

# IQ80-60NUP-KK0

IQL

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Ordering information

| Type           | part no. |
|----------------|----------|
| IQ80-60NUP-KK0 | 7902138  |

Other models and accessories → [www.sick.com/IQL](http://www.sick.com/IQL)



Detailed technical data

Features

|  |                                    |
|--|------------------------------------|
| <b>Housing</b>                             | Rectangular                        |
| <b>Housing</b>                             | Standard design                    |
| <b>Dimensions (W x H x D)</b>              | 80 mm x 105 mm x 40 mm             |
| <b>Sensing range <math>S_n</math></b>      | 60 mm                              |
| <b>Safe sensing range <math>S_a</math></b> | 48.6 mm                            |
| <b>Installation type</b>                   | Non-flush                          |
| <b>Switching frequency</b>                 | 4 Hz                               |
| <b>Connection type</b>                     | Terminal connection with M20 gland |
| <b>Switching output</b>                    | PNP / NPN                          |
| <b>Switching output detail</b>             | PNP / NPN                          |
| <b>Output function</b>                     | NC or NO                           |
| <b>Output characteristic</b>               | Wire configurable                  |
| <b>Electrical wiring</b>                   | AC/DC 2-wire                       |
| <b>Enclosure rating</b>                    | IP65 <sup>1)</sup>                 |

<sup>1)</sup> According to EN 60529.

## Mechanics/electronics

|   |  |
|---|--|
| <b>Supply voltage</b>                         | 20 V AC/DC ... 250 V AC/DC   |
| <b>Voltage drop</b>                           | ≤ 6.5 V (AC)   |
| <b>Hysteresis</b>                             | 1 % ... 15 %   |
| <b>Reproducibility</b>                        | ≤ 10 % <sup>1) 2) 3)</sup>   |
| <b>Temperature drift (of S<sub>r</sub>)</b>   | ± 10 %   |
| <b>EMC</b>                                    | As per EN 55011, class B<br>According to EN 60947-5-2                      |
| <b>Continuous current I<sub>a</sub></b>       | ≤ 350 mA <sup>4)</sup><br>≤ 250 mA <sup>5)</sup><br>≤ 100 mA <sup>6)</sup> |
| <b>Off-state current</b>                      | ≤ 2.5 mA (AC 250 V)  |
| <b>Minimum load current</b>                   | > 5 mA   |
| <b>Short-time withstand current</b>           | 2.2 A <sup>7)</sup>  |
| <b>Cable gland clamping area</b>              | M20 1.5  |
| <b>Wire size</b>                              | ≤ 2.5 mm <sup>2</sup>  |
| <b>Short-circuit protection</b>               | <sup>8)</sup>  |
| <b>Shock and vibration resistance</b>         | 30 g, 11 ms / 10 ... 55 Hz, 1 mm   |
| <b>Ambient operating temperature</b>          | -25 °C ... +80 °C  |
| <b>Housing material</b>                       | Plastic, PPE   |
| <b>Sensing face material</b>                  | Plastic, PPE   |
| <b>Protection class</b>                       | II   |
| <b>Rated insulation voltage U<sub>i</sub></b> | 250 V AC   |
| <b>Usage category</b>                         | AC-140 <sup>9)</sup><br>DC-13 <sup>10)</sup>                               |
| <b>Contamination rating</b>                   | 3  |
| <b>Rated impulse withstand voltage</b>        | 4 kV   |

<sup>1)</sup> Supply voltage U<sub>B</sub> and constant ambient temperature T<sub>a</sub>.

<sup>2)</sup> Of S<sub>r</sub>.

<sup>3)</sup> Repeatability (T<sub>a</sub> not constant).

<sup>4)</sup> AC (+50 °C).

<sup>5)</sup> AC (+80 °C).

<sup>6)</sup> DC.

<sup>7)</sup> 20 ms / 0.5 Hz.

<sup>8)</sup> Miniature fuse to IEC 60217-2 Sheet 1, ≤ 2 A (quick-blow).

<sup>9)</sup> Control of small electromagnetic loads with holding currents < 200 mA.

<sup>10)</sup> Control of solenoids.

## Safety-related parameters

|                                     |           |
|-------------------------------------|-----------|
| <b>MTTF<sub>D</sub></b>             | 736 years |
| <b>DC<sub>avg</sub></b>             | 0 %       |
| <b>T<sub>M</sub> (mission time)</b> | 20 years  |

## Reduction factors

|                                   |  |
|-----------------------------------|--|
| <b>Note</b>                       | The values are reference values which may vary |
| <b>Stainless steel (V2A, 304)</b> | Approx. 0.7                                    |

|                      |             |
|----------------------|-------------|
| <b>Aluminum (Al)</b> | Approx. 0.3 |
| <b>Copper (Cu)</b>   | Approx. 0.2 |
| <b>Brass (Br)</b>    | Approx. 0.4 |

#### Installation note

|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>A</b>      | 160 mm                                |
| <b>B</b>      | 160 mm                                |
| <b>C</b>      | 80 mm                                 |
| <b>D</b>      | 150 mm                                |
| <b>E</b>      | 40 mm                                 |
| <b>F</b>      | 480 mm                                |

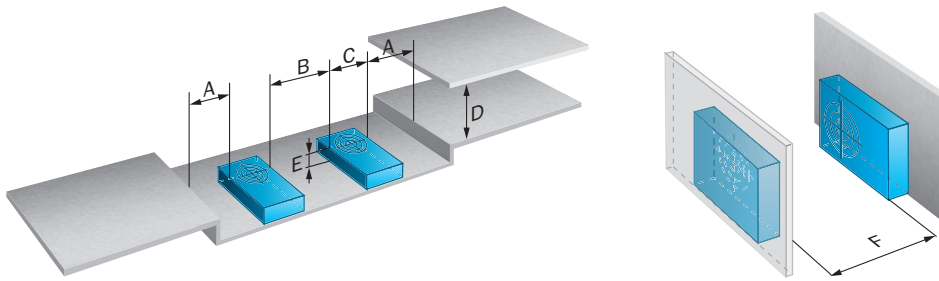
#### Certificates

|   |   |
|---|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                         | ✓ |
| <b>CCC certificate</b>                    | ✓ |

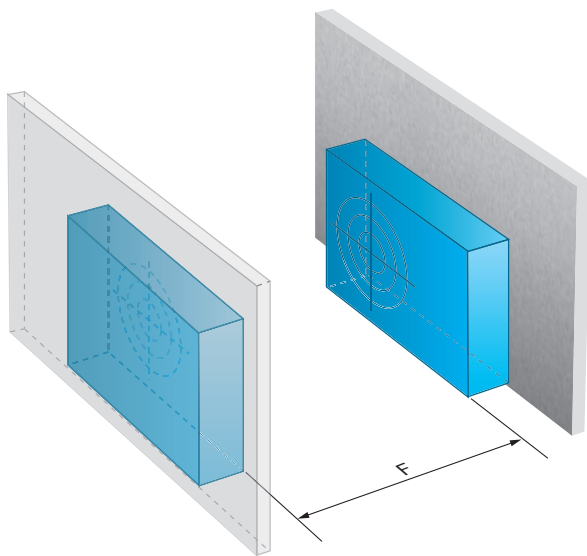
#### Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270101 |
| <b>ECLASS 5.1.4</b>   | 27270101 |
| <b>ECLASS 6.0</b>     | 27270101 |
| <b>ECLASS 6.2</b>     | 27270101 |
| <b>ECLASS 7.0</b>     | 27270101 |
| <b>ECLASS 8.0</b>     | 27270101 |
| <b>ECLASS 8.1</b>     | 27270101 |
| <b>ECLASS 9.0</b>     | 27270101 |
| <b>ECLASS 10.0</b>    | 27270101 |
| <b>ECLASS 11.0</b>    | 27270101 |
| <b>ECLASS 12.0</b>    | 27274001 |
| <b>ETIM 5.0</b>       | EC002714 |
| <b>ETIM 6.0</b>       | EC002714 |
| <b>ETIM 7.0</b>       | EC002714 |
| <b>ETIM 8.0</b>       | EC002714 |
| <b>UNSPSC 16.0901</b> | 39122230 |

## Installation note



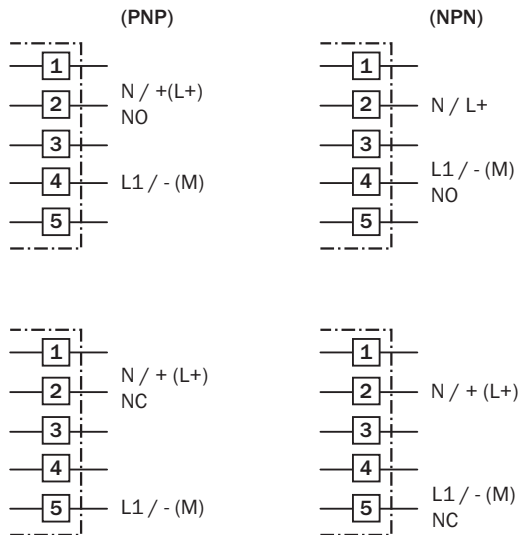
## Installation note



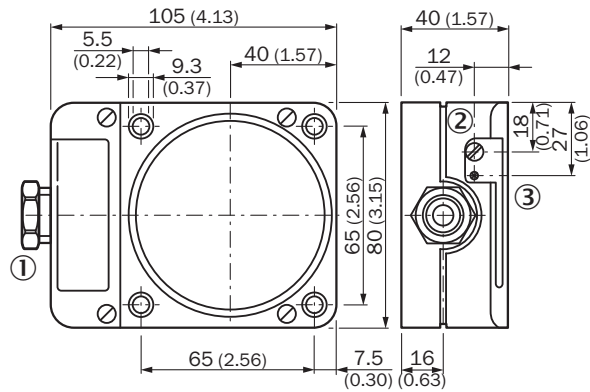
## Connection type



## Connection diagram Cd-025



## Dimensional drawing IQ80, AC/DC 2-wire



Dimensions in mm (inch)

- ① Connection
- ② Potentiometer
- ③ Display LED

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

## WORLDWIDE PRESENCE:

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