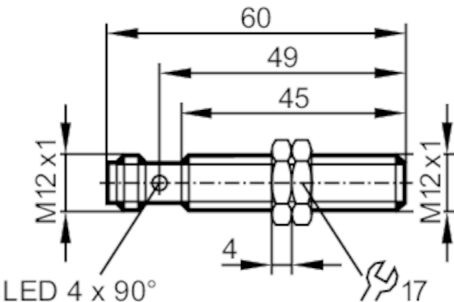


# GF762S



## Fail-safe inductive sensor

GIFK4003B2PS/SIL2/AM/US



### Product characteristics

|                   |                  |
|-------------------|------------------|
| Electrical design | PNP              |
| Enable zone [mm]  | 0...1.5          |
| Housing           | Threaded type    |
| Dimensions [mm]   | M12 x 1 / L = 60 |

### Application

|                             |                                                                               |
|-----------------------------|-------------------------------------------------------------------------------|
| System                      | gold-plated contacts; Full-metal housing                                      |
| Type of operation           | permanent operation                                                           |
| Safety-related sub-function | Sicherer Zustand bei korrekter Entdämpfung (s > sAs (sar))                    |
| Application                 | constant cleaning with aggressive cleaning agents; regular cleaning processes |

### Electrical data

|                               |              |
|-------------------------------|--------------|
| Operating voltage [V]         | 10...30 DC   |
| Rated insulation voltage [V]  | 60           |
| Current consumption [mA]      | < 10; (24 V) |
| Protection class              | III          |
| Reverse polarity protection   | yes          |
| Max. power-on delay time [ms] | 500          |

### Outputs

|                                           |                                             |
|-------------------------------------------|---------------------------------------------|
| Electrical design                         | PNP                                         |
| Max. voltage drop switching output DC [V] | 2.5                                         |
| Number of OSSD outputs                    | 2                                           |
| Max. current load per OSSD output [mA]    | 50                                          |
| Output data                               | Interface type C class 1                    |
| Output voltage at 24 V                    | compatible with EN 61131-2 inputs type 1, 2 |
| Short-circuit protection                  | yes                                         |
| Overload protection                       | yes                                         |
| Max. capacitive load CL_max [nF]          | 20                                          |

### Monitoring range

|                  |         |
|------------------|---------|
| Enable zone [mm] | 0...1.5 |
|------------------|---------|

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|                                            |   |
|--------------------------------------------|---|
| Safe switch-off distance sAs [mm]<br>(sar) | 6 |
|--------------------------------------------|---|

### Accuracy / deviations

|                   |                                                                            |
|-------------------|----------------------------------------------------------------------------|
| Correction factor | steel: 1 / stainless steel: 0.6 / brass: 0.7 / aluminum: 0.6 / copper: 0.3 |
|-------------------|----------------------------------------------------------------------------|

### Reaction times

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Response time when approaching the enable zone, turn-on time (ton) [ms] | 20  |
| Response time to safety request, turn-off time (toff) [ms]              | 20  |
| Risk time / error handling time (toff max) [ms]                         | 100 |

### Operating conditions

|                                 |                                                                                 |
|---------------------------------|---------------------------------------------------------------------------------|
| Ambient temperature [°C]        | -25...100                                                                       |
| Max. height above sea level [m] | 3000                                                                            |
| Ionizing radiation              | not permissible                                                                 |
| Protection                      | IP 65; IP 66; IP 67; IP 68; IP 69K                                              |
| Chemical media                  | Folgende Medien wurden 28 Tage bei 40 °C und einer Konzentration von 5% geprüft |
|                                 | P3-topax 19                                                                     |
|                                 | P3-topax 56                                                                     |
|                                 | P3-topax 66                                                                     |
|                                 | Topactive OKTO                                                                  |

### Tests / approvals

|                             |                           |                                                                                    |
|-----------------------------|---------------------------|------------------------------------------------------------------------------------|
| EMC                         | industrial environments   |                                                                                    |
|                             | EN 60947-5-3              |                                                                                    |
|                             | EN 61000-4-2 ESD          | 6 kV CD / 8 kV AD                                                                  |
|                             | EN 61000-4-3 HF radiated  | 20 V/m 80...1000 MHz                                                               |
|                             | EN 61000-4-3 HF radiated  | 10 V/m 1,4...2,0 GHz / 3 V/m 2,0...6,0 GHz                                         |
|                             | EN 61000-4-4 Burst        | 2 kV                                                                               |
|                             | EN 61000-4-5 Surge        | 2 kV                                                                               |
|                             | EN 61000-4-6 HF conducted | 10 V                                                                               |
|                             | EN 61000-4-8              | 30 A/m 50/60 Hz / 1000 A/m 0 Hz                                                    |
|                             | EN 55011                  | class B                                                                            |
| Shock resistance            | EN 60068-2-27 Ea          | 100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes   |
| Continuous shock resistance | EN 60068-2-27 Ea          | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes            |
| Fast temperature changes    | EN 60068-2-14 Nc          | TA = 0 °C; TB = 100 °C; t1 = 30 min; t2 = 10 s 50 cycles                           |
| Vibration resistance        | EN 60068-2-6 Fc           | 20 g (10...3000 Hz) / 50 sweep cycles per frequency; 1 octave per minute in 3 axes |

### Safety classification

|                                         |                                                                |
|-----------------------------------------|----------------------------------------------------------------|
| Complies with the requirements          | ISO 13849-1 Category 2, PL d                                   |
|                                         | IEC 61508 SIL 2, HFT 0, SC 2                                   |
| Mission time TM [h]                     | ≤ 87600                                                        |
| Mission time TM (additional indication) | industrial environments Temperature range -25...70 °C ≤ 175200 |
| PFH [1/h]                               | < 1,5E-07                                                      |

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| Mechanical data    |      |                                                                                                                                                                               |
|--------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight             | [g]  | 33.05                                                                                                                                                                         |
| Housing            |      | Threaded type                                                                                                                                                                 |
| Mounting           |      | flush mountable                                                                                                                                                               |
| Dimensions         | [mm] | M12 x 1 / L = 60                                                                                                                                                              |
| Thread designation |      | M12 x 1                                                                                                                                                                       |
| Material           |      | threaded sleeve: stainless steel (1.4404 / 316L); sensing face: stainless steel (1.4404 / 316L); LED window: PEI; LED sealing: PU; lock nuts: stainless steel (1.4404 / 316L) |
| Tightening torque  | [Nm] | 15                                                                                                                                                                            |
| Full-metal housing |      | yes                                                                                                                                                                           |

| Displays / operating elements |                          |               |
|-------------------------------|--------------------------|---------------|
| Display                       | Display switching status | 4 LED, yellow |

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

| Remarks       |                                                                                                                          |
|---------------|--------------------------------------------------------------------------------------------------------------------------|
| Remarks       | Einsetzbar in Applikationen bis SIL 2 nach IEC 62061                                                                     |
|               | Unless stated otherwise, all data refer to the reference target plate to IEC 60947-5-2 over the whole temperature range. |
|               | (FE360 = ST37-2K) 12x12x1 mm                                                                                             |
|               | the correction factors apply to an ambient temperature of 20°C                                                           |
|               | do not use a correction factor for the safe switch-off distance sAs/(sar)                                                |
| Pack quantity | 1 pcs.                                                                                                                   |

| Electrical connection - plug |  |
|------------------------------|--|
|------------------------------|--|

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



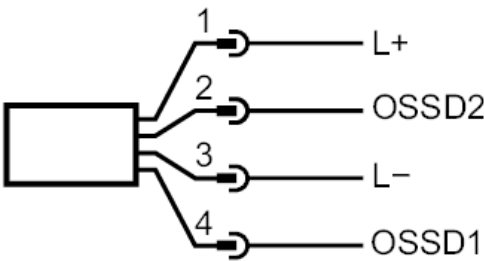
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### Connection



|   |       |
|---|-------|
| 1 | L+    |
| 2 | OSSD2 |
| 3 | L-    |
| 4 | OSSD1 |