



Inductive sensor

I1K2022-FRKG/2LED/US-104



| Product characteristics                         |      |                                                                    |
|-------------------------------------------------|------|--------------------------------------------------------------------|
| Electrical design                               |      | PNP/NPN                                                            |
| Output function                                 |      | normally open / closed; (selectable)                               |
| Sensing range                                   | [mm] | 22                                                                 |
| Housing                                         |      | Threaded type                                                      |
| Dimensions                                      | [mm] | M30 x 1.5 / L = 70                                                 |
| Application                                     |      |                                                                    |
| System                                          |      | gold-plated contacts; Increased sensing range; optical setting aid |
| Application                                     |      | Industrial applications                                            |
| Electrical data                                 |      |                                                                    |
| Operating voltage                               | [V]  | 10...30 DC                                                         |
| Protection class                                |      | II                                                                 |
| Reverse polarity protection                     |      | yes                                                                |
| Outputs                                         |      |                                                                    |
| Electrical design                               |      | PNP/NPN                                                            |
| Output function                                 |      | normally open / 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] | 100                                                                |
| Short-circuit protection                        |      | yes                                                                |
| Type of short-circuit protection                |      | yes (non-latching)                                                 |
| Overload protection                             |      | yes                                                                |
| Monitoring range                                |      |                                                                    |
| Sensing range                                   | [mm] | 22                                                                 |
| Real sensing range Sr                           | [mm] | 22 ± 10 %                                                          |
| Operating distance                              | [mm] | 0...17.8                                                           |



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|                         |     |
|-------------------------|-----|
| Increased sensing range | yes |
|-------------------------|-----|

## Accuracy / deviations

|                              |                                                                            |  |
|------------------------------|----------------------------------------------------------------------------|--|
| Correction factor            | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminum: 0.5 / copper: 0.4 |  |
| Hysteresis [% of Sr]         | 3...15                                                                     |  |
| Switch-point drift [% of Sr] | -10...10                                                                   |  |

## Operating conditions

|                          |          |
|--------------------------|----------|
| Ambient temperature [°C] | -25...70 |
| Protection               | IP 67    |

## Tests / approvals

|              |                           |                   |
|--------------|---------------------------|-------------------|
| EMC          | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD |
|              | EN 61000-4-3 HF radiated  | 3 V/m             |
|              | EN 61000-4-4 Burst        | 2 kV              |
|              | EN 61000-4-6 HF conducted | 3 V               |
|              | EN 55011                  | class B           |
| MTTF [years] | 1424                      |                   |

## Mechanical data

|                        |                                                                                                                        |
|------------------------|------------------------------------------------------------------------------------------------------------------------|
| Weight [g]             | 118.5                                                                                                                  |
| Housing                | Threaded type                                                                                                          |
| Mounting               | non-flush mountable                                                                                                    |
| Dimensions [mm]        | M30 x 1.5 / L = 70                                                                                                     |
| Thread designation     | M30 x 1.5                                                                                                              |
| Material               | housing: brass white bronze coated; sensing face: PBT orange;<br>LED window: PEI; lock nuts: brass white bronze coated |
| Tightening torque [Nm] | 50                                                                                                                     |

## Displays / operating elements

|                     |                  |                     |
|---------------------|------------------|---------------------|
| Display             | Switching status | 4 x 90° LED, yellow |
|                     | Setting aid      | 1 x LED, red        |
| Optical setting aid | yes              |                     |

## Accessories

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

## Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

## Electrical connection - plug

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



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**Connection**