



## Inductive sensor

IFK2004BFRKG/SC/2LED/US-104IRF



### Product characteristics

|                    |                                               |
|--------------------|-----------------------------------------------|
| Electrical design  | PNP/NPN                                       |
| Output function    | normally open / normally closed; (selectable) |
| Sensing range [mm] | 4                                             |
| Housing            | threaded type                                 |
| Dimensions [mm]    | M12 x 1 / L = 60                              |

### Application

|                 |                                                                                  |
|-----------------|----------------------------------------------------------------------------------|
| Special feature | Gold-plated contacts; Increased sensing range; Optical setting aid; anti-spatter |
|-----------------|----------------------------------------------------------------------------------|

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...36 DC |
| Protection class            | II         |
| Reverse polarity protection | yes        |

### Outputs

|                                                      |                                               |
|------------------------------------------------------|-----------------------------------------------|
| Electrical design                                    | PNP/NPN                                       |
| Output function                                      | normally open / normally closed; (selectable) |
| Max. voltage drop switching output DC [V]            | 4.6                                           |
| Minimum load current [mA]                            | 4                                             |
| Max. leakage current [mA]                            | 1                                             |
| Permanent current rating of switching output DC [mA] | 100                                           |
| Switching frequency DC [Hz]                          | 700                                           |
| Short-circuit protection                             | yes                                           |
| Type of short-circuit protection                     | pulsed                                        |
| Overload protection                                  | yes                                           |

### Detection zone

|                         |          |
|-------------------------|----------|
| Sensing range [mm]      | 4        |
| Operating distance [mm] | 0...3.25 |
| Increased sensing range | yes      |

# IF5934



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| Accuracy / deviations                                                                          |                                                                                           |                                |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------|
| Correction factor                                                                              | steel: 1 / stainless steel: 0.7 / brass: 0.4 / aluminium: 0.37 / copper: 0.25             |                                |
| Hysteresis                                                                                     | [% of Sr]                                                                                 | 1...20                         |
| Operating conditions                                                                           |                                                                                           |                                |
| Ambient temperature                                                                            | [°C]                                                                                      | -25...70                       |
| Protection                                                                                     | IP 68; ("Coolant")                                                                        |                                |
| 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 61000-4-5 Surge                                                                        | 0,5 kV line to line, Ri: 2 Ohm |
|                                                                                                | EN 61000-4-6 HF conducted                                                                 | 10 V                           |
|                                                                                                | EN 55011                                                                                  | class B                        |
| MTTF                                                                                           | [years]                                                                                   | 886                            |
| UL approval                                                                                    | Ta                                                                                        | -25...70 °C                    |
|                                                                                                | Enclosure type                                                                            | Type 1                         |
|                                                                                                | voltage supply                                                                            | Class 2                        |
|                                                                                                | File number UL                                                                            | E174191                        |
| Mechanical data                                                                                |                                                                                           |                                |
| Weight                                                                                         | [g]                                                                                       | 42.5                           |
| Housing                                                                                        | threaded type                                                                             |                                |
| Mounting                                                                                       | flush mountable                                                                           |                                |
| Dimensions                                                                                     | [mm]                                                                                      | M12 x 1 / L = 60               |
| Thread designation                                                                             | M12 x 1                                                                                   |                                |
| Materials                                                                                      | housing: brass anti-spatter; sensing face: PC anti-spatter; lock nuts: brass anti-spatter |                                |
| Displays / operating elements                                                                  |                                                                                           |                                |
| Display                                                                                        | switching status                                                                          | 4 x 90° LED, yellow            |
|                                                                                                | setting aid                                                                               | 1 x LED, red                   |
| Optical setting aid                                                                            | yes                                                                                       |                                |
| Accessories                                                                                    |                                                                                           |                                |
| Accessories (supplied)                                                                         | lock nuts: 2                                                                              |                                |
|                                                                                                | tooth lock washers: 2                                                                     |                                |
| Remarks                                                                                        |                                                                                           |                                |
| Pack quantity                                                                                  | 1 pcs.                                                                                    |                                |
| Electrical connection - plug                                                                   |                                                                                           |                                |
| Connector: 1 x M12; Contacts: gold-plated                                                      |                                                                                           |                                |
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