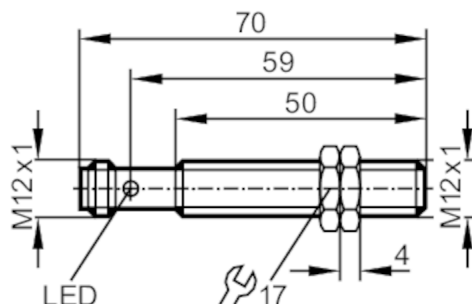




## Inductive sensor

IFKC004BASKG/M/US-104-DRS



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | PNP/NPN          |
| Output function    | normally open    |
| Sensing range [mm] | 4                |
| Housing            | threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 70 |

### Application

|                 |                                               |
|-----------------|-----------------------------------------------|
| Special feature | Gold-plated contacts; Increased sensing range |
| Application     | Use in mobile and harsh applications          |

### Electrical data

|                             |                                  |
|-----------------------------|----------------------------------|
| Operating voltage [V]       | 10...36 DC                       |
| Current consumption [mA]    | < 10; (only in 3-wire operation) |
| Protection class            | II                               |
| Reverse polarity protection | yes                              |

### Outputs

|                                                      |                                 |
|------------------------------------------------------|---------------------------------|
| Electrical design                                    | PNP/NPN                         |
| Output function                                      | normally open                   |
| Max. voltage drop switching output DC [V]            | 2.5                             |
| Minimum load current [mA]                            | 2; (only in 2-wire operation)   |
| Max. leakage current [mA]                            | 0.5; (only in 2-wire operation) |
| Permanent current rating of switching output DC [mA] | 100                             |
| Switching frequency DC [Hz]                          | 400                             |
| Short-circuit protection                             | yes                             |
| Type of short-circuit protection                     | pulsed                          |
| Overload protection                                  | yes                             |

### Detection zone

|                         |          |
|-------------------------|----------|
| Sensing range [mm]      | 4        |
| Operating distance [mm] | 0...3.24 |
| Increased sensing range | yes      |



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| Accuracy / deviations         |                                                                                                             |                                                                                                |
|-------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Correction factor             | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminium: 0.5 / copper: 0.4                                 |                                                                                                |
| Hysteresis                    | [% of Sr]                                                                                                   | 1...20                                                                                         |
| Operating conditions          |                                                                                                             |                                                                                                |
| Ambient temperature           | [°C]                                                                                                        | -40...85                                                                                       |
| Protection                    | IP 67; IP 69K                                                                                               |                                                                                                |
| Tests / approvals             |                                                                                                             |                                                                                                |
| EMC                           | automotive area                                                                                             |                                                                                                |
|                               | noise emission and noise interference: ECE R10                                                              | E1 type approval                                                                               |
|                               | noise immunity according to DIN ISO 11452-2                                                                 | 100 V/m                                                                                        |
|                               | conducted interference in 24 V networks to ISO 7637-2: 2004 (pulse 1 to 4) and ISO16750-2: 2012 (load dump) |                                                                                                |
|                               | pulse                                                                                                       | 1 2a 2b 3a 3b 4 Load dump                                                                      |
|                               | severity level                                                                                              | III III III III III Test A                                                                     |
|                               | failure criterion                                                                                           | C A C A A C C                                                                                  |
|                               | 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 61000-4-5 Surge                                                                                          | 0,5 kV mains line to line                                                                      |
|                               | EN 61000-4-6 HF conducted                                                                                   | 10 V                                                                                           |
|                               | EN 55011                                                                                                    | class B                                                                                        |
|                               | Vibration resistance                                                                                        | EN 60068-2-6 Fc                                                                                |
|                               |                                                                                                             | 50 sweep cycles, 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 / -40...85 °C |
| Continuous shock resistance   | EN 60068-2-27                                                                                               | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes / -20...50 °C          |
| Fast temperature change       | 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]                                                                                                     | 691                                                                                            |
| UL approval                   | Ta                                                                                                          | 0...40 °C                                                                                      |
|                               | Enclosure type                                                                                              | Type 1                                                                                         |
|                               | power supply                                                                                                | Hazardous voltage                                                                              |
|                               | File number UL                                                                                              | E174191                                                                                        |
| Mechanical data               |                                                                                                             |                                                                                                |
| Weight                        | [g]                                                                                                         | 30.4                                                                                           |
| Housing                       | threaded type                                                                                               |                                                                                                |
| Mounting                      | flush mountable                                                                                             |                                                                                                |
| Dimensions                    | [mm]                                                                                                        | M12 x 1 / L = 70                                                                               |
| Thread designation            | M12 x 1                                                                                                     |                                                                                                |
| Materials                     | housing: stainless steel; sensing face: LCP natural; LED window: PEI; lock nuts: brass                      |                                                                                                |
| Displays / operating elements |                                                                                                             |                                                                                                |
| Display                       | switching status                                                                                            | 4 x 90° LED, yellow                                                                            |

# IFM203



## Inductive sensor

IFKC004BASKG/M/US-104-DRS

| Accessories                  |              |
|------------------------------|--------------|
| Items supplied               | lock nuts: 2 |
| Remarks                      |              |
| Pack quantity                | 1 pcs.       |
| Electrical connection - plug |              |

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

