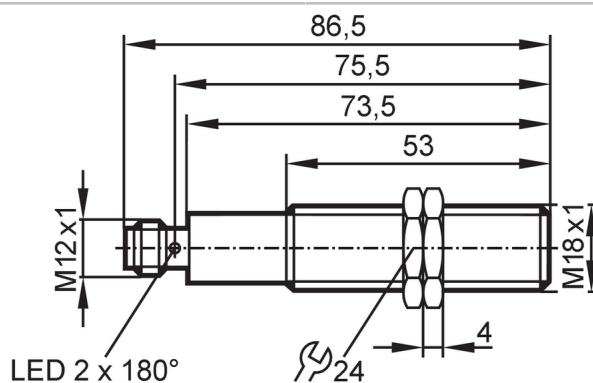


# GG851S



## Fail-safe inductive sensor

GIGA4005B2PO/SIL2/US



### Product characteristics

|                   |                      |
|-------------------|----------------------|
| Electrical design | PNP                  |
| Output function   | 2 x OSSD (A1 and A2) |
| Enable zone [mm]  | > 10                 |
| Housing           | Threaded type        |
| Dimensions [mm]   | M18 x 1 / L = 86.5   |

### Application

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Special feature             | gold-plated contacts                    |
| Type of operation           | continuous operation (maintenance-free) |
| Safety-related sub-function | safe state when damped correctly        |
| Application                 | Industrial applications                 |

### Electrical data

|                               |            |
|-------------------------------|------------|
| Operating voltage [V]         | 10...30 DC |
| Rated insulation voltage [V]  | 30         |
| Current consumption [mA]      | < 30       |
| Protection class              | III        |
| Reverse polarity protection   | yes        |
| Max. power-on delay time [ms] | 1000       |

### Outputs

|                                                      |                                             |
|------------------------------------------------------|---------------------------------------------|
| Electrical design                                    | PNP                                         |
| Output function                                      | 2 x OSSD (A1 and A2)                        |
| Max. voltage drop switching output DC [V]            | 2.5; (30 mA)                                |
| Minimum load current [mA]                            | 2                                           |
| Permanent current rating of switching output DC [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                                         |
| Max. capacitive load CL_max [nF]                     | 20                                          |

### Monitoring range

|                  |      |
|------------------|------|
| Enable zone [mm] | > 10 |
|------------------|------|



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|                                      |      |     |
|--------------------------------------|------|-----|
| Safe switching-off distance<br>s(ar) | [mm] | < 5 |
|--------------------------------------|------|-----|

## Reaction times

|                                                     |      |    |
|-----------------------------------------------------|------|----|
| Response time to safety request                     | [ms] | 5  |
| Response time when approaching the enable zone      | [ms] | 5  |
| Risk time (response time for safety-related faults) | [ms] | 45 |

## Operating conditions

|                                    |                                                |                                        |
|------------------------------------|------------------------------------------------|----------------------------------------|
| Applications                       | Class C to EN 60654-1 weatherproof application |                                        |
| Ambient temperature                | [°C]                                           | -25...70                               |
| Note on ambient temperature        | operational life ≤ 87600 h                     |                                        |
| Ambient temperature                | [°C]                                           | 10...40                                |
| Note on ambient temperature        | operational life ≤ 175200 h                    |                                        |
| Rate of temperature change [K/min] | 0.5                                            |                                        |
| Max. relative air humidity         | [%]                                            | briefly: 5...95 %; permanent: 5...70 % |
| Air pressure                       | [kPa]                                          | 80...106                               |
| Max. height above sea level        | [m]                                            | 2000                                   |
| Ionizing radiation                 | not permissible                                |                                        |
| Salt spray                         | IEC 60068-2-11                                 |                                        |
| Protection                         | IP 65; IP 67                                   |                                        |

## Tests / approvals

|                      |                           |                   |
|----------------------|---------------------------|-------------------|
| EMC                  | IEC 60947-5-2             |                   |
|                      | IEC 60947-5-3             |                   |
|                      | EN 60947-5-3              |                   |
|                      | EN 61000-4-2 ESD          | 6 kV CD / 8 kV AD |
|                      | EN 61000-4-3 HF radiated  | 20 V/m            |
|                      | EN 61000-4-4 Burst        | 2 kV              |
|                      | EN 61000-4-6 HF conducted | 10 V              |
|                      | EN 61000-4-8              | 30 A/m            |
|                      | EN 55011                  | class B           |
| Shock resistance     | IEC 60947-5-2             |                   |
| Vibration resistance | IEC 60947-5-2             |                   |

## Safety classification

|                                         |                                    |           |
|-----------------------------------------|------------------------------------|-----------|
| Complies with the requirements          | ISO 13849-1: 2015 Category 2, PL d |           |
|                                         | IEC 61508 SIL 2                    |           |
|                                         | IEC 62061 SIL 2                    |           |
| Mission time TM                         | [h]                                | ≤ 175200  |
| Mission time TM (additional indication) | 20 years                           |           |
| PFH                                     | [1/h]                              | < 1,0E-07 |

## Mechanical data

|            |                 |                    |
|------------|-----------------|--------------------|
| Weight     | [g]             | 163.5              |
| Housing    | Threaded type   |                    |
| Mounting   | flush mountable |                    |
| Dimensions | [mm]            | M18 x 1 / L = 86.5 |

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|                    |                                                       |
|--------------------|-------------------------------------------------------|
| Thread designation | M18 x 1                                               |
| Material           | housing: brass white bronze coated; sensing face: PBT |

Displays / operating elements

|         |        |                 |
|---------|--------|-----------------|
| Display | Power  | 1 x LED, green  |
|         | signal | 1 x LED, yellow |

Accessories

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

Remarks

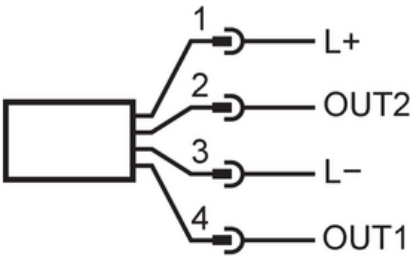
|               |                                                                                                                                                        |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remarks       | Unless stated otherwise, all data refer to the reference target plate to IEC 60947-5-2 over the whole temperature range.<br>(FE360 = ST37K) 24x24x1 mm |
| Pack quantity | 1 pcs.                                                                                                                                                 |

Electrical connection - plug

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



Connection



|   |      |       |
|---|------|-------|
| 1 | L+   |       |
| 2 | OUT2 | OSSD2 |
| 3 | L-   |       |
| 4 | OUT1 | OSSD1 |

IN: Input; OUT: Output