

# KG5302



## Capacitive sensor

KG-3150NBNKG/SL/1P/IO



1 LED yellow switching status



### Product characteristics

|                         |                    |
|-------------------------|--------------------|
| Electrical design       | NPN                |
| Output function         | normally closed    |
| Sensing range [mm]      | 0.5...30           |
| Communication interface | IO-Link            |
| Housing                 | threaded type      |
| Dimensions [mm]         | M18 x 1 / L = 92.5 |

### Application

|                         |           |
|-------------------------|-----------|
| Medium temperature [°C] | -25...110 |
|-------------------------|-----------|

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 22       |
| Protection class            | III        |
| Reverse polarity protection | yes        |

### Outputs

|                                                      |                 |
|------------------------------------------------------|-----------------|
| Electrical design                                    | NPN             |
| Output function                                      | normally closed |
| Max. voltage drop switching output DC [V]            | 2.5             |
| Permanent current rating of switching output DC [mA] | 200             |
| Switching frequency DC [Hz]                          | 30              |
| Short-circuit proof                                  | yes             |
| Overload protection                                  | yes             |

### Detection zone

|                                    |           |
|------------------------------------|-----------|
| Sensing range [mm]                 | 0.5...30  |
| Sensing range adjustable           | yes       |
| Factory setting sensing range [mm] | 15        |
| Real sensing range Sr [mm]         | 15 ± 10 % |

### Accuracy / deviations

|                      |        |
|----------------------|--------|
| Hysteresis [% of Sr] | 1...15 |
|----------------------|--------|



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|                               |           |                                                                                                                                                                 |                                                                                   |
|-------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Switch point drift            | [% of Sr] | -15...15                                                                                                                                                        |                                                                                   |
| Interfaces                    |           |                                                                                                                                                                 |                                                                                   |
| Communication interface       |           | IO-Link                                                                                                                                                         |                                                                                   |
| Transmission type             |           | COM2 (38,4 kBaud)                                                                                                                                               |                                                                                   |
| IO-Link revision              |           | 1.1                                                                                                                                                             |                                                                                   |
| SDCI standard                 |           | IEC 61131-9                                                                                                                                                     |                                                                                   |
| Profiles                      |           | Smart Sensor: Process Data Variable; Device Identification                                                                                                      |                                                                                   |
| SIO mode                      |           | yes                                                                                                                                                             |                                                                                   |
| Required master port type     |           | A                                                                                                                                                               |                                                                                   |
| Min. process cycle time       | [ms]      | 20                                                                                                                                                              |                                                                                   |
| IO-Link functions (acyclical) |           | application specific tag; operating hours counter; normally open / normally closed (configurable); PNP / NPN (parametrierbar); switch point setting; Hysteresis |                                                                                   |
| Operating conditions          |           |                                                                                                                                                                 |                                                                                   |
| Ambient temperature           | [°C]      | -25...80                                                                                                                                                        |                                                                                   |
| Protection                    |           | IP 65; IP 67; IP 69K                                                                                                                                            |                                                                                   |
| Tests / approvals             |           |                                                                                                                                                                 |                                                                                   |
| EMC                           |           | EN 61000-4-2                                                                                                                                                    | 30 kV AD / 4 kV CD                                                                |
|                               |           | EN 61000-4-3                                                                                                                                                    | 10 V/m                                                                            |
|                               |           | EN 61000-4-4                                                                                                                                                    | 2 kV                                                                              |
|                               |           | EN 61000-4-6                                                                                                                                                    | 10 V                                                                              |
|                               |           | EN 55011                                                                                                                                                        | class B                                                                           |
| Vibration resistance          |           | DIN EN 60947-5-2                                                                                                                                                | 1 mm amplitude, oscillation period 5 min., 30 min. per axis at resonance or 55 Hz |
| Shock resistance              |           | DIN EN 60947-5-2                                                                                                                                                | 30 g 6 shocks / 11 ms half-sine (x, y, z)                                         |
| MTTF                          | [years]   | 1269                                                                                                                                                            |                                                                                   |
| UL approval                   |           | Ta                                                                                                                                                              | -25...60 °C                                                                       |
|                               |           | Enclosure type                                                                                                                                                  | Type 1                                                                            |
|                               |           | power supply                                                                                                                                                    | Limited Voltage/Current                                                           |
|                               |           | UL Approval no.                                                                                                                                                 | D004                                                                              |
|                               |           | File number UL                                                                                                                                                  | E174191                                                                           |
| Mechanical data               |           |                                                                                                                                                                 |                                                                                   |
| Weight                        | [g]       | 71.1                                                                                                                                                            |                                                                                   |
| Housing                       |           | threaded type                                                                                                                                                   |                                                                                   |
| Mounting                      |           | non-flush mountable                                                                                                                                             |                                                                                   |
| Dimensions                    | [mm]      | M18 x 1 / L = 92.5                                                                                                                                              |                                                                                   |
| Thread designation            |           | M18 x 1                                                                                                                                                         |                                                                                   |
| Materials                     |           | PBT; PC; POM                                                                                                                                                    |                                                                                   |
| Tightening torque             | [Nm]      | 8                                                                                                                                                               |                                                                                   |
| Displays / operating elements |           |                                                                                                                                                                 |                                                                                   |
| Display                       |           | switching status                                                                                                                                                | 1 x LED, yellow                                                                   |
| Accessories                   |           |                                                                                                                                                                 |                                                                                   |
| Items supplied                |           | lock nuts: 2                                                                                                                                                    |                                                                                   |
| Remarks                       |           |                                                                                                                                                                 |                                                                                   |
| Pack quantity                 |           | 1 pcs.                                                                                                                                                          |                                                                                   |

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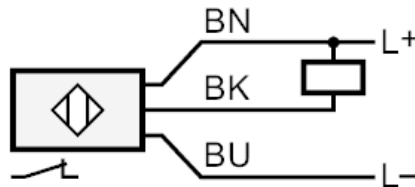
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### Electrical connection

Cable: 2 m, PUR, Ø 4 mm; 3 x 0.34 mm<sup>2</sup>

### Connection



BK: OUT / IO-Link  
Core colours :  
BK = black  
BN = brown  
BU = blue