN 55011                  | class B                 |
| Impact resistance |                           | 1 J                     |
| MTTF              | [years]                   | 1389                    |
| UL approval       | Ta                        | -25...70 °C             |
|                   | Enclosure type            | Type 1                  |
|                   | power supply              | Limited Voltage/Current |
|                   | UL Approval no.           | A028                    |
|                   | File number UL            | E174191                 |

## Mechanical data

|                    |      |                                                                                                                                                |
|--------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight             | [g]  | 21.6                                                                                                                                           |
| Housing            |      | threaded type                                                                                                                                  |
| Mounting           |      | flush mountable                                                                                                                                |
| Dimensions         | [mm] | M8 x 1 / L = 60                                                                                                                                |
| Thread designation |      | M8 x 1                                                                                                                                         |
| Materials          |      | housing: stainless steel (316L/1.4404); sensing face: stainless steel (316L/1.4404); LED window: PEI; lock nuts: stainless steel (316L/1.4404) |
| Tightening torque  | [Nm] | < 5                                                                                                                                            |
| Full-metal housing |      | yes                                                                                                                                            |

## Displays / operating elements

|         |                  |                     |
|---------|------------------|---------------------|
| Display | switching status | 4 x 90° LED, yellow |
|---------|------------------|---------------------|

## Accessories

|                |              |
|----------------|--------------|
| Items supplied | lock nuts: 2 |
|----------------|--------------|

## Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

## Electrical connection - plug

Connector: 1 x M12; coding: A; Moulded body: PA; Contacts: gold-plated

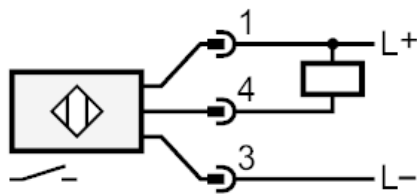




Inductive full-metal sensor

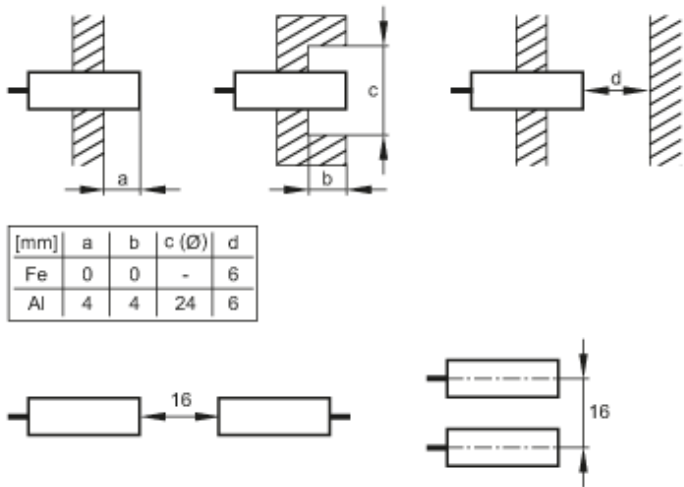
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Connection



Diagrams and graphs

Installation



| [mm] | a | b | c (Ø) | d |
|------|---|---|-------|---|
| Fe   | 0 | 0 | -     | 6 |
| Al   | 4 | 4 | 24    | 6 |