
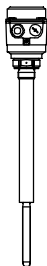
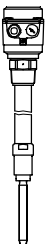


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Subject to change.

All dimensions in mm (inches).

All prices in Euro, excluding VAT.

All prices are EXW Betzigau, excluding packaging costs.

Valid: From 01.04.2016 until 31.03.2017, unless otherwise agreed.

By publishing this selection list all other lists become invalid.

We assume no liability for typing errors.

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

## Specifications

- Level limit detection in bulk goods / solids
- Compact unit
- Die-casted housing aluminium
- Wide range of applications, no maintenance
- Full-, demand-, empty detector
- Sensitivity > 20 g/l (1.25 lb/ft<sup>3</sup>)
- 4 sensitivity settings selectable
- ATEX, IEC-Ex, FM approvals (DustEx)
- 1935/2004/EC Food grade materials
- 2011/65/EU RoHS conform

Approvals	CE	
	ATEX / IEC-Ex	Zone 20/21 (Dust Ignition Proof)
	FM	Ordinary Locations Cl. II, III Div. 1 (Dust Ignition Proof)

Electro-nics	Relay DPDT	19..230V AC 19..40V DC ± 10%
	PNP	18..50V DC ± 10%

MN 4020	Length of extension	160mm (6.3")
	Ambient temperature	-40 .. +60°C (-40 .. +140°F)
	Process temperature	-40 .. +150°C (-40 .. +302°F)
	Process pressure	-1 .. +16 bar (-14.5 .. +232 psi)
	Process connection material / Extension	1.4301 (304)/1.4541 (321) or 1.4404 (316L) (food grade)

MN 4030	Length of extension	200 .. 4.000mm (7.9 .. 157")
	Ambient temperature	-40 .. +60°C (-40 .. +140°F)
	Process temperature	-40 .. +150°C (-40 .. +302°F)
	Process pressure	-1 .. +16 bar (-14.5 .. +232 psi)
	Process connection material / Extension	1.4301 (304)/1.4541 (321) or 1.4404 (316L) (food grade)

MN 4040	Length of extension	max. 1500mm (59") or 4.000mm (157")
	Ambient temperature	-40 .. +60°C (-40 .. +140°F)
	Process temperature	-40 .. +150°C (-40 .. +302°F)
	Process pressure	-1 .. +16 bar (-14.5 .. +232 psi)
	Process connection material / Extension	1.4301 (304)/1.4541 (321) or 1.4404 (316L) (food grade)

**MN 4020**



**MN 4040**



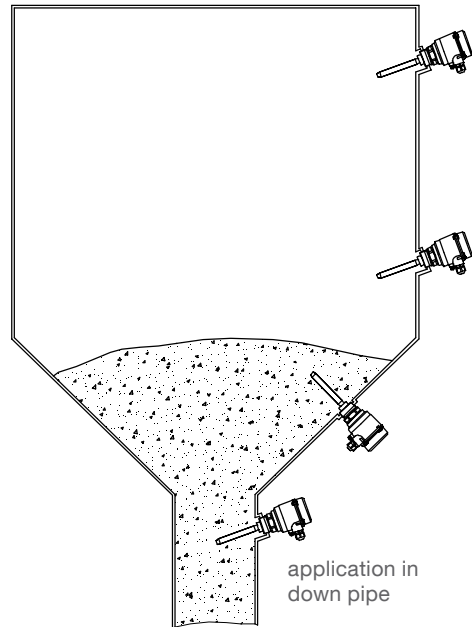
**MN 4030**



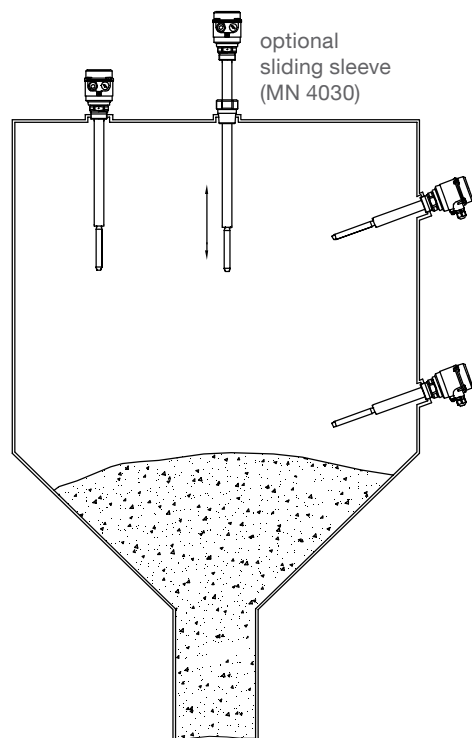
## Applications

### Detection of solids

MN 4020



MN 4030  
MN 4040



## MN 4020 Short extension length



**Materials inside process:** Food grade

**Cable entries** (by default)

Depending on model selected the following cable entries are supported (options see pos 23 on page 10):

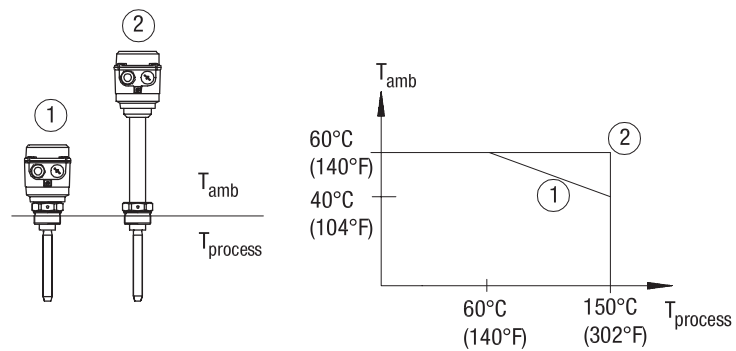
Version:	Cable entries:
CE / ATEX / IEC-Ex (pos.2 0,W,A)	M20x1,5 (1x cable gland + 1x blind plug)
FM (pos.2 M,N)	NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x blind plug)

**Dimensions** see page 12

pos. 3  
 Temperature extended shaft

Application up to 150°C (302°F)

- 1 without
- 2 with



## MN 4020 Short extension length

Available in  
 August 2016

### Basic type

**MN 4020** ..... •

- pos. 2 **Certificate**
- 0 CE ..... •
  - W ATEX II 1/2D Ex ta/tb IIIC T! Da/Db IP6X ..... •
  - A IEC-Ex ta/tb IIIC T! Da/Db IP6X ..... •
  - M FM General Purpose ..... •
  - N FM DIP Cl. II, III Div.1 Group E, F, G ..... •

- pos. 3 **Temperature extended shaft**
- 1 without (up to  $T_{process} = 150^{\circ}\text{C}$  (302°F) at  $T_{amb} < 40^{\circ}\text{C}$  (104°F)) ..... •
  - 2 with (up to  $T_{process} = 150^{\circ}\text{C}$  (302°F) at  $T_{amb} > 40^{\circ}\text{C}$  (104°F)) ..... •

- pos. 4 **Electronic module**
- L Relay DPDT 19..230V AC 19..40V DC ..... •
  - D PNP 18..50V DC ..... •

- pos. 5 **Process connection**
- A Thread G 1 1/2 inch DIN 228 ..... • •
  - B Thread G 1 1/4 inch DIN 228 ..... • •
  - C Thread G 1 inch DIN 228 ..... • •
  - F Thread NPT 1 1/2 inch conical ANSI B1.20.1 ..... • •
  - Q Thread NPT 1 1/4 inch conical ANSI B1.20.1 ..... • •
  - G Thread NPT 1 inch conical ANSI B1.20.1 ..... • •
  - P Triclamp 2" (DN50) ISO 2852 ..... • •
  - L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi)) ..... • •
  - M Flange DN 100 PN16, EN1092-1 ..... • •
  - S Flange 2" 150lbs ANSI B16.5 ..... • •
  - T Flange 3" 150lbs ANSI B16.5 ..... • •
  - U Flange 4" 150lbs ANSI B16.5 ..... • •

- pos. 8 **Material of process connection / extension "L"**
- 1 Stainless steel 1.4301 (304)/1.4541 (321) ..... •
  - 2 Stainless steel 1.4404 (316L) ..... •

**Further options:** see page 10

MN 4020	A					3	1	
position	1	2	3	4	5	6	7	8

← **Order code**

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

## MN 4030 Pipe extension



**Materials inside process:** Food grade

**Cable entries** (by default)

Depending on model selected the following cable entries are supported (options see pos 23 on page 10):

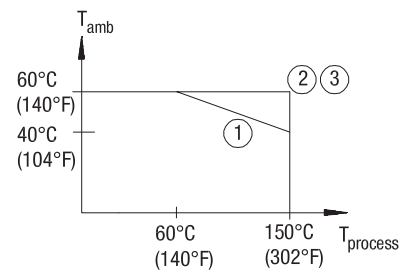
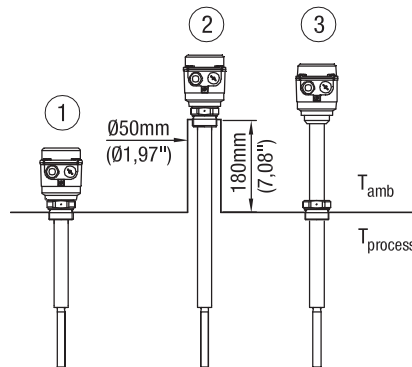
Version:	Cable entries:
CE / ATEX / IEC-Ex (pos.2 0,W,A)	M20x1,5 (1x cable gland + 1x blind plug)
FM (pos.2 M,N)	NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x blind plug)

**Dimensions** see page 12

pos. 3  
 Temperature extended shaft

Application up to 150°C (302°F)

- 1 without
- 2 without and with extended socket
- 3 with



## MN 4030 Pipe extension

Available in  
 August 2016

### Basic type

**MN 4030** ..... •

- pos. 2 **Certificate**
- 0 CE ..... •
  - W ATEX II 1/2D Ex ta/tb IIIC T! Da/Db IP6X ..... •
  - A IEC-Ex ta/tb IIIC T! Da/Db IP6X ..... •
  - M FM General Purpose ..... •
  - N FM DIP Cl. II, III Div.1 Group E, F, G ..... •

- pos. 3 **Temperature extended shaft**
- 1 without (up to  $T_{process} = 150^{\circ}\text{C}$  (302°F) at  $T_{amb} < 40^{\circ}\text{C}$  (104°F)) ..... •
  - 2 with (up to  $T_{process} = 150^{\circ}\text{C}$  (302°F) at  $T_{amb} > 40^{\circ}\text{C}$  (104°F)) ..... •

- pos. 4 **Electronic module**
- L Relay DPDT 19..230V AC 19..40V DC ..... •
  - D PNP 18..50V DC ..... •

- pos. 5 **Process connection**
- A Thread G 1½ inch DIN 228 ..... • •
  - B Thread G 1 ¼ inch DIN 228 ..... • •
  - C Thread G 1 inch DIN 228 ..... • •
  - F Thread NPT 1½ inch conical ANSI B1.20.1 ..... • •
  - Q Thread NPT 1 ¼ inch conical ANSI B1.20.1 ..... • •
  - G Thread NPT 1 inch conical ANSI B1.20.1 ..... • •
  - P Triclamp 2" (DN50) ISO 2852 ..... • •
  - L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi)) ..... • •
  - M Flange DN 100 PN16, EN1092-1 ..... • •
  - S Flange 2" 150lbs ANSI B16.5 ..... • •
  - T Flange 3" 150lbs ANSI B16.5 ..... • •
  - U Flange 4" 150lbs ANSI B16.5 ..... • •

- pos. 7 **Length of extension "L"**
- Z from 0mm per 100mm (3.94") and part thereof; min. 200mm (7.9"), max. 4.000mm (157") ..... • •

- pos. 8 **Material of process connection / extension "L"**
- 1 Stainless steel 1.4301 (304)/1.4541 (321) ..... • •
  - 2 Stainless steel 1.4404 (316L) ..... • •

**Further options:** see page 10

**MN 4030** | **B** | | | | | **3** | **Z** | | - **L=**  **mm** ← **Order code**

position 1 2 3 4 5 6 7 8

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

## MN 4040 Pipe extension (screwed)



**Materials inside process:** Food grade

**Cable entries** (by default)

Depending on model selected the following cable entries are supported (options see pos 23 on page 10):

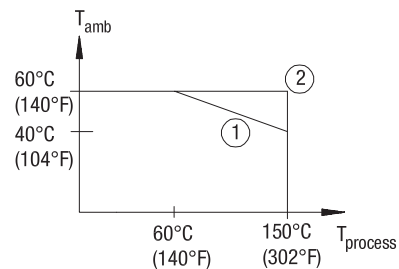
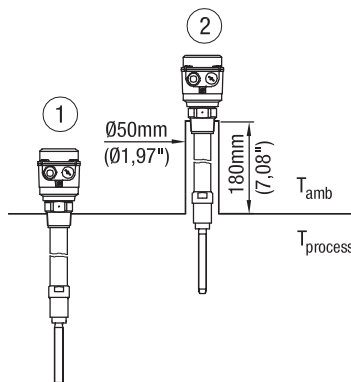
Version:	Cable entries:
CE / ATEX / IEC-Ex (pos.2 0,W,A)	M20x1,5 (1x cable gland + 1x blind plug)
FM (pos.2 M,N)	NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x blind plug)

**Dimensions**

see page 13

Application up to 150°C (302°F)

- 1 without extended socket
- 2 with extended socket





## MN 4040 Pipe extension (screwed)

Available in  
 August 2016

### Basic type

**MN 4040** ..... •

pos. 2

#### Certificate

- 0 CE ..... •
- W ATEX II 1/2D Ex ta/tb IIIC T! Da/Db IP6X ..... •
- A IEC-Ex ta/tb IIIC T! Da/Db IP6X ..... •
- M FM General Purpose ..... •
- N FM DIP Cl. II, III Div.1 Group E, F, G ..... •

pos. 4

#### Electronic module

- L Relay DPDT 19..230V AC 19..40V DC ..... •
- D PNP 18..50V DC ..... •

pos. 5

#### Process connection

- A Thread G 1½ inch DIN 228 ..... • •
- F Thread NPT 1½ inch conical ANSI B1.20.1 ..... • •
- P Triclamp 2" (DN50) ISO 2852 ..... • •
- L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi)) ..... • •
- M Flange DN 100 PN16, EN1092-1 ..... • •
- S Flange 2" 150lbs ANSI B16.5 ..... • •
- T Flange 3" 150lbs ANSI B16.5 ..... • •
- U Flange 4" 150lbs ANSI B16.5 ..... • •

pos. 7

#### Length of extension "L"

- L 1500mm (59") (cutable cable length) ..... •
- M 4000mm (157") (cutable cable length) ..... •

pos. 8

#### Material of process connection / extension "L"

- 1 Stainless steel 1.4301 (304) / 1.4541 (321)
- 2 Stainless steel 1.4404 (316L)

Further options: see page 10

MN 4040	C		1			3		
---------	---	--	---	--	--	---	--	--

position 1 2 3 4 5 6 7 8

← Order code

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

## Options

- pos. 11x **Guarantee extension to 5 years** ..... •
- pos. 21 **Weather protection cover** ..... •  
 (for Ex only approved for Zone 22 or Div. 2)

### Mounting set for flange mounting

	process connection flange	for counter flange with	consists of				
			screws*	nuts*	washers*	sealing**	
pos. 22c	L	hole ø18	4 x M16x60	4 x M16	4 pcs	1 piece	•
pos. 22d	L	thread M16	4 x M16x40		4 pcs	1 piece	•
pos. 22e	M	hole ø18	4 x M16x60	8 x M16	8 pcs	1 piece	•
pos. 22f	M	thread M16	4 x M16x40		8 pcs	1 piece	•

\* material stainless steel A2 \*\*max. 125°C (256°F), material not food grade

### Cable entry

Selection of the following options only necessary, if a deviation from the default cable gland / conduit is required:

- pos. 23x M20x1.5 2x screwed cable gland ..... •
- pos. 23y M20x1.5 1x screwed cable gland +1x blind plug ..... •
- pos. 23a NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) ..... •
- pos. 23b NPT 3/4" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) ..... on request

### Sliding sleeve <sup>6</sup>

Process connection as follows or flange as chosen

- <sup>3</sup> For applications without overpressure, max. 150°C (302°F)
- pos. 25a G 1½" DIN 228 material 1.4301 (304) ..... •
- pos. 25b NPT 1½ inch ANSI B1.20.1 material 1.4301 (304) ..... •
- pos. 25c Flange <sup>5</sup> material 1.4301 (304)/1.4541 (321) ..... •

For applications with overpressure max. 16bar (232psi), max. 150°C (302°F)

- pos. 25e G 1½" DIN 228 material 1.4404 (316L) ..... •
- pos. 25f NPT 1½ inch ANSI B1.20.1 material 1.4404 (316L) ..... •
- pos. 25g Flange <sup>5</sup> material 1.4404 (316L) ..... •

### Signal lamp

- pos. 27a Bulb in cable gland, 2W green <sup>1</sup> ..... •
- pos. 27c Bulb in cable gland, 2W red <sup>1</sup> ..... •
- pos. 27b LED (glass window in lid)<sup>4</sup> ..... •

- pos. 29 **Plug 4-pole <sup>2</sup> (incl. PE)** ..... •

<sup>1</sup> Available 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>2</sup> Available for CE (pos. 2, 0)

<sup>3</sup> Available for CE and FM general purpose (pos. 2, 0, M)

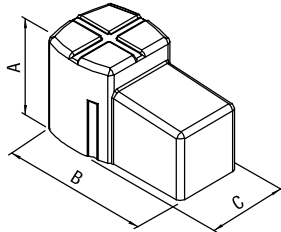
<sup>4</sup> Not in combination with weather protection cover (Pos. 21)

<sup>5</sup> Flange as selected in pos.5

<sup>6</sup> Available for MN 4030

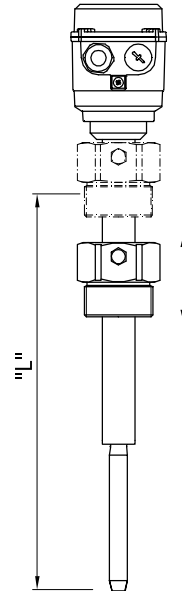
## Options

pos. 21  
**Weather protection cover**

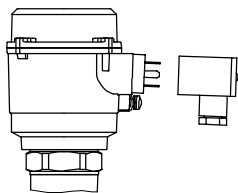


A	100mm (3.94")
B	165mm (6.5")
C	88mm (3.46")

pos. 25  
**Sliding sleeve**

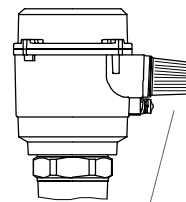


pos. 29  
**Plug 4-pole**



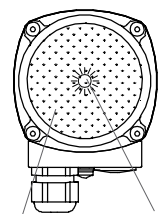
**Signal lamp**

pos. 27a, c  
 Bulb in cable gland



bulb

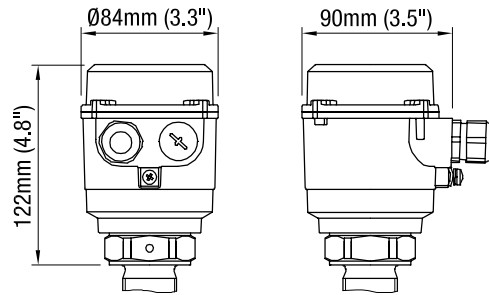
pos. 27b  
 LED (glass window in lid)



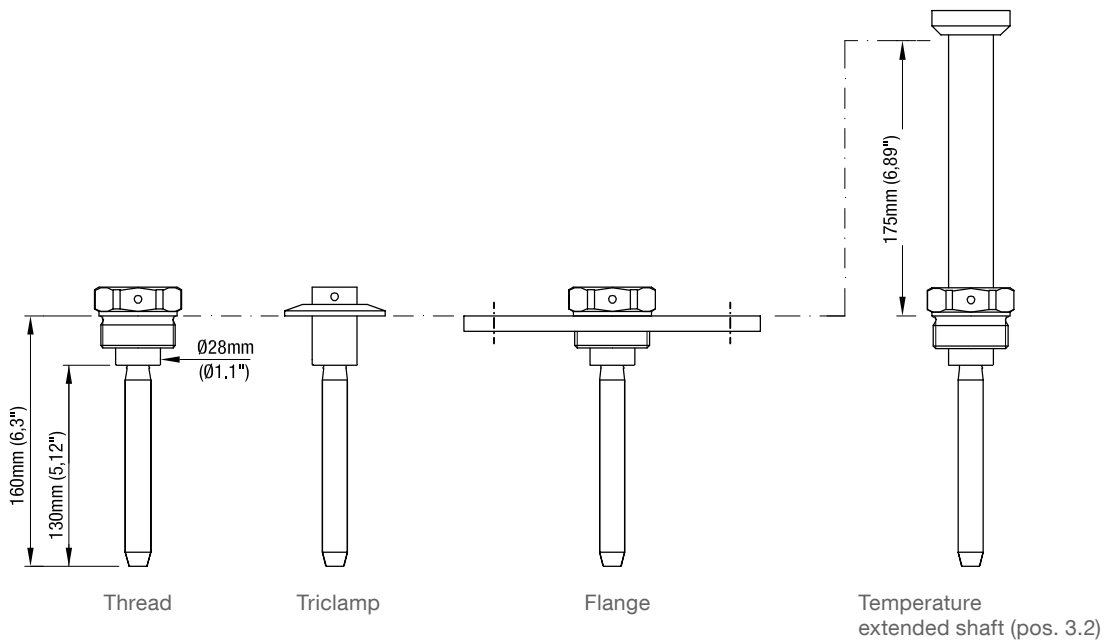
glass window

LED

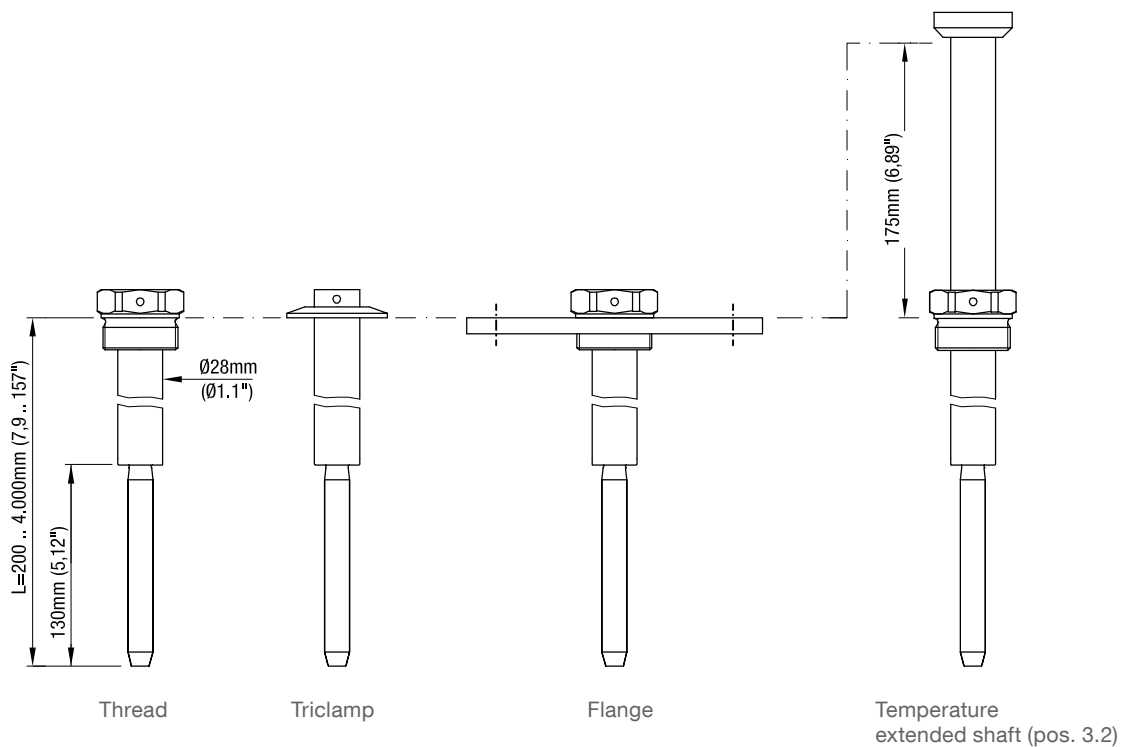
## Dimensions



### MN 4020

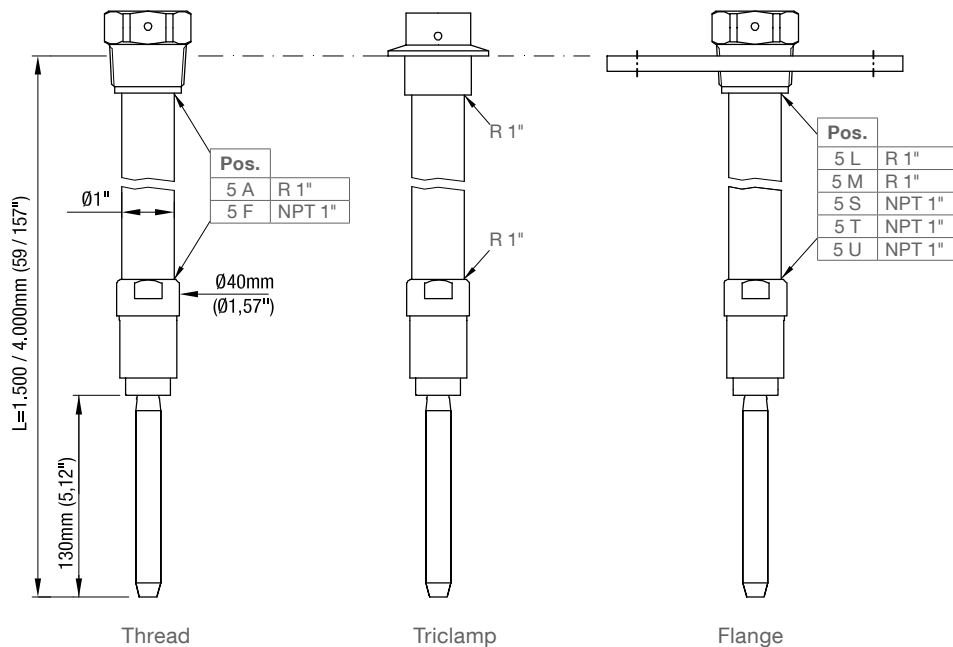


### MN 4030



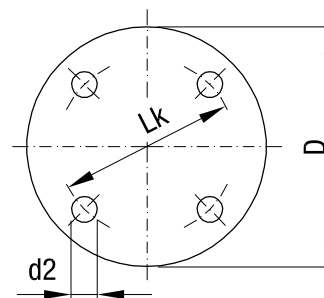
## Dimensions / Spare parts

MN 4040



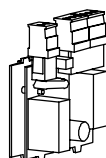
### Flanges

code	type	number of holes	d2	Lk	D	T (thickness)
L	flange DN100 PN6	4	18mm (0.71")	170mm (6.69")	210mm (8.27")	16mm (0.63")
M	flange DN100 PN16	8	18mm (0.71")	180mm (7.09")	220mm (8.66")	20mm (0.79")
S	flange 2" 150lbs	4	19.1mm (0.75")	120.7mm (4.75")	152.4mm (6.01")	19.1mm (0.75")
T	flange 3" 150lbs	4	19.1mm (0.75")	152.4mm (6.01")	190.5mm (7.5")	23.9mm (0.94")
U	flange 4" 150lbs	8	19.1mm (0.75")	190.5mm (7.5")	228.6mm (9")	23.9mm (0.94")



### Spare parts

Electronic board	Article number	Price
<b>Relais DPDT</b> 19..230V AC 19..50V DC	pl405265	•
<b>PNP</b> 18..50V DC	pl405266	•



## Electrical installation

### Universal voltage

Relay DPDT

**Power supply:**

19..230V 50-60Hz ± 10%\* 22VA  
 19..40V DC ± 10%\* 2W  
 \*incl. ±10% of EN 61010

**Fuse on power supply:**

max. 10A, fast or slow, HBC, 250V

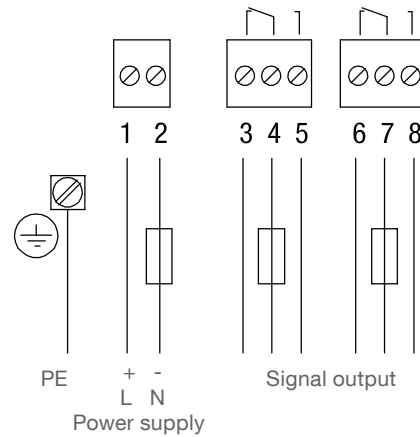
**Signal output:**

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



### 3-wire

PNP

**Power supply:**

18 .. 50V DC ±10%\*  
 \*incl. ±10% of EN 61010  
 Input current: max. 0.5A

**Fuse:**

max. 4A, fast or slow, 250V

**Signal output:**

max. 0.4A  
 Output voltage equal to input  
 voltage, drop <2.5V

**Load for example:**

PLC, relay, contactor, bulb

