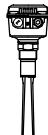


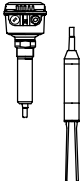


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Subject to change.

All dimensions in mm (inches).

All prices in Euro, excluding VAT.

All prices are EXW Betzigau, excluding packaging costs.

Valid: From 01.04.2011 until 31.03.2012, unless otherwise agreed.

By publishing this selection list all other lists become invalid.

We assume no liability for typing errors.

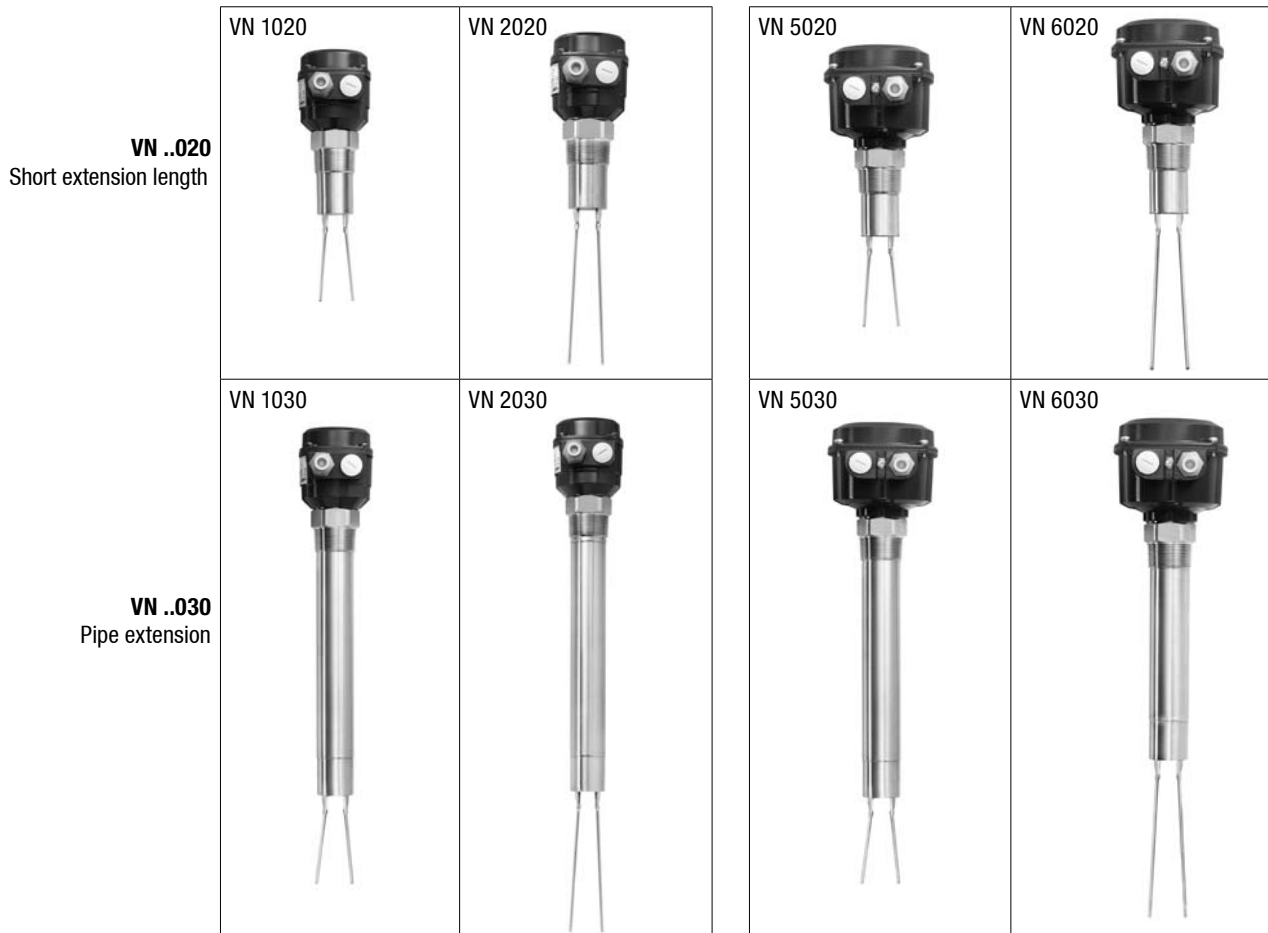
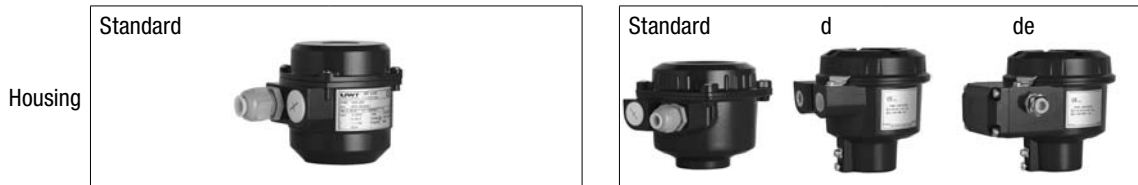
Different variations to those specified are possible.  
 Please contact our technical consultants.

## Overview

- Level limit detection in bulk goods / solids
- Compact unit
- Die-casted housing aluminium
- Wide range of applications, no maintenance
- Full, demand, empty detector
- ATEX, IEC-Ex, FM, CSA GasEx and DustEx approvals
- GOST-R Ex and RTN Ex Staub Ex approvals

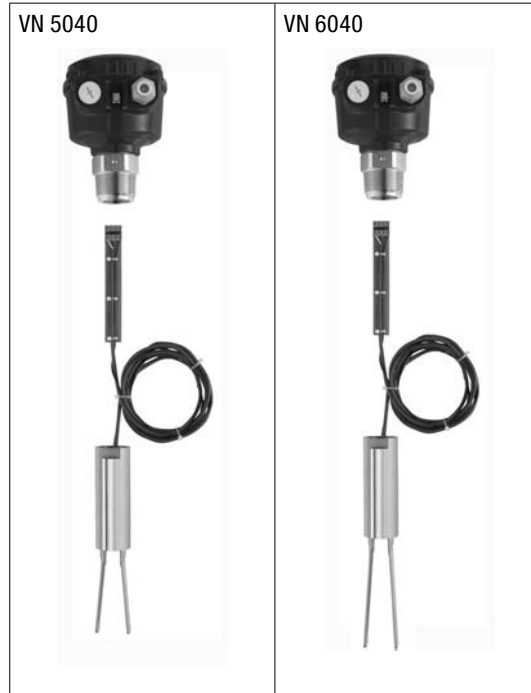
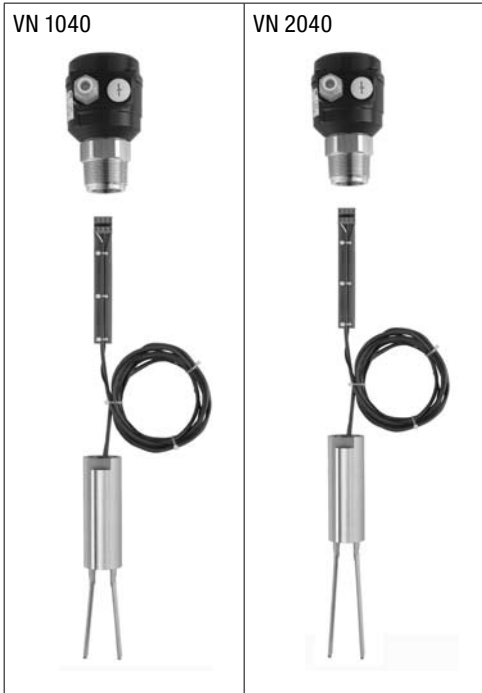
### Series

| VN 1000  | VN 2000  | VN 5000   | VN 6000   |
|--|--|---|---|
| ATEX / IEC-Ex<br>GOST-R Ex / RTN Ex<br>Small housing<br>Short oscillating rods<br>Sensitivity<br>> 50g/l (3lb/ft <sup>3</sup> )<br>For extreme mech. load<br>For mounting in down pipes<br>Advantageous design to avoid bridges<br>Also for interface applications | ATEX / IEC-Ex<br>GOST-R Ex / RTN Ex<br>Small housing<br>Standard oscillating rods<br>Sensitivity<br>> 20 g/l (1.2lb/ft <sup>3</sup> )<br>Option > 5g/l (0.3lb/ft <sup>3</sup> )<br>Vibrasil® < 5g/l (0.3lb/ft <sup>3</sup> ) | ATEX / IEC-Ex / FM / CSA<br>Spacious housing<br>Short oscillating rods<br>Sensitivity<br>> 50g/l (3 lb/ft <sup>3</sup> )<br>For extreme mech. load<br>For mounting in down pipes<br>Advantageous design to avoid bridges<br>Also for interface applications | ATEX / IEC-Ex / FM / CSA<br>Spacious housing<br>Standard oscillating rods<br>Sensitivity<br>> 20g/l (1.2lb/ft <sup>3</sup> )<br>Option > 5g/l (0.3lb/ft <sup>3</sup> )<br>Vibrasil® < 5g/l (0.3lb/ft <sup>3</sup> ) |



## Overview

**VN ..040**  
 Pipe extension  
 (screwed)  
 Custom made  
 pipe for flexible  
 lengths



**VN ..050**  
 Cable extension

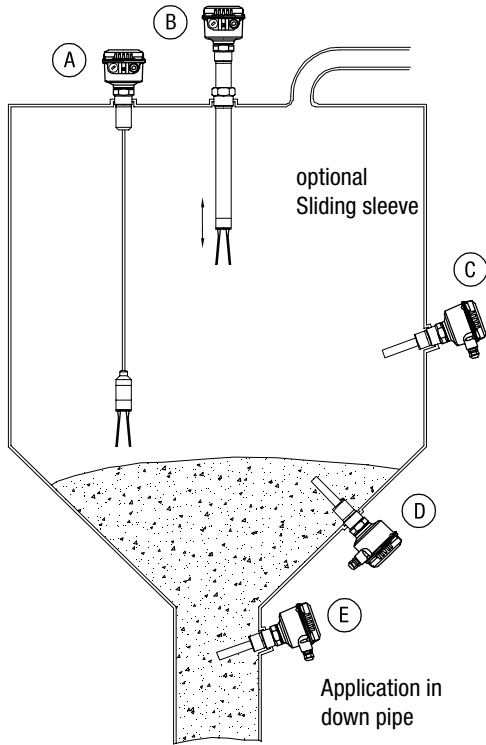


## Specifications

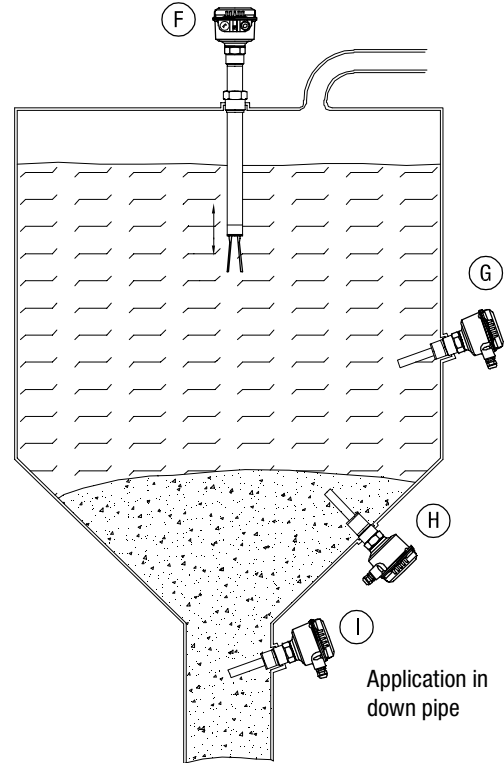
| Series                    |                               | VN 1000                       | VN 2000   | VN 5000       | VN 6000       |               |
|---------------------------|-------------------------------|-------------------------------|---|---------------|---------------|---------------|
| Approvals                 | <b>CE</b>                     | •                             | •   | •             | •             |               |
|                           | <b>ATEX / IEC-Ex:</b>         |                               |   |               |               |               |
|                           | Zone 20 and 20/21             | Dust Ignition Proof           | •   | •             | •             | •             |
|                           | Zone 0                        | Intrinsic Safe                | •   | •             | •             | •             |
|                           | Zone 1                        | Flameproof / Increased Safety |   |               | •             | •             |
|                           | <b>FM / CSA:</b>              |                               |   |               |               |               |
|                           | General purp.                 |                               |   |               | •             | •             |
|                           | Cl. II, III Div. 1            | Dust Ignition Proof           |   |               | •             | •             |
|                           | Cl. I Div. 1                  | Intrinsic Safe                |   |               | •             | •             |
|                           | Cl. I Div. 1                  | Explosionproof                |   |               | •             | •             |
| Zone 0                    | Intrinsic Safe                |                               |   | •             | •             |               |
| Zone 1                    | Flameproof / Increased Safety |                               |   | •             | •             |               |
| <b>GOST-R Ex / RTN Ex</b> |                               |                               |   |               |               |               |
|                           | Dust Ignition Proof           | •                             | •   |               |               |               |
| Electronics               | Relais SPDT                   | 19..230V AC 19..55V DC        | •   | •             | •             | •             |
|                           | Relais DPDT                   | 19..230V AC 19..36V/55V DC    | •   | •             | •             | •             |
|                           | PNP                           | 18..50V DC                    | •   | •             | •             | •             |
|                           | 2-wire without contact        | 19..230V AC/DC                | •   | •             | •             | •             |
|                           | NAMUR                         | IEC 60947-5-6 2-wire          |   | •             |               | •             |
|                           | 8/16mA or 4-20mA              | 12.5-30/36V DC 2-wire         | •   | •             | •             | •             |
| Extensions                | <b>VN .020</b>                | Length of extension           | 165mm (6.47")   | 235mm (9.25") | 165mm (6.47") | 235mm (9.25") |
|                           |                               | Ambient temperature           | -40 .. +60°C (-40 .. +140°F)                            |               |               |               |
|                           |                               | Process temperature           | -40 .. +150°C (-40 .. +302°F)                           |               |               |               |
|                           |                               | Process pressure              | -1 .. +16bar (-14.5 .. +232 psi)                        |               |               |               |
|                           |                               | Process connection material   | 1.4301 (SS 304) or 1.4404 (SS316L) / 1.4571 (SS 316 TI) |               |               |               |
|                           | <b>VN .030</b>                | Length of extension           | 300 .. 4.000mm (11.8 .. 157")                           |               |               |               |
|                           |                               | Ambient temperature           | -40 .. +60°C (-40 .. +140°F)                            |               |               |               |
|                           |                               | Process temperature           | -40 .. +150°C (-40 .. +302°F)                           |               |               |               |
|                           |                               | Process pressure              | -1 .. +16bar (-14.5 .. +232 psi)                        |               |               |               |
|                           |                               | Process connection material   | 1.4301 (SS 304) or 1.4404 (SS316L) / 1.4571 (SS 316 TI) |               |               |               |
|                           | <b>VN .040</b>                | Length of extension           | 1.500mm (59") or 4.000mm (157")                         |               |               |               |
|                           |                               | Ambient temperature           | -40 .. +60°C (-40 .. +140°F)                            |               |               |               |
|                           |                               | Process temperature           | -40 .. +150°C (-40 .. +302°F)                           |               |               |               |
|                           |                               | Process pressure              | -1 .. +16bar (-14.5 .. +232 psi)                        |               |               |               |
|                           |                               | Process connection material   | 1.4301 (SS 304) or 1.4404 (SS316L) / 1.4571 (SS 316 TI) |               |               |               |
|                           | <b>VN .050</b>                | Length of extension           | 750 ... 20.000mm (27.6" .. 787")                        |               |               |               |
|                           |                               | Ambient temperature           | -25 .. +60°C (-13 .. +140°F)                            |               |               |               |
|                           |                               | Process temperature           | -25 .. +80°C (-13 .. +176°F)                            |               |               |               |
|                           |                               | Process pressure              | -1 .. +6bar (-14.5 .. +87 psi)                          |               |               |               |
|                           |                               | Process connection material   | 1.4301 (SS 304) Cable isolation: PUR                    |               |               |               |

## Applications

Detection of solids



Detection of solids in water



Gas and Dust  
(optional)

|         | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| VN 1020 |     |     | •   | •   | •   |     | •   | •   | •   |
| VN 1030 |     | •   | •   |     |     | •   | •   |     |     |
| VN 1040 |     | •   | •   |     |     |     |     |     |     |
| VN 1050 | •   |     |     |     |     |     |     |     |     |
| VN 2020 |     |     | •   | •   | •   |     |     |     |     |
| VN 2030 |     | •   | •   |     |     |     |     |     |     |
| VN 2040 |     | •   | •   |     |     |     |     |     |     |
| VN 2050 | •   |     |     |     |     |     |     |     |     |
| VN 5020 |     |     | •   | •   | •   |     | •   | •   | •   |
| VN 5030 |     | •   | •   |     |     | •   | •   |     |     |
| VN 5040 |     | •   | •   |     |     |     |     |     |     |
| VN 5050 | •   |     |     |     |     |     |     |     |     |
| VN 6020 |     |     | •   | •   | •   |     |     |     |     |
| VN 6030 |     | •   | •   |     |     |     |     |     |     |
| VN 6040 |     | •   | •   |     |     |     |     |     |     |
| VN 6050 | •   |     |     |     |     |     |     |     |     |

## VN ..020 Short extension length

VN 1020



VN 2020



VN 5020



VN 6020



### Housings VN 5020 / 6020



Standard

d (flameproof)

de (flameproof / increased safety)

### Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

| Version:                           | Cable entries:   |
|------------------------------------|--|
| ATEX/IEC-Ex flameproof (pos.2 T,D) | M20x1.5 (1x open conduit + 1x Ex-d blind plug)                       |
| FM and CSA (pos.2 M,N,P,S,U)       | NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) |
| All other versions                 | M20x1.5 (1x screwed cable gland + 1x blind plug)                     |

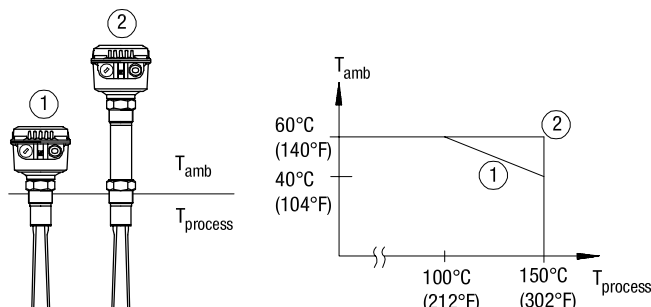
### Dimensions

see pages 17-20

pos. 3

Temperature extended shaft applications up to 150°C (302°F)

- 1 without
- 2 with





## VN ..030 Pipe extension

VN 1030



VN 2030



VN 5030



VN 6030



Housings VN 5030 / 6030



d (flameproof)

de (flameproof /  
increased safety)

### Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

| Version:                           | Cable entries:   |
|------------------------------------|--|
| ATEX/IEC-Ex flameproof (pos.2 T,D) | M20x1.5 (1x open conduit + 1x Ex-d blind plug)                       |
| FM and CSA (pos.2 M,N,P,S,U)       | NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) |
| All other versions                 | M20x1.5 (1x screwed cable gland + 1x blind plug)                     |

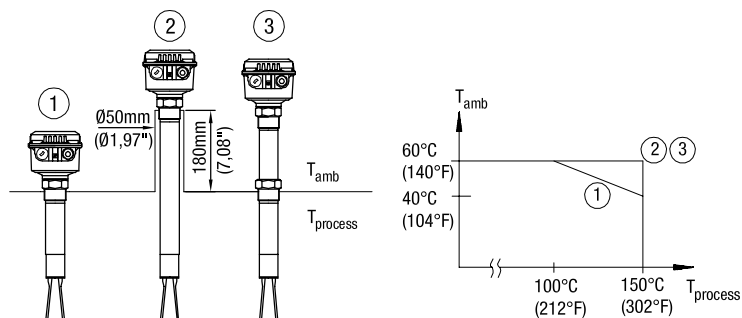
### Dimensions

see pages 17-20

pos. 3

Temperature extended shaft  
 applications up to 150°C (302°F)

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





## VN ..040 Pipe extension (screwed)

VN 1040



VN 2040



VN 5040



VN 6040



Housings VN 5040 / 6040



Standard



d (flameproof)



de (flameproof /  
increased safety)

### Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

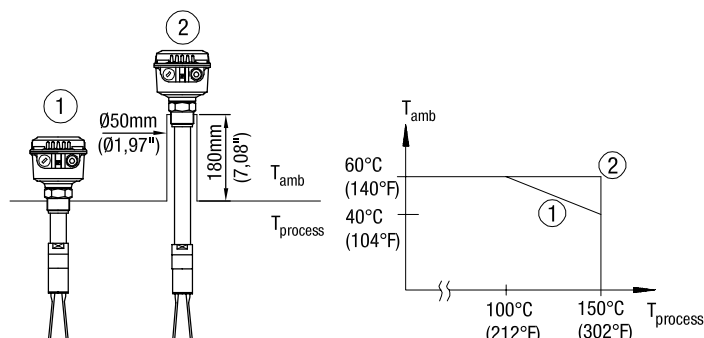
| Version:                           | Cable entries:   |
|------------------------------------|--|
| ATEX/IEC-Ex flameproof (pos.2 T,D) | M20x1.5 (1x open conduit + 1x Ex-d blind plug)                       |
| FM and CSA (pos.2 M,N,P,S,U)       | NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) |
| All other versions                 | M20x1.5 (1x screwed cable gland + 1x blind plug)                     |

### Dimensions

see pages 17-20

applications up to 150°C (302°F)

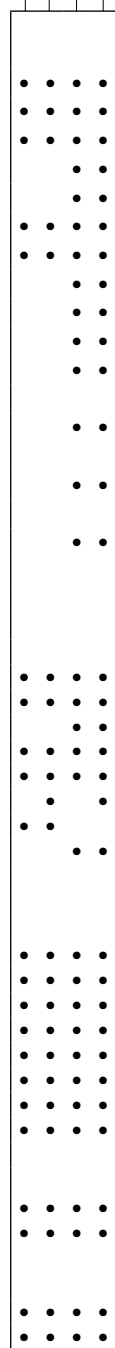
- 1 without extended socket
- 2 with extended socket



## VN ..040 Pipe extension (screwed)

### Basic type

- VN 1040** .....
- VN 2040** .....
- VN 5040** .....
- VN 6040** .....



### pos. 2 Certificate (detailed Ex-markings: see page 20)

|   | Dust                       | Gas                  | Protection method                                   |
|---|----------------------------|----------------------|---|
| 0 | CE                         | -                    |   |
| W | ATEX Zone 20 and 20/21     | -                    | Dust Ignition Proof                                 |
| Y | ATEX Zone 20 and 20/21     | Zone 0 and 0/1       | Intrinsic Safe / Dust Ignition Proof                |
| R | ATEX Zone 20/21            | Zone 1               | Flameproof / Increased Safety / Dust Ignition Proof |
| T | ATEX Zone 20/21            | Zone 1               | Flameproof / Dust Ignition Proof                    |
| A | IEC-Ex Zone 20 and 20/21   | -                    | Dust Ignition Proof                                 |
| B | IEC-Ex Zone 20 and 20/21   | Zone 0 and 0/1       | Intrinsic Safe / Dust Ignition Proof                |
| C | IEC-Ex Zone 20/21          | Zone 1               | Flameproof / Increased Safety / Dust Ignition Proof |
| D | IEC-Ex Zone 20/21          | Zone 1               | Flameproof / Dust Ignition Proof                    |
| M | FM /CSA -                  | -                    | General purpose                                     |
| N | FM /CSA Cl. II, III, Div.1 | -                    | Dust Ignition Proof                                 |
|   | CSA A 20/21                |                      |   |
| P | FM /CSA Cl. II, III, Div.1 | Cl. I Div.1 / Zone 0 | Intrinsic Safe / Dust Ignition Proof                |
|   | CSA A 20/21                |                      |   |
| S | FM /CSA Cl. II, III, Div.1 | Zone 1               | Flameproof / Increased Safety / Dust Ignition Proof |
|   | CSA A 20/21                |                      |   |
| U | FM /CSA Cl. II, III, Div.1 | Cl. I Div.1 / Zone 1 | Explosion Proof / Dust Ignition Proof               |
|   | CSA A 20/21                |                      |   |

### pos. 4 Electronic module

- E Relay SPDT 19..230V AC 19..55V DC .....
- L Relay DPDT 19..230V AC 19..55V DC .....
- 19..230V AC 19..36V DC .....
- D PNP 18..50V DC .....
- K 2-wire without contact 19..230V AC/DC .....
- M NAMUR IEC 60947-5-6 2-wire .....
- N 8/16mA or 4-20mA 12,5..36V\* DC 2-wire .....
- N 8/16mA or 4-20mA 12,5..36V\* DC 2-wire .....

\*30V intrinsic safe

| applicable for certificates (pos.2) |   |   |   |   |   |   |   |   |   |  |
|-------------------------------------|---|---|---|---|---|---|---|---|---|--|
| 0                                   | W | Y | R | T | M | N | P | S | U |  |
| •                                   | • |   | • | • | • | • |   | • | • |  |
| •                                   | • |   |   |   |   | • | • |   |   |  |
| •                                   | • |   |   | • | • | • |   | • | • |  |
| •                                   | • |   | • | • | • | • |   | • | • |  |
| •                                   | • |   |   |   |   |   |   | • |   |  |
| •                                   | • | • |   |   |   |   |   |   |   |  |
| •                                   |   |   |   |   |   |   |   |   |   |  |

### pos. 5 Process connection

- A Thread R 1½ inch, conical DIN 2999 .....
- B Thread NPT 1½ inch, conical ANSI B1.20.1 .....
- P Triclamp 2" (DN 50) 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 1.500mm (59") (cuttable cable length) .....
- M 4.000mm (157") (cuttable cable length) .....

### pos. 8 Material of process connection / extension "L"

- 1 Stainless steel 1.4301 (304)
- 2 Stainless steel 1.4404 (316L) / 1.4571 (316TI)
- Teflon coating on request

**Further options and accessories:** see page 14-16

### Basic type

|          |          |          |          |   |   |   |   |
|----------|----------|----------|----------|---|---|---|---|
|          | <b>C</b> | <b>1</b> | <b>3</b> |   |   |   |   |
| Position | 1        | 2        | 3        | 4 | 5 | 6 | 7 |

← **Order code**

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

## VN ..050 Cable extension

VN 1050



VN 2050



VN 5050



VN 6050



### Housings VN 5050 / 6050



Standard



d (flameproof)



de (flameproof /  
increased safety)

### Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

| Version:                           | Cable entries:   |
|------------------------------------|--|
| ATEX/IEC-Ex flameproof (pos.2 T,D) | M20x1.5 (1x open conduit + 1x Ex-d blind plug)                       |
| FM and CSA (pos.2 M,N,P,S,U)       | NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) |
| All other versions                 | M20x1.5 (1x screwed cable gland + 1x blind plug)                     |

### Dimensions

see pages 17-20



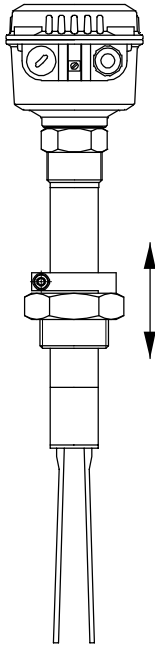
## Options

| VN 1020   | VN 2020 | VN 5020                   | VN 6020 | VN 1030                                  | VN 2030 | VN 5030     | VN 6030 | VN 1040 | VN 2040 | VN 5040  | VN 6040 | VN 1050   | VN 2050 | VN 5050 | VN 6050 |
|---|---------|---------------------------|---------|--|---------|-------------|---------|---------|---------|----------|---------|-----------|---------|---------|---------|
| • • 1 1   | • • 1 1 | • • 1 1                   | • • 1 1 | • • 1 1                                  | • • 1 1 | • • 1 1     | • • 1 1 | • • 1 1 | • • 1 1 | • • 1 1  | • • 1 1 | • • 1 1   | • • 1 1 | • • 1 1 | • • 1 1 |
| pos. 21 <b>Weather-protection cover</b> .....<br>(for Ex only approved for Zone 2 or 22 or Div. 2)                    |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| <b>Mounting set for flange mounting</b>   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
|   |         | process connection flange |         | for counter flange with                  |         | consists of |         |         |         |          |         |           |         |         |         |
|   |         |                           |         |  |         | screws*     |         | nuts*   |         | washers* |         | sealing** |         |         |         |
| • • • •   | • • • • | • • • •                   | • • • • | • • • •                                  | • • • • | • • • •     | • • • • | • • • • | • • • • | • • • •  | • • • • | • • • •   | • • • • | • • • • | • • • • |
|   |         | L                         |         | hole ø18                                 |         | 4 x M16x60  |         | 4 x M16 |         | 4 pcs    |         | 1 piece   |         |         |         |
|   |         | L                         |         | thread M16                               |         | 4 x M16x40  |         |         |         | 4 pcs    |         | 1 piece   |         |         |         |
|   |         | M                         |         | hole ø18                                 |         | 4 x M16x60  |         | 8 x M16 |         | 8 pcs    |         | 1 piece   |         |         |         |
|   |         | M                         |         | thread M16                               |         | 4 x M16x40  |         |         |         | 8 pcs    |         | 1 piece   |         |         |         |
| * material stainless steel A2 **max. 250°C (482°F)  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| <b>Cable entry</b>  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| Selection of the following options only necessary, if a deviation from the default cable gland / conduit is required: |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| • • 2 2   | • • 2 2 | • • 2 2                   | • • 2 2 | • • 2 2                                  | • • 2 2 | • • 2 2     | • • 2 2 | • • 2 2 | • • 2 2 | • • 2 2  | • • 2 2 | • • 2 2   | • • 2 2 | • • 2 2 | • • 2 2 |
|   |         | 3 3                       |         | 3 3                                      |         | 3 3         |         | 3 3     |         | 3 3      |         | 3 3       |         | 3 3     |         |
| 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 req.                                |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| <b>Sliding sleeve</b> (max. 16bar (232psi), max. 150°C (302°F))   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| process connection as follows or flange as choosen; with Triclamp on request  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| Not for Ex applications Zone 0/1 (Cat. 1/2) with separation wall  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| • • • •   | • • • • | • • • •                   | • • • • | • • • •                                  | • • • • | • • • •     | • • • • | • • • • | • • • • | • • • •  | • • • • | • • • •   | • • • • | • • • • | • • • • |
|   |         | G2" ISO 228               |         | material 1.4301 (304)                    |         | .....       |         |         |         |          |         |           |         |         |         |
|   |         | G2" ISO 228               |         | material 1.4404 (316L) / 1.4571 (316 TI) |         | .....       |         |         |         |          |         |           |         |         |         |
|   |         | NPT 2" ANSI B1.20.1       |         | material 1.4301 (304)                    |         | .....       |         |         |         |          |         |           |         |         |         |
|   |         | NPT 2" ANSI B1.20.1       |         | material 1.4404 (316L) / 1.4571 (316 TI) |         | .....       |         |         |         |          |         |           |         |         |         |
| <b>Special versions</b>   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| • •   | • •     | • •                       | • •     | • •                                      | • •     | • •         | • •     | • •     | • •     | • •      | • •     | • •       | • •     | • •     | • •     |
| 4 4   | 4 4     | 4 4                       | 4 4     | 4 4                                      | 4 4     | 4 4         | 4 4     | 4 4     | 4 4     | 4 4      | 4 4     | 4 4       | 4 4     | 4 4     | 4 4     |
| pos. 26x Enhanced sensitivity (> 5g/l (0,3lb/ft³)) .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| pos. 26a Vibrasil 70 (sensitivity <5g/l (0,3lb/ft³)) .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| pos. 26b Vibrasil 90 (sensitivity <5g/l (0,3lb/ft³)) .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| pos. 26c Adjustable sensitivity for interface applications (only with CE) .....                                       |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| • • 5 5   | • • 5 5 | • • 5 5                   | • • 5 5 | • • 5 5                                  | • • 5 5 | • • 5 5     | • • 5 5 | • • 5 5 | • • 5 5 | • • 5 5  | • • 5 5 | • • 5 5   | • • 5 5 | • • 5 5 | • • 5 5 |
| pos. 26.1 Separate housing cable length 1,5m (59") .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| pos. 26.2 Separate housing cable length 4,0m (157") .....   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| <b>Signal lamp</b>  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| 6 6 6 6   | 6 6 6 6 | 6 6 6 6                   | 6 6 6 6 | 6 6 6 6                                  | 6 6 6 6 | 6 6 6 6     | 6 6 6 6 | 6 6 6 6 | 6 6 6 6 | 6 6 6 6  | 6 6 6 6 | 6 6 6 6   | 6 6 6 6 | 6 6 6 6 | 6 6 6 6 |
| pos. 27a Bulb in cable gland, 2W green .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| pos. 27c Bulb in cable gland, 2W red .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| pos. 27b LED (glass window in lid) .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| 8 8 8 8   | 8 8 8 8 | 8 8 8 8                   | 8 8 8 8 | 8 8 8 8                                  | 8 8 8 8 | 8 8 8 8     | 8 8 8 8 | 8 8 8 8 | 8 8 8 8 | 8 8 8 8  | 8 8 8 8 | 8 8 8 8   | 8 8 8 8 | 8 8 8 8 | 8 8 8 8 |
| pos. 29 <b>Plug 4-pole</b> (incl. PE) .....   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| <b>EHEDG approval</b>   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| 9 9 9 9   | 9 9 9 9 | 9 9 9 9                   | 9 9 9 9 | 9 9 9 9                                  | 9 9 9 9 | 9 9 9 9     | 9 9 9 9 | 9 9 9 9 | 9 9 9 9 | 9 9 9 9  | 9 9 9 9 | 9 9 9 9   | 9 9 9 9 | 9 9 9 9 | 9 9 9 9 |
| Pos. 30a Without flush welding socket .....   |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| Pos. 30b Process connection flush welding socket ø80 made of aluminium .....  |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| Pos. 30c Process connection flush welding socket ø80 made of 1.4301 (304) .....                                       |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |
| Pos. 30d Process connection flush welding socket ø80 made of 1.4404 (316L) .....                                      |         |                           |         |  |         |             |         |         |         |          |         |           |         |         |         |

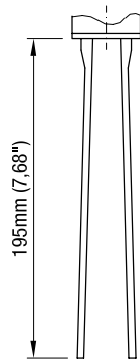
- Available for all versions except explosionproof / flameproof versions (pos.2 C,D,R,T,S,U)
- Available for all versions except flameproof version (pos.2 D,T,U)
- Available for FM/CSA versions (pos.2 M,N,P,S) except flameproof version (pos.2 U)
- Available only with electronic module "Relais SPDT" (pos.4 E)
- Available for all versions. Electronic module "8/16mA or 4-20mA" (pos.4 N) not for FM/CSA
- Available for CE (pos.2 O), not in combination with weather protection cover (pos 21) and cable entries pos.23 x,a,b.  
For electronic module Relais SPDT and DPDT (pos. 4.E,L) three bulbs (24V, 115V and 230V) will be delivered. For PNP (pos.4.D) a 24V bulb will be delivered. For other electronics on request.
- Available for all versions except explosionproof / flameproof version (pos.2 C,D,R,T,S,U)
- Available only for CE (pos.2 O)
- Available only for cap nut (pos.5 G). Not with pos.22, 25, 26a. With pos.30a the flush welding socket must be manufactured on site.

## Options

pos. 25  
**Sliding sleeve**

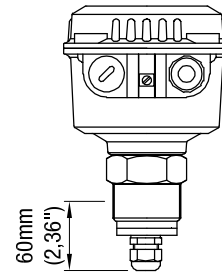


pos. 26x  
**Enhanced sensitivity**



pos. 26b  
**Vibrasil® 90**

pos. 26 1-2  
**Seperate housing**



max. ambient temperature:  
 60°C (140°F)

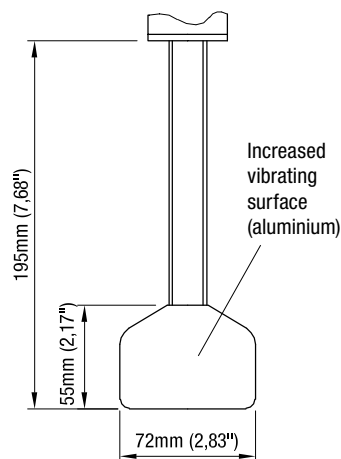
cable must be installed in the steel hose or in a metal tube

in case of Ex approvals: steel hose is part of delivery

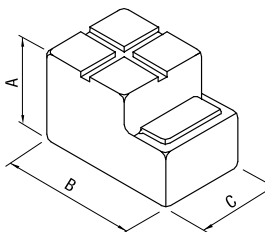
protective conductor for version with Ex approval

max. Process temperature:  
 150°C (302°F)  
 (Ex 110°C (230°F))

pos. 26a  
**Vibrasil® 70**

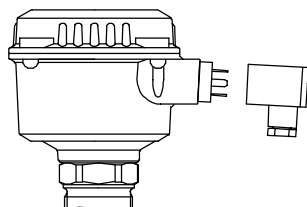


pos. 21  
**Weather-protection cover**



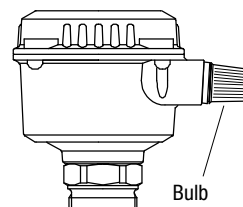
|   | VN 10..0<br>VN 20..0 | VN 50..0<br>VN 60..0 |
|---|----------------------|----------------------|
| A | 100mm<br>(3.94")     | 130mm<br>(5.12")     |
| B | 165mm<br>(6.5")      | 200mm<br>(7.87")     |
| C | 88mm<br>(3.46")      | 125mm<br>(4.92")     |

pos. 29  
**Plug 4-pole**

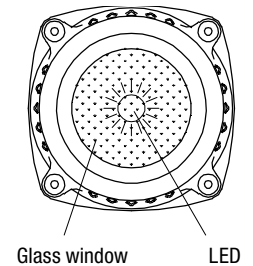


**Signal lamp**

pos. 27a, c  
 Bulb in cable gland

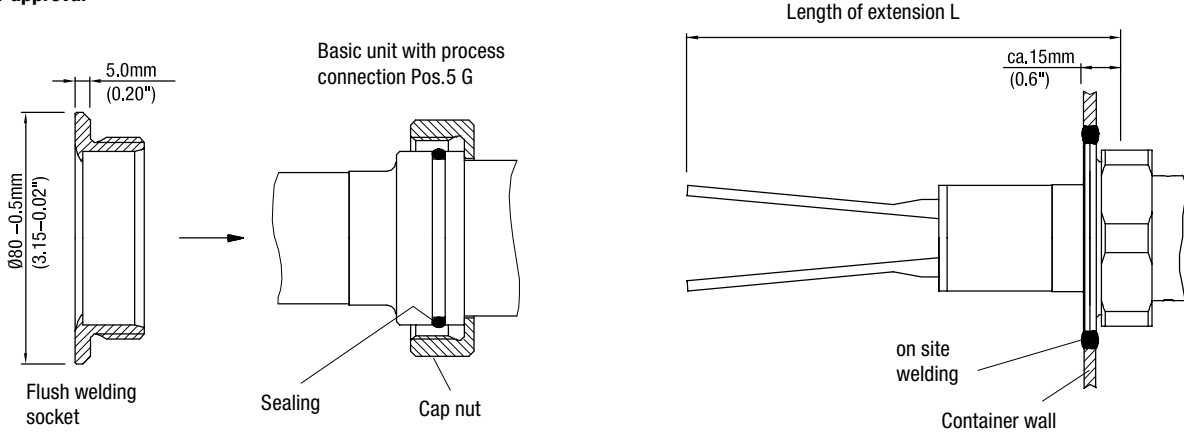


pos. 27b  
 LED (glass window in lid)



## Options / Accessories

Pos. 30  
 EHEDG-approval



### NAMUR Isolating Switching Amplifier Protection method [EEx ia] IIC (for Electronic module pos.4 M)



Terminal housing. Switchable signal output logic. Each channel has one independent output.

| Channels | Signal output | Monitoring* | Supply          | Manufacturer / Type | Price | Manufacturer / Type  | Price |
|----------|---------------|-------------|-----------------|---------------------|-------|----------------------|-------|
|          |               |             |                 | Pepperl & Fuchs     |       | Turck                |       |
| 1        | Relay (SPDT)  | x           | 24V DC          | KFD2-SR2-Ex1.W      |       | MK13-11Ex0-R/24VDC   |       |
|          |               | x           | 115V AC         | KFA5-SR2-Ex1.W      |       | MK13-11Ex0-R/115VAC  |       |
|          |               | x           | 230V AC         | KFA6-SR2-Ex1.W      |       | MK13-11Ex0-R/230VAC  |       |
|          | x             | 24V DC      | KFD2-ST2-Ex1.LB | MK13-PN-Ex0/24VDC   |       |                      |       |
|          | PNP           | x           | 24V DC          |                     |       |                      |       |
| 2        | Relay (SPDT)  | x           | 24V DC          | KFD2-SR2-Ex2.W      |       | MK13-22Ex0-R/24VDC   |       |
|          |               | x           | 115V AC         | KFA5-SR2-Ex2.W      |       | MK13-22Ex0-R/115VAC  |       |
|          |               | x           | 230V AC         | KFA6-SR2-Ex2.W      |       | MK13-22Ex0-R/230VAC  |       |
|          |               | x           | 24V DC          | KFD2-ST2-Ex2        |       | MK13-22P-Ex0/24VDC   |       |
|          |               | PNP         | x               | 24V DC              |       |                      |       |
| 3        | Relay (SPDT)  | x           | 24V DC          |                     |       | MK13-33Ex0-R/24VDC   |       |
|          |               | x           | 115V AC         |                     |       | MK13-33Ex0-R/115VAC  |       |
|          |               | x           | 230V AC         |                     |       | MK13-33Ex0-R/230VAC  |       |
|          | x             | 24V DC      |                 | MK13-33Ex0-T/24VDC  |       |                      |       |
|          | PNP           | x           | 24V DC          |                     |       |                      |       |
| 4        | Relay (SPDT)  | x           | 24V DC          |                     |       | MK13-451Ex0-R/24VDC  |       |
|          |               | x           | 115V AC         |                     |       | MK13-451Ex0-R/115VAC |       |
|          |               | x           | 230V AC         |                     |       | MK13-451Ex0-R/230VAC |       |
|          | x             | 24V DC      |                 | MK13-451Ex0-T/24VDC |       |                      |       |
|          | PNP           | x           | 24V DC          |                     |       |                      |       |

\* Input circuit monitoring for wire-break, partial for short-circuit. Partial additional monitoring signal output.

Other types and manufacturers on request.

### 8/16mA Limit Value Monitor (for Electronic module pos.4 N)



**Limit Value Monitor** Type IM43-13-R .....  
 Input: 1 channel 4-20mA  
 Output: 2 Limit Value Relays for separate output of level and diagnose.  
 Terminal housing. Supply: 20-250V AC/DC. Manufacturer: Turck.  
 Use in Hazardous Locations only with additional connected Isolating Transducer IM33.

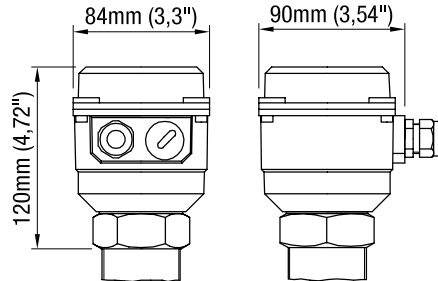
**Isolating Transducer** Type IM33-11Ex-Hi/24VDC (1 channel) .....  
**Isolating Transducer** Type IM33-11Ex-Hi/24VDC (2 channels) .....  
 Protection method [EEx ia] IIC.  
 Terminal housing.  
 Input/Output: 4-20mA (galvanic isolated). Supply: 19-29V DC.

## Dimensions

### Housing versions

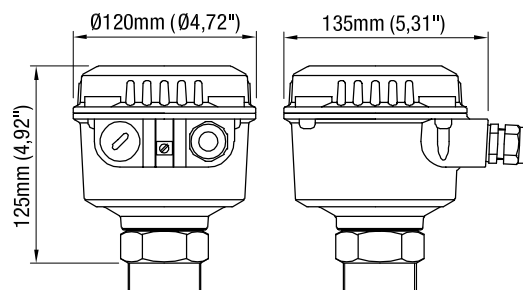
#### Series VN 1000 / 2000

##### Standard



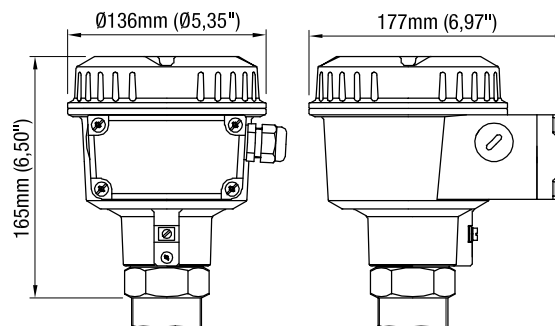
#### Series VN 5000 / 6000

##### Standard



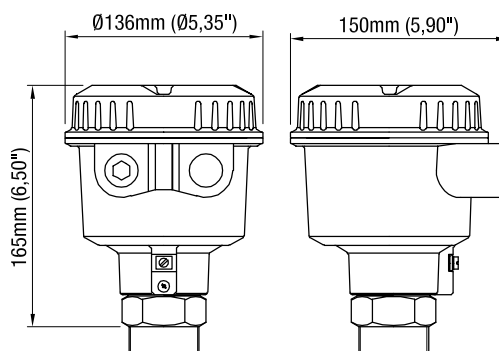
##### de

Explosionproof with  
 increased safety  
 terminal box



##### d

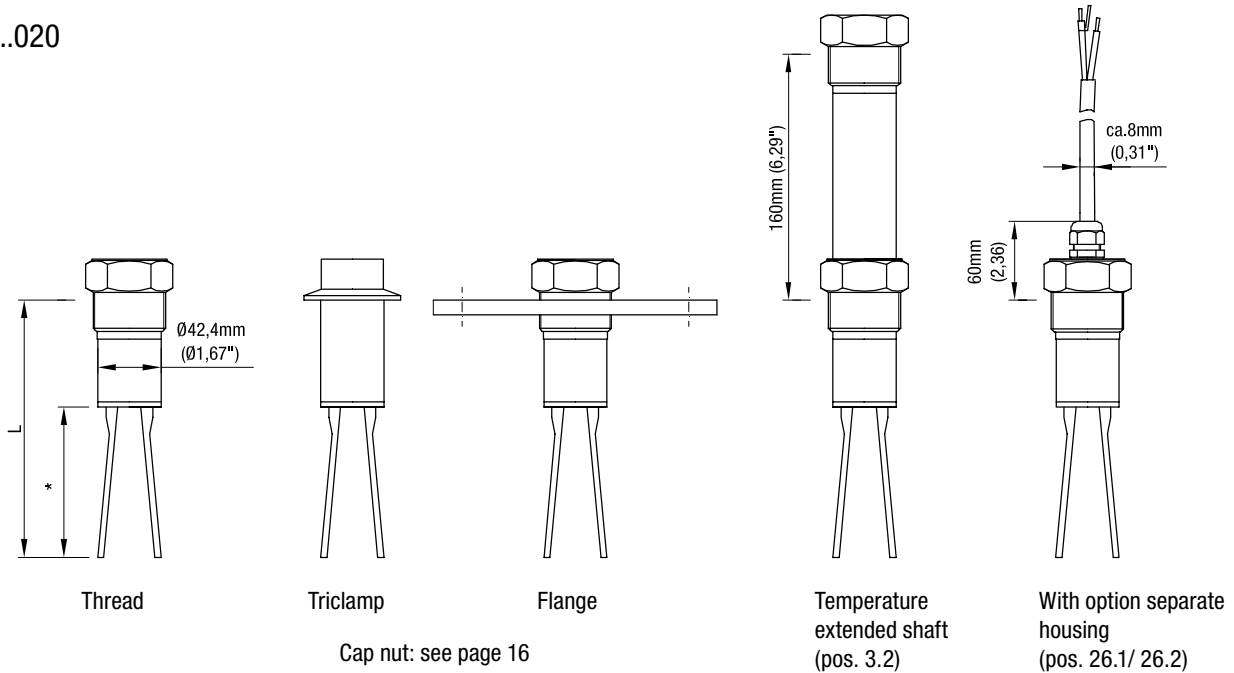
Flameproof /  
 explosionproof



## Dimensions

### Extensions

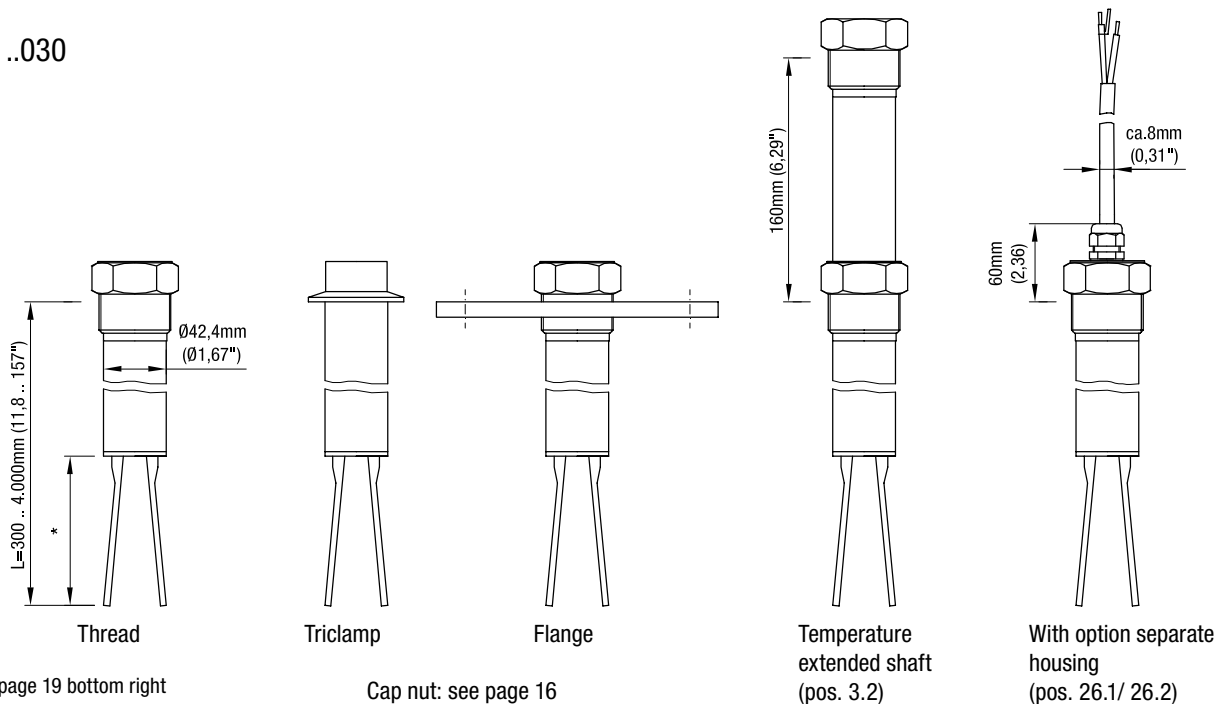
VN ..020



|                    | L              |   |
|--------------------|----------------|---|
|                    | without option | with option:<br>Enhanced sensitivity (pos. 26x)<br>Vibrasil® 70 (pos. 26a)<br>Vibrasil® 90 (pos. 26b) |
| VN 1020<br>VN 5020 | 165mm (6.5")   |   |
| VN 2020<br>VN 6020 | 235mm (9.25")  | 260mm (10.24")  |

\* see page 19 bottom right

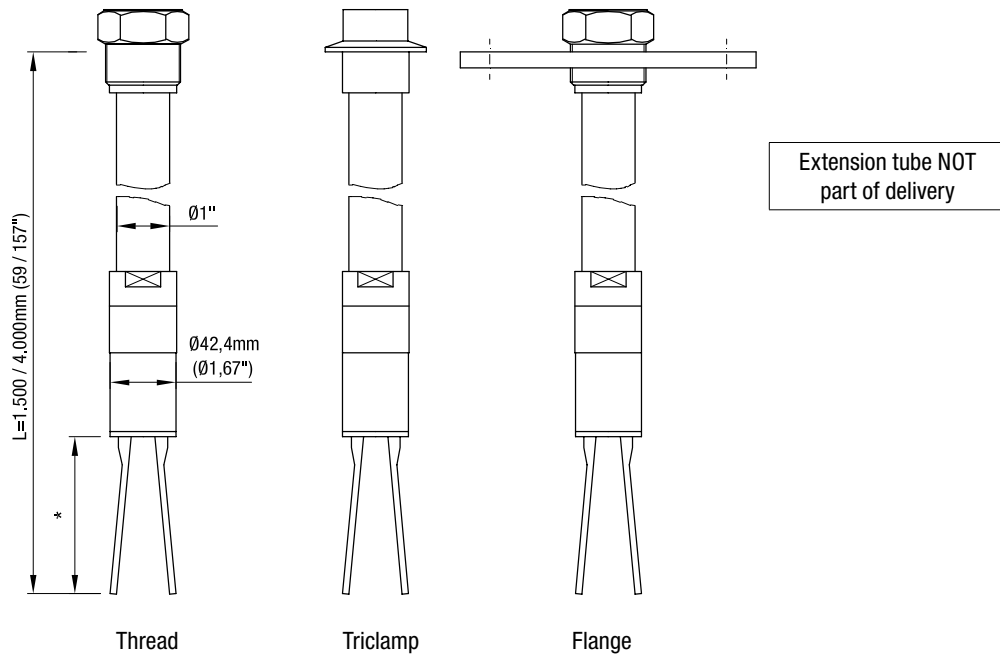
VN ..030



\* see page 19 bottom right

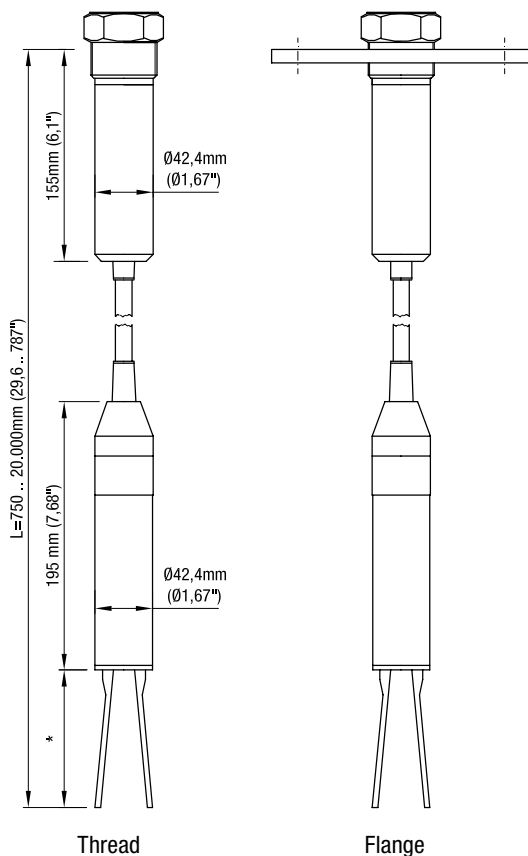
## Dimensions

VN ..040



\* see below right

VN ..050

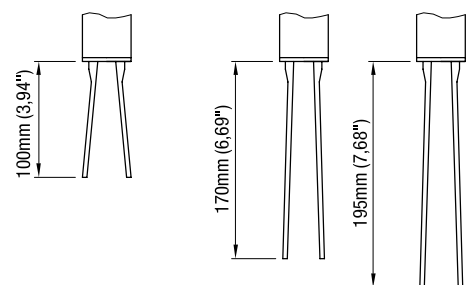


\* see right

\* Length of oscillating rods

VN 10..0  
 VN 50..0

VN 20..0  
 VN 60..0

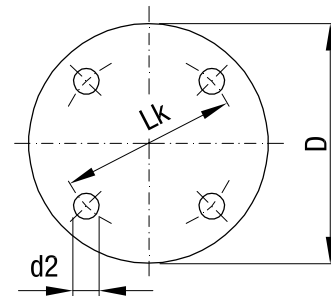


with option  
 Enhanced sensitivity (pos.26x)  
 Vibrasil® 70 (pos.26a)  
 Vibrasil® 90 (pos.26b)

## Dimensions / Detailed Ex-markings

### 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") |



### Detailed Ex-markings

| pos. 2 | Certificate  | Housing   |
|--------|--|-----------|
| 0      | CE   | Standard. |
| W      | ATEX II 1D and 1/2D  | Standard  |
| Y      | ATEX II 1G and 1/2G Ex ia IIC; ATEX II 1D and 1/2D   | Standard  |
| R      | ATEX II 2G Ex de [ia] IIC* and ATEX II 1/2D  | de        |
| T      | ATEX II 2G Ex d [ia] IIC* and ATEX II 1/2D   | d         |
| A      | IEC-Ex ta IIIC T! Da IP66 and ta/tb IIIC T! Da/Db IP66   | Standard  |
| B      | IEC-Ex ia IIC T! Ga and ia IIC T! Ga/Gb<br>IEC-Ex ta IIIC T! Da IP66 and ta/tb IIIC T! Da/Db IP66  | Standard  |
| C      | IEC-Ex de [ia] IIC* T! Gb and ta/tb IIIC T! Da/Db IP66   | de        |
| D      | IEC-Ex d [ia] IIC* T! Gb and ta/tb IIIC T! Da/Db IP66  | d         |
| M      | FM / CSA general purpose   | Standard  |
| N      | FM / CSA DIP Cl. II, III Div. 1 Gr. E,F,G<br>CSA Ex DIP A20/21   | Standard  |
| P      | FM / CSA IS Cl. I, II, III Div. 1 Gr. A-G<br>FM Cl. I Zone 0 and 0/1 AEx ia IIC<br>CSA Cl. I Zone 0 and 0/1 Ex ia IIC and CSA Ex DIP A20 and A20/21                              | Standard  |
| S      | FM Cl. I Zone 1 AEx de [ia] IIC* and FM / CSA Cl. II, III Div. 1 Gr. E,F,G<br>CSA Cl. I Zone 1 Ex de [ia] IIC* and CSA Ex DIP A20/21   | de        |
| U      | FM XP-IS Cl. I, II, III Div. 1 Gr. B-G* and FM Cl. I Zone 1 AEx d [ia] IIC*<br>CSA XP-IS Cl. I, II, III Div. 1 Gr. B-G*<br>CSA Cl. I Zone 1 Ex d [ia] IIC* and CSA Ex DIP A20/21 | d         |

\* [ia] or IS is not applicable for versions VN ..020 without temperature extended shaft (pos. 3.1)  
 (In this case no intrinsic safe connection between Electronic module and Vibrating fork is used)

## Electrical installation

### Universal voltage

Relay SPDT

#### Power supply:

19..230V 50-60Hz +10% 8VA  
 19..55V DC +10% 1,5W

#### Signal output:

Floating relay SPDT

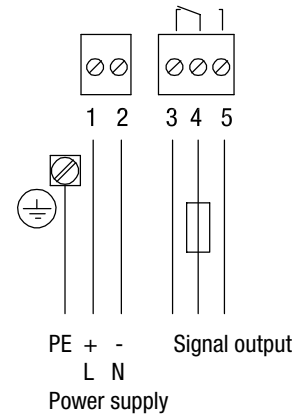
VN 1000/ 2000:

AC max. 253V, 4A, 500VA at  $\cos \Phi = 1$   
 DC max. 253V, 4A, 60W

VN 5000/ 6000:

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

Fuse on signal output: max 10A



### Universal voltage

Relay DPDT

#### Power supply::

19..230V 50-60Hz +10% 18VA  
 19..55V (36V\*) DC +10% 2W

#### Signal output:

Floating relay DPDT

VN 1000/ 2000:

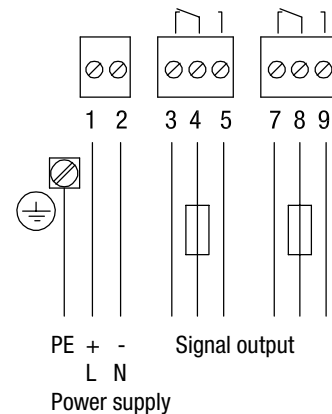
AC max. 253V, 4A, 500VA at  $\cos \Phi = 1$   
 DC max. 253V, 4A, 60W

VN 5000/ 6000:

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

Fuse on signal output: max 10A

\* Version with intrinsic safe connection  
 between electronic module and vibration fork  
 (see pos.4 in pricelist)



### 3-wire

PNP

#### Power supply:

18 .. 50V DC +10% 1,5W

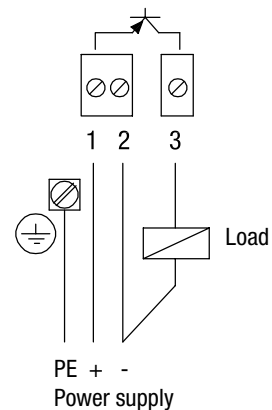
Fuse: max 4A

#### Signal output:

max. 0,4A

Load for example:

PLC, relay, contactor, bulb



## Electrical installation

### 2-wire

without contact

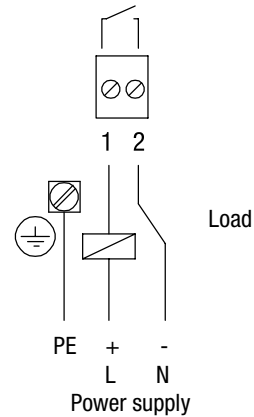
**Power supply:**

19..230V 50/60Hz +10% 1,5VA  
 19..230V DC +10% 1W

**Load:**

max. 0,5A permanent  
 (detailed ratings see  
 "Technical data")

Load for example:  
 relay, contactor, bulb

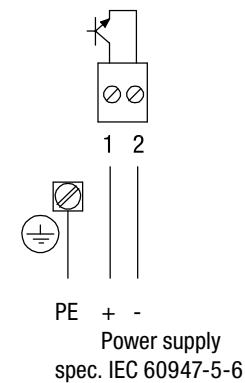


### NAMUR IEC 60947-5-6

**Power supply:**

ca. 7..9 V DC  
 intrinsic safe  
 (spec. IEC 60947-5-6)

<1mA or > 2,2mA  
 (spec. IEC 60947-5-6)



### 8/16mA or 4-20mA

**Power supply:**

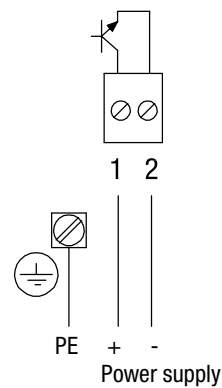
Non intrinsic safe version:  
 12,5..36V DC +0%

Intrinsic safe version:  
 12,5..30V DC +0%

**Signal output**

Setting 8/16mA:  
 8mA or 16mA

Setting 4-20mA:  
 Output current depends on the vibration  
 amplitude of the fork: 6mA for dampened  
 vibration and 20mA for full vibration.



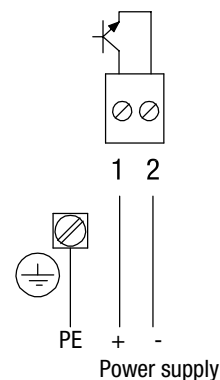
### 8/16mA

**Power supply:**

12,5..36V DC +0%

**Signal output**

8mA or 16mA



## Spare parts

### Electronic modules VN 1000 / VN 5000

| Electronic module                         |              | Electronic module number | Prices Electronic module |      |      |                        |            |      |            |      |      |
|---|--------------|--------------------------|--------------------------|------|------|------------------------|------------|------|------------|------|------|
| Relay (SPDT)<br>19..230V AC<br>19..55V DC | pi1100932    | 0, W                     | 0                        | 0, W | 0    | 0, M, W, N, R, S, T, U | 0, M, W, N | 0, M | 0, M, W, N | 0, M | 0, M |
|   |              |                          |                          |      |      |                        |            |      |            |      |      |
| Relay (DPDT)<br>19..230V AC<br>19..55V DC | pi1100247    | 0, W                     | W                        | 0    | 0, W | R, S, T, U             | 0, M, W, N | 0, M | 0, M, W, N | 0, M | 0, M |
|   |              |                          |                          |      |      |                        |            |      |            |      |      |
| PNP<br>18..50V DC                         | pi1100246    | 0, W                     | W                        | 0    | 0, W | R, S, T, U             | 0, M, W, N | 0, M | 0, M, W, N | 0, M | 0, M |
|   |              |                          |                          |      |      |                        |            |      |            |      |      |
| 2-wire without contact<br>19..230V AC/DC  | pi1100242    | 0, W                     | 0                        | 0, W | 0    | R, S, T, U             | 0, M, W, N | 0, M | 0, M, W, N | 0, M | 0, M |
|   |              |                          |                          |      |      |                        |            |      |            |      |      |
| 8/16mA or 4-20mA<br>2-wire                | pi1100093    | Y                        | W                        | 0    | 0, W | R, S, T, U             | 0, M, W, N | 0, M | 0, M, W, N | 0, M | 0, M |
|   |              |                          |                          |      |      |                        |            |      |            |      |      |
| 8/16mA or 4-20mA<br>2-wire intrinsic safe | pi1100090 ** | Y                        | W                        | 0    | 0, W | R, S, T, U             | 0, M, W, N | 0, M | 0, M, W, N | 0, M | 0, M |
|   |              |                          |                          |      |      |                        |            |      |            |      |      |

\* Intrinsic safe connection between Electronic module and Vibrating fork  
 \*\* Intrinsic safe from supply and intrinsic safe between Electronic module and Vibrating fork

## Spare parts

### Electronic modules VN 2000 / VN 6000

**Prices**  
 Electronic module

| Electronic module                                     | Sensitivity (see pos. 26) | Electronic module number | VN 2020 | VN 2020 separate housing | VN 2030 VN2040 | VN 2050 |
|---|---------------------------|--------------------------|---------|--------------------------|----------------|---------|
| <b>Relay (SPDT)</b><br>19..230V AC<br>19..55V DC      | 20g/l (1,2lb/ft³)         | <b>pl100930</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100931</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | Vibrasij® 70              | <b>pl100312</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | Vibrasij® 90              | <b>pl100310</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100124 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100128 *</b>        | 0, W    | 0                        | 0, W           | 0       |
| <b>Relay (DPDT)</b><br>19..230V AC<br>19..55V DC      | 20g/l (1,2lb/ft³)         | <b>pl100193</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100194</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100050 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100051 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100176</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100173</b>          | 0, W    | 0                        | 0, W           | 0       |
| <b>PNP</b><br>18..50V DC                              | 20g/l (1,2lb/ft³)         | <b>pl100127 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100131 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100182</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100187</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100126</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100130</b>          | 0, W    | 0                        | 0, W           | 0       |
| <b>2-wire without contact</b><br>19..230V AC/DC       | 20g/l (1,2lb/ft³)         | <b>pl100126 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100130 *</b>        | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100081 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100082 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100094</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100098</b>          | 0, W    | 0                        | 0, W           | 0       |
| <b>NAMUR</b><br>EC 60947-5-6<br>2-wire intrinsic safe | 20g/l (1,2lb/ft³)         | <b>pl100091 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100092 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100094</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100098</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100091 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100092 **</b>       | 0, W    | 0                        | 0, W           | 0       |
| <b>8/16mA or 4-20mA</b><br>2-wire                     | 20g/l (1,2lb/ft³)         | <b>pl100091 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100092 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100094</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100098</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100091 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100092 **</b>       | 0, W    | 0                        | 0, W           | 0       |
| <b>8/16mA or 4-20mA</b><br>2-wire intrinsic safe      | 20g/l (1,2lb/ft³)         | <b>pl100091 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100092 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100094</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100098</b>          | 0, W    | 0                        | 0, W           | 0       |
|   | 20g/l (1,2lb/ft³)         | <b>pl100091 **</b>       | 0, W    | 0                        | 0, W           | 0       |
|   | 5g/l (0,3lb/ft³)          | <b>pl100092 **</b>       | 0, W    | 0                        | 0, W           | 0       |

\* Intrinsic safe connection between Electronic module and Vibrating fork  
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