

# Sensors and Systems

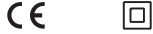
Edition 3.0



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**pf** PEPPERL+FUCHS

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Proximity Sensors, Inductive Sensors, ring types

### Properties

- Ø10 mm and Ø20 mm inside diameter versions
- Weld immune
- DC, 3-wire switching output
- Connector version

### Your Benefit

- Sensor for checking bolt holders and collets
- Easily programmable for optimum trip point

## 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

Switching element function	PNP	NO
Operating voltage	12 ... 30 V DC	
No-load supply current	≤ 10 mA	
Reverse polarity protection	✓	
Switching frequency	0 ... 5 Hz	
Operating current	0 ... 100 mA	
Short-circuit protection	pulsing	
Ambient temperature	0 ... 50 °C (32 ... 122 °F)	
Housing material	PA 66	
Protection degree	IP65	
Connection type	Device connector M12 x 1 , 4-pin	



### Model Number

		RC10-E2-C-V1	RC20-E2-C-V1
Inside diameter	10 mm 20 mm	●	●

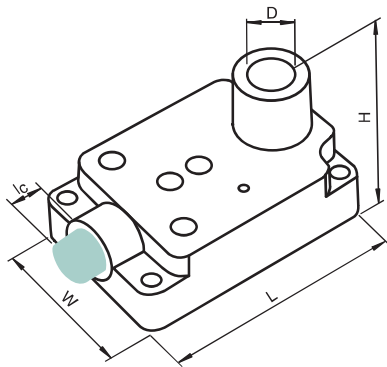
### Dimensions

Length L [mm]	60		
Width W [mm]	40		
Height H [mm]	34		
Inside diameter D [mm]	10 mm	20 mm	
Connector area l <sub>C</sub> [mm]	11		

### Accessories

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

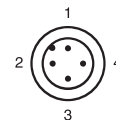
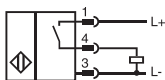
V1-G-BK	4-pin, M12 female field-attachable connector
V1-W-BK	4-pin, M12 female field-attachable connector
V1-W-2M-PUR	Cable socket, M12, 4-pin, PUR cable
V1-G-2M-PUR	Cable socket, M12, 4-pin, PUR cable



## Electrical Connection



RC10-E2-C-V1  
RC20-E2-C-V1



Wire colors in accordance with EN 60947-5-2

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

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### Technical Data

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#### General Data

Operating voltage	10 ... 30 V DC
No-load supply current	≤ 20 mA
Reverse polarity protection	✓
Operating current	0 ... 200 mA
Short-circuit protection	pulsing
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	PBT
Protection degree	IP67
Connection type	cable PVC , 2 m



### Properties

- Ø21 mm and Ø43 mm inside diameter versions
- 6 mm / 9 mm minimum target diameter
- Mild steel targets
- Very fast response
- DC, 3-wire switching output

#### Model Number

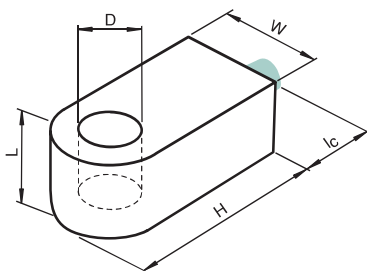
		RJ21-E	RJ43-E	RJ21-E2	RJ43-E2
Inside diameter	21 mm	●		●	
	43 mm		●		●
Switching element function	NPN NO	●	●		
	PNP NO			●	●
Measuring cylinder	Diameter	●		●	
	Length	●	●	●	●
		6 mm		9 mm	
Switching frequency	0 ... 1000 Hz	●	●	●	●
	0 ... 500 Hz		●		●

#### Approvals and Certificates

		RJ21-E	RJ43-E	RJ21-E2	RJ43-E2
UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

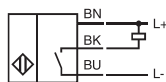
	20			
Length L [mm]	45	70	45	70
Width W [mm]	80	100	80	100
Height H [mm]	21	43	21	43
Inside diameter D [mm]				
Connector area l <sub>c</sub> [mm]		0		



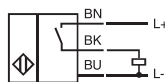
### Electrical Connection



RJ21-E  
RJ43-E



RJ21-E2  
RJ43-E2



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### 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

Switching element function	NAMUR, NC
Type of voltage	DC
Nominal voltage	8.2 V (R <sub>i</sub> approx. 1 kΩ)
Measuring cylinder	9S20K
Current consumption	
Measuring plate not detected	≥ 3 mA
Measuring plate detected	≤ 1 mA
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Housing material	PBT
Protection degree	IP67
Connection type	cablе PVC , 2 m



### Properties

- Up to Ø43 mm inside diameter versions
- 3 mm / 6 mm / 9 mm minimum target diameter
- 9S20K targets
- Very fast response
- DC, NAMUR interface

### Your Benefit

- EX approved sensor applicable up to zone 1

#### Model Number

		RJ15-14-N	RJ15-N	RJ21-N	RJ43-N
Inside diameter	15 mm	●	●		
	21 mm			●	
	43 mm				●
Measuring cylinder	9S20K	●	●	●	●
	Diameter				
Length	3 mm	●	●		
	6 mm			●	
	9 mm				●
	6 mm	●			
	4 mm		●		
Switching frequency	12 mm			●	
	18 mm				●
	0 ... 1000 Hz			●	
	0 ... 1500 Hz	●	●		
	0 ... 500 Hz				●

#### Use in the Hazardous Area

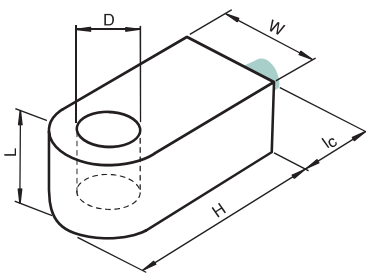
Use in the hazardous area	see instruction manuals	●	●	●	●
Category	2G	●	●	●	●

#### Approvals and Certificates

Control drawing	116-0165F		●	●	●
UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

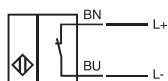
Length L [mm]		20			
Width W [mm]		25	29	45	70
Height H [mm]		32.5	45	80	100
Inside diameter D [mm]		15		21	43
Connector area l <sub>c</sub> [mm]		0			



### Electrical Connection



RJ15-14-N  
RJ15-N  
RJ21-N  
RJ43-N





**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**

Switching element function	NAMUR, NC
Type of voltage	DC
Nominal voltage	8.2 V (R <sub>i</sub> approx. 1 kΩ)
Current consumption	
Measuring plate not detected	≥ 3 mA
Measuring plate detected	≤ 1 mA
Ambient temperature	-20 ... 65 °C (-4 ... 149 °F)
Housing material	PBT
Protection degree	IP67
Connection type	cable PVC , 2 m



**Properties**

- Ø10 mm and Ø15 mm inside diameter versions
- 2.5 mm / 3 mm minimum target diameter
- 9S20K targets
- Very fast response
- DC, NAMUR interface

**Your Benefit**

- EX approved sensor applicable up to zone 1

**Model Number**

		RC10-14-N0	RC15-14-N0
Inside diameter	10 mm	●	
	15 mm		●
Measuring cylinder	9S20K	●	●
	Diameter		
	2.5 mm	●	
	3 mm		●
Length	4 mm	●	●
Switching frequency	0 ... 1500 Hz	●	●
	0 ... 2000 Hz		●
Suitable for 2:1 technology	✓, Reverse polarity protection diode not required	●	

**Use in the Hazardous Area**

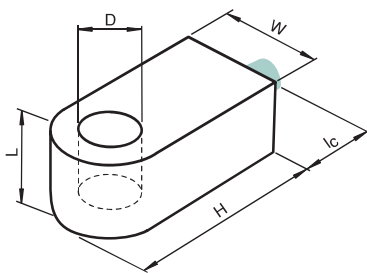
		RC10-14-N0	RC15-14-N0
Use in the hazardous area	see instruction manuals	●	●
Category	2G	●	●

**Approvals and Certificates**

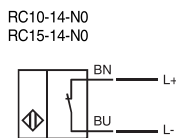
		RC10-14-N0	RC15-14-N0
Control drawing	116-0165F	●	●
UL approval	cULus Listed, General Purpose	●	●
CSA approval	cCSAus Listed, General Purpose	●	●

**Dimensions**

	RC10-14-N0	RC15-14-N0
Length L [mm]		20
Width W [mm]		25
Height H [mm]		32.5
Inside diameter D [mm]	10	15
Connector area l <sub>c</sub> [mm]		0



**Electrical Connection**



Date of issue 04/08/2015

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

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### 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

Switching element function	NAMUR, bistable
Type of voltage	DC
Nominal voltage	8.2 V (R <sub>i</sub> approx. 1 kΩ)
Current consumption	
Traverse B	3 mA
Traverse A	1 mA
Housing material	PBT
Protection degree	IP67
Connection type	cable PVC , 2 m



### Properties

- Ø10 mm and Ø15 mm inside diameter versions
- 2.5 mm / 3 mm minimum target diameter
- Ferrous targets
- Very fast response
- DC, bistable NAMUR interface

### Your Benefit

- Direction detection due to bistable switching behavior
- EX approved sensor applicable up to zone 1

#### Model Number

		RC10-14-N3	RC15-14-N3
Inside diameter	10 mm	●	
	15 mm		●
Measuring cylinder	ferrous metal	●	●
Diameter	2.5 mm	●	
	3 mm		●
Length	3 mm	●	
	4 mm		●
Passage speed	≤ 10 m/s		●
Ambient temperature	-20 ... 100 °C (-4 ... 212 °F)	●	
	-20 ... 70 °C (-4 ... 158 °F)		●

#### Use in the Hazardous Area

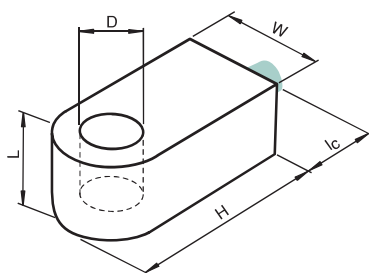
Use in the hazardous area	see instruction manuals	●	●
Category	2G	●	●

#### Approvals and Certificates

Control drawing	116-0165F	●	●
UL approval	cULus Listed, General Purpose	●	●
CSA approval	cCSAus Listed, General Purpose	●	●

#### Dimensions

Length L [mm]	20	
Width W [mm]	25	
Height H [mm]	32.5	
Inside diameter D [mm]	10	15
Connector area l <sub>c</sub> [mm]	0	



### Electrical Connection



RC10-14-N3  
RC15-14-N3

