

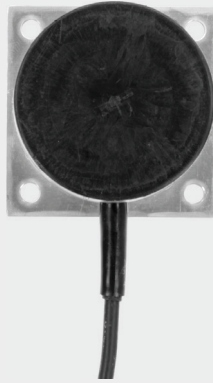
**Inductive Proximity Switches**  
**19 - 60 mm**  
Sensing Distance



**Non-contact detection of metal objects**

AC - DC - Normally Open - Normally Closed - -40 °C - +120 °C - Teach-In - IP68

| Sensing distance $S_n$ [mm]    | 19                                                                                | 20                                                                                | 20                                                                                 | 20                                                                                  |  |
|--------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Mounting                       | nf                                                                                | nf                                                                                | nf                                                                                 | f                                                                                   |  |
| Housing size [mm]              | Ø 35 / L = 90                                                                     | Ø 34 / L = 80                                                                     | 40 x 40 x 120                                                                      | PG36 / L = 70                                                                       |  |
|                                |  |  |  |  |  |
| Housing material               | PTFE                                                                              | PBT                                                                               | PBT                                                                                | brass, nickel plated                                                                |  |
| Protection class               | IP 68                                                                             | IP 67                                                                             | IP 67                                                                              | IP 67                                                                               |  |
| Type                           | <b>IKHT 019</b>                                                                   | <b>IKH 020</b>                                                                    | <b>IKQ 020</b>                                                                     | <b>IKZ 471 / IKZ 474</b>                                                            |  |
| <b>PROXI Heat<sup>+</sup></b>  | yes                                                                               | yes                                                                               | no                                                                                 | yes                                                                                 |  |
| <b>PROXI Polar<sup>-</sup></b> | yes                                                                               | yes                                                                               | no                                                                                 | yes                                                                                 |  |

| Sensing distance $S_n$ [mm]    | 25                                                                                  | 25                                                                                  | 25                                                                                   | 30                                                                                    |  |
|--------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|
| Mounting                       | conditionally f                                                                     | f                                                                                   | f                                                                                    | nf                                                                                    |  |
| Housing size [mm]              | PG36 / L = 70                                                                       | 60 x 60 x 40                                                                        | 60 x 60 x 40                                                                         | 40 x 40 x 120                                                                         |  |
|                                |  |  |  |  |  |
| Housing material               | brass, nickel plated                                                                | PBT / aluminium                                                                     | aluminium                                                                            | PBT                                                                                   |  |
| Protection class               | IP 67                                                                               | IP 67                                                                               | IP 67                                                                                | IP 67                                                                                 |  |
| Type                           | <b>IKZ 475</b>                                                                      | <b>IKI 025</b>                                                                      | <b>IKF 025</b>                                                                       | <b>IKQ 030</b>                                                                        |  |
| <b>PROXI Heat<sup>+</sup></b>  | yes                                                                                 | yes                                                                                 | yes                                                                                  | no                                                                                    |  |
| <b>PROXI Polar<sup>-</sup></b> | yes                                                                                 | yes                                                                                 | yes                                                                                  | no                                                                                    |  |

f = flush / nf = non flush

**PROXI Heat<sup>+</sup>**

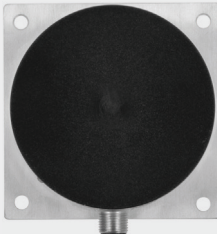
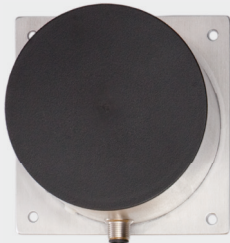
Proxitron-high temperature series for temperatures of up to 120 °C.

**PROXI Polar<sup>-</sup>**

Proxitron-low-temperature series for temperatures from -40 °C.

The sensing distance stated above describes the axial approximation of a square steel plate with its side length equal to three times the sensing distance. (for example: Sensing distance 50 mm relates to a steel plate with side length of 150 x 150 mm). Smaller metal object reduces the maximum attainable sensing distance.

# Inductive Proximity Switches 35 - 60 mm sensing distance

|  | 35                                                                                | 40                                                                                | 40                                                                                | 40                                                                                  | 45                                                                                  |
|--|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | nf                                                                                | nf                                                                                | f                                                                                 | f                                                                                   | f                                                                                   |
|  | Ø 54 / L = 68                                                                     | 40 x 40 x 120                                                                     | 80 x 80 x 40                                                                      | 80 x 80 x 40                                                                        | 110 x 110 x 55                                                                      |
|  |  |  |  |  |  |
|  | PBT                                                                               | PBT                                                                               | PBT                                                                               | aluminium                                                                           | aluminium                                                                           |
|  | IP 67                                                                             | IP 67                                                                             | IP 67                                                                             | IP 67                                                                               | IP 67                                                                               |
|  | <b>IKH 035</b>                                                                    | <b>IKQ 040</b>                                                                    | <b>IKK 040</b>                                                                    | <b>IKG 040</b>                                                                      | <b>IKD 045</b>                                                                      |
|  | yes                                                                               | no                                                                                | yes                                                                               | yes                                                                                 | yes                                                                                 |
|  | yes                                                                               | no                                                                                | yes                                                                               | yes                                                                                 | yes                                                                                 |

|  | 50                                                                                  | 50                                                                                  | 50 / 60                                                                             | 60                                                                                    | 60                                                                                    |
|--|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | nf                                                                                  | nf                                                                                  | nf                                                                                  | nf                                                                                    | nf                                                                                    |
|  | Ø 80 / L = 67                                                                       | 80 x 120 x 30                                                                       | 80 x 80 x 40                                                                        | 150 x 108 x 58                                                                        | 162 x 150 x 58                                                                        |
|  |  |  |  |  |  |
|  | PBT                                                                                 | PBT                                                                                 | PBT                                                                                 | PBT / aluminium                                                                       | PBT / aluminium                                                                       |
|  | IP 67                                                                               | IP 67                                                                               | IP 67                                                                               | IP 67                                                                                 | IP 67                                                                                 |
|  | <b>IKJ 050</b>                                                                      | <b>IKRD 050</b>                                                                     | <b>IKK 050 / IKK 060</b>                                                            | <b>IKN 060</b>                                                                        | <b>IKNR 060</b>                                                                       |
|  | yes                                                                                 | yes                                                                                 | yes                                                                                 | yes                                                                                   | yes                                                                                   |
|  | yes                                                                                 | yes                                                                                 | yes                                                                                 | yes                                                                                   | yes                                                                                   |

The attainable sensing distance is a function of the material of the metal object and can be calculated using the correction factor: **max. possible sensing distance = sensing distance x correction factor**

| material          | metal foil | steel | stainless steel | brass | aluminium | copper | nickel | cast iron     |
|-------------------|------------|-------|-----------------|-------|-----------|--------|--------|---------------|
| correction factor | 1,2        | 1     | 0,5 ... 0,8     | 0,45  | 0,4       | 0,3    | 0,7    | 0,93 ... 1,05 |

# Inductive Proximity Switches

## Basic Information

Inductive proximity switches detect metal objects contactless. Proxitron offers the widest variety of robustly constructed designs for standard industrial solutions and complex applications. Versions with extended temperature range and the comfortable setting with teach-in enable safe operation even under demanding conditions. Customisations provide the optimum solution for every application.

- **contactless detection of metal objects**
- **unaffected by contamination**
- **different supply voltages**
- **various switching outputs**
- **short circuit and reverse polarity protection**
- **ProxiHeat up to +120 °C**
- **ProxiPolar from -40 °C**
- **cable- or plug connection**
- **protection class up to IP68**

### Type Code

| Type (see table previous page)                                             | e. g. IKK 060 |   |   |   |   |    |     |   |    |
|----------------------------------------------------------------------------|---------------|---|---|---|---|----|-----|---|----|
| Proxi-Teach**                                                              | T             |   |   |   |   |    |     |   |    |
| 20 - 260 V AC/DC                                                           |               | 0 |   |   |   |    |     |   |    |
| 10 - 55 V DC                                                               |               | 3 |   |   |   |    |     |   |    |
| NPN - normally closed                                                      |               |   | 0 |   |   |    |     |   |    |
| NPN - normally open                                                        |               |   | 1 |   |   |    |     |   |    |
| PNP - normally closed                                                      |               |   | 2 |   |   |    |     |   |    |
| PNP - normally open                                                        |               |   | 3 |   |   |    |     |   |    |
| 2-wire normally closed AC/DC                                               |               |   | 4 |   |   |    |     |   |    |
| 2-wire normally open AC/DC                                                 |               |   | 5 |   |   |    |     |   |    |
| PNP normally open + PNP normally closed antivalent                         |               |   | 8 |   |   |    |     |   |    |
| Internal thread M16 at cable output ( e.g. for protective hose connection) |               |   |   | C |   |    |     |   |    |
| Fixed protective hose gland 3/8" or 5/16"                                  |               |   |   | M |   |    |     |   |    |
| Short circuit protection                                                   |               |   |   |   | G |    |     |   |    |
| High temperature version up to +100 °C                                     |               |   |   |   |   | H  |     |   |    |
| High temperature version up to +120 °C                                     |               |   |   |   |   | H1 |     |   |    |
| Low temperature version from -40 °C                                        |               |   |   |   |   | N  |     |   |    |
| Standard version with fixed connection cable*                              |               |   |   |   |   |    |     |   |    |
| Connecting terminal box                                                    |               |   |   |   |   |    | D   |   |    |
| Plug M12x1 DC                                                              |               |   |   |   |   |    | S4  |   |    |
| Plug 7/8" – 16 UN (IP68)                                                   |               |   |   |   |   |    | S5  |   |    |
| Plug M12x1 AC                                                              |               |   |   |   |   |    | S27 |   |    |
| Offset oscillation frequency for row installation                          |               |   |   |   |   |    |     | F |    |
| Customer specific version                                                  |               |   |   |   |   |    |     |   | SA |

\*Connecting cables are available in different lengths and materials. Please tell us your requirements. We will be pleased to advise you.

\*\* Proximity switches with Proxi-Teach™ recognise the existing installation conditions after one key is pressed and adjust the operating distance optimally. This enables safety operation under non-standard installation conditions. The effort upon startup is minimized.