

# Sensors and Systems

Edition 3.0



Your automation, our passion.

**pf** PEPPERL+FUCHS

## Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

### General Data

Rated operating distance	1.5 mm
Installation	flush
Type of voltage	DC
Operating voltage	5 ... 60 V
Reverse polarity protection	tolerant
Switching frequency	0 ... 1200 Hz
Operating current	2 ... 100 mA
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	Stainless steel 1.4305 / AISI 303
Protection degree	IP67



## Properties

- Ø8 mm housing
- 1.5 mm, flush mountable
- DC, 2-wire switching output
- Cable and connector versions

## Further Products

In this series, we offer additionally:

### NBB1-8GS50-Z0-T

Rated operating distance: 1 mm  
 Installation: flush  
 Switching element function: DC, NO  
 Operating voltage: 15 ... 34 V  
 Ambient temperature: -25 ... 100 °C (-13 ... 212 °F)  
 Housing material: Stainless steel 1.4305 / AISI 303  
 Connection type: cable PUR, 2 m

### Model Number

			green = preferred type		
Switching element function	DC NO				
	DC NC				
Connection type	Device connector M8 x 1, 3-pin cable PUR, 2 m				

### Approvals and Certificates

UL approval	cULus Listed, General Purpose				
CSA approval	cCSAus Listed, General Purpose				
CCC approval	Certified by China Compulsory Certification (CCC)				

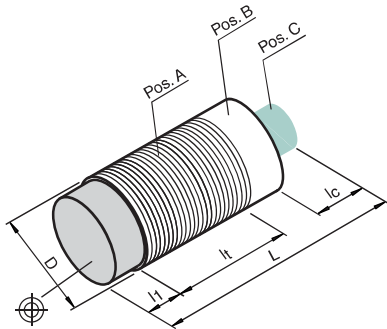
### Dimensions

Length L [mm]		40	51
Diameter D [mm]		8	
Thread length l <sub>t</sub> [mm]		40	48
Cap length l <sub>1</sub> [mm]		0	
Connector area l <sub>c</sub> [mm]		0	6
LED position		Pos. C	

## Accessories

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

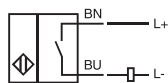
<b>BF 8</b>	Mounting flange, 8 mm
<b>EXG-08</b>	Quick mounting bracket with dead stop
<b>V3-GM</b>	Female connector, M8, 3-pin, field attachable
<b>V3-GM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable
<b>V3-WM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable



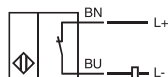
## Electrical Connection



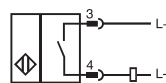
NBB1,5-8GM40-Z0  
 NCB1,5-8GM40-Z0  
 NBB1-8GS50-Z0-T



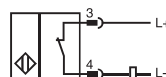
NCB1,5-8GM40-Z1



NCB1,5-8GM50-Z0-V3



NCB1,5-8GM50-Z1-V3



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)



**Properties**

- Ø8 mm housing
- 2 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](http://www.pepperl-fuchs.com)

**General Data**

Rated operating distance	2 mm
Installation	non-flush
Type of voltage	DC
Operating voltage	5 ... 60 V
Reverse polarity protection	tolerant
Switching frequency	0 ... 1200 Hz
Operating current	2 ... 100 mA
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	Stainless steel 1.4305 / AISI 303
Protection degree	IP67

**Model Number**

			NCN2-8GM40-Z0	NBN2-8GM40-Z1	NCN2-8GM40-Z1	NCN2-8GM50-Z0-V3	NCN2-8GM50-Z1-V3
Switching element function	DC NO		●			●	
	DC NC			●	●		●
Connection type	Device connector M8 x 1 , 3-pin					●	●
	cable PUR , 2 m		●		●		
	cable PVC , 2 m			●			

**Approvals and Certificates**

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●
CCC approval	Certified by China Compulsory Certification (CCC)	●	●	●	●	●	●

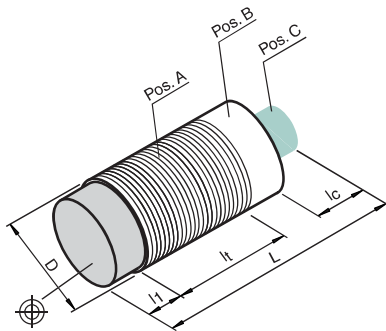
**Dimensions**

Length L [mm]			40	51
Diameter D [mm]				8
Thread length l <sub>t</sub> [mm]			36	44
Cap length l <sub>1</sub> [mm]				4
Connector area l <sub>c</sub> [mm]			0	6
LED position				Pos. C

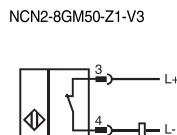
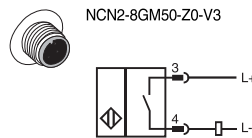
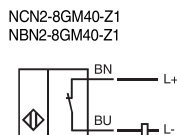
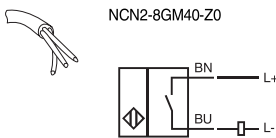
**Accessories**

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

- V3-WM-2M-PUR** Cable socket, M8, 3-pin, PUR cable
- BF 8** Mounting flange, 8 mm
- EXG-08** Quick mounting bracket with dead stop
- V3-GM-2M-PUR** Cable socket, M8, 3-pin, PUR cable
- V3-GM** Female connector, M8, 3-pin, field attachable



**Electrical Connection**



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 3 | BU (blue)
- 4 | BK (black)

Date of issue 04/08/2015

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com



**Properties**

- Ø8 mm housing
- 1.5 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](http://www.pepperl-fuchs.com)

**General Data**

Rated operating distance	1.5 mm
Installation	flush
Type of voltage	DC
Operating voltage	10 ... 60 V
No-load supply current	≤ 15 mA
Reverse polarity protection	✓
Operating current	0 ... 100 mA
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Protection degree	IP67

**Model Number**

		NJ1,5-8GM40-E0	NJ1,5-8GM40-E2	NJ1,5-8GM40-E0-V1	NJ1,5-8GM40-E2-V1
Switching element function	NPN NO	●		●	
	PNP NO		●		●
Switching frequency	0 ... 2500 Hz	●		●	
	0 ... 500 Hz		●		●
Housing material	Stainless steel 1.4305 / AISI 303			●	●
Connection type	Device connector M12 x 1, 4-pin cable PUR, 2 m	●	●	●	●

**Approvals and Certificates**

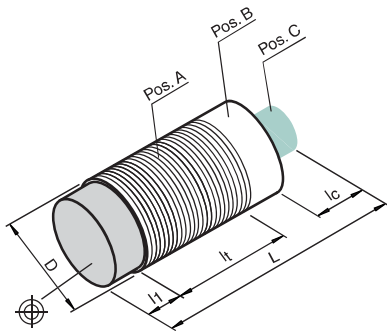
UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●
CCC approval	Certified by China Compulsory Certification (CCC)	●	●	●	●

**Dimensions**

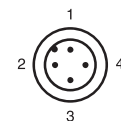
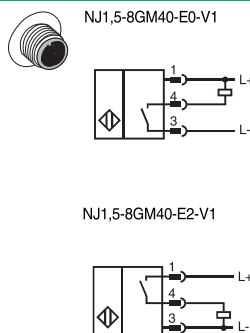
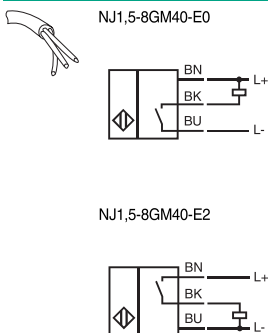
Length L [mm]		40		54	
Diameter D [mm]		8		8 / 12	
Thread length l <sub>t</sub> [mm]		40	36	35	40
Cap length l <sub>1</sub> [mm]		0	4	0	0
Connector area l <sub>c</sub> [mm]		0		6	
LED position	Pos.:	A	C	B	A

**Accessories** This and more accessories can be found in chapter 10

<b>BF 8</b>	Mounting flange, 8 mm	See pages 972 ... for cordsets	See pages 1068 ... for mounting aids
<b>EXG-08</b>	Quick mounting bracket with dead stop		
<b>V1-G-BK</b>	4-pin, M12 female field-attachable connector		
<b>V1-W-BK</b>	4-pin, M12 female field-attachable connector		
<b>V1-G-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable		
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable		



**Electrical Connection**



Wire colors in accordance with EN 60947-5-2

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





**Properties**

- Ø8 mm housing
- 1.5 mm, flush mountable
- DC, 3-wire and 4-wire switching output versions
- Cable and connector versions

**Technical Data**

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

**General Data**

Rated operating distance	1.5 mm
Installation	flush
Type of voltage	DC
Operating voltage	10 ... 30 V DC
Reverse polarity protection	✓
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Protection degree	IP67

**Model Number**

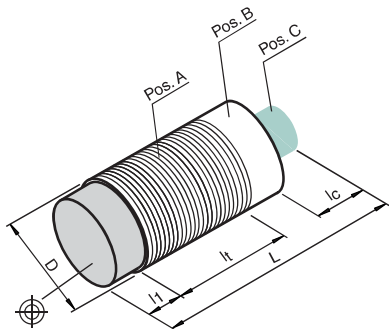
			NBB1,5-8GM16-E2	NBB1,5-8GM60-A0	NBB1,5-8GM60-A2	NBB1,5-8GM40-E0-V1	NBB1,5-8GM50-A0-V1	NBB1,5-8GM50-A2-V1
Switching element function	NPN	NO/NC		●			●	
	NPN	NO						
	PNP	NO/NC			●			●
	PNP	NO	●					
No-load supply current	≤ 10 mA		●					
	≤ 15 mA							
	≤ 20 mA					●		
Switching frequency	0 ... 1500 Hz			●	●	●	●	●
	0 ... 6000 Hz		●					
Operating current	0 ... 100 mA			●	●	●	●	●
	0 ... 200 mA		●					
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)		●	●	●	●	●	●
	-25 ... 85 °C (-13 ... 185 °F)		●					
Housing material	Stainless steel 1.4305 / AISI 303		●					
Connection type	brass, nickel-plated			●	●	●	●	●
	Device connector M12 x 1, 4-pin					●	●	●
	cable PUR, 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 ≤36 V do not bear a CCC marking because they do not require approval.					

**Dimensions**

	16	60	60	65	64	64
Length L [mm]						
Diameter D [mm]		8			8 / 12	
Thread length l <sub>t</sub> [mm]	16	60	60	40	50	50
Cap length l <sub>1</sub> [mm]				0		
Connector area l <sub>c</sub> [mm]		0			6	
LED position		Pos. C				Pos. A



**Accessories**

This and more accessories can be found in chapter 10

See pages from 972 ... for cordsets

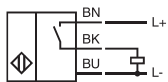
See pages 1068 ... for mounting aids

- BF 8** Mounting flange, 8 mm
- V1-G-BK** 4-pin, M12 female field-attachable connector
- EXG-08** Quick mounting bracket with dead stop
- 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

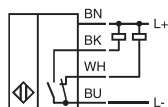
**Electrical Connection**



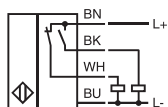
NBB1,5-8GM16-E2



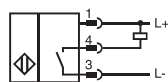
NBB1,5-8GM60-A0



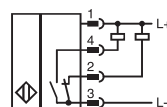
NBB1,5-8GM60-A2



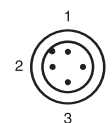
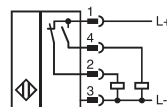
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NBB1,5-8GM40-E0-V1



NBB1,5-8GM50-A0-V1



NBB1,5-8GM50-A2-V1



Wire colors in accordance with EN 60947-5-2

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

Date of issue 04/08/2015

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com



Properties

- Ø8 mm housing
- 1.5 mm and 2 mm, flush mountable versions
- 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](http://www.pepperl-fuchs.com)

General Data

Installation	flush
Type of voltage	DC
Operating voltage	10 ... 30 V DC
Reverse polarity protection	✓
Operating current	0 ... 200 mA
Short-circuit protection	✓
Indication of the switching state	LED, yellow
Housing material	Stainless steel 1.4305 / AISI 303
Protection degree	IP67

Model Number

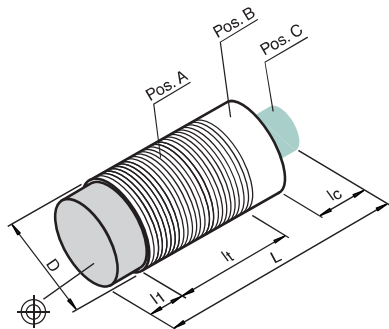
		NBB1,5-8GS30-E2-T	NBB2-8GS30-E0	NBB2-8GS30-E1	NBB2-8GS30-E2	NBB2-8GS30-E3	NBB1,5-8GS40-E2-T-V3	NBB2-8GS40-E1-V3	NBB2-8GS40-E3-V3	NBB2-8GS30-E2-V1
Rated operating distance	1.5 mm	●					●			
	2 mm		●	●	●	●		●	●	●
Switching element function	NPN NO		●							
	NPN NC			●				●		
	PNP NO	●			●		●			●
	PNP NC					●			●	
No-load supply current	≤ 1 mA		●	●		●		●		
	≤ 5 mA									
	≤ 7 mA	●			●		●		●	●
Switching frequency	0 ... 1500 Hz	●					●			
	0 ... 2000 Hz									●
	0 ... 2500 Hz								●	
	0 ... 3500 Hz				●					
	0 ... 600 Hz		●	●		●		●		
Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)	●		●	●	●	●		●	●
	-25 ... 85 °C (-13 ... 185 °F)		●	●	●	●		●	●	●
Connection type	connector (M8 x 1), 3-pin							●	●	
	Device connector M12 x 1, 4-pin									●
	Device connector M8 x 1, 3-pin						●			
	cable PUR, 2 m	●	●	●	●	●				

Approvals and Certificates

CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.
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Dimensions

	30	35	35	35	35	44	45	45	49
Length L [mm]									
Diameter D [mm]					8				8/12
Thread length l <sub>t</sub> [mm]	30	35	35	35	35	44	42	42	30
Cap length l <sub>1</sub> [mm]					0				
Connector area l <sub>c</sub> [mm]	0	0	0	0	0	6	0	0	6
LED position						Pos. C		Pos. A	



Accessories This and more accessories can be found in chapter 10

<b>BF 8</b>	Mounting flange, 8 mm	See pages from 972 ... for cordsets	See pages 1068 ... for mounting aids
<b>V3-WM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable		
<b>V1-G-BK</b>	4-pin, M12 female field-attachable connector		
<b>V3-GM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable		
<b>V3-GM</b>	Female connector, M8, 3-pin, field attachable		

Electrical Connection

**NBB2-8GS30-E0**

**NBB1,5-8GS30-E2-T**  
**NBB2-8GS30-E2**

**NBB2-8GS40-E1-V3**

**NBB1,5-8GS40-E2-T-V3**  
**NBB2-8GS30-E2-V1**

**NBB2-8GS30-E1**

**NBB2-8GS30-E3**

**NBB2-8GS40-E3-V3**

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Rated operating distance	2 mm
Installation	flush
Type of voltage	DC
Operating voltage	10 ... 30 V
No-load supply current	≤ 15 mA
Reverse polarity protection	✓
Switching frequency	0 ... 1500 Hz
Operating current	0 ... 100 mA
Short-circuit protection	pulsing
Indication of the switching state	Multihole-LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	Stainless steel 1.4435 / AISI 316L
Protection degree	IP67
Connection type	M8 x 1 connector, 3-pin



### Properties

- Ø8 mm housing
- 2 mm, flush mountable
- DC, 3-wire switching output
- Connector version

#### Model Number

Switching element function	green = preferred type					
	NPN NO	●	●	●	●	●
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 ≤36 V do not bear a CCC marking because they do not require approval.					

#### Dimensions

Length L [mm]	24	29	44
Diameter D [mm]		8	
Thread length l <sub>t</sub> [mm]	20	25	40
Cap length l <sub>1</sub> [mm]		0	
Connector area l <sub>c</sub> [mm]		6	
LED position		Pos. B	

### Accessories

This and more accessories can be found in chapter 10

See pages from 972 ... for cordsets

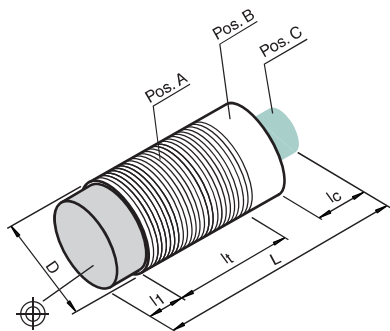
See pages 1068 ... for mounting aids

BF 8

Befestigungsflansch, 8 mm

V3-GMV4A-5M-PUR

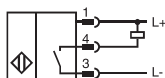
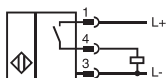
V3-WMV4A-5M-PUR



### Electrical Connection

NBB2-8GH20-E2-V3  
NBB2-8GH25-E2-V3  
NBB2-8GH40-E2-V3

NBB2-8GH20-E0-V3  
NBB2-8GH25-E0-V3  
NBB2-8GH40-E0-V3



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)





Properties

- Ø8 mm housing
- 2 mm, non-flush mountable
- DC, 3-wire and 4-wire switching output versions
- Cable and connector versions

Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

General Data

Rated operating distance	2 mm
Installation	non-flush
Type of voltage	DC
Operating voltage	10 ... 30 V DC
Reverse polarity protection	✓
Operating current	0 ... 100 mA
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	brass, nickel-plated
Protection degree	IP67

Model Number

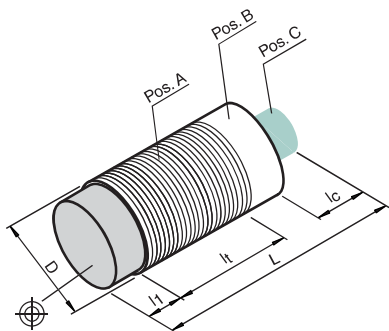
		NBN2-8GM50-E0	NBN2-8GM50-E2	NBN2-8GM60-A0	NBN2-8GM60-A2	NBN2-8GM40-E2-V3	NBN2-8GM40-E2-V1	NBN2-8GM50-A0-V1	NBN2-8GM50-A2-V1
Switching element function	NPN NO/NC	●		●				●	
	NPN NO								
	PNP NO/NC				●				●
	PNP NO								
No-load supply current	≤ 15 mA	●	●			●	●		
	≤ 20 mA			●	●			●	●
Switching frequency	0 ... 1500 Hz	●	●	●	●			●	●
	0 ... 2000 Hz					●			
Connection type	Device connector M12 x 1, 4-pin						●	●	●
	Device connector M8 x 1, 3-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 ≤36 V do not bear a CCC marking because they do not require approval.								

Dimensions

Length L [mm]		50	60	50	65	64
Diameter D [mm]			8			8 / 12
Thread length l <sub>t</sub> [mm]		45	60		35	50
Cap length l <sub>1</sub> [mm]				4		
Connector area l <sub>c</sub> [mm]			0			6
LED position				Pos. C		Pos. A



Accessories This and more accessories can be found in chapter 10

V1-W-BK	4-pin, M12 female field-attachable connector	See pages 972 ... for cordsets	See pages 1068 ... for mounting aids
BF 8	Mounting flange, 8 mm		
V1-G-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

**NBN2-8GM50-E0**

**NBN2-8GM60-A0**

**NBN2-8GM40-E2-V1**  
**NBN2-8GM40-E2-V3**

**NBN2-8GM50-A0-V1**

**NBN2-8GM50-E2**

**NBN2-8GM60-A2**

**NBN2-8GM50-A2-V1**

Wire colors in accordance with EN 60947-5-2

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

Date of issue 04/08/2015

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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Proximity Sensors, Inductive Sensors, cylindrical



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

General Data	
Rated operating distance	3 mm
Installation	non-flush
Type of voltage	DC
No-load supply current	≤ 15 mA
Reverse polarity protection	✓
Operating current	0 ... 100 mA
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	brass, nickel-plated
Protection degree	IP67

### Properties

- Ø8 mm housing
- 3 mm, non-flush mountable
- DC, 3-wire switching output
- Cable and connector versions

### Model Number

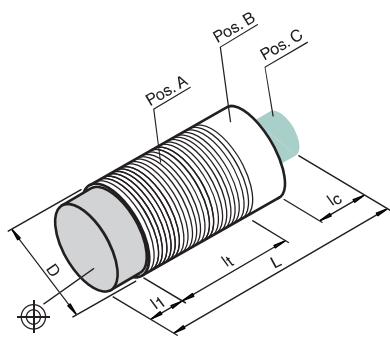
Switching element function	green = preferred type		NBN3-8GM30-E0	NBN3-8GM30-E2	NBN3-8GM50-E0	NBN3-8GM25-E0-V3	NBN3-8GM25-E1-V3	NBN3-8GM25-E2-V3	NBN3-8GM25-E3-V3	NBN3-8GM45-E2-V3	NBN3-8GM30-E0-V1	NBN3-8GM30-E2-V1
	NPN NO	●	●	●	●	●	●	●	●	●	●	●
NPN NC												
PNP NO		●										
PNP NC												
Operating voltage	10 ... 30 V	●	●	●	●	●	●	●	●	●	●	●
5 ... 30 V												
Switching frequency	0 ... 1500 Hz				●							
0 ... 2000 Hz												
Connection type	Device connector M12 x 1, 4-pin											
Device connector M8 x 1, 3-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 ≤36 V do not bear a CCC marking because they do not require approval.											

### Dimensions

Length L [mm]	30	30	50	29	29	29	29	55	49	49
Diameter D [mm]				8	8	8	8		8	12
Thread length l <sub>t</sub> [mm]	30	30	45	21	21	21	21	40	26	26
Cap length l <sub>1</sub> [mm]							4			
Connector area l <sub>c</sub> [mm]				0				6		
LED position				Pos. C					Pos. B	



### Accessories

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

<b>BF 8</b>	Mounting flange, 8 mm
<b>V1-G-BK</b>	4-pin, M12 female field-attachable connector
<b>V3-GM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable
<b>V3-WM</b>	Female connector, M8, 3-pin, field attachable
<b>V3-GM</b>	Female connector, M8, 3-pin, field attachable
<b>V1-G-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>V1-W-BK</b>	4-pin, M12 female field-attachable connector

### Electrical Connection

NBN3-8GM30-E0  
NBN3-8GM50-E0

NBN3-8GM25-E0-V3

NBN3-8GM25-E2-V3  
NBN3-8GM30-E2-V1  
NBN3-8GM45-E2-V3

NBN3-8GM30-E2

NBN3-8GM25-E1-V3

NBN3-8GM25-E3-V3

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)	L+
2	WH	(white)	
3	BU	(blue)	L-
4	BK	(black)	





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Properties

- Ø8 mm housing
- 4 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](http://www.pepperl-fuchs.com)

General Data

Rated operating distance	4 mm
Installation	virtually flush
Switching element function	PNP NO
Type of voltage	DC
Operating voltage	10 ... 30 V DC
No-load supply current	≤ 10 mA
Reverse polarity protection	✓
Operating current	0 ... 200 mA
Switching frequency	0 ... 500 Hz
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Protection degree	IP67
Housing material	chromium plated brass

Model Number

	NEB4-8GM45-E2	NEB4-8GM50-E2-V3
Connection type	Device connector M8 x 1, 3-pin cable PUR, 2 m	Device connector M8 x 1, 3-pin cable PUR, 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 ≤36 V do not bear a CCC marking because they do not require approval.		

Dimensions

Length L [mm]	45	60
Diameter D [mm]	8	
Thread length $l_t$ [mm]	45	
Cap length $l_1$ [mm]	0	
Connector area $l_c$ [mm]	0	6
LED position	Pos. A	

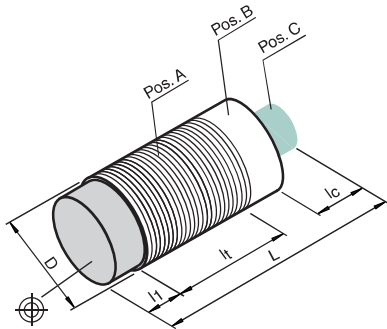
Accessories

This and more accessories can be found in chapter 10

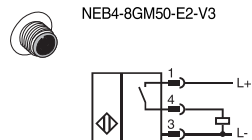
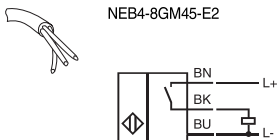
See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

- BF 8** Mounting flange, 8 mm
- V3-GM** Female connector, M8, 3-pin, field attachable
- V3-GM-2M-PUR** Cable socket, M8, 3-pin, PUR cable
- V3-WM-2M-PUR** Cable socket, M8, 3-pin, PUR cable



Electrical Connection



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](http://www.pepperl-fuchs.com)

### General Data

Rated operating distance	6 mm
Installation	non-flush
Type of voltage	DC
Operating voltage	10 ... 30 V DC
No-load supply current	≤ 15 mA
Reverse polarity protection	✓
Switching frequency	0 ... 750 Hz
Operating current	0 ... 200 mA , above 50°C ≤ 150 mA
Short-circuit protection	pulsing
Indication of the switching state	LED, yellow
Ambient temperature	-25 ... 85 °C (-13 ... 185 °F)
Housing material	brass, nickel-plated
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



## Properties

- Ø8 mm housing
- 6 mm, non-flush mountable
- DC, 3-wire switching output
- Connector version

### Model Number

		green = preferred type			
Switching element function	NPN	NO	●		
	NPN	NC		●	
	PNP	NO			●
	PNP	NC			●

### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.				

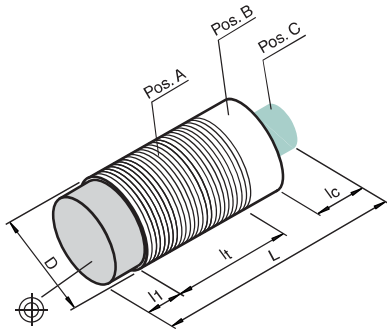
### Dimensions

Length L [mm]	66
Diameter D [mm]	8 / 12
Thread length l <sub>t</sub> [mm]	40
Cap length l <sub>1</sub> [mm]	4
Connector area l <sub>c</sub> [mm]	8
LED position	Pos. A

## Accessories

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

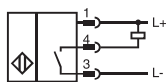
<b>BF 8</b>	Mounting flange, 8 mm
<b>V1-G-BK</b>	4-pin, M12 female field-attachable connector
<b>V3-GM</b>	Female connector, M8, 3-pin, field attachable
<b>V1-W-BK</b>	4-pin, M12 female field-attachable connector
<b>V3-WM</b>	Female connector, M8, 3-pin, field attachable
<b>V1-G-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>V3-GM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>V3-WM-2M-PUR</b>	Cable socket, M8, 3-pin, PUR cable



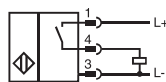
## Electrical Connection



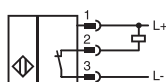
NEN6-8GM45-E0-V1



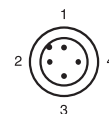
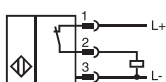
NEN6-8GM45-E2-V1



NEN6-8GM45-E1-V1



NEN6-8GM45-E3-V1



Wire colors in accordance with EN 60947-5-2

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