

## Inductive sensor

IHK3022-BPKG/M/60V/US-104



## Product characteristics

|                    |                    |
|--------------------|--------------------|
| Electrical design  | PNP                |
| Output function    | normally open      |
| Sensing range [mm] | 22                 |
| Housing            | threaded type      |
| Dimensions [mm]    | M30 x 1.5 / L = 70 |

## Application

|                 |                                                   |
|-----------------|---------------------------------------------------|
| Special feature | Gold-plated contacts; Increased sensing range     |
| Application     | Застосування в рухомій техніці та складних умовах |

## Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...60 DC |
| Current consumption [mA]    | < 10       |
| Protection class            | II         |
| 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] | 200           |
| Switching frequency DC [Hz]                          | 100           |
| Short-circuit protection                             | yes           |
| Overload protection                                  | yes           |

## Detection zone

|                            |           |
|----------------------------|-----------|
| Sensing range [mm]         | 22        |
| Real sensing range Sr [mm] | 22 ± 10 % |
| Operating distance [mm]    | 0...17.82 |
| Increased sensing range    | yes       |



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| Accuracy / deviations       |                                                                                                             |                                                                                                |
|-----------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Correction factor           | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminium: 0.45 / copper: 0.35                               |                                                                                                |
| Hysteresis                  | [X01]                                                                                                       | 1...20                                                                                         |
| Switch point drift          | [X01]                                                                                                       | -10...10                                                                                       |
| 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                        | [ANN]                                                                                                       | 900                                                                                            |
| UL approval                 | Ta                                                                                                          | 0...40 °C                                                                                      |
|                             | Enclosure type                                                                                              | Type 1                                                                                         |
|                             | подача напруги                                                                                              | Class 2                                                                                        |
|                             | File number UL                                                                                              | E174191                                                                                        |
| Mechanical data             |                                                                                                             |                                                                                                |
| Weight                      | [g]                                                                                                         | 117.8                                                                                          |
| Housing                     | threaded type                                                                                               |                                                                                                |
| Mounting                    | non-flush mountable                                                                                         |                                                                                                |
| Dimensions                  | [mm]                                                                                                        | M30 x 1.5 / L = 70                                                                             |
| Thread designation          | M30 x 1.5                                                                                                   |                                                                                                |
| Materials                   | threaded sleeve: stainless steel; sensing face: LCP natural; LED window: PEI; lock nuts: brass              |                                                                                                |

IIM209



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Displays / operating elements

|         |                  |                     |
|---------|------------------|---------------------|
| Display | switching status | 4 x 90° LED, yellow |
|---------|------------------|---------------------|

Аксессуары

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

Remarks

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

Electrical connection - plug

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



Connection

