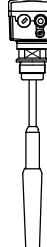


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Subject to change.

Valid: From 01.04.2016 until 31.03.2017, unless otherwise agreed.

All dimensions in mm (inches).

By publishing this selection list all other lists become invalid.

All prices in Euro, excluding VAT.

We assume no liability for typing errors.

All prices are EXW Betzigau, excluding packaging costs.

Different variations to those specified are possible.  
Please contact our technical consultants.

## Specifications

- Level limit detection in bulk goods / solids
- Compact unit
- Wide range of applications, no maintenance
- Full-, demand-, empty detector
- Capacitive technology with active shield
- Plastic or aluminium housing
- Sensitivity: dielectric constant  $\geq 1,6$
- Precalibration allows measurement of most applications without calibration on site
- FSL/FSH switch
- Output with adjustable delay
- 1935/2004/EC food grade material
- 2011/65/EU RoHS conform

Approvals	CE	
	ATEX / IEC-Ex	Zone 20/21 (Dust Ignition Proof)
	TR-CU	Ordinary Locations Zone 20/21 (Dust Ignition Proof)

Electro-nics	Relay SPDT	21..27V DC $\pm 10\%$
	Relay DPDT	21..230V AC 21..45V DC $\pm 10\%$
	PNP	20..40V DC $\pm 10\%$

Housing	Material	Plastics PA6 (glass fibre reinforced) or Aluminium
	Type of protection	IP66

CN 4020 (version 120°C)	Length of extension	155mm (6.1")
	Ambient temperature	-40 .. +60°C (-40 .. +140°F) -20 .. +60°C (-4 .. +140°F) (Ex)
	Process temperature	-40 .. +120°C (-40 .. +248°F) -20 .. +120°C (-4 .. +248°F) (Ex)
	Process pressure	-1 .. +25 bar (-14.5 .. +363 psi)
	Process connection	G 1" (with flat gasket) G 1 1/2" / NPT 1 1/4" / NPT 1 1/2" (adapter)
	Material of process connection / probe	Plastics PPS (glass fibre reinforced) FDA listed, food grade



CN 4020 (version 180°C)	Length of extension	190mm (7.5") or 400mm (15.7")
	Ambient temperature	-40 .. +60°C (-40 .. +140°F)
	Process temperature	-40 .. +180°C (-40 .. +356°F) -20 .. +180°C (-4 .. +356°F) (Ex)
	Process pressure	-1 .. +16 bar (-14.5 .. +232 psi)
	Process connection	G 1 1/2" (with flat gasket)
	Material of process connection / extension	1.4305 (SS 303), food grade
	Material of probe	Plastics PPS (glass fibre reinforced) FDA listed, food grade



## Specifications

CN 4030	Length of extension	210 .. 3.000mm (8.3 .. 118")
	Ambient temperature	-40 .. +60°C (-40 .. +140°F) -20 .. +60°C (-4 .. +140°F) (Ex)
	Process temperature	-40 .. +110°C (-40 .. +230°F) -20 .. +110°C (-4 .. +230°F) (Ex)
	Process pressure	-1 .. +16 bar (-14.5 .. +232 psi)
	Process connection	G 1 1/2" (with flat gasket)
	Material of process connection / extension	Aluminium or 1.4305 (SS 303), food grade
	Material of probe	Plastics PPS (glass fibre reinforced) FDA listed, food grade



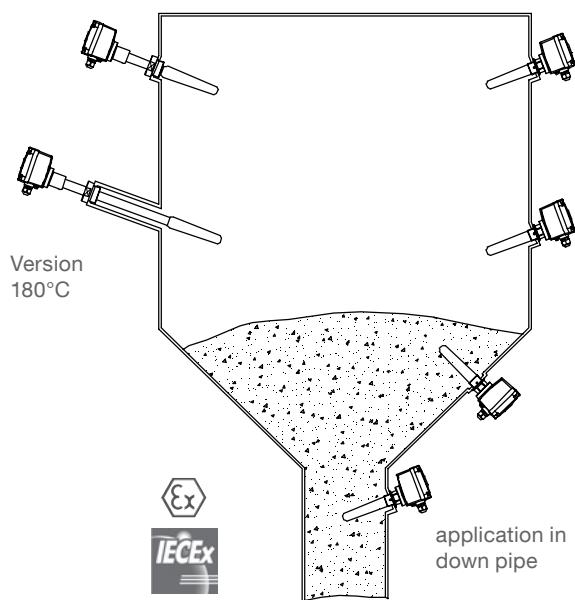
CN 4050	Length of extension	350 .. 6.000mm (13.8 .. 236")
	Ambient temperature	-20 .. +60°C (-4 .. +140°F)
	Process temperature	-20 .. +80°C (-4 .. +176°F)
	Process pressure	-1 .. +6 bar (-14.5 .. +87 psi)
	Process connection	G 1 1/2" (with flat gasket)
	Material of process connection	Aluminium or 1.4305 (SS 303)
	Material of cable isolation	PE, not food grade
	Material of probe	Plastics PPS/PBT (glass fibre reinforced)



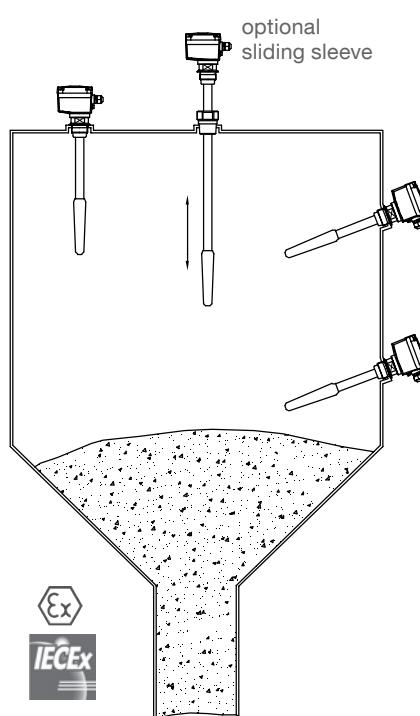
## Applications

### Detection of solids

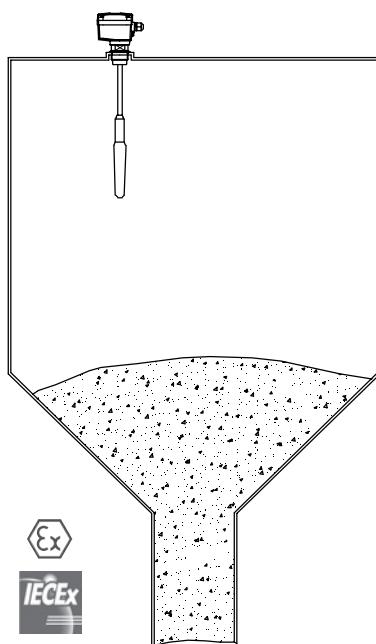
CN 4020



CN 4030



CN 4050



## CN 4020 (120°C) Short extension length



**Version:** 120°C, G1", L=155mm, PPS (food grade)  
**Dimensions:** see page 11  
**Cable entries:** M20x1,5 (1x cable gland + 1x blind plug)\*  
**Housing material:** Plastics PA6\*

\*Options see page 9

### Basic type

#### CN 4020 (120°C)

pos. 2	<b>Certificate</b>	•
0	CE <sup>(1)</sup> .....	•
W	ATEX II 1/2D .....	•
A	IEC-Ex ta/tb IIIC Da Db .....	•
E	TR-CU DIP A20/ A21 .....	•
pos. 4	<b>Electronic module</b>	•
E	Relay SPDT 21..27V DC .....	•
D	PNP 20..40V DC .....	•
L	Relay DPDT 21..230V AC 21..45V DC .....	•

**Further options:** see page 9

CN 4020	A	1	A	A	1	A	← Order code
position	1	2	3	4	5	6	7    8

All positions are available in special design (use code "Z").

<sup>(1)</sup>TR-CU (Ordinary Locations) included

## CN 4020 (180°C) Short extension length



**Version:**  
**Dimensions:**  
**Cable entries:**  
**Housing material:**

180°C, G1 1/2", 1.4305/PPS (food grade)  
 see page 11  
 M20x1,5 (1x cable gland + 1x blind plug)\*  
 Plastics PA6\*

\*Options see page 9

### Basic type

#### CN 4020 (180°C)

pos. 2	<b>Certificate</b>	•
0	CE <sup>(1)</sup>	•
W	ATEX II 1/2D	•
A	IEC-Ex ta/tb IIC Da Db	•
E	TR-CU DIP A20/ A21	•
pos. 4	<b>Electronic module</b>	•
D	PNP 20..40V DC	•
L	Relay DPDT 21..230V AC 21..45V DC	•
pos. 7	<b>Length of extension "L"</b>	•
2	190mm (7.5")	•
3	400mm (15.7")	•

**Further options:** see page 9

<b>CN 4020</b>	<b>A</b>	<b>2</b>	<b>B</b>	<b>3</b>	<b>3</b>		← Order code
position	1	2	3	4	5	6	7    8

All positions are available in special design (use code "Z").

<sup>(1)</sup> TR-CU (Ordinary Locations) included

## CN 4030 Pipe extension



**Version:**  
**Dimensions:**  
**Cable entries:**  
**Housing material:**

G1 1/2", Aluminium/1.4305/PPS (food grade)  
 see page 11  
 M20x1,5 (1x cable gland + 1x blind plug)\*  
 Plastics PA6\*

\*Options see page 9

### Basic type

#### CN 4030

pos. 2

#### Certificate

- |   |                        |       |   |
|---|------------------------|-------|---|
| 0 | CE <sup>(1)</sup>      | ..... | • |
| W | ATEX II 1/2D           | ..... | • |
| A | IEC-Ex ta/tb IIC Da/Db | ..... | • |
| E | TR-CU DIP A20/ A21     | ..... | • |

pos. 4

#### Electronic module

- |   |                                   |       |   |
|---|-----------------------------------|-------|---|
| D | PNP 20..40V DC                    | ..... | • |
| L | Relay DPDT 21..230V AC 21..45V DC | ..... | • |

pos. 6

#### Material of process connection

- |   |                              |       |   |
|---|------------------------------|-------|---|
| 1 | Aluminium                    | ..... | • |
| 3 | Stainless steel 1.4305 (303) | ..... | • |

pos. 7

#### Length of extension "L"

- |   |   |       |   |
|---|---|-------|---|
| A | 300mm (11.8")   | ..... | • |
| B | 500mm (19.7")   | ..... | • |
| C | 1.000mm (39.4")   | ..... | • |
| D | 1.500mm (59.1")   | ..... | • |
| Z | Price per 100mm (3.94") or part thereof (starting from 0mm)<br>min. 210mm (8.3"), max. 3.000mm (118") | ..... | • |

pos. 8

#### Material of extension "L"

must be the same material as pos.6

- |   |  |       |   |
|---|--|-------|---|
| 1 | Aluminium (probe: plastics PPS)                    | ..... | • |
| 3 | Stainless steel 1.4305 (303) (probe: plastics PPS) | ..... | • |

**Further options:** see page 9

<b>CN 4030</b>	<b>B</b>		<b>1</b>		<b>B</b>			
position	1	2	3	4	5	6	7	8

← Order code

<sup>(1)</sup> TR-CU (Ordinary Locations) included

All positions are available in special design (use code "Z").

## CN 4050 Cable extension



**Version:** G1 1/2", extension PE/PPS/PBT  
**Dimensions:** see page 11  
**Cable entries:** M20x1,5 (1x cable gland + 1x blind plug)\*  
**Housing material:** Plastics PA6\*

Cable length can be shortened at site

\*Options see page 9

### Basic type

#### CN 4050

pos. 2

#### Certificate

- |   |                         |       |   |
|---|-------------------------|-------|---|
| 0 | CE <sup>(1)</sup>       | ..... | • |
| W | ATEX II 1/2D            | ..... | • |
| A | IEC-Ex ia/tb IIIC Da Db | ..... | • |
| E | TR-CU DIP A20/ A21      | ..... | • |

pos. 4

#### Electronic module

- |   |                                   |       |   |
|---|-----------------------------------|-------|---|
| D | PNP 20..40V DC                    | ..... | • |
| L | Relay DPDT 21..230V AC 21..45V DC | ..... | • |

pos. 6

#### Material of process connection

- |   |                              |       |   |
|---|------------------------------|-------|---|
| 1 | Aluminium                    | ..... | • |
| 3 | Stainless steel 1.4305 (303) | ..... | • |

pos. 7

#### Length of extension "L"

- |   |   |       |   |
|---|---|-------|---|
| P | 500mm (19.7")   | ..... | • |
| Q | 1.000mm (39.4")   | ..... | • |
| R | 1.500mm (59.1")   | ..... | • |
| T | 2.500mm (98.4")   | ..... | • |
| U | 6.000mm (236")  | ..... | • |
| Z | Price per 100mm (3.94") or part thereof (starting from 0mm)<br>min. 350mm (138"), max. 6.000mm (236") | ..... | • |

**Further options:** see page 9

<b>CN 4050</b>	<b>D</b>		<b>1</b>	<b>B</b>			<b>B</b>	←	<b>Order code</b>
position	1	2	3	4	5	6	7	8	

All positions are available in special design (use code "Z").

(1) TR-CU (Ordinary Locations) included

## Options / Accessories

### Options

pos. 11x	<b>Guarantee extension to 5 years</b>	.....	●	
pos. 21	<b>Weather-protection cover</b>	.....	●	
	(for Ex only approved for Zone 22)			
pos. 22a	<b>Housing material</b>	.....	●	
	Aluminium			
	<b>Cable entry</b>			
	Selection of the following options only necessary, if a deviation from the default cable gland is required:			
pos. 23x	M20x1,5 2x screwed cable gland	.....	●	
pos. 23a	<sup>1</sup> NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)	.....	●	
pos. 24a	<b>Hexagon nut</b>			
pos. 24b	aluminium 1 pcs	.....	●	
pos. 24e	aluminium 2 pcs	.....	●	
pos. 24f	stainless steel 1.4305 (303) 1 pcs	.....	●	
pos. 24f	stainless steel 1.4305 (303) 2 pcs	.....	●	
pos. 25a	<b>Sliding sleeve</b>			
	<sup>2</sup> For applications without overpressure			
pos. 25a	G 1½ inch DIN 228 material 1.4305 (303)	.....	●	
pos. 25e	For applications with overpressure max. 16bar (232psi):			
pos. 25e	G 1½ inch DIN 2999 material 1.4305 (303)	.....	●	
pos. 27a	<sup>3</sup> <b>Signal lamp</b>			
pos. 27a	Bulb in cable gland, 2W green	.....	●	
pos. 27c	Bulb in cable gland, 2W red	.....	●	
pos. 35c	<sup>4</sup> <b>Plug</b>			
pos. 35x	Valve connector (incl. mating plug)	4-pole (incl PE)	max. 230V	●
pos. 35a	M12 (without mating plug)	4-pole	max. 25V	●
pos. 35b	M12 (without mating plug)	5-pole (incl. PE)	max. 60V	●
pos. 35c	Harting Han 4A (incl. mating plug)	5-pole (incl. PE)	max. 230V	●
pos. 36x	<sup>5</sup> <b>Grounding</b>			
	Without metal grounding pin inside the plastics process connection	.....	●	
	For applications with corrosive liquids			

<sup>1</sup> Available only for aluminium housing (pos.22a).

<sup>2</sup> Available only for CE (pos. 2, 0)

<sup>3</sup> Available only for CE (pos. 2, 0), not in combination with weather protection cover (pos. 21) and cable entries pos.23 x,a,b.

For electronic module Relais DPDT (pos. 4.L) three bulbs (24V, 115V and 230V) will be delivered. For PNP (pos.4.D) a 24V bulb will be delivered.

<sup>4</sup> Available only for CE (pos.2 0). Without connection of stranded wires for installation and internal terminals (standard) or according to customer specification.

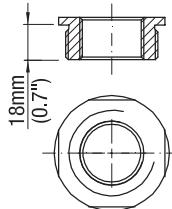
<sup>5</sup> Available only for CN4020 version 120°C.

### Accessories

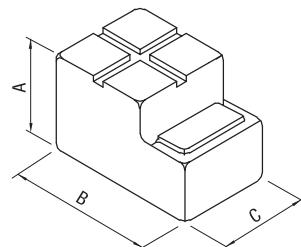
	<b>Adapter G 1" to G 1 1/2"</b>		
bu400606	Aluminium	.....	●
bu400607	1.4305 (303)	.....	●
	<b>Adapter G 1" to NPT 1 1/4"</b>		
bu400618	Aluminium	.....	●
bu400619	1.4305 (303)	.....	●
	<b>Adapter G 1" to NPT 1 1/2"</b>		
bu400610	Aluminium	.....	●
bu400611	1.4305 (303)	.....	●
zu400200	<b>Shortening kit for CN4050 cable</b>	.....	●

## Options / Accessories

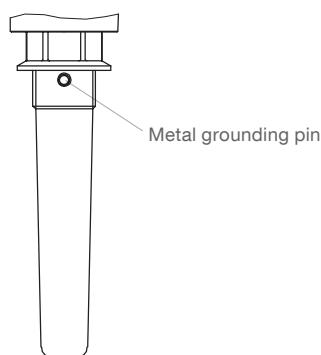
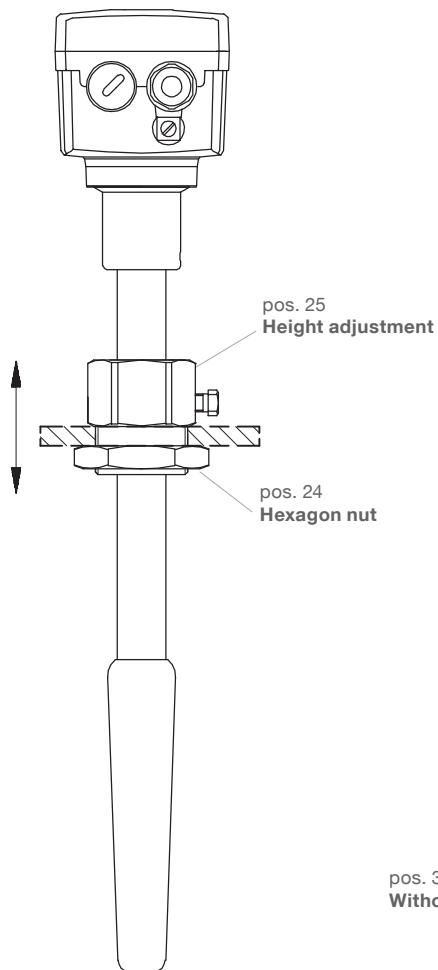
**Adapter**  
 G 1" to G 1 1/2"



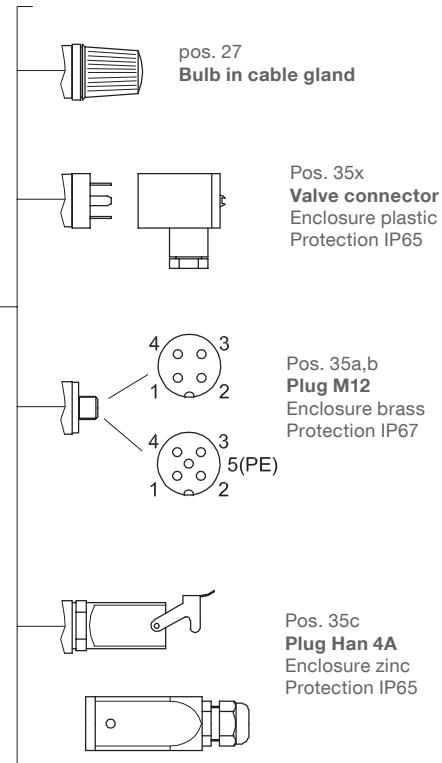
pos. 21  
**Weather protection cover**



A	100mm (3.94")
B	165mm (6.30")
C	95mm (3.54")

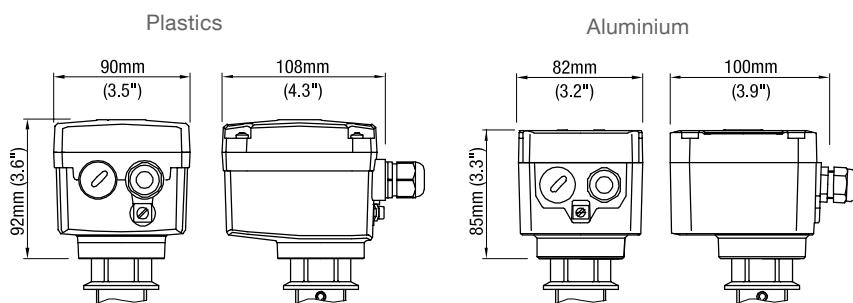


pos. 36x  
 Without metal grounding pin

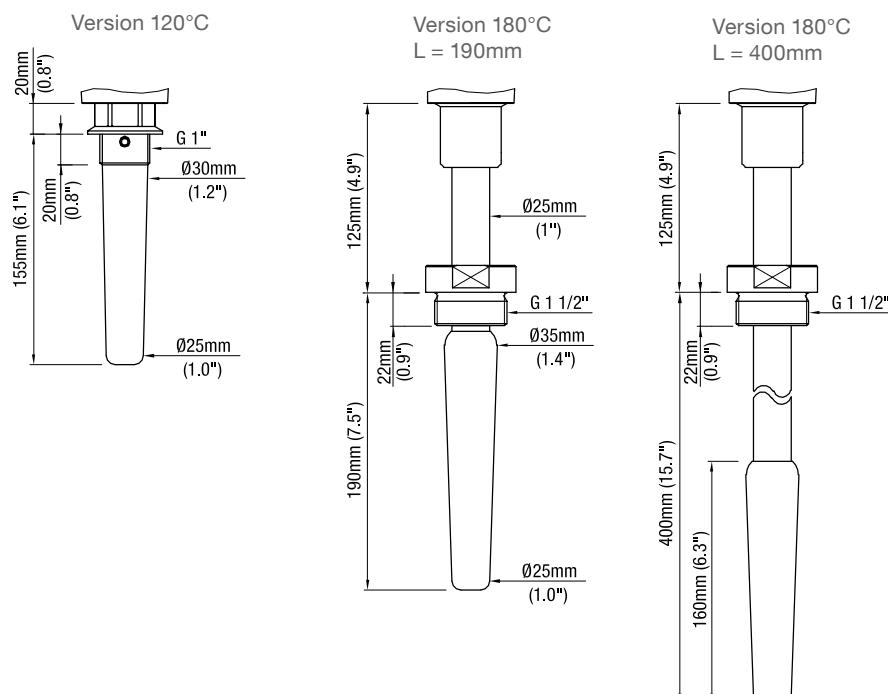


## Dimensions

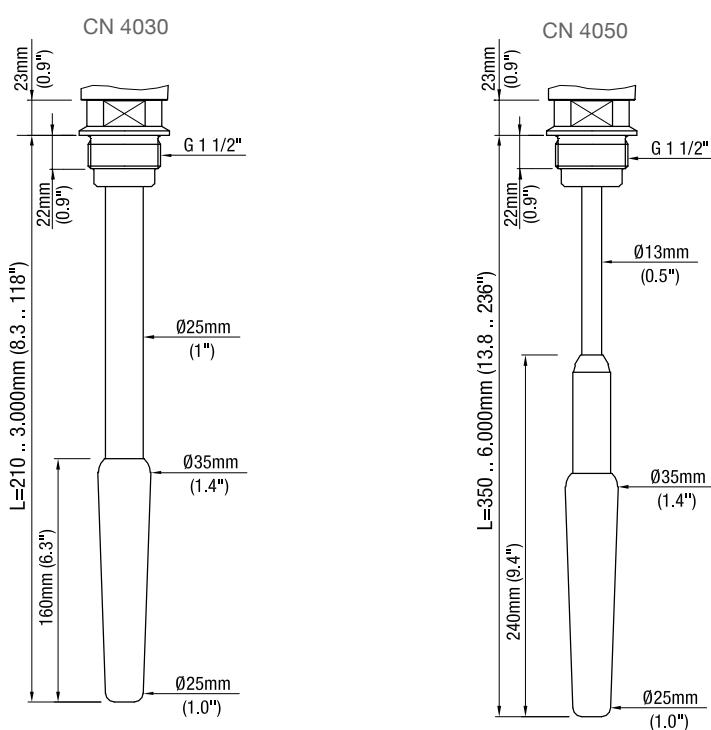
### Housing versions



### CN 4020



### CN 4030 CN 4050



## Electrical installation

### Relay SPDT

#### Power supply:

21..27V DC  $\pm 10\%^*$  1,5W  
 \*incl. 10% of EN 61010

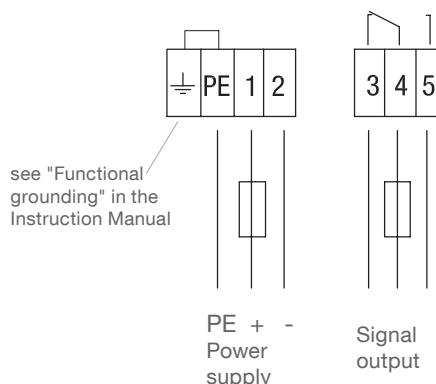
Fuse on power supply:  
 max. 10A, fast or slow, HBC, 250V

#### Signal output:

Floating relay SPDT

AC max. 250V, 3A, non inductive  
 DC max. 30V, 5A, non inductive

Fuse on signal output:  
 max 5A, fast or slow, HBC, 250V



### Relay DPDT

Universal voltage

#### Power supply:

21..230V 50-60Hz  $\pm 10\%^*$  18VA  
 21..45V DC  $\pm 10\%^*$  2W  
 \*incl. 10% of EN 61010

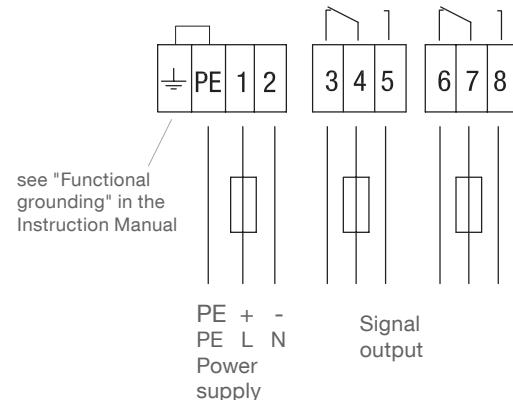
Fuse on power supply:  
 max. 10A, fast or slow, HBC, 250V

#### Signal output:

Floating relay DPDT

AC max. 250V, 8A, non inductive  
 DC max. 30V, 5A, non inductive

Fuse on signal output:  
 max 10A, fast or slow, HBC, 250V



### PNP

3-wire

#### Power supply:

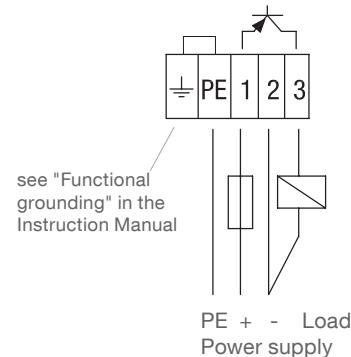
20 .. 40V DC  $\pm 10\%^*$  0.5A  
 \*incl. 10% of EN 61010

Fuse:  
 max 4A, fast or slow, 250V, HBC

#### Signal output:

max. 0.4A

Load for example:  
 PLC, relay, contactor, bulb

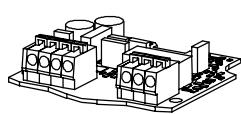


Approved power supply with reinforced insulation to mains is required

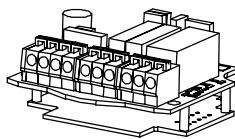
## Spare parts

For type	Electronics	Article number
<b>CN 4020</b> Version 120°C	<b>Relay SPDT</b> 21..27V DC	pl406100
	<b>Relay DPDT</b> 21..230V AC 21..45V DC	pl406110
	<b>PNP</b> 20..40V DC	pl406120
<b>CN 4020</b> Version 180°C	<b>Relay DPDT</b> 21..230V AC 21..45V DC	pl406111
	<b>PNP</b> 20..40V DC	pl406121
<b>CN 4030</b> <b>CN 4050</b>	For these types a non changeable electronic is located inside the probe. No spare parts are stated.	

Relay SPDT



Relay DPDT



PNP

