## Sensors and Systems

Edition 3.0




C $\epsilon$


## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 10 mm , flush mountable
- DC, 2-wire switching output
- Cable and connector versions


Technical Data
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |
| :--- | :--- |
| Rated operating distance | 10 mm |
| Installation | flush |
| Type of voltage | DC |
| Operating voltage | $5 \ldots 60 \mathrm{~V}$ |
| Reverse polarity protection | tolerant |
| Switching frequency | $0 \ldots 150 \mathrm{~Hz}$ |
| Operating current | $2 \ldots 100 \mathrm{~mA}$ |
| Short-circuit protection | pulsing |
| Indication of the switching state | LED, yellow |
| Protection degree | IP67 |


| Model Number | green = preferred type |  |  |  |  |  |  |  | 5 <br> $\vdots$ <br> $\vdots$ <br> 0 <br>  <br>  <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Switching element function | DC NO | - | - |  | - | - | - | - |  |
|  | DC NC |  |  | $\bullet$ |  |  |  |  | $\bullet$ |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ | - | - | - | - |  | - | - | - |
|  | $-40 \ldots 70^{\circ} \mathrm{C}\left(-40 \ldots 158^{\circ} \mathrm{F}\right)$ |  |  |  |  | $\bullet$ |  |  |  |
| Housing material | Stainless steel 1.4305 / AISI 303 |  | - | - |  | - |  | - | - |
|  | brass, nickel-plated | - |  |  | - |  | - |  |  |
| Connection type | Device connector M12 x 1, 4-pin |  |  |  | - | - | - | - | - |
|  | cable PUR, 2 m |  | - | - |  |  |  |  |  |
|  | cable PVC , 2 m | - |  |  |  |  |  |  |  |
|  |  |  | $60^{\circ}$ |  |  |  |  |  |  |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose | $\bullet$ | $\bullet$ | $\bullet$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose | $\bullet$ | $\bullet$ | $\bullet$ |  |
| CCC approval | Certified by China Compulsory Cer- <br> tification (CCC) | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |

## Dimensions

| Length $L[\mathrm{~mm}]$ | 40 |  | 55 |
| :--- | :---: | :---: | :---: |
| Diameter $D[\mathrm{~mm}]$ | 37 | 30 | 40 |
| Thread length $I_{t}[\mathrm{~mm}]$ |  | 0 |  |
| Cap length $I_{1}[\mathrm{~mm}]$ | 0 |  | 15 |
| Connector area $I_{c}[\mathrm{~mm}]$ |  | Pos. C |  |
| LED position |  |  |  |


| AcCeSSOries | This and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets <br> SF $\mathbf{3 0}$ |
| :--- | :--- |
| Mounting flange, 30 mm  <br> V1-G-BK 4-pin, M12 female field-attachable connector <br> V1-W-BK 4-pin, M12 female field-attachable connector <br> V1-G-2M-PUR Cable socket, M12, 4-pin, PUR cable <br> EXG-30 Quick mounting bracket with dead stop <br> V1-W-2M-PUR Cable socket, M12, 4-pin, PUR cable |  |

Electrical Connection


NCB10-30GM40-Z1

NCB10-30GM40-ZO-V

NBB10-30GM40-Z3-V1 NCB10-30GM40-Z3-V1

## NBB10-30GM40-Z0-V1



NCB10-30GM40-Z1-V1


Wire colors in accordance with EN 60947-5-2

| 1 | BN | (brown) |
| :--- | :--- | :--- |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |





## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , non-flush mountable

■ DC, 2-wire switching output

- Cable and connector versions


## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |
| :--- | :--- |
| Rated operating distance | 15 mm |
| Installation | non-flush |
| Type of voltage | DC |
| Operating voltage | $5 \ldots 60 \mathrm{~V}$ |
| Reverse polarity protection | tolerant |
| Operating current | $2 \ldots 100 \mathrm{~mA}$ |
| Short-circuit protection | pulsing |
| Indication of the switching state | LED, yellow |

Protection degree IP67

Model Number


Electrical Connection


| NBN15-30GM40-Z0-V1 | NBN15-30GM40-Z3-V1 |
| :--- | :--- |
| NCN15-30GM40-Z0-V1 | NCN15-30GM40-Z3-V1 |



NCN15-30GM40-Z1-V1


Wire colors in accordance with EN 60947-5-2
NCN15-30GM40-Z3-V1

| BN | (brown) |
| :--- | :--- |
| WH | (white) |
| BU | (blue) |
| BK | (black) |

## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rated operating distance | 15 mm |  |  |  |  |
| Installation | flush |  |  |  |  |
| Type of voltage | DC |  |  |  |  |
| Operating voltage | 3.5 ... 30 V |  |  |  |  |
| Switching frequency | 500 Hz |  |  |  |  |
| Operating current | 2 ... 100 mA |  |  |  |  |
| Short-circuit protection | pulsing |  |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |  |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ |  |  |  |  |
| Housing material | brass, nickel-plated |  |  |  |  |
| Protection degree | IP67 |  |  |  |  |
| Model Number |  |  | N <br> N <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 |  | 5 $\mathbf{N}$ $\mathbf{N}$ $i$ $i n$ 0 0 0 10 10 0 0 |
| Switching element function | DC NO | - |  | - |  |
|  | DC NC |  | $\bullet$ |  | - |
| Reverse polarity protection | $\checkmark$ | - |  | - |  |
|  | reverse polarity-conductive |  | $\bullet$ |  | $\bullet$ |
| Connection type | Device connector M12 $\times 1,4$-pin cable PVC 2 m |  |  | - | - |
|  | cable PVC , 2 m |  |  |  |  |

## Approvals and Certificates

| UL approval | cULus Listed, General Purpose |  |
| :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |  |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC mar |  | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC marking because they do not require approval.

## Dimensions

| Length $L[\mathrm{~mm}]$ | 50 | 65 |
| :--- | :---: | :---: |
| Diameter $D[\mathrm{~mm}]$ |  | 30 |
| Thread length $I_{t}[\mathrm{~mm}]$ | 47 | 50 |
| Cap length $I_{1}[\mathrm{~mm}]$ |  | 0 |
| Connector area $I_{c}[\mathrm{~mm}]$ | 0 | 15 |
| LED position |  | Pos.C |

## Accessories This and more accessories can be found in chapter 10 <br> See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

BF 30
EXG-30
V1-G-BK
V1-W-BK
V1-G-2M-PUR
V1-W-2M-PUR

Mounting flange, 30 mm
Quick mounting bracket with dead stop
4-pin, M12 female field-attachable connector
4-pin, M12 female field-attachable connector
Cable socket, M12, 4-pin, PUR cable
Cable socket, M12, 4-pin, PUR cable

## Electrical Connection



NCB15-30GM50-Z5


NCB15-30GM50-Z4-V1


Wire colors in accordance with EN 60947-5-2
NCB15-30GM50-Z5-V1



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## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 25 mm , non-flush mountable

■ DC, 2-wire switching output

- Cable and connector versions



## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com


Electrical Connection


NCN25-30GM50-Z4




NCN25-30GM50-Z5-V1


Wire colors in accordance with EN 60947-5-2

| BN | (brown) |
| :--- | :--- |
| WH | (white) |
| BU | (blue) |
| BK | (black) |


Technical Data
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated operating distance | 10 mm |  |  |  |  |  |
| Installation | flush |  |  |  |  |  |
| Type of voltage | DC |  |  |  |  |  |
| Operating voltage | 10 ... 30 V |  |  |  |  |  |
| No-load supply current | $\leq 20 \mathrm{~mA}$ |  |  |  |  |  |
| Reverse polarity protection | $\checkmark$ |  |  |  |  |  |
| Switching frequency | 0 ... 200 Hz |  |  |  |  |  |
| Operating current | 0 ... 200 mA |  |  |  |  |  |
| Short-circuit protection | pulsing |  |  |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |  |  |
| Housing material | brass, nickel-plated |  |  |  |  |  |
| Protection degree | IP67 |  |  |  |  |  |
| Model Number |  |  |  |  |  |  |
| Switching element function | NPN NO | - |  | - |  |  |
|  | PNP NO |  | $\bullet$ |  | $\bullet$ |  |
|  | PNP NC |  |  |  |  | - |
| Ambient temperature | $-25 . . .70^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ | - | - | - |  | $\bullet$ |
|  | $-40 \ldots 70^{\circ} \mathrm{C}$ (-40 ... $\left.158^{\circ} \mathrm{F}\right)$ |  |  |  | - |  |
| Connection type | Device connector M12 $\times 1,4$-pincable PVC , 2 m |  |  | - | $\bullet$ | - |
|  |  | - | - |  |  |  |
|  |  |  |  |  | \% |  |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC <br> marking because they do not require approval. |

Dimensions

| Length $L[\mathrm{~mm}]$ | 50 |  | 65 |
| :--- | :---: | :---: | :---: |
| Diameter $D[\mathrm{~mm}]$ |  | 30 |  |
| Thread length $I_{t}[\mathrm{~mm}]$ |  | 50 |  |
| Cap length $I_{1}[\mathrm{~mm}]$ |  | 0 |  |
| Connector area $I_{c}[\mathrm{~mm}]$ | 0 |  | 15 |
| LED position |  | Pos. C |  |



| AcCeSSOries | This and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets <br> SF 30 |
| :--- | :--- |
| Sounting flange, 30 mm |  |
| EXG-30 | Quick mounting bracket with dead stop |
| V1-G-BK | 4-pin, M12 female field-attachable connector mounting aids |
| V1-W-BK | 4-pin, M12 female field-attachable connector |
| V1-G-2M-PUR | Cable socket, M12, 4-pin, PUR cable |
| V1-W-2M-PUR | Cable socket, M12, 4-pin, PUR cable |

Electrical Connection
NBB10-30GM50-E0


NBB10-30GM50-E3-V1 Wire colors in accordance with EN 60947-5-2


Properties
■ $\varnothing 30 \mathrm{~mm}$ housing

- 10 mm , flush mountable

■ DC, 4 -wire switching output
■ Cable and connector versions


## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com


Electrical Connection


NBB10-30GM60-A2



Wire colors in accordance with EN 60947-5-2

NBB10-30GM60-A2-V1


| 1 | BN | (brown) |
| :--- | :--- | :--- |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

BU (blue)
BK

## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

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## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 10 mm , flush mountable

■ DC, 3-wire switching output

- Cable version



## General Data

| Rated operating distance | 10 mm |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Installation | flush |  |  |  |
| Type of voltage | DC |  |  |  |
| Operating voltage | $10 \ldots 30 \mathrm{~V}$ |  |  |  |
| No-load supply current | $\leq 20 \mathrm{~mA}$ |  |  |  |
| Reverse polarity protection | $\checkmark$ |  |  |  |
| Switching frequency | 0 ... 200 Hz |  |  |  |
| Operating current | 0... 200 mA |  |  |  |
| Short-circuit protection | pulsing |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ |  |  |  |
| Housing material | PBT |  |  |  |
| Protection degree | IP68 / IP69K |  |  |  |
| Connection type |  |  |  |  |
| Model Number |  |  |  |  |
| Switching element function | NPN | NO | $\bigcirc$ |  |
|  | PNP | NO |  | - |

## Approvals and Certificates

| UL approval | cULus Listed, General Purpose |  |
| :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |  |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC mar- <br> king because they do not require approval. |  |

## Dimensions

| Length $L[\mathrm{~mm}]$ | 52 |
| :--- | :---: |
| Diameter $D[\mathrm{~mm}]$ | 30 |
| Thread length $I_{t}[\mathrm{~mm}]$ | 48 |
| Cap length $I_{1}[\mathrm{~mm}]$ | 1 |
| Connector area $I_{c}[\mathrm{~mm}]$ | 0 |
| LED position | Pos. C |

Accessories | This and more accessories can be found in chapter 10 |
| :--- |
| See pages from $972 \ldots$ for cordsets See pages $1068 \ldots$ for mounting aids |
| BF 30 |$\quad$ Mounting flange, 30 mm

## Electrical Connection




C $\epsilon$
$\mathrm{SB}_{\mathrm{Us}} \mathrm{CH}$

## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 10 mm , flush mountable

■ DC, 4-wire switching output
■ Terminal compartment


## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |
| :---: | :---: |
| Rated operating distance | 10 mm |
| Installation | flush |
| Type of voltage | DC |
| Operating voltage | 10 ... 30 V |
| No-load supply current | $\leq 20 \mathrm{~mA}$ |
| Reverse polarity protection | $\checkmark$ |
| Switching frequency | 0 ... 300 Hz |
| Operating current | 0 ... 200 mA |
| Short-circuit protection | pulsing |
| Indication of the switching state | LED, yellow |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ |
| Housing material | PBT |
| Protection degree | IP67 |
| Connection type | terminal compartment |

## Model Number

|  |  |  | ¢ $\stackrel{1}{\circ}$ 7 | ¢ |
| :---: | :---: | :---: | :---: | :---: |
| Switching element function | NPN | NO/NC | - |  |
|  | PNP | NO/NC |  | - |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC <br> marking because they do not require approval. |

## Dimensions

| Length $L[\mathrm{~mm}]$ | 115 |
| :--- | :---: |
| Diameter $D[\mathrm{~mm}]$ | 30 |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ | 58 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ | 2 |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 |

[^0]Electrical Connection

NJ10-30GKK-A2
gy




## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , flush mountable
- DC, 3-wire switching output
- Cable and connector versions


Technical Data
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com


## Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC <br> marking because they do not require approval. |


| Dimensions |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Length L [mm] | 30 |  | 50 | 45 | 65 |
| Diameter D [mm] | 30 |  |  |  |  |
| Thread length $I_{t}[\mathrm{~mm}]$ | 27 |  | 47 | 30 | 50 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ | 0 |  |  |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 |  |  | 15 |  |
| LED position | Pos. C |  |  |  |  |

Accessories | This and more accessories can be found in chapter 10 |
| :--- |
| See pages from $972 \ldots$ for cordsets See pages 1068 ... for mounting aids |

BF 30
EXG-30
V1-G-BK
BF 30-F
V1-W-BK
V1-G-2M-PUR
V1-W-2M-PUR

Mounting flange, 30 mm
Quick mounting bracket with dead stop
4-pin, M12 female field-attachable connector
Mounting flange with dead stop, 30 mm
4-pin, M12 female field-attachable connector
Cable socket, M12, 4-pin, PUR cable
Cable socket, M12, 4-pin, PUR cable

## Electrical Connection





## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , flush mountable

■ DC, 4-wire switching output

- Cable and connector versions


Technical Data
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com


| Accessories | This and more accessories can be found in chapter 10 See pages from 972 ...for cordsets See pages 1068 ... for mounting aids |
| :---: | :---: |
| BF 30 | Mounting flange, 30 mm |
| EXG-30 | Quick mounting bracket with dead stop |
| V1-G-BK | 4-pin, M12 female field-attachable connector |
| V1-W-BK | 4-pin, M12 female field-attachable connector |
| V1-G-2M-PUR | Cable socket, M12, 4-pin, PUR cable |
| V1-W-2M-PUR | Cable socket, M12, 4-pin, PUR cable |

Accessories This and more accessories can be found in chapter 10
BF 30
Mounting flange, 30 mm
Quick mounting bracket with dead stop
4-pin, M12 female field-attachable connector
4-pin, M12 female field-attachable connector

Cable socket M12, 4-pin PUR cable

Electrical Connection


NBB15-30GM60-A0


NBB15-30GM60-A2


NBB15-30GM60-AO-V1


NBB15-30GM60-A2-V1


Wire colors in accordance with EN 60947-5-2

| BN | (brown) |
| :--- | :--- |
| WH | (white) |
| BU | (blue) |
| BK | (black) |



## C $\epsilon$

## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , non-flush mountable
■ DC, 3-wire switching output
- Cable and connector versions



## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rated operating distance | 15 mm |  |  |  |  |
| Installation | non-flush |  |  |  |  |
| Type of voltage | DC |  |  |  |  |
| Operating voltage | $10 . .30 \mathrm{~V}$ |  |  |  |  |
| Reverse polarity protection | $\checkmark$ |  |  |  |  |
| Switching frequency | 0 ... 200 Hz |  |  |  |  |
| Operating current | 0 ... 200 mA |  |  |  |  |
| Short-circuit protection | pulsing |  |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |  |
| Housing material | brass, nickel-plated |  |  |  |  |
| Protection degree | IP67 |  |  |  |  |
| Model Number |  |  |  |  |  |
| Switching element function | NPN NO | - |  | - |  |
|  | PNP NO |  | $\bullet$ |  | - |
| No-load supply current | $\leq 15 \mathrm{~mA}$ | - | - |  |  |
|  | $\leq 20 \mathrm{~mA}$ |  |  | $\bullet$ | $\bullet$ |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ | - | - | - |  |
|  | $-40 \ldots 70^{\circ} \mathrm{C}\left(-40 \ldots 158^{\circ} \mathrm{F}\right)$ |  |  |  | $\bullet$ |
| Connection type | Device connector M12 x 1, 4-pin |  |  | - | - |
|  | cable PVC , 2 m |  |  |  |  |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC <br> marking because they do not require approval. |

## Dimensions

| Length $L[\mathrm{~mm}]$ | 50 |  |
| :--- | ---: | :---: |
| Diameter $\mathrm{D}[\mathrm{mm}]$ |  | 30 |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ |  | 32 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  | 18 |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 | 1 |
| LED position |  | Pos. C |


| Accessories | This and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets <br> BF 30 |
| :--- | :--- |
| See pages $1068 \ldots$ for mounting aids |  |
| V1-G-BK | M-pin, M12 female field-attachable connector |
| V1-W-BK | 4-pin, M12 female field-attachable connector |
| V1-G-2M-PUR | Cable socket, M12, 4-pin, PUR cable |
| V1-W-2M-PUR | Cable socket, M12, 4-pin, PUR cable |

Electrical Connection



## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated operating distance | 15 mm |  |  |  |  |  |
| Installation | non-flush |  |  |  |  |  |
| Type of voltage | DC |  |  |  |  |  |
| Operating voltage | $10 . .30 \mathrm{~V}$ |  |  |  |  |  |
| No-load supply current | $\leq 20 \mathrm{~mA}$ |  |  |  |  |  |
| Reverse polarity protection | $\checkmark$ |  |  |  |  |  |
| Switching frequency | 0... 200 Hz |  |  |  |  |  |
| Operating current | 0 ... 200 mA |  |  |  |  |  |
| Short-circuit protection | pulsing |  |  |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |  |  |
| Ambient temperature | $-25 \ldots 7{ }^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ |  |  |  |  |  |
| Housing material | brass, nickel-plated |  |  |  |  |  |
| Protection degree | IP67 |  |  |  |  |  |
| Model Number |  |  |  |  | 5 <br>  <br> 0 <br> 1 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 |  |
| Switching element function | NPN NO/NC |  | - |  | - |  |
|  | PNP | NO/NC |  | - |  | $\bullet$ |
| Connection type | Device connector M12 $\times 1$, 4-pin |  |  |  | - - |  |
|  | cable PVC , 2 m |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Approvals and Certificates |  |  |  |  |  |  |
| UL approval | cULus Listed, General Purpose |  | $\bullet$ | - | - | - |
| CSA approval | cCSAus Listed, General Purpose |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC marking because they do not require approval. |  |  |  |  |  |
| Dimensions |  |  |  |  |  |  |
| Length L [mm] |  |  |  |  | 70 |  |
| Diameter D [mm] |  |  | 30 |  |  |  |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ |  |  | 42 |  |  |  |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  |  | 18 |  |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ |  |  | 0 |  | 10 |  |
| LED position |  |  |  |  | Pos. A |  |
| Accessories <br> This and more accessories can be found in chapter 10 <br> See pages from 972 ...for cordsets See pages 1068 ... for mounting aids |  |  |  |  |  |  |
| V1-G-BK | 4-pin, M12 female field-attachable connector |  |  |  |  |  |
| BF 30 | Mounting flange, 30 mm |  |  |  |  |  |
| V1-W-BK | 4-pin, M12 female field-attachable connector |  |  |  |  |  |
| V1-G-2M-PUR | Cable socket, M12, 4-pin, PUR cable |  |  |  |  |  |
| V1-W-2M-PUR | Cable socket, M12, 4-pin, PUR cable |  |  |  |  |  |

Electrical Connection
NBN15-30GM60-AO


## NBN15-30GM60-A2



NBN15-30GM60-AO-V1


Wire colors in accordance with EN 60947-5-2


BK (black)

## Technical Data



C $\epsilon$


## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , non-flush mountable

■ DC, 3-wire switching output

- Cable version


## Further Products

In this series, we offer additionally: NJ15-30GK-E2-T
Technical data comparable to NBN15-30GK50-E2 but:
Ambient temperature: $-25 \ldots 100^{\circ} \mathrm{C}\left(-13 \ldots 212^{\circ} \mathrm{F}\right)$

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

## General Data

| Rated operating distance | 15 mm |
| :--- | :--- |
| Installation | non-flush |
| Type of voltage | DC |
| Operating voltage | $10 \ldots 30 \mathrm{~V}$ |
| No-load supply current | $\leq 15 \mathrm{~mA}$ |
| Reverse polarity protection | 0 |
| Switching frequency | $0 \ldots 200 \mathrm{~Hz}$ |
| Operating current | $0 \ldots 200 \mathrm{~mA}$ |
| Short-circuit protection | pulsing |
| Indication of the switching state | LED, yellow |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ |
| Housing material | PBT |
| Protection degree | IP68 / IP69K |
| Connection type | cable PVC , 2 m |
|  |  |
|  |  |
|  |  |
|  |  |



| Approvals and Certificates |  |  |  |
| :---: | :---: | :---: | :---: |
| UL approval | cULus Listed, General Purpose | $\bullet$ | $\bullet$ |
| CSA approval | cCSAus Listed, General Purpose | $\bigcirc$ | - |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC marking because they do not require approval. |  |  |
| Dimensions |  |  |  |
| Length L[mm] |  |  |  |
| Diameter D [mm] |  |  |  |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ |  |  |  |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ |  |  |  |
| LED position |  |  |  |
| Accessories This and more accessories can be found in chapter 10 |  |  |  |
| BF 30 | Mounting flange, 30 mm |  |  |



Electrical Connection



C $\epsilon$


## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , non-flush mountable

■ DC, 4-wire switching output
■ Terminal compartment


## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |
| :--- | :--- |
| Rated operating distance | 15 mm |
| Installation | non-flush |
| Type of voltage | DC |
| Operating voltage | $10 \ldots 30 \mathrm{~V}$ |
| No-load supply current | $\leq 20 \mathrm{~mA}$ |
| Reverse polarity protection | $\checkmark$ |
| Switching frequency | $0 \ldots 300 \mathrm{~Hz}$ |
| Operating current | $0 \ldots 200 \mathrm{~mA}$ |
| Short-circuit protection | pulsing |
| Indication of the switching state | LED, yellow |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ |
| Housing material | PBT |
| Protection degree | IP67 |
| Connection type | terminal compartment |

## Model Number

|  |  |  | $\begin{aligned} & \text { N } \\ & \frac{1}{7} \\ & \hline \end{aligned}$ | 20 |
| :---: | :---: | :---: | :---: | :---: |
| Switching element function | NPN | NO/NC | - |  |
|  | PNP | NO/NC |  | - |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC mar <br> king because they do not require approval. |

Dimensions

| Length $L[\mathrm{~mm}]$ | 115 |
| :--- | :---: |
| Diameter D $[\mathrm{mm}]$ | 30 |
| Thread length $I_{\mathrm{t}}[\mathrm{mm}]$ | 58 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ | 2 |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 |

[^1]Electrical Connection



## C $\epsilon$ <br> 

## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 22 mm , virtually flush mountable
■ DC, 3-wire switching output
- Cable and connector versions



## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated operating distance | 22 mm |  |  |  |  |  |
| Installation | virtually flush |  |  |  |  |  |
| Type of voltage | DC |  |  |  |  |  |
| Operating voltage | $10 . . .30 \mathrm{~V}$ |  |  |  |  |  |
| No-load supply current | $\leq 10 \mathrm{~mA}$ |  |  |  |  |  |
| Reverse polarity protection | $\checkmark$ |  |  |  |  |  |
| Switching frequency | 0... 150 Hz |  |  |  |  |  |
| Operating current | 0 ... 200 mA |  |  |  |  |  |
| Short-circuit protection | pulsing |  |  |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |  |  |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ |  |  |  |  |  |
| Housing material | chromium plated brass |  |  |  |  |  |
| Protection degree | IP67 |  |  |  |  |  |
| Model Numbergreen = preferred type |  |  | N ín $\sum_{0}^{0}$ O N N W Z |  |  |  |
| Switching element function | NPN NO | - |  | - |  |  |
|  | PNP NO |  | - |  | $\bigcirc$ |  |
|  | PNP NC |  |  |  |  | $\bullet$ |
| Connection type | Device connector M12 x 1, 4-pin cable PVC , 2 m |  |  | - | $\bullet$ | $\bullet$ |
|  |  | - | $\bullet$ |  |  |  |
|  |  |  |  |  |  |  |

## Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC <br> marking because they do not require approval. |


| Dimensions |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Length L[mm] | 60 |  | 73.5 |  |  |
| Diameter D [mm] | 30 |  |  |  |  |
| Thread length $I_{t}[\mathrm{~mm}]$ | 60 | 60 | 52 | 61.5 | 52 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ | 0 |  |  |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 |  | 13,5 | 12.5 |  |
| LED position | C | C | C | A | C |

Accessories This and more accessories can be found in chapter 10

| BF 30 | Mounting flange, 30 mm |
| :--- | :--- |
| V1-G-BK | 4-pin, M12 female field-attachable connector |

V1-W-BK 4-pin, M12 female field-attachable connector
V1-G-2M-PUR
Cable socket, M12, 4-pin, PUR cable
Cable socket, M12, 4-pin, PUR cable

## Electrical Connection

NEB22-30GM60-E0


NEB22-30GM60-E2




NEB22-30GM60-E3-V1



C $\epsilon$

## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 22 mm and 25 mm versions, non-
flush mountable
- DC, 3-wire switching output
- Cable and connector versions


## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |
| :--- | :--- |
| Installation | non-flush |
| Type of voltage | DC |
| Operating voltage | $10 \ldots 30 \mathrm{~V}$ |
| Reverse polarity protection | $\ddots$ |
| Short-circuit protection | pulsing |
| Indication of the switching state | LED, yellow |
| Housing material | brass, nickel-plated |
| Protection degree | IP67 |

Model Number

|  | green = preferred type |
| :--- | :--- |
| Rated operating distance | 22 mm |
|  | 25 mm |
| Switching element function | NPN NO |
|  | PNP $\quad$ NO |
| No-load supply current | $\leq 10 \mathrm{~mA}$ |
|  | $\leq 12 \mathrm{~mA}$ |
| Switching frequency | $0 \ldots 200 \mathrm{~Hz}$ |
|  | $0 \ldots 80 \mathrm{~Hz}$ |
| Operating current | $0 \ldots 100 \mathrm{~mA}$ |
|  | $0 \ldots 200 \mathrm{~mA}$ |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ |
|  | $-40 \ldots 70^{\circ} \mathrm{C}\left(-40 \ldots 158^{\circ} \mathrm{F}\right)$ |
| Connection type | Device connector M12 x1, 4-pin |
|  | cable PVC, 2 m |
|  |  |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose |  |
| :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |  |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC mar- <br> king because they do not require approval. |  |

## Dimensions

| Length L [mm] | 35 | 50 | 50 | 50 | 65 | 65 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Diameter D [mm] | 30 |  |  |  |  |  |
| Thread length $I_{t}[\mathrm{~mm}]$ | 15 | 32 | 32 | 17 | 32 | 32 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ | 18 |  |  |  |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 |  |  |  | 15 |  |
| LED position |  |  |  |  |  |  |


| Accessories | This and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets |
| :--- | :---: |
| BF 30 | Mounting flange, 30 mm |
| V1-G-BK | 4-pin, M12 female field-attachable connector $1068 \ldots$ for mounting aids |
| V1-W-BK | 4-pin, M12 female field-attachable connector |
| V1-G-2M-PUR | Cable socket, M12, 4-pin, PUR cable |
| V1-W-2M-PUR | Cable socket, M12, 4-pin, PUR cable |

Electrical Connection


NBN22-30GM35-E2 NBN25-30GM50-E2



NBN22-30GM35-E2-V1
NBN25-30GM50-E2-V1


Wire colors in accordance with EN 60947-5-2

| 1 | BN | (brown) |
| :--- | :--- | :--- |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |



## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com


Approvals and Certificates

| UL approval | cULus Listed, General Purpose |
| :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of $\leq 36 \mathrm{~V}$ do not bear a CCC mar- <br> king because they do not require approval. |

Dimensions

| Length L[mm] | 60 |  | 73.5 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Diameter D [mm] |  |  | 30 |  |  |
| Thread length $I_{t}[\mathrm{~mm}]$ | 50 | 50 | 42 | 51.5 | 42 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  |  | 10 |  |  |
| Connector area $\mathrm{Ic}_{\mathrm{c}}[\mathrm{mm}]$ | 0 | 0 | 13.5 | 12.5 | 13.5 |
| LED position | C | C | C | A | C |



| Accessories | This and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets <br> BF 30 |
| :--- | :--- |
| Mounting flange, 30 mm  <br> V1-G-BK 4-pin, M12 female field-attachable connector <br> V1-W-BK 4-pin, M12 female field-attachable connector <br> V1-G-2M-PUR Cable socket, M12, 4-pin, PUR cable <br> V1-W-2M-PUR Cable socket, M12, 4-pin, PUR cable |  |

## Electrical Connection

NEN40-30GM60-EO


NEN40-30GM60-E2


## NEN40-30GM60-EO-V1



Wire colors in accordance with EN 60947-5-2
NEN40-30GM60-E3-V1


| 1 | BN | (brown) |
| :--- | :--- | :--- |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |



C $\epsilon$


## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 10 mm , flush mountable and 15 mm , virtually flush mountable
- AC, 2-wire switching output
- Cable and connector versions


Electrical Connection


NBB15-30GM50-WS-V12 NBB15-30GM50-WS-V93


NBB15-30GM50-WO-V12 NBB15-30GM50-WO-V93

green = preferred type

| General Data |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type of voltage | AC |  |  |  |  |  |  |  |  |
| Operating voltage | $20 . .253 \mathrm{~V}$ |  |  |  |  |  |  |  |  |
| Reverse polarity protection | tolerant |  |  |  |  |  |  |  |  |
| Switching frequency | $0 \ldots 20 \mathrm{~Hz}$ |  |  |  |  |  |  |  |  |
| Operating current | 5... 200 mA |  |  |  |  |  |  |  |  |
| Operating voltage display | LED, green |  |  |  |  |  |  |  |  |
| Indication of the switching state | LED, yellow |  |  |  |  |  |  |  |  |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ |  |  |  |  |  |  |  |  |
| Housing material | brass, nickel-plated |  |  |  |  |  |  |  |  |
| Protection degree | IP67 |  |  |  |  |  |  |  |  |
| Model Number | green $=$ preferred type | NBB10-30GM50-WS |  |  | NBB15-30GM50-WO |  |  | 0 <br> 0 <br> 0 <br> 0 <br> 3 <br> $\vdots$ <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 2 | ع6^-OM-0SW以0\&-SIG9N |
| Rated operating distance | 10 mm | - | $\bigcirc$ |  |  |  |  |  |  |
|  | 15 mm |  |  | - | 0 | - | $\bigcirc$ | - | $\bigcirc$ |
| Installation | flush | - | - |  |  |  |  |  |  |
|  | virtually flush |  |  | - | $\bigcirc$ | $\bigcirc$ | - | - | $\bigcirc$ |
| Switching element function | AC NO | - |  | - |  | - |  | - |  |
|  | AC NC |  | - |  | $\bigcirc$ |  | - |  | - |
| Connection type | Device connector 1/2"-20 UN , 3-pin |  |  |  |  | - | - |  |  |
|  | Device connector 7/8"-16 UN, 3-pin |  |  |  |  |  |  | - | $\bigcirc$ |
|  | cable PVC , 2 m | - | $\bigcirc$ | - | - |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |



## Approvals and Certificates

| approval | cULus Listed, General Purpose |  | - | - | - |  |  |  | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CSA approval | cCSAus Listed, General Purpose | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |  |  | - | - |
| CCC approval | Certified by China Compulsory Certification (CCC) | - | - | - | - |  |  |  | $\bullet$ |
| Dimensions |  |  |  |  |  |  |  |  |  |
| Length L [mm] |  |  | 50 |  |  | 60 |  | 6 |  |
| Diameter D [mm] |  |  |  |  |  |  |  |  |  |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ |  |  | 47 |  |  |  | 50 |  |  |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  |  |  |  |  |  |  |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ |  |  | 0 |  |  | 10 |  | 1 |  |
| LED position |  |  | Pos |  |  |  | Ps. |  |  |

Accessories This and more accessories can be found in chapter 10
BF 30
See pages from 972 ... for cordset
Mounting flange, 30 mm
EXG-30 Quick mounting bracket with dead stop

## Technical Data



C $\epsilon$


## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 15 mm , virtually flush mountable

■ AC, 2-wire switching output

- Cable version


For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

## General Data



## Approvals and Certificates

| UL approval | cULus Listed, General Purpose | $\bullet$ |  | - |
| :---: | :---: | :---: | :---: | :---: |
| CSA approval | cCSAus Listed, General Purpose | $\bullet$ |  | $\bullet$ |
| CCC approval | Certified by China Compulsory Certification (CCC) | - |  | - |
| Dimensions |  |  |  |  |
| Length L[mm] |  | 80 |  |  |
| Diameter D [mm] |  | 30 |  |  |
| Thread length $1_{t}[\mathrm{~mm}]$ |  | 60 |  |  |
| Cap length $I_{1}[\mathrm{~mm}]$ |  | 0 |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ |  | 0 |  |  |
| LED position |  |  |  |  |
| Accessories <br> This and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets See pages 1068 ... for mounting aids |  |  |  |  |
| BF 30 See pages from 972 ...for cordsets See pages $1068 \ldots$... for mounting aids |  |  |  |  |

## Electrical Connection




## ( $\epsilon$ <br> 

## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 10 mm and 15 mm , flush mountable versions
■ AC, 2-wire switching output
- Terminal compartment


## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

## General Data

Installation
Type of voltage
Operating voltage No-load supply current Switching frequency Operating current Ambient temperature Housing material Protection degree Connection type
flush
AC
20 ... 250 V
$\leq 1.7 \mathrm{~mA}$
$0 \ldots 20 \mathrm{~Hz}$
1.5 ... 200 mA
$-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$
PBT
IP67
terminal compartment


| Model Number |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated operating distance | 10 mm |  | - | - |  |  |
|  | 15 mm |  |  |  | - | - |
| Switching element function | AC | NO |  | - |  | - |
|  | AC | NC | $\bullet$ |  | - |  |

## Approvals and Certificates

| UL approval | cULus Listed, General Purpose |  |
| :--- | :--- | :---: |
| CSA approval | cCSAus Listed, General Purpose <br> Certified by China Compulsory Cer- <br> tification (CCC) |  |
| CCC approval |  | 115 |
| Dimensions | 30 |  |
| Length $\mathrm{L}[\mathrm{mm}]$ | 58 |  |
| Diameter $\mathrm{D}[\mathrm{mm}]$ | 2 |  |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ |  | 0 |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ |  |  |



Electrical Connection

|  | NBB15-30GKK-WS NBB10-30GKK-WS | NBB15-30GKK-WO NBB10-30GKK-WO |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  |  | (1) | $\sqrt{10}$ |

## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

## General Data

| Rated operating distance | 15 mm |
| :--- | :--- |
| Installation | flush |
| Operating voltage | $20 \ldots 250 \mathrm{VAC} / 20 \ldots 300 \mathrm{~V} \mathrm{DC}$ |
| Reverse polarity protection | tolerant |
| Switching frequency | 30 Hz |
| Operating current | $4 \ldots 500 \mathrm{~mA} \mathrm{AC} / \mathrm{DC}$ |
| Short-circuit protection | $\checkmark$ |
| Operating voltage display | LED, green |
| Indication of the switching state | LED, yellow |
| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ |
| Housing material | brass, nickel-plated |
| Protection degree | IP67 |


| Model Number |  |  |  |  |  |  |  | NBB15-30GM50-UO-V93 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Switching element function | AC/DC | NO | - |  | - |  | - |  |
|  | NC |  |  | $\bullet$ |  | $\bullet$ |  | $\bullet$ |
| Type of voltage | UC |  | - |  |  |  |  |  |
| Connection type | Device | ector 1/2"-20 UN, 3-pin |  |  | $\bullet$ |  |  |  |
|  | Device | ector 7/8"-16 UN, 3-pin |  |  |  |  | - | - |
|  | Device | ector M12 x 1, 3-pin |  |  |  | $\bullet$ |  |  |
|  | cable P | 2 m |  | - |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose | $\bullet$ | $\bullet$ | $\bullet$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose | $\bullet$ | $\bullet$ | $\bullet$ |  |
| CCC approval | Certified by China Compulsory Cer- <br> tification (CCC) | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |

Dimensions

| Length $L[\mathrm{~mm}]$ | 51 | 60 | 65 |
| :--- | :---: | :---: | :---: |
| Diameter $D[\mathrm{~mm}]$ |  | 30 |  |
| Thread length $I_{t}[\mathrm{~mm}]$ |  | 50 |  |
| Cap length $I_{1}[\mathrm{~mm}]$ |  | 0 |  |
| Connector area $I_{c}[\mathrm{~mm}]$ |  | 10 | 15 |
| LED position |  | Pos. B |  |



| ACCESSOriesThis and more accessories can be found in chapter 10 <br> See pages from $972 \ldots$ for cordsets See pages $1068 \ldots$ for mounting aids |
| :--- | :---: |
| BF 30 Mounting flange, 30 mm <br> EXG-30 Quick mounting bracket with dead stop |

## Electrical Connection

NBB15-30GM50-US


NBB15-30GM50-UO



NBB15-30GM50-US-V93 NBB15-30GM50-US-V12


NBB15-30GM50-UO-V93 NBB15-30GM50-UO-V12


V12


V93




Technical Data
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

## General Data

| Rated operating distance | 25 mm |
| :--- | :--- |
| Installation | non-flush |
| Operating voltage | $20 \ldots 250 \mathrm{~V} \mathrm{AC} / 20 \ldots 300 \mathrm{~V}$ DC |

Reverse polarity protection Switching frequency Operating current Short-circuit protection Operating voltage display Indication of the switching state解

| Ambient temperature | $-25 \ldots 70^{\circ} \mathrm{C}\left(-13 \ldots 158{ }^{\circ} \mathrm{F}\right)$ |
| :--- | :--- |
| Housing material | brass, nickel-plated |

Protection degree IP67

## Properties

■ $\varnothing 30 \mathrm{~mm}$ housing

- 25 mm , non-flush mountable
- AC/DC, 2-wire switching output
- Cable and connector versions

Model Number


|  | green = preferred type |  | $\begin{aligned} & \text { No } \\ & \text { No } \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { No } \\ & \mathbf{z} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { No } \\ & \text { z } \end{aligned}$ | $\begin{aligned} & \text { No } \\ & \text { N } \\ & \mathbf{2} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Switching element function | AC/DC NO | - | - |  | - |  |
|  | NC | $\bullet$ |  | - |  | - |
| Type of voltage | UC | - |  |  |  |  |
| Connection type | Device connector 1/2"-20 UN, 3-pin |  | $\bullet$ |  |  |  |
|  | Device connector 7/8"-16 UN , 3-pin |  |  |  | - | - |
|  | Device connector M12 x 1, 3-pin |  |  | - |  |  |
|  | cable PUR , 2 m | - - |  |  |  |  |
|  |  |  |  |  |  |  |

Approvals and Certificates

| UL approval | cULus Listed, General Purpose |  |
| :--- | :--- | :--- |
| CSA approval | cCSAus Listed, General Purpose | Certified by China Compulsory Cer- |
| CCC approval | tification (CCC) |  |

Dimensions

| Length $L[\mathrm{~mm}]$ | 51 | 60 | 65 |
| :--- | :--- | :--- | :--- |
| Diameter $D[\mathrm{~mm}]$ |  | 30 |  |
| Thread length $\mathrm{I}_{\mathrm{t}}[\mathrm{mm}]$ |  | 32 |  |
| Cap length $\mathrm{I}_{1}[\mathrm{~mm}]$ |  | 18 |  |
| Connector area $\mathrm{I}_{\mathrm{c}}[\mathrm{mm}]$ | 0 | 10 | 15 |
| LED position |  | Pos. B |  |

[^2]Electrical Connection

NBN25-30GM50-US


## NBN25-30GM50-US-V93

 NBN25-30GM50-US-V12

NBN25-30GM50-UO-V93 NBN25-30GM50-UO-V12


V12


$$
\begin{array}{ll}
\text { GN } & \text { (green) } \\
\text { RD/BK (red/black) } \\
\text { RD/WH (red/white) }
\end{array}
$$

v93


Wire colors

[^3]

## Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

| General Data |  |
| :--- | :--- |
| Switching element function | Analog current output |
| Type of voltage | DC |
| Operating voltage | $15 \ldots 30 \mathrm{~V}$ |
| No-load supply current | $\leq 10 \mathrm{~mA}$ |
| Output type | $0 \ldots 20 \mathrm{~mA}$ |
| Linearity error | $\leq \pm 10 \%$ of full-scale value |
| Load resistor | $\leq 500 \Omega$ |
| Adjustment tolerance zero point | $\leq \pm 10 \%$ of full-scale value |
| Ambient temperature | $-10 \ldots 70^{\circ} \mathrm{C}\left(14 \ldots 158^{\circ} \mathrm{F}\right)$ |
| Housing material | brass, nickel-plated |
| Protection degree | IP67 |
| Connection type | cable PVC, 2 m |
|  |  |
|  |  |

## Properties

- $\varnothing 30 \mathrm{~mm}$ housing
- 3 ... 8 mm , flush mountable and 5 ... 15 mm non-flush mountable
- DC, 3-wire analog output

■ Cable version


## Electrical Connection

|A15-30GM-I3
IA8-30GM-I3



[^0]:    Accessories This and more accessories can be found in chapter 10
    This and more accessories can be found in chapter 10 Mounting flange, 30 mm

[^1]:    Accessories This and more accessories can be found in chapter 10
    BF 30

[^2]:    Accessories This and more accessories can be found in chapter 10
    BF 30

    See pages from $972 \ldots$ for cordsets<br>See pages 1068 ... for mounting aids<br>Mounting flange, 30 mm

[^3]:    GN
    BK
    WH
    (green)
    (black)
    (white)
    (white)

