



# TROPICAL-Series DC | Climatic-proofed 120 °C

## Proximity switches

M12 / M18-short form  
Stainless steel sleeve

DC 10...30 V

IP 68 Water-proofed  
IP 69 Resistant to  
high pressure cleaning



| Design                                      | DC PNP • M12x1                       |             | DC PNP • M18x1 |             |
|---|--------------------------------------|-------------|----------------|-------------|
| <b>Dimensions</b>                           |                                      |             |                |             |
| Installation<br>flush (f)<br>non flush (nf) |                                      |             |                |             |
| Operating distance sn [mm]                  | 2 f                                  | 4 nf        | 5 f            | 7 nf        |
| GSP  ID-No.                                 | P31132                               | P31133      | P30701         | P30703      |
| Type  | IGMF 02 GSP                          | IGMF 04 GSP | IGMF 05 GSP    | IGMF 08 GSP |
| GOP  ID-No.                                 |                                      |             | P30702         | P30704      |
| Type  |                                      |             | IGMF 05 GOP    | IGMF 08 GOP |
| Supply voltage [V]                          | 10...30 DC                           |             |                |             |
| Switching current [mA]                      | 200                                  |             |                |             |
| Overcurrent release [mA]                    | 230                                  |             |                |             |
| Current consumption [mA]                    | 4                                    |             |                |             |
| Residual current [µA]                       | 1                                    |             |                |             |
| Voltage drop max. [V]                       | 2                                    |             |                |             |
| Switching frequency [Hz]                    | 1000                                 |             |                |             |
| Ambient temperature [°C]                    | -25...+120                           |             |                |             |
| Compressive strength [bar]                  | 10                                   |             |                |             |
| Residual ripple max. [%]                    | 10                                   |             |                |             |
| EMC-class                                   | A                                    |             |                |             |
| Protection [EN 60529]                       | IP 68 + IP 69                        |             |                |             |
| Housing material                            | PTFE / AISI 316 Ti (A4)              |             |                |             |
| Connection                                  | 2 m FEP-cable 3x0.34 mm <sup>2</sup> |             |                |             |
| Switching current                           |                                      |             |                |             |
|   |                                      |             |                |             |
|   |                                      |             |                |             |





# TROPICAL-Series DC | Climatic-proofed 120 °C

## Proximity switches

M18 / M30  
Stainless steel sleeve

DC 10...30 V

IP 68 Water-proofed  
IP 69 Resistant to  
high pressure cleaning



| Design                                      | DC PNP • M18x1  |                                     | DC PNP • M30x1.5                    |                                     |
|---|---|-------------------------------------|-------------------------------------|-------------------------------------|
| <b>Dimensions</b>                           |   |                                     |                                     |                                     |
| Installation<br>flush (f)<br>non flush (nf) |   |                                     |                                     |                                     |
| Operating distance sn [mm]                  | 5 f   | 7 nf                                | 10 f                                | 15 nf                               |
| GSP   | ID-No. P31424<br>Type IGMF 005 GSP  | ID-No. P31426<br>Type IGMF 008 GSP  | ID-No. P31428<br>Type IGMF 010 GSP  | ID-No. P31430<br>Type IGMF 015 GSP  |
| GOP   | ID-No. P31425<br>Type IGMF 005 GOP  | ID-No. P31427<br>Type IGMF 008 GOP  | ID-No. P31429<br>Type IGMF 010 GOP  | ID-No. P31431<br>Type IGMF 015 GOP  |
| GSOP  | ID-No. P30707<br>Type IGMF 005 GSOP   | ID-No. P30710<br>Type IGMF 008 GSOP | ID-No. P30713<br>Type IGMF 010 GSOP | ID-No. P30716<br>Type IGMF 015 GSOP |
| Supply voltage [V]                          | 10...30 DC  |                                     |                                     |                                     |
| Switching current [mA]                      | 200   |                                     |                                     |                                     |
| Overcurrent release [mA]                    | 230   |                                     |                                     |                                     |
| Current consumption [mA]                    | 4   |                                     |                                     |                                     |
| Residual current [µA]                       | 1   |                                     |                                     |                                     |
| Voltage drop max. [V]                       | 2   |                                     |                                     |                                     |
| Switching frequency [Hz]                    | 1000  |                                     |                                     |                                     |
| Ambient temperature [°C]                    | -25...+120  |                                     |                                     |                                     |
| Compressive strenght [bar]                  | 10  |                                     |                                     |                                     |
| EMC-class                                   | A   |                                     |                                     |                                     |
| Protection [EN 60529]                       | IP 68 + IP 69   |                                     |                                     |                                     |
| Housing material                            | PTFE / AISI 316 Ti (A4)   |                                     |                                     |                                     |
| Connection                                  | 2 m FEP-cable 3x0.34 mm <sup>2</sup> / 2 m FEP-cable 4x0.25 mm <sup>2</sup> |                                     |                                     |                                     |
| Switching current                           |   |                                     |                                     |                                     |
|   | <b>GSP/GOP</b><br>  |                                     | <b>GSOP</b><br>                     |                                     |



# TROPICAL-Series AC | Climatic-proofed 120 °C

## Proximity switches

M18 / M30  
Stainless steel sleeve

AC 20...250 V

IP 68 Water-proofed  
IP 69 Resistant to high pressure cleaning



| Design                                      | AC • M18x1                           |                                   | AC • M30x1.5                      |                                   |
|---|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>Dimensions</b>                           |                                      |                                   |                                   |                                   |
| Installation<br>flush (f)<br>non flush (nf) |                                      |                                   |                                   |                                   |
| Operating distance sn [mm]                  | 5 f                                  | 7 nf                              | 10 f                              | 15 nf                             |
| WS  | ID-No. P31071<br>Type IGMF 005 WS    | ID-No. P31073<br>Type IGMF 008 WS | ID-No. P31075<br>Type IGMF 010 WS | ID-No. P31077<br>Type IGMF 015 WS |
| WO  | ID-No. P31070<br>Type IGMF 005 WO    | ID-No. P31072<br>Type IGMF 008 WO | ID-No. P31074<br>Type IGMF 010 WO | ID-No. P31076<br>Type IGMF 015 WO |
| Supply voltage<br>WS/WO [V]                 | 20...250 AC                          |                                   |                                   |                                   |
| Switching current<br>WS/WO [mA]             | < 400                                |                                   |                                   |                                   |
| Current consumption [mA]                    | < 2.5                                |                                   |                                   |                                   |
| Voltage drop max. [V]                       | < 5 eff.                             |                                   |                                   |                                   |
| Switching frequency [Hz]                    | 25                                   |                                   |                                   |                                   |
| Ambient temperature [°C]                    | -25...+120                           |                                   |                                   |                                   |
| Compressive strength [bar]                  | 10                                   |                                   |                                   |                                   |
| Minimum load current [mA]                   | 5.0                                  |                                   |                                   |                                   |
| EMC-class                                   | A                                    |                                   |                                   |                                   |
| Protection [EN 60529]                       | IP 68 + IP 69                        |                                   |                                   |                                   |
| Housing material                            | PTFE / AISI 316 Ti (A4)              |                                   |                                   |                                   |
| Connection                                  | 2 m FEP-cable 3x0.75 mm <sup>2</sup> |                                   |                                   |                                   |
| Switching current                           |                                      |                                   |                                   |                                   |
|   |                                      |                                   |                                   |                                   |



TROPICAL-Series DC | Climatic-proofed 120 °C

Proximity switches

M12 / M18-short form  
Stainless steel sleeve

DC 10...30 V

IP 68 Water-proofed  
IP 69 Resistant to  
high pressure cleaning  
Steam proof



| Design                                      | DC PNP • M12x1                       |               | DC PNP • M18x1 |               |
|---|--------------------------------------|---------------|----------------|---------------|
| <b>Dimensions</b>                           |                                      |               |                |               |
| Installation<br>flush (f)<br>non flush (nf) |                                      |               |                |               |
| Operating distance sn [mm]                  | 2 f                                  | 4 nf          | 5 f            | 7 nf          |
| GSP  ID-No.                                 | <b>P31338</b>                        | <b>P31339</b> | <b>P31340</b>  | <b>P31341</b> |
| Type  | IGMW 02 GSP                          | IGMW 04 GSP   | IGMW 05 GSP    | IGMW 08 GSP   |
| GOP  ID-No.                                 |                                      |               | <b>P31342</b>  | <b>P31343</b> |
| Type  |                                      |               | IGMW 05 GOP    | IGMW 08 GOP   |
| Supply voltage [V]                          | 10...30 DC                           |               |                |               |
| Switching current [mA]                      | 200                                  |               |                |               |
| Overcurrent release [mA]                    | 230                                  |               |                |               |
| Current consumption [mA]                    | 4                                    |               |                |               |
| Residual current [µA]                       | 1                                    |               |                |               |
| Voltage drop max. [V]                       | 2                                    |               |                |               |
| Switching frequency [Hz]                    | 1000                                 |               |                |               |
| Ambient temperature [°C]                    | -25...+120                           |               |                |               |
| Compressive strength [bar]                  | 4                                    |               |                |               |
| Residual ripple max. [%]                    | 10                                   |               |                |               |
| EMC-class                                   | A                                    |               |                |               |
| Protection [EN 60529]                       | IP 68 + IP 69                        |               |                |               |
| Housing material                            | PTFE / AISI 316 Ti (A4)              |               |                |               |
| Connection                                  | 2 m FEP-cable 3x0.34 mm <sup>2</sup> |               |                |               |
| Switching current                           |                                      |               |                |               |
|   |                                      |               |                |               |
|   |                                      |               |                |               |





# TROPICAL-Series DC | Climatic-proofed 120 °C

## Proximity switches

M18 / M30  
Stainless steel sleeve

DC 10...30 V

IP 68 Water-proofed  
IP 69 Resistant to  
high pressure cleaning  
Steam proof



| Design                |   | DC PNP • M18x1  |               | DC PNP • M30x1,5 |              |
|-----------------------|---|---|---------------|------------------|--------------|
| Dimensions            |   |   |               |                  |              |
|                       | Installation<br>flush (f)<br>non flush (nf) |   |               |                  |              |
| Operating distance sn | [mm]  | 5 f   | 7 nf          | 10 f             | 15 nf        |
| GSP<br>GOP<br>GSOP    | ID-No.                                      | P31432  | P31434        | P31436           | P31438       |
|                       | Type  | IGMW 005 GSP  | IGMW 008 GSP  | IGMW 010 GSP     | IGMW 015 GSP |
|                       | ID-No.                                      | P31433  | P31435        | P31437           | P31439       |
| Type                  | IGMW 005 GOP                                | IGMW 008 GOP  | IGMW 010 GOP  | IGMW 015 GOP     |              |
| Type                  | P31352                                      | P31353  | P31354        | P31355           |              |
| Type                  | IGMW 005 GSOP                               | IGMW 008 GSOP   | IGMW 010 GSOP | IGMW 015 GSOP    |              |
| Supply voltage        | [V]   | 10...30 DC  |               |                  |              |
| Switching current     | [mA]  | 200   |               |                  |              |
| Overcurrent release   | [mA]  | 230   |               |                  |              |
| Current consumption   | [mA]  | 4   |               |                  |              |
| Residual current      | [µA]  | 1   |               |                  |              |
| Voltage drop max.     | [V]   | 2   |               |                  |              |
| Switching frequency   | [Hz]  | 1000  |               |                  |              |
| Ambient temperature   | [°C]  | -25...+120  |               |                  |              |
| Compressive strenght  | [bar]                                       | 4   |               |                  |              |
| EMC-class             |   | A   |               |                  |              |
| Protection            | [EN 60529]                                  | IP 68 + IP 69   |               |                  |              |
| Housing material      |   | PTFE / AISI 316 Ti (A4)   |               |                  |              |
| Connection            |   | 2 m FEP-cable 3x0.34 mm <sup>2</sup> / 2 m FEP-cable 4x0.25 mm <sup>2</sup> |               |                  |              |
| Switching current     |   | GSP/GOP   |               | GSOP             |              |
|                       |   |   |               |                  |              |



# TROPICAL-Series AC | Climatic-proofed 120 °C

## Proximity switches

M18 / M30  
Stainless steel sleeve

AC 20...250 V

IP 68 Water-proofed  
IP 69 Resistant to  
high pressure cleaning  
Steam proof



| Design                                      | AC • M18x1                           |             | AC • M30x1.5 |             |
|---|--------------------------------------|-------------|--------------|-------------|
| <b>Dimensions</b>                           |                                      |             |              |             |
| Installation<br>flush (f)<br>non flush (nf) |                                      |             |              |             |
| Operating distance sn [mm]                  | 5 f                                  | 7 nf        | 10 f         | 15 nf       |
| WS  ID-No.                                  | P31356                               | P31357      | P31358       | P31359      |
| Type  | IGMW 005 WS                          | IGMW 008 WS | IGMW 010 WS  | IGMW 015 WS |
| WO  ID-No.                                  | P31360                               | P31361      | P31362       | P31363      |
| Type  | IGMW 005 WO                          | IGMW 008 WO | IGMW 010 WO  | IGMW 015 WO |
| Supply voltage<br>WS/WO [V]                 | 20...250 AC                          |             |              |             |
| Switching current<br>WS/WO [mA]             | < 400                                |             |              |             |
| Current consumption [mA]                    | < 2.5                                |             |              |             |
| Voltage drop max. [V]                       | < 5 eff.                             |             |              |             |
| Switching frequency [Hz]                    | 25                                   |             |              |             |
| Ambient temperature [°C]                    | -25...+120                           |             |              |             |
| Compressive strength [bar]                  | 4                                    |             |              |             |
| Minimum load current [mA]                   | 5.0                                  |             |              |             |
| EMC-class                                   | A                                    |             |              |             |
| Protection [EN 60529]                       | IP 68 + IP 69                        |             |              |             |
| Housing material                            | PTFE / AISI 316 Ti (A4)              |             |              |             |
| Connection                                  | 2 m FEP-cable 3x0.75 mm <sup>2</sup> |             |              |             |
| Switching current                           |                                      |             |              |             |
|   |                                      |             |              |             |





# TROPICAL-Series DC | Resistant to rolling oil

Proximity switches

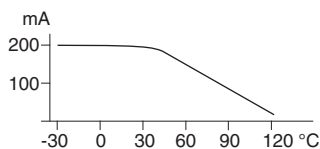
PTFE housing

DC 10...30 V

IP 68 Water-proofed  
IP 69 Resistant to high pressure cleaning



| Design                                      | DC PNP • M30x1.5                                     |              |   |              | DC • Ø 35  |
|---|--|--------------|---|--------------|--|
| Dimensions                                  | <p>M30x1,5<br/>68<br/>106<br/>35<br/>15<br/>LED</p>  |              | <p>M30x1,5<br/>68<br/>106<br/>35<br/>15<br/>LED</p> |              | <p>Ø 35<br/>62<br/>105<br/>40<br/>15<br/>LED</p> |
| Installation<br>flush (f)<br>non flush (nf) |  |              |   |              |  |
| Operating distance sn [mm]                  | 10 f   | 10 f         | 14 nf   | 14 nf        | 19 nf  |
| Switching output (DC PNP)                   |  |              |   |              |  |
| ID-No.                                      | P31440   | P31455       | P31441  | P31456       | P31442   |
| Type  | IGFW 010 GSP   | IGFW 010 GOP | IGFW 015 GSP  | IGFW 015 GOP | INFW 020 GSP                                     |
| Supply voltage [V]                          | 10...30 DC   |              |   |              |  |
| Switching current [mA]                      | < 200  |              |   |              |  |
| Surge current [mA]                          | short circuit protection                             |              |   |              |  |
| Current consumption [mA]                    | 4  |              |   |              |  |
| Inverse current max. [µA]                   | 1  |              |   |              |  |
| Voltage drop [V]                            | 2  |              |   |              |  |
| Ambient temperature [°C]                    | -25...+120   |              |   |              |  |
| Temperature deviation [%]                   | 10 (-25...+70 °C), 20 (-25...+120 °C)                |              |   |              |  |
| Overcurrent release approx. [mA]            | 230  |              |   |              |  |
| Reverse Protection                          | •  |              |   |              |  |
| Minimum load current [mA]                   | -  |              |   |              |  |
| EMC-class                                   | A  |              |   |              |  |
| Switching frequency [Hz]                    | 1000   |              |   |              | 500  |
| Protection [EN 60529]                       | IP 68 + IP 69  |              |   |              |  |
| Housing material                            | PTFE   |              |   |              |  |
| Connection                                  | 2 m FEP-cable 0.34 mm <sup>2</sup>                   |              |   |              |  |
| Switching current                           |  |              |   |              |  |
| Accessories                                 | nut M30x1.5 (Z00120), clamp Ø 35 (Z00125), page 3.71 |              |   |              |  |





# TROPICAL-Series AC | Resistant to rolling oil

Proximity switches

PTFE housing

AC 20...250 V

IP 68 Water-proofed

IP 69 Resistant to high pressure cleaning



| Design                                      | AC • M30x1.5  |             | AC • Ø35    |
|---|---|-------------|-------------|
| <b>Dimensions</b>                           |   |             |             |
| Installation<br>flush (f)<br>non flush (nf) |   |             |             |
| Operating distance sn [mm]                  | 10 f  | 14 nf       | 19 nF       |
| Switching output                            |   |             |             |
| ID-No.                                      | P30626  | P30638      | P30650      |
| Type  | IGFW 010 WS   | IGFW 015 WS | INFW 020 WS |
| Supply voltage [V]                          | 20...250 AC   |             |             |
| Switching current [mA]                      | < 400   |             |             |
| Current consumption [mA]                    | 2.5   |             |             |
| Voltage drop [V]                            | 5 eff.  |             |             |
| Switching frequency [Hz]                    | 20  |             |             |
| Ambient temperature [°C]                    | -25...+120  |             |             |
| Temperature deviation [%]                   | 10 (-25...+70 °C), 20 (-25...+120 °C)               |             |             |
| Minimum load current [mA]                   | 5.0   |             |             |
| EMC-class                                   | A   |             |             |
| Protection [EN 60529]                       | IP 68 + IP 69                                       |             |             |
| Housing material                            | PTFE  |             |             |
| Connection                                  | 2 m Silicone-cable 0.75 mm <sup>2</sup>             |             |             |
| Switching current                           |   |             |             |
|   |   |             |             |
| Accessories                                 | nut M30x1.5 (Z00120), clamp Ø35 (Z00125), page 3.71 |             |             |







# TROPICAL-Series | Resistant to rolling oil

Proximity switches

DC 10...55 V

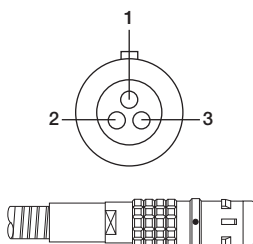
Climatic-proofed  
Resistant to acid

Armoured cable  
with IP 68-plug

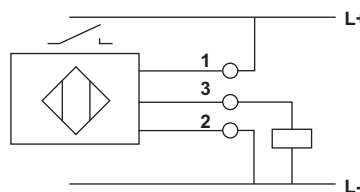


| Design                                      | DC PNP • M30x1.5   | DC PNP • Ø 35  |
|---|--|--|
| Dimensions                                  |  |  |
| Installation<br>flush (f)<br>non flush (nf) |  |  |
| Operating distance sn [mm]                  | 10 f   | 20 nf  |
| Switching output PNP                        |  |  |
| ID-No.                                      | P31443   | P31444   |
| Type  | IGMF 010 GSP-PZ  | INFW 020 GSP-PZ  |
| Supply voltage [V]                          | 10...30 DC   | 10...30 DC   |
| Switching current max. [mA]                 | 200  | 200  |
| Current consumption [mA]                    | 4  | 4  |
| Switching frequency [Hz]                    | 1000   | 500  |
| Ambient temperature [°C]                    | -25...+120   | -25...+120   |
| Compressive strength [bar]                  | 10   | -  |
| Protection [EN 60529]                       | IP 68 + IP 69  | IP 68 + IP 69  |
| Function indicator                          | LED  | LED  |
| Housing material                            | PTFE, AISI 316 Ti  | PTFE   |
| Connection                                  | 5 m FEP-cable<br>3x0.34mm <sup>2</sup><br>armoured cable | 5 m FEP-cable<br>3x0.34mm <sup>2</sup><br>armoured cable |

Plug, Lemo series K, 3-pol



Sensors without plug  
on request



Accessories

junction box GS..., page 3.25



# Junction box | Resistant to rolling oil

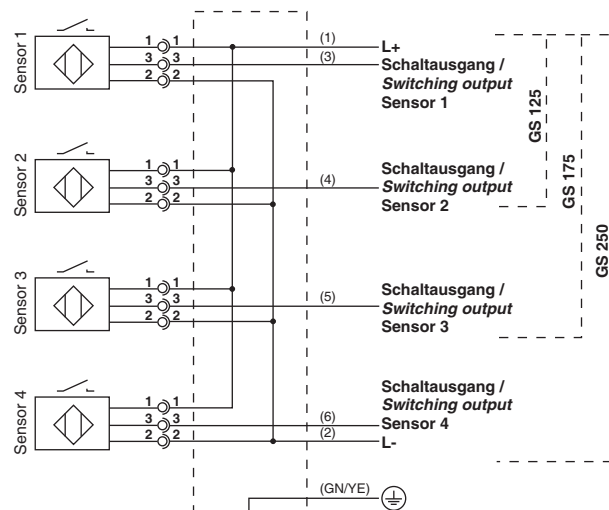
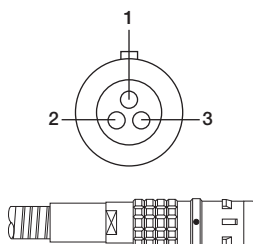
Connection of sensors with armoured cable

IP 68-plug



| Design                    | GS 125  | GS 175  | GS 250  |
|---------------------------|---|---|---|
| <b>Dimensions</b><br><br> |   |   |   |
| ID-No.                    | P31212  | P31217  | P31218  |
| Type                      | GS 125  | GS 175  | GS 250  |
| Connectable sensors       | 2   | 3   | 4   |
| Supply voltage [V]        | 10...55 DC                                      | 10...55 DC                                      | 10...55 DC                                      |
| Ambient temperature [°C]  | -20...+75                                       | -20...+75                                       | -20...+75                                       |
| Protection [EN 60529]     | IP 68   | IP 68   | IP 68   |
| Housing material          | Aluminium                                       | Aluminium                                       | Aluminium                                       |
| Connection                | 10 m TPE-numbered cable<br>7x0.5mm <sup>2</sup> | 10 m TPE-numbered cable<br>7x0.5mm <sup>2</sup> | 10 m TPE-numbered cable<br>7x0.5mm <sup>2</sup> |

Plug, Lemo series K, 3-pol



Notice

for sensors IGMF 010 GSP-PZ / INFW 020 GSP-PZ, page 3.24



# High temperature 120 °C | DC

## Proximity switches

M12 / M18 / M30  
Metal sleeve

DC 10...48 V

Extended  
temperature range  
-25 °C...+120 °C



| Design                                      | DC PNP • M12x1                            |             | DC PNP • M18x1 |              | DC PNP • M30x1.5 |              |
|---|---|-------------|----------------|--------------|------------------|--------------|
| <b>Dimensions</b>                           |   |             |                |              |                  |              |
| Installation<br>flush (f)<br>non flush (nf) | f, nf                                     |             | f, nf          |              | f, nf            |              |
| Operating distance sn [mm]                  | 2 f                                       | 4 nf        | 5 f            | 8 nf         | 10 f             | 15 nf        |
| Switching output PNP                        |   |             |                |              |                  |              |
| ID-No.                                      | P31282                                    | P31283      | P31290         | P31291       | P31292           | P31293       |
| Type  | IGMT 02 GSP                               | IGMT 04 GSP | IGMT 005 GSP   | IGMT 008 GSP | IGMT 010 GSP     | IGMT 015 GSP |
| Supply voltage [V]                          | 10...48 DC                                |             |                |              |                  |              |
| Switching current [mA]                      | 200                                       |             |                |              |                  |              |
| Short circuit proof                         | •   |             |                |              |                  |              |
| Reverse protection                          | •   |             |                |              |                  |              |
| Voltage drop max. [V]                       | 2   |             |                |              |                  |              |
| Current consumption [mA]                    | 4   |             |                |              |                  |              |
| Switching frequency [Hz]                    | 500                                       |             |                |              |                  |              |
| Ambient temperature [°C]                    | -25...+120                                |             |                |              |                  |              |
| EMC-class                                   | A   |             |                |              |                  |              |
| Protection [EN 60529]                       | IP 67                                     |             |                |              |                  |              |
| LED display                                 | •   |             |                |              |                  |              |
| Housing material                            | Br-Ni / PBT                               |             |                |              |                  |              |
| Connection                                  | 2 m Silicone-cable 3x0.34 mm <sup>2</sup> |             |                |              |                  |              |
| Switching current                           |   |             |                |              |                  |              |
|   |   |             |                |              |                  |              |
|   |   |             |                |              |                  |              |
| Notes                                       | design with M12 connector on request      |             |                |              |                  |              |





# High temperature 120 °C | AC

## Proximity switches

M18 / M30  
Metal sleeve

AC 20...250 V

Extended temperature range  
-25 °C...+120 °C



| Design  | AC • M18x1  |             | AC • M30x1.5 |             |
|---|---|-------------|--------------|-------------|
| <b>Dimensions</b>   |   |             |              |             |
| Installation flush (f)<br>non flush (nf)  |   |             |              |             |
| Operating distance sn [mm]  | 5 f   | 8 nf        | 10 f         | 15 nf       |
| Switching output  |   |             |              |             |
| ID-No.  | P31118  | P31119      | P31120       | P31121      |
| Type  | IGMT 005 WS   | IGMT 008 WS | IGMT 010 WS  | IGMT 015 WS |
| Supply voltage [V]  | 20...250 AC   |             |              |             |
| Switching current [mA]  | 200   |             |              |             |
| Short circuit proof   | -   |             |              |             |
| Reverse protection  | -   |             |              |             |
| Voltage drop max. [V]   | 5 eff.  |             |              |             |
| Minimum load current [mA]   | 5   |             |              |             |
| Current consumption [mA]  | 2.5   |             |              |             |
| Switching frequency [Hz]  | 25  |             |              |             |
| Ambient temperature [°C]  | -25...+120  |             |              |             |
| EMC-class   | A   |             |              |             |
| Protection [EN 60529]   | IP 67   |             |              |             |
| LED display   | •   |             |              |             |
| Housing material  | Br-Ni / PBT   |             |              |             |
| Connection  | 2 m Silicone-cable 3x0.75 mm <sup>2</sup>                 |             |              |             |
| Switching current   |   |             |              |             |
| <p>The graph shows current consumption in mA on the y-axis (0 to 200) and temperature in °C on the x-axis (-30 to 120). The current is constant at approximately 200 mA from -30°C to 60°C, then decreases linearly to about 100 mA at 120°C.</p> | <p>Wolf Process Automation<br/>info@wpa.ie<br/>wpa.ie</p> |             |              |             |



# High temperature 120 °C | AC / DC

Proximity switches

DC 10...55 V  
AC 20...250 V

Extended sensing range

Extended temperature range  
-25 °C...+120 °C



| Design                             | Ø 80 mm   |   | Ø 105 mm  |   | Ø 160 mm  |   |
|------------------------------------|---|---|---|---|---|---|
| <b>Dimensions</b>                  |   |   |   |   |   |   |
| <b>Installation non flush (nf)</b> |   |   |   |   |   |   |
| <b>Operating distance sn [mm]</b>  | 50 nf   | 45 nf   | 80 nf   | 60 nf   | 110 nf  | 100 nf  |
| <b>Switching output (DC PNP)</b>   |   |   |   |   |   |   |
| <b>ID-No.</b>                      | P31276  | P31279  | P31277  | P31280  | P31278  | P31281  |
| <b>Type</b>                        | IDT 080 GSP                                     | IDT 080 WS                                      | IDT 105 GSP                                     | IDT 105 WS                                      | IDT 160 GSP                                     | IDT 160 WS                                      |
| <b>Supply voltage [V]</b>          | 10...55 DC                                      | 20...250 AC                                     | 10...55 DC                                      | 20...250 AC                                     | 10...55 DC                                      | 20...250 AC                                     |
| <b>Switching current [mA]</b>      | 400   | 400   | 400   | 400   | 400   | 400   |
| <b>Short circuit proof</b>         | •   | -   | •   | -   | •   | -   |
| <b>Reverse protection</b>          | •   | -   | •   | -   | •   | -   |
| <b>Voltage drop max. [V]</b>       | 2   | 5 eff.  | 2   | 5 eff.  | 2   | 5 eff.  |
| <b>Minimum load current [mA]</b>   | -   | 5   | -   | 5   | -   | 5   |
| <b>Current consumption [mA]</b>    | 4   | 2.5   | 4   | 2.5   | 4   | 2.5   |
| <b>Switching frequency [Hz]</b>    | 20  | 10  | 20  | 10  | 20  | 10  |
| <b>Ambient temperature [°C]</b>    | -25...+120                                      |   |   |   |   |   |
| <b>EMC-class</b>                   | A   |   |   |   |   |   |
| <b>Protection [EN 60529]</b>       | IP 67   |   |   |   |   |   |
| <b>Housing material</b>            | PBT / Aluminium                                 |   |   |   |   |   |
| <b>Connection</b>                  | 2 m<br>Silicone-cable<br>3x0.34 mm <sup>2</sup> | 2 m<br>Silicone-cable<br>2x0.75 mm <sup>2</sup> | 2 m<br>Silicone-cable<br>3x0.34 mm <sup>2</sup> | 2 m<br>Silicone-cable<br>2x0.75 mm <sup>2</sup> | 2 m<br>Silicone-cable<br>3x0.34 mm <sup>2</sup> | 2 m<br>Silicone-cable<br>2x0.75 mm <sup>2</sup> |
| <b>Switching current</b>           |   |   |   |   |   |   |



# High temperature 160 °C | DC

## Proximity switches

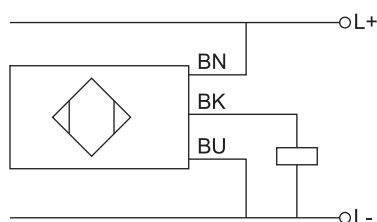
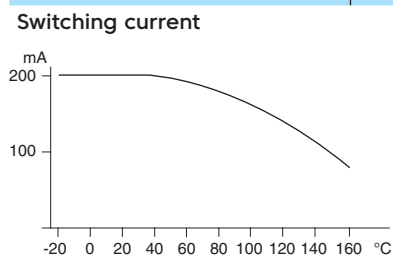
M12 / M18 / M30  
Stainless steel sleeve

DC 10...30 V

IP 68 Water-proofed  
IP 69 Resistant to  
high pressure cleaning



| Design                                      | DC PNP • M12x1                       |             | DC PNP • M18x1 |              | DC PNP • M30x1.5 |              |
|---|--------------------------------------|-------------|----------------|--------------|------------------|--------------|
| <b>Dimensions</b>                           |                                      |             |                |              |                  |              |
| Installation<br>flush (f)<br>non flush (nf) |                                      |             |                |              |                  |              |
| Operating distance sn [mm]                  | 2 f                                  | 4 nf        | 5 f            | 8 nf         | 10 f             | 15 nf        |
| Switching output PNP                        |                                      |             |                |              |                  |              |
| ID-No.                                      | P31288                               | P31289      | P31161         | P31162       | P31163           | P31164       |
| Type  | IGMH 02 GSP                          | IGMH 04 GSP | IGMH 005 GSP   | IGMH 008 GSP | IGMH 010 GSP     | IGMH 015 GSP |
| Supply voltage [V]                          | 10...30 DC                           |             |                |              |                  |              |
| Switching current [mA]                      | 200                                  |             |                |              |                  |              |
| Short circuit proof                         | •                                    |             |                |              |                  |              |
| Reverse protection                          | •                                    |             |                |              |                  |              |
| Voltage drop max. [V]                       | 2                                    |             |                |              |                  |              |
| Residual current max. [mA]                  | 0.02                                 |             |                |              |                  |              |
| Current consumption (not actuated) [mA]     | 7                                    |             |                |              |                  |              |
| Switching frequency [Hz]                    | 200                                  |             |                |              |                  |              |
| Temperature deviation [%]                   | 15                                   |             |                |              |                  |              |
| Ambient temperature [°C]                    | -25...+150                           |             |                | -25...+160   |                  |              |
| EMC-class                                   | A                                    |             |                |              |                  |              |
| Protection [EN 60529]                       | IP 68 + IP 69                        |             |                |              |                  |              |
| LED display                                 | -                                    |             |                |              |                  |              |
| Housing material                            | AISI 316 Ti / PEEK                   |             |                |              |                  |              |
| Connection                                  | 2 m FEP-cable 3x0.34 mm <sup>2</sup> |             |                |              |                  |              |



Notes temperature depending parameters are described in the technical manual



# High temperature 160 °C | DC

## Proximity switches

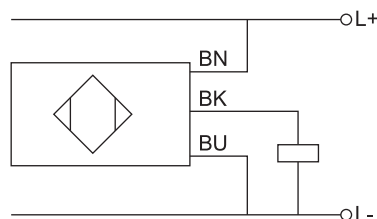
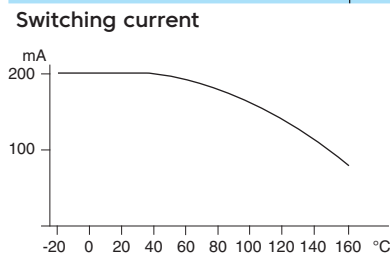
M12 / M18 / M30  
Stainless steel sleeve

DC 10...30 V

Moisture resistant  
Silicone-cable



| Design                                      | DC PNP • M12x1                            |               | DC PNP • M18x1 |                | DC PNP • M30x1.5 |                |
|---|---|---------------|----------------|----------------|------------------|----------------|
| <b>Dimensions</b>                           |   |               |                |                |                  |                |
| Installation<br>flush (f)<br>non flush (nf) |   |               |                |                |                  |                |
| Operating distance sn [mm]                  | 2 f                                       | 4 nf          | 5 f            | 8 nf           | 10 f             | 15 nf          |
| Switching output PNP                        |   |               |                |                |                  |                |
| ID-No.                                      | P31299                                    | P31300        | P31301         | P31302         | P31303           | P31304         |
| Type  | IGMH 02 GSP-K                             | IGMH 04 GSP-K | IGMH 005 GSP-K | IGMH 008 GSP-K | IGMH 010 GSP-K   | IGMH 015 GSP-K |
| Supply voltage [V]                          | 10...30 DC                                |               |                |                |                  |                |
| Switching current [mA]                      | 200                                       |               |                |                |                  |                |
| Short circuit proof                         | •   |               |                |                |                  |                |
| Reverse protection                          | •   |               |                |                |                  |                |
| Voltage drop max. [V]                       | 2   |               |                |                |                  |                |
| Residual current max. [mA]                  | 0.02                                      |               |                |                |                  |                |
| Current consumption (not actuated) [mA]     | 7   |               |                |                |                  |                |
| Switching frequency [Hz]                    | 200                                       |               |                |                |                  |                |
| Temperature deviation [%]                   | 15  |               |                |                |                  |                |
| Ambient temperature [°C]                    | -25...+150                                |               |                | -25...+160     |                  |                |
| EMC-class                                   | A   |               |                |                |                  |                |
| Protection [EN 60529]                       | IP 67                                     |               |                |                |                  |                |
| LED display                                 | -   |               |                |                |                  |                |
| Housing material                            | AISI 316 Ti / PEEK                        |               |                |                |                  |                |
| Connection                                  | 2 m Silicone-cable 3x0.34 mm <sup>2</sup> |               |                |                |                  |                |



Notes temperature depending parameters are described in the technical manual

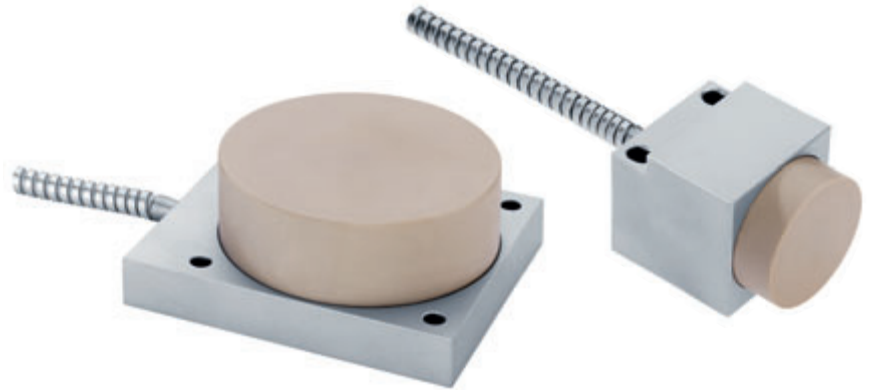


# High temperature 250 °C

Proximity sensor

Armoured cable

With connector for cable amplifier



| Design   | Cuboid 40 mm                                 | Ø 80 mm           | DC PNP • M30x1.5 |
|--|--|-------------------|------------------|
| <b>Dimensions</b><br><br>Installation non flush (nf) |  |                   |                  |
| Operating distance sn [mm]                           | 20 nf, adjustable                            | 40 nf, adjustable | amplifier        |
| Switching output PNP                                 |  |                   |                  |
| ID-No.   | P31294                                       | P31295            | P31204           |
| Type   | IRH 040 S250                                 | IDH 080 S250      | IK 030 GSP       |
| Supply voltage [V]                                   | -  | -                 | 10...30          |
| Switching current [mA]                               | -  | -                 | 200              |
| Current consumption [mA]                             | -  | -                 | 15               |
| Voltage drop max. [V]                                | -  | -                 | 1.5              |
| Ambient temperature [°C]                             | sensor: 0...+250 plug: -20...+70             |                   | 0...+70          |
| Short circuit proof                                  | -  | -                 | •                |
| Reverse protection                                   | -  | -                 | •                |
| EMC-class  | A  | A                 | A                |
| Switching frequency [Hz]                             | 30   | 30                | 30               |
| Protection [EN 60529]                                | IP 60  |                   | IP 67            |
| Function indicator                                   | -  | -                 | LED yellow       |
| Stand-by indicator                                   | -  | -                 | LED green        |
| Housing material                                     | Aluminium / PEEK                             |                   | AISI 316 Ti      |
| Connection cable                                     | 5 m FEP-cable, Ø 8 mm armoured cable         |                   | -                |
| Connection   | M12 connector                                |                   | M12 connector    |
| t x1000 [h]<br>                                      |  |                   |                  |
| Accessories  | connecting cable SLG 3-2 (Z01076), page 3.69 |                   |                  |

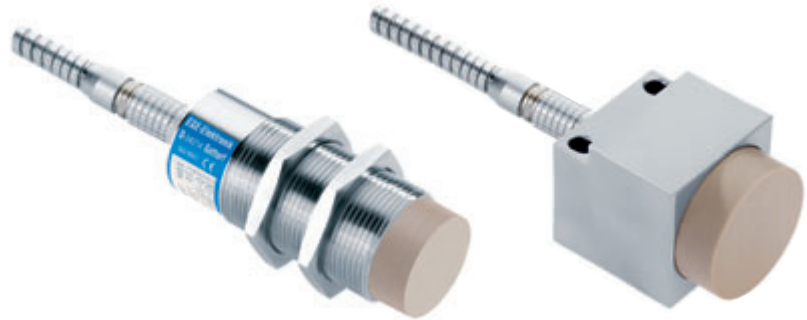




# High temperature 250 °C

Armoured cable

With connector for cable amplifier and sensor



| Design                         | M30x1.5   | Cuboid 40 mm      | Ø 80 mm           |
|--------------------------------|---|-------------------|-------------------|
| Dimensions                     |   |                   |                   |
| Installation non flush (nf)    |   |                   |                   |
| Operating distance sn [mm]     | 15 nf, adjustable   | 20 nf, adjustable | 40 nf, adjustable |
| ID-No.                         | P31298  | P31296            | P31297            |
| Type                           | IGHS 030 S250   | IRHS 040 S250     | IDHS 080 S250     |
| Supply voltage [V]             |   | -                 |                   |
| Switching current [mA]         |   | -                 |                   |
| Current consumption [mA]       |   | -                 |                   |
| Voltage drop [V]               |   | -                 |                   |
| Ambient temperature [°C]       |   | 0...+250          |                   |
| Short circuit proof            |   | -                 |                   |
| Reverse protection             |   | -                 |                   |
| EMC-class                      |   | A                 |                   |
| Switching frequency [Hz]       |   | 30                |                   |
| Protection [EN 60529]          |   | IP 60             |                   |
| Housing material               | AISI 316 Ti / PEEK  | Aluminium / PEEK  |                   |
| Connection                     | M12 connector   |                   |                   |
| Connection cable (Accessories) | 5 m FEP-cable, Ø 8 mm armoured cable (KAP 08-DS5, Z01190) |                   |                   |
|                                |   |                   |                   |
|                                |   |                   |                   |
| Accessories                    | connecting cable SLG 3-2 (Z01076), page 3.69              |                   |                   |



# High temperature 200 °C

Proximity sensor

PTFE housing

No cooling



| Design                                     | INT020-S200  |                        | INT100-S180  |                        |
|--|--|------------------------|--|------------------------|
| Dimensions                                 |  |                        |  |                        |
| Installation<br>non flush (nf)             |  |                        |  |                        |
| Operating distance sn [mm]                 | 15 nf  |                        | 50 nf  |                        |
| Adjustable range [mm]                      | 5...20   |                        | 10...80  |                        |
| ID-No.                                     | P31101   | P30411                 | P31103   | P30427                 |
| Type                                       | INT020-S200 K  | INT020-S200 GC         | INT100-S180 K  | INT100-S180 GC         |
| Limiting temperature [°C]                  | 250  |                        | 200  |                        |
| Nominal temperature [°C]                   | 200  |                        | 180  |                        |
| Temperature deviation [mm/°C] (not linear) | 0.05   |                        | 0.06   |                        |
| EMC-class                                  | B  |                        |  |                        |
| Protection [EN 60529]                      | IP 40  |                        |  |                        |
| Housing material                           | PTFE   |                        |  |                        |
| Mounting                                   | Aluminium plate  |                        |  |                        |
| Sensing material [ST 37]                   | 40x40x1  |                        | 100x100x1  |                        |
| Connecting cable                           | 5 m PTFE shielded  |                        |  |                        |
| Connection and required Amplifier          | clamp connection<br>IKM 120 GPP  | plug C 16<br>IU 130... | clamp connection<br>IKM 120 GPP  | plug C 16<br>IU 130... |
| Special notes                              | <p>If the ambient temperature exceeds 230 °C, there might be failed reactions from the sensor, but it will not be destroyed by this. The inductive high temperature proximity switches must be used with an amplifier. The connection cable can be up to 10 m long. We can supply the cable with a flexible aluminium tube on request.</p> |                        |  |                        |
| Connection diagram                         | <p>Sensor-Connection<br/>sensors INT...K to IKM 120 GPP</p>  |                        | <p>Plug C 16: connection for<br/>Sensors INT...to IU 130...</p> <p>1: BN<br/>2: BK<br/>3: BU<br/>7: Schirm</p> |                        |
| Accessories                                | plug C 16  |                        |  |                        |



# Amplifier

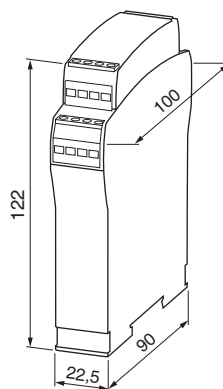
For the connection of separate sensors for extreme temperatures

LED display

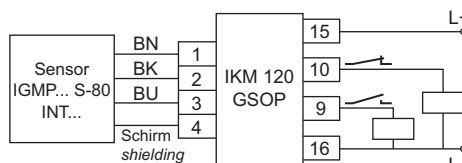


**Design** **IKM 120 GSOP**

*Dimensions*



|                                 |   |
|---------------------------------|---|
| <b>ID-No.</b>                   | <b>P31334</b>                           |
| <b>Type</b>                     | <b>IKM 120 GSOP</b>                     |
| <b>Switching output</b>         | PNP                                     |
| <b>Supply voltage [V]</b>       | <b>24 V DC ±20%</b>                     |
| <b>Switching current [mA]</b>   | <b>400</b>                              |
| <b>Short circuit proof</b>      | <b>•</b>                                |
| <b>Current consumption [mA]</b> | <b>max. 18</b>                          |
| <b>Operating distance</b>       | <b>adjustable</b>                       |
| <b>Hysteresis max. [%]</b>      | <b>10</b>                               |
| <b>Switching frequency [Hz]</b> | <b>100</b>                              |
| <b>Ambient temperature [°C]</b> | <b>-25...+75</b>                        |
| <b>EMC-class</b>                | <b>A</b>                                |
| <b>Protection [EN 60529]</b>    | <b>terminal: IP 20 / housing: IP 40</b> |
| <b>Function indicator</b>       | <b>LED yellow</b>                       |
| <b>Stand-by indicator</b>       | <b>LED green</b>                        |
| <b>Housing material</b>         | <b>PA</b>                               |
| <b>Connection sensor</b>        | <b>terminal screws</b>                  |
| <b>Connection Amplifier</b>     | <b>terminal screws</b>                  |





# Amplifiers

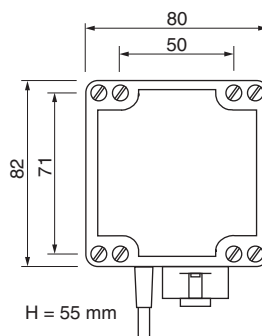
For the connection of separate sensors

LED display



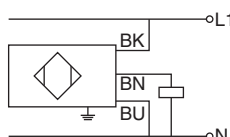
**Design** **IU 130...**

*Dimensions*

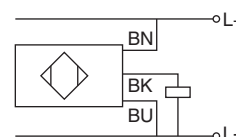


|                                 |  |  |
|---------------------------------|--|--|
| <b>ID-No.</b>                   | <b>P30438</b>                                  | <b>P30439</b>                                  |
| <b>Type</b>                     | <b>IU 130 WP</b>                               | <b>IU 130 GPP</b>                              |
| <b>Supply voltage [V]</b>       | <b>230 AC ±10%</b>                             | <b>24 DC ±10%</b>                              |
| <b>Switching current [mA]</b>   | <b>400</b>                                     |  |
| <b>Short circuit proof</b>      | <b>-</b>                                       |  |
| <b>Current consumption [mA]</b> | <b>15</b>                                      |  |
| <b>Operating distance</b>       | <b>adjustable</b>                              |  |
| <b>Hysteresis max. [%]</b>      | <b>adjustable</b>                              |  |
| <b>Output</b>                   | <b>programmable</b>                            |  |
| <b>Switching frequency [Hz]</b> | <b>5</b>                                       | <b>15</b>                                      |
| <b>Ambient temperature [°C]</b> | <b>-20...+70</b>                               |  |
| <b>EMC-class</b>                | <b>A</b>                                       |  |
| <b>Protection [EN 60529]</b>    | <b>IP 67</b>                                   |  |
| <b>Function indicator</b>       | <b>LED yellow</b>                              |  |
| <b>Stand-by indicator</b>       | <b>LED green</b>                               |  |
| <b>Housing material</b>         | <b>PBT</b>                                     |  |
| <b>Connection sensor</b>        | <b>C 16 plug connection</b>                    |  |
| <b>Connection amplifier</b>     | <b>2 m PVC-cable<br/>4x0.75 mm<sup>2</sup></b> | <b>2 m PVC-cable<br/>3x0.50 mm<sup>2</sup></b> |

connection amplifier



connection amplifier



**Accessories** **external plug C 16 (Z00039)**