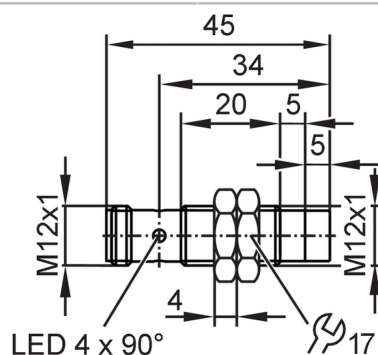


# IFS290



## Inductive sensor

IFB3010-BPKG/K1/US-104



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | PNP              |
| Output function    | normally open    |
| Sensing range [mm] | 10               |
| Housing            | Threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 45 |

### Application

|                                          |                                                                                                |
|------------------------------------------|------------------------------------------------------------------------------------------------|
| Special feature                          | gold-plated contacts; Increased sensing range; correction factor = 1; Magnetic-field immune    |
| Application                              | Suitable for industrial, mobile, cooling and lubricating applications; Industrial applications |
| Magnetic-field immune                    | yes                                                                                            |
| Max. electromagnetic field immunity [mT] | 300                                                                                            |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...30 DC |
| Current consumption [mA]    | < 20       |
| Protection class            | III        |
| Reverse polarity protection | yes        |

### Outputs

|                                                      |               |
|------------------------------------------------------|---------------|
| Electrical design                                    | PNP           |
| 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]                          | 2000          |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

### Monitoring range

|                               |                |
|-------------------------------|----------------|
| Sensing range [mm]            | 10             |
| Real sensing range $S_r$ [mm] | $10 \pm 10 \%$ |
| Operating distance [mm]       | 0...8.1        |
| Increased sensing range       | yes            |

# IFS290



## Inductive sensor

IFB3010-BPKG/K1/US-104

| Accuracy / deviations         |                                                                                                                    |                                                                                    |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Correction factor             | steel: 1 / stainless steel: 1 / brass: 1 / aluminum: 1 / copper: 1                                                 |                                                                                    |
| Hysteresis [% of Sr]          | 3...15                                                                                                             |                                                                                    |
| Switch-point drift [% of Sr]  | -10...10                                                                                                           |                                                                                    |
| Correction factor = 1         | yes                                                                                                                |                                                                                    |
| Operating conditions          |                                                                                                                    |                                                                                    |
| Ambient temperature [°C]      | -40...85                                                                                                           |                                                                                    |
| Protection                    | IP 65; IP 66; IP 67; IP 68; IP 69K                                                                                 |                                                                                    |
| 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                                                                            |
| Vibration resistance          | EN 60068-2-6 Fc                                                                                                    | 20 g (10...3000 Hz) / 50 sweep cycles per frequency; 1 octave per minute in 3 axes |
| 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                                                                                                      | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes            |
| Fast temperature changes      | EN 60068-2-14 Na                                                                                                   | TA = -40 °C; TB = 85 °C; t1 = 30 min; t2 = < 10 s; 50 cycles                       |
| Salt spray test               | EN 60068-2-52 Kb                                                                                                   | severity level 5 (4 test cycles)                                                   |
| MTTF [years]                  | 474                                                                                                                |                                                                                    |
| Embedded software included    | yes                                                                                                                |                                                                                    |
| UL approval                   | Ta                                                                                                                 | -25...70 °C                                                                        |
|                               | Enclosure type                                                                                                     | Type 1                                                                             |
|                               | voltage supply                                                                                                     | Limited Voltage/Current                                                            |
|                               | UL approval number                                                                                                 | A005                                                                               |
|                               | File number UL                                                                                                     | E174191                                                                            |
| Mechanical data               |                                                                                                                    |                                                                                    |
| Weight [g]                    | 23                                                                                                                 |                                                                                    |
| Housing                       | Threaded type                                                                                                      |                                                                                    |
| Mounting                      | non-flush mountable                                                                                                |                                                                                    |
| Dimensions [mm]               | M12 x 1 / L = 45                                                                                                   |                                                                                    |
| Thread designation            | M12 x 1                                                                                                            |                                                                                    |
| Material                      | housing: brass white bronze coated; sensing face: LCP white; LED window: PEI; lock nuts: brass white bronze coated |                                                                                    |
| Displays / operating elements |                                                                                                                    |                                                                                    |
| Display                       | Switching status                                                                                                   | 4 x LED, yellow                                                                    |
| Accessories                   |                                                                                                                    |                                                                                    |
| Items supplied                | lock nuts: 2                                                                                                       |                                                                                    |
| Remarks                       |                                                                                                                    |                                                                                    |
| Pack quantity                 | 1 pcs.                                                                                                             |                                                                                    |

# IFS290

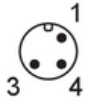


## Inductive sensor

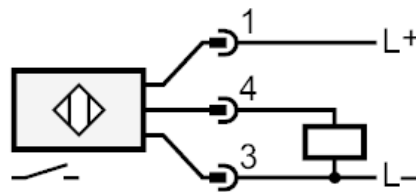
IFB3010-BPKG/K1/US-104

### Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: 3, gold-plated



### Connection



### Diagrams and graphs

#### Installation

