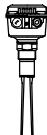
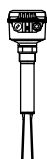
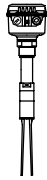
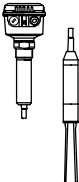


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Subject to change.

All dimensions in mm (inches).

All prices in Euro, excluding VAT.

All prices are EXW Betzigau, excluding packaging costs.

Valid: From 01.04.2013 until 31.03.2014, 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
- GOST-R and RTN Ex
- EHEDG
- 1935/2004/EC
- GasEx and DustEx approvals
- Staub Ex approvals
- Hygiene approval
- Food grade materials

Series

VN 1000	VN 2000	VN 5000	VN 6000
ATEX / IEC-Ex / GOST-R / RTN Ex / EHEDG Small housing Short oscillating rods Sensitivity > 50g/l (3lb/ft³) For extreme mech. load For mounting in down pipes Advantageous design to avoid bridges Also for interface applications	ATEX / IEC-Ex / GOST-R / RTN Ex / EHEDG Small housing Standard oscillating rods Sensitivity > 20 g/l (1.2lb/ft³) Option > 5g/l (0.3lb/ft³) Vibrasil® < 5g/l (0.3lb/ft³)	ATEX / IEC-Ex / FM / CSA / EHEDG Spacious housing Short oscillating rods Sensitivity > 50g/l (3 lb/ft³) For extreme mech. load For mounting in down pipes Advantageous design to avoid bridges Also for interface applications	ATEX / IEC-Ex / FM / CSA / EHEDG Spacious housing Standard oscillationg rods Sensitivity > 20g/l (1.2lb/ft³) Option > 5g/l (0.3lb/ft³) Vibrasil® < 5g/l (0.3lb/ft³)

Housing

Standard



Standard

d

de



VN ..020
Short extension length

VN 1020



VN 2020



VN 5020



VN 6020



VN ..030
Pipe extension

VN 1030



VN 2030



VN 5030



VN 6030



Overview

VN ..040
 Pipe extension
 (screwed)

Custom made
 pipe for flexible
 lengths

VN 1040 	VN 2040 	VN 5040 	VN 6040 
VN 1050 	VN 2050 	VN 5050 	VN 6050 

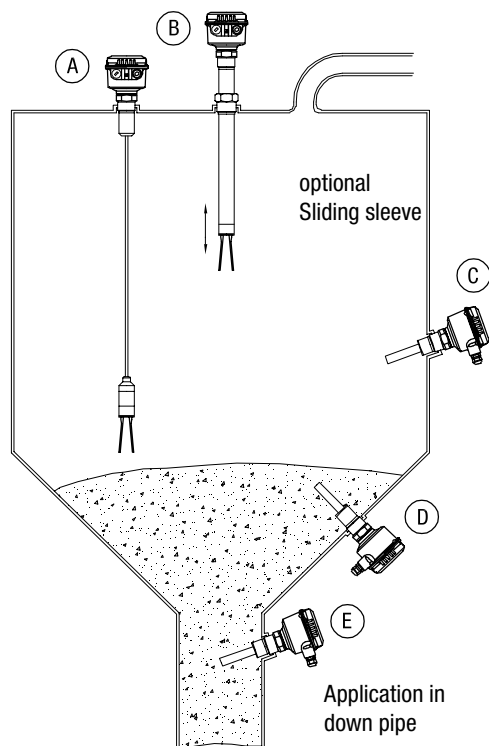
VN ..050
 Cable extension

Specifications

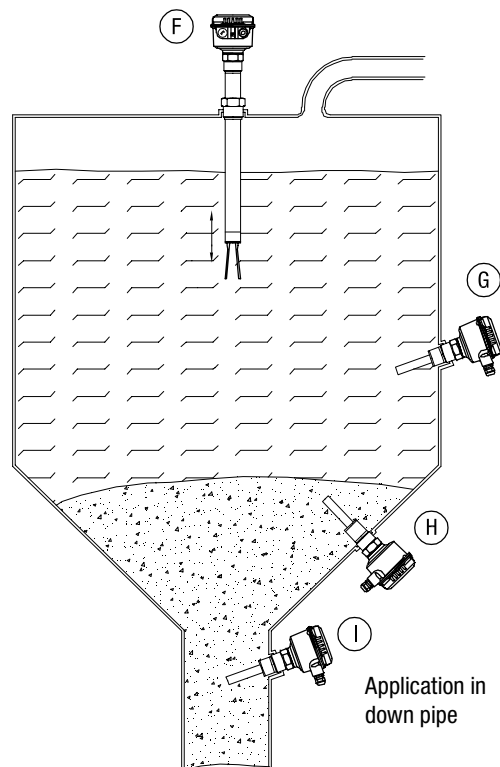
Series			VN 1000	VN 2000	VN 5000	VN 6000
Approvals	CE		•	•	•	•
	ATEX / IEC-Ex:					
	Zone 20 and 20/21	Dust Ignition Proof	•	•	•	•
	Zone 0	Intrinsic Safe	•	•	•	•
	Zone 1	Flameproof / Increased Safety			•	•
	FM / CSA:					
	General purp.				•	•
	Cl. II, III Div. 1	Dust Ignition Proof			•	•
	Cl. I Div. 1	Intrinsic Safe			•	•
	Cl. I Div. 1	Explosionproof			•	•
	Zone 0	Intrinsic Safe			•	•
	Zone 1	Flameproof / Increased Safety			•	•
	GOST-R / RTN Ex:					
		Dust Ignition Proof	•	•		
	EHEDG:		•	•	•	•
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	VN ..020	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 / Extension	1.4301 (SS 304) or 1.4404 (SS316L) / (food grade)			
	VN ..030	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 / Extension	1.4301 (SS 304) or 1.4404 (SS316L) / (food grade)			
	VN ..040	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 / Extension	1.4301 (SS 304) or 1.4404 (SS316L) / (food grade)			
	VN ..050	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 / Extension	1.4301 (SS 304) Cable isolation: PUR (no food grade)			

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



Food grade materials

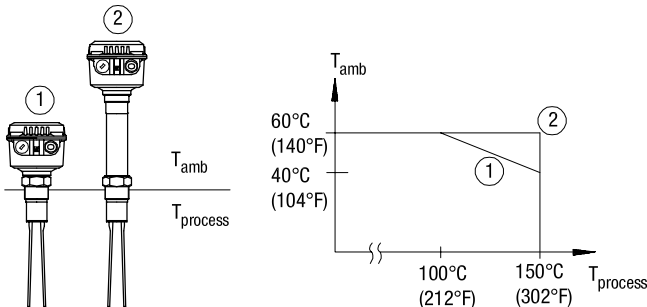
Cable entries (by default)
Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

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 ..020 Short extension length

Basic type

VN 1020
VN 2020
VN 5020
VN 6020

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		

For VN 1020, 2020: pos.2 0 includes GOST-R, pos.2 W includes RTN-Ex and GOST-R

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

- 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 12,5..36V DC 2-wire

*30V intrinsic safe

Available for certificates (pos.2)										
0	W/A	Y/B	R/C	T/D	M	N	P	S	U	
•	•	•	•	•	•	•	•	•	•	•
•	•		(1)	(1)	•	•		(1)	(1)	
			(2)	(2)				(2)	(2)	
•	•		•	•	•	•		•	•	
•	•		•	•	•	•		•	•	
•	•						•			
•	•		(1)	(1)						
			(2)	(2)						

(1) with Pos.3 1

(2) with Pos.3 2 or Pos.26 1/2

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
G Cap nut (only with EHEDG (pos.30), not with pos.2 C,D,R,S,T,U)
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)
2 Stainless steel 1.4404 (316L)
Vibrating rods polished, Ra ≤ 0,75µm; Teflon coating on request

Further options and accessories: see page 14-16

Basic type

	A				3	1	
Position	1	2	3	4	5	6	7

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

← Order code

VN ..030 Pipe extension

VN 1030



VN 2030



VN 5030



VN 6030



Housings VN 5030 / 6030



d (flameproof)

de (flameproof /
increased safety)

Food grade materials

Cable entries (by default)

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

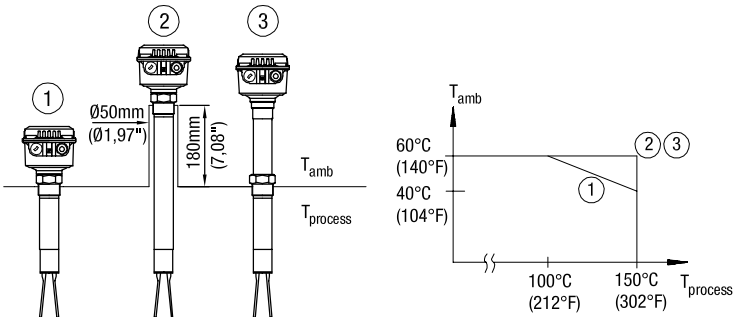
Version:	Cable entries:
ATEX/IEC-Ex flameproof (pos.2 T,D)	M20x1.5 (1x open conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,P,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

Dimensions

see pages 17-20

pos. 3
Temperature extended shaft
applications up to 150°C (302°F)

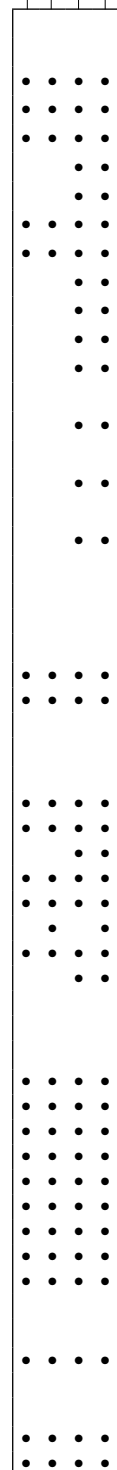
- 1 without
- 2 without and with extended socket
- 3 with



VN ..030 Pipe extension

Basic type

VN 1030
VN 2030
VN 5030
VN 6030



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		

For VN 1030, 2030: Pos.2 0 includes GOST-R, Pos.2 W includes RTN-Ex and GOST-R

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) or with extended socket)
2 with (up to $T_{process} = 150^{\circ}\text{C}$ (302°F) at $T_{amb} > 40^{\circ}\text{C}$ (104°F) without extended socket)

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 12,5..36V DC 2-wire

*30V intrinsic safe

Available for certificates (pos.2)										
0	W/A	Y/B	R/C	T/D	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
G Cap nut (only with EHEDG (pos.30), not with pos.2 C,D,R,S,T,U)
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 (starting from 0mm) per 100mm (3.94") or part thereof; min. 300mm (11.8"), max. 4000mm (157")

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

- 1 Stainless steel 1.4301 (304)
2 Stainless steel 1.4404 (316L)
Vibrating rods polished, Ra ≤ 0,75µm; Teflon coating on request

Basic type

Further options and accessories: see page 14-16

Position 1 2 3 4 5 6 7 8

B **3** **Z** - **L=** **mm**

Order code

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

Simply working

VN ..040 Pipe extension (screwed)

VN 1040



VN 2040



VN 5040



VN 6040



Housings VN 5040 / 6040



Standard d (flameproof) de (flameproof / increased safety)

Food grade materials

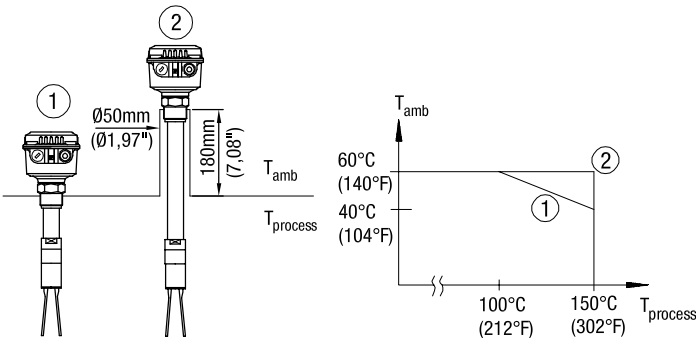
Cable entries (by default)
Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

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		

For VN 1040, 2040: Pos.2 0 includes GOST-R, Pos.2 W includes RTN-Ex and GOST-R

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..36V* DC 2-wire
N 8/16mA 12..36V DC 2-wire

*30V intrinsic safe

Available for certificates (pos.2)										
0	W/A	Y/B	R/C	T/D	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 Tricomp 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)
Vibrating rods polished, Ra ≤ 0,75µm; Teflon coating on request

Further options and accessories: see page 14-16

Basic type							
	C	1		3			
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):

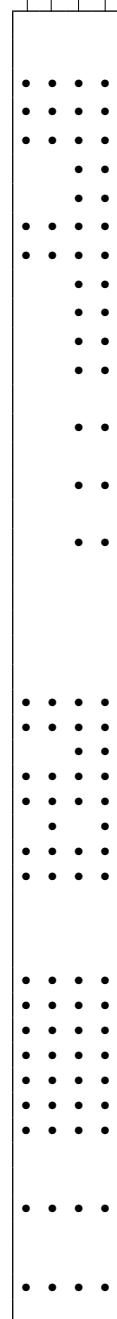
Version:	Cable entries:
ATEX/IEC-Ex flameproof (pos.2 T,D)	M20x1.5 (1x open conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,P,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

Dimensions see pages 17-20

VN ..050 Cable extension

Basic type

VN 1050
VN 2050
VN 5050
VN 6050



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		

For VN 1050, 2050: Pos.2 0 includes GOST-R, Pos.2 W includes RTN-Ex and GOST-R

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 12,5..36V DC 2-wire

*30V intrinsic safe

Available for certificates (pos.2)										
0	W/A	Y/B	R/C	T/D	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
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 ((starting from 0mm) per 100mm (3.94") or part thereof; min. / max. see below

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

1 Stainless steel 1.4301 (304)
Stainless steel 1.4404 (316L) on request
Vibrating rods polished, Ra ≤ 0,75µm; Teflon coating on request

Further options and accessories: see page 14-16

Extension "L":
min. 750mm (29,6")
max. 7.000mm (276") for VN 1050/5050
max. 20.000mm (787") for VN 2050/6050
max. 10.000mm (394") for VN 2050/6050 with pos.4M

Basic type

	D	1			3	Z	1
Position	1	2	3	4	5	6	7

- L= mm

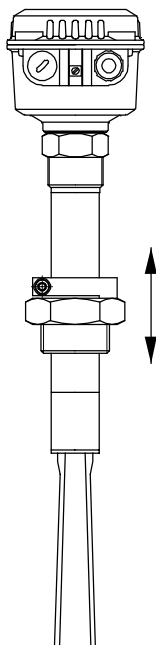
Order code

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

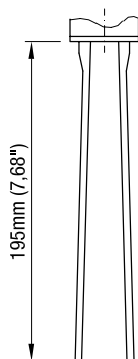
Simply working

Options

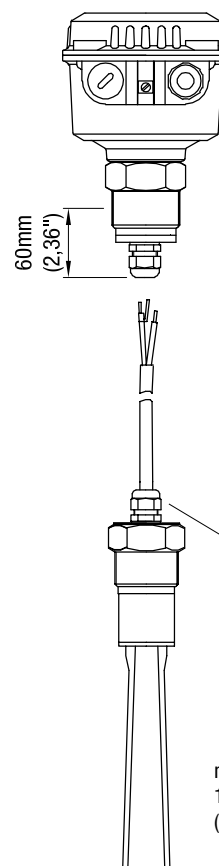
pos. 25
Sliding sleeve



pos. 26x
Enhanced sensitivity
 pos. 26b
Vibrasil® 90



pos. 26 1-2
Seperate housing



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

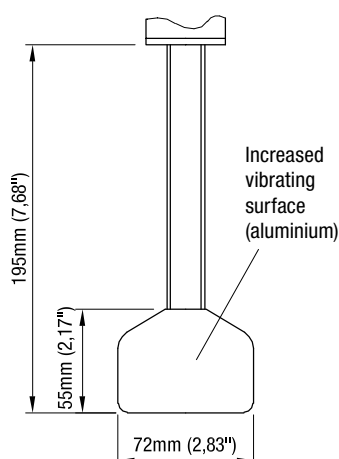
cable must be installed
 in the steel hose or in
 a metal tube

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

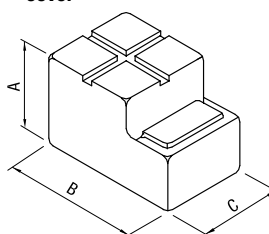
protective conductor
 for version with
 Ex approval

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

pos. 26a
Vibrasil® 70

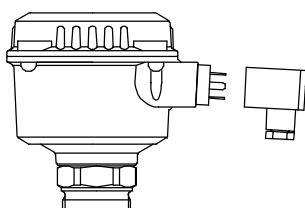


pos. 21
Weather protection cover



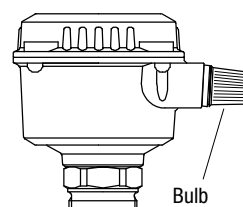
	VN 10..0 VN 20..0	VN 50..0 VN 60..0
A	100mm (3.94")	130mm (5.12")
B	165mm (6.5")	200mm (7.87")
C	88mm (3.46")	125mm (4.92")

pos. 29
Plug 4-pole



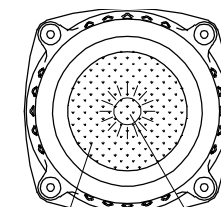
Signal lamp

pos. 27a, c
 Bulb in cable gland



Bulb

pos. 27b
 LED (glass window in lid)

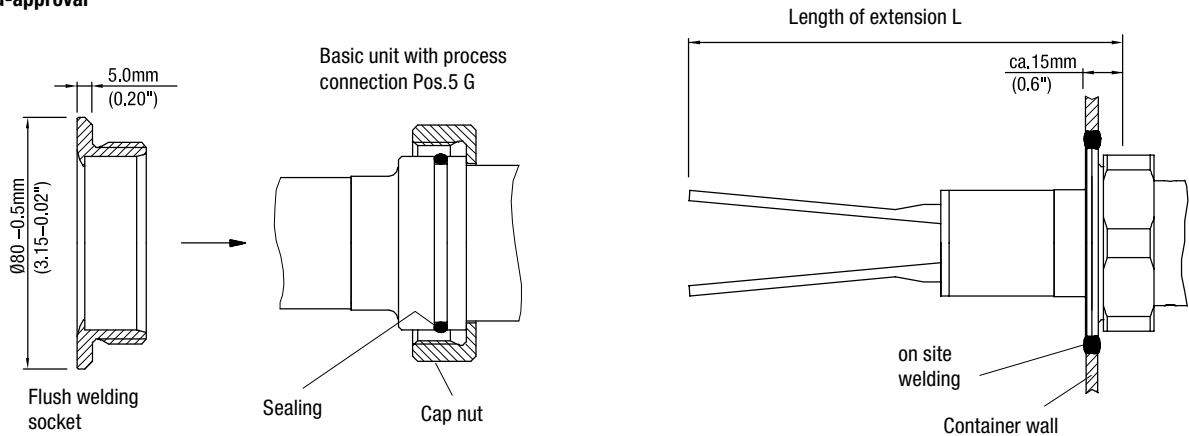


Glass window

LED

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	
	PNP	x	24V DC	KFD2-ST2-Ex1.LB		MK13-PN-Ex0/24VDC	
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	
	PNP	x	24V DC	KFD2-ST2-Ex2		MK13-22P-Ex0/24VDC	
3	Relay (SPDT)	x	24V DC			MK13-33Ex0-R/24VDC	
		x	115V AC			MK13-33Ex0-R/115VAC	
		x	230V AC			MK13-33Ex0-R/230VAC	
	PNP	x	24V DC			MK13-33Ex0-T/24VDC	
4	Relay (SPDT)	x	24V DC			MK13-451Ex0-R/24VDC	
		x	115V AC			MK13-451Ex0-R/115VAC	
		x	230V AC			MK13-451Ex0-R/230VAC	
	PNP	x	24V DC			MK13-451Ex0-T/24VDC	

* 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 diagnostics.
Terminal housing. Supply: 20-250V AC/DC. Manufacturer: Turck.
Use in Hazardous Locations only with additional connected Isolating Transducer IM33.

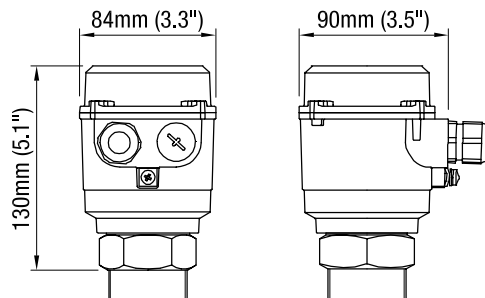
Isolating Transducer Type IM33-11Ex-Hi/24VDC (1 channel)
Isolating Transducer Type IM33-11Ex-Hi/24VDC (2 channels)
Protection method [EEx ia] IIC.
Terminal housing.
Input/Output: 4-20mA (galvanic isolated). Supply: 19-29V DC.

Dimensions

Housing versions

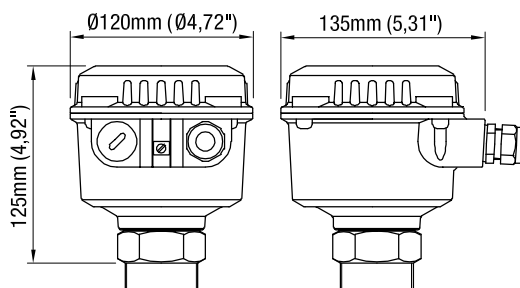
Series VN 1000 / 2000

Standard



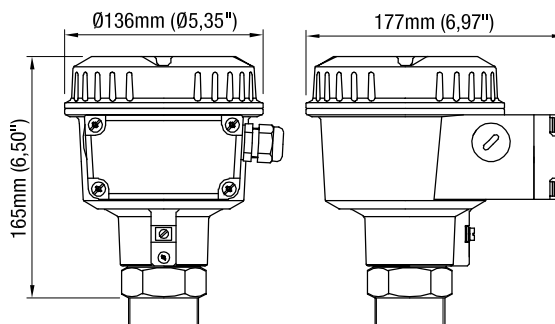
Series VN 5000 / 6000

Standard



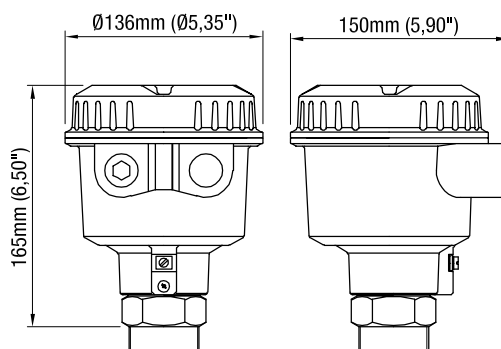
de

Explosionproof with
 increased safety
 terminal box



d

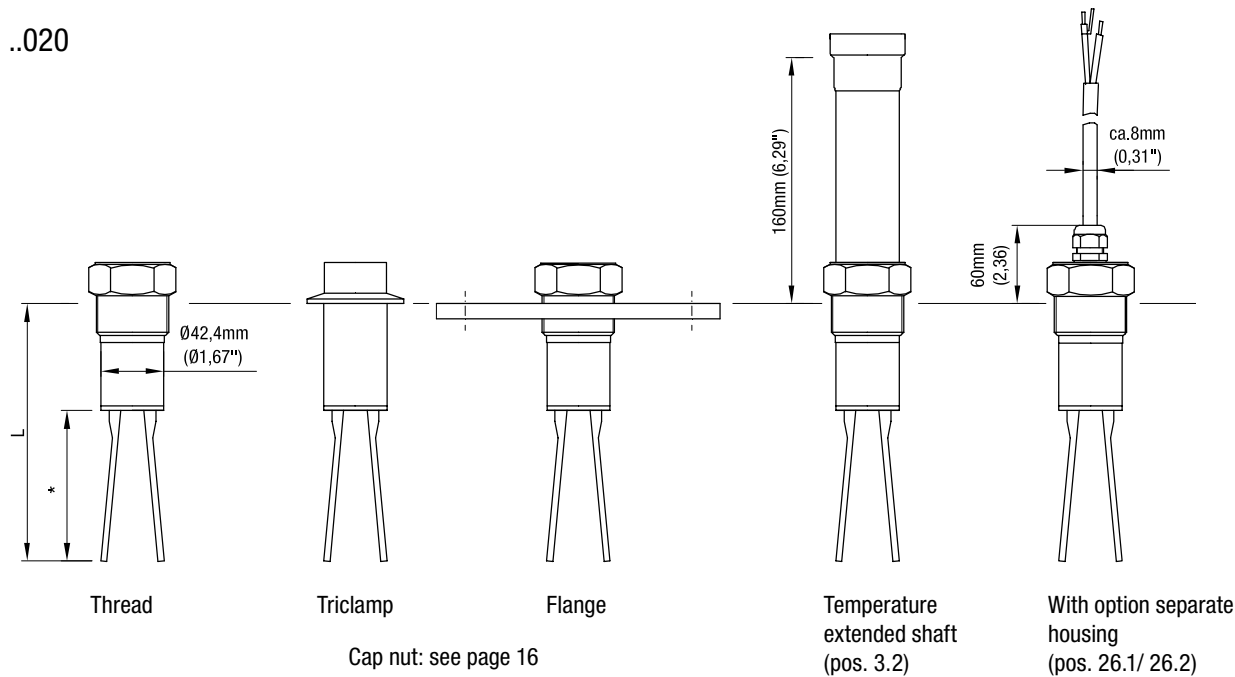
Flameproof /
 explosionproof



Dimensions

Extensions

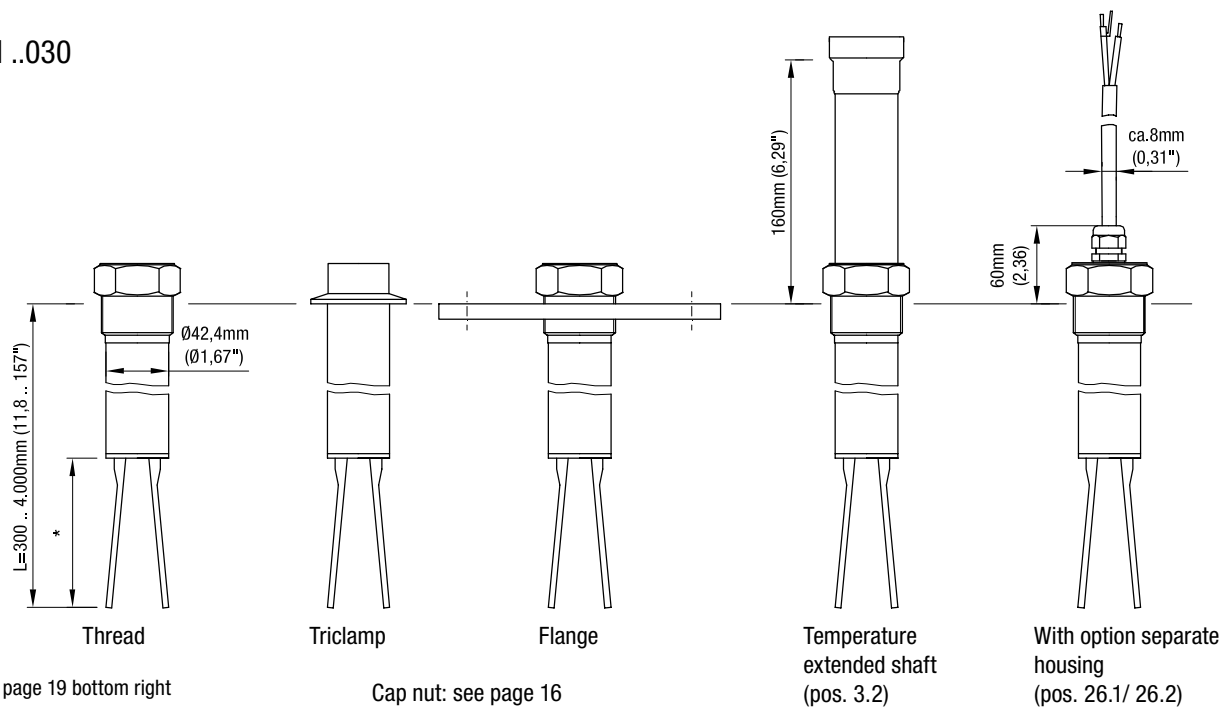
VN ..020



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

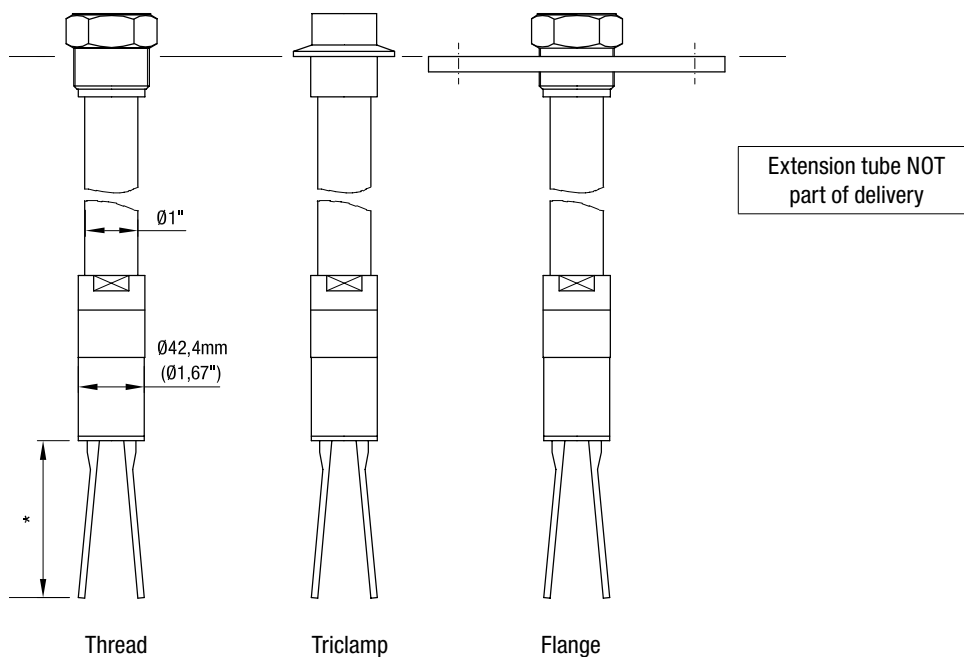
* see page 19 bottom right

VN ..030



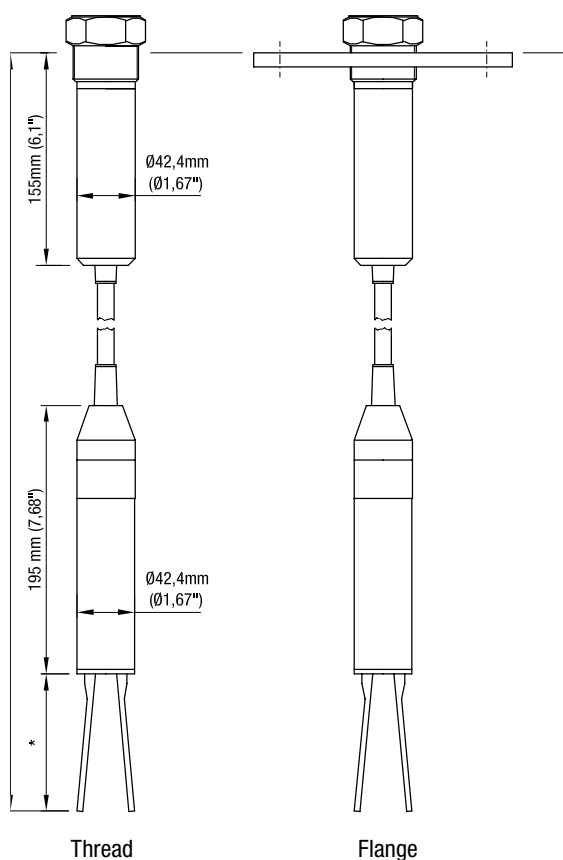
Dimensions

VN ..040



* see below right

VN ..050

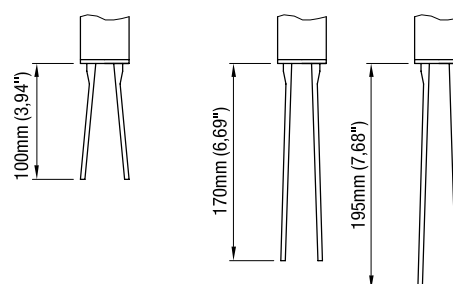


* see right

* Length of oscillating rods

VN 10..0
VN 50..0

VN 20..0
VN 60..0

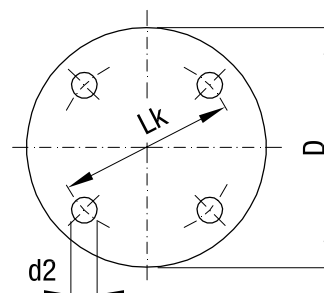


with option
Enhanced sensitivity (pos.26x)
Vibrasil® 70 (pos.26a)
Vibrasil® 90 (pos.26b)

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 Ex t IIC T! Da IP6X and 1/2D Ex t IIC T! Da/Db IP6X	Standard
Y	ATEX II 1G Ex ia IIC T! Ga and 1/2G Ex ia IIC T! Ga/Gb and ATEX II 1D Ex t IIC T! Da IP6X and 1/2D Ex t IIC T! Da/Db IP6X	Standard
R	ATEX II 2G Ex de [ia]* IIC T! Gb and 1/2D Ex t IIC T! Da/Db IP6X	de
T	ATEX II 2G Ex d [ia]* IIC T! Gb and 1/2D Ex t IIC T! Da/Db IP6X	d
A	IEC-Ex t IIC T! Da IP6X and t IIC T! Da/Db IP6X	Standard
B	IEC-Ex ia IIC T! Ga and ia IIC T! Ga/Gb IEC-Ex t IIC T! Da IP6X and t IIC T! Da/Db IP6X	Standard
C	IEC-Ex de [ia]* IIC T! Gb and t IIC T! Da/Db IP6X	de
D	IEC-Ex d [ia]* IIC T! Gb and t IIC T! Da/Db IP6X	d
M	FM / CSA general purpose	Standard
N	FM / CSA DIP Cl. II, III Div. 1 Gr. E,F,G CSA Ex DIP A20/21	Standard
P	FM / CSA IS Cl. I, II, III Div. 1 Gr. A-G FM Cl. I Zone 0 and 0/1 AEx ia IIC 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 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* CSA XP-IS Cl. I,II,III Div. 1 Gr. B-G* CSA Cl. I Zone 1 Ex d [ia]* IIC and CSA Ex DIP A20/21	d

* [ia] or IS is not available 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 $\cos \Phi = 1$

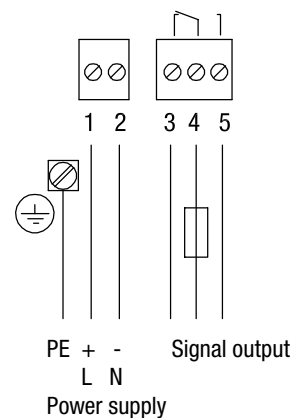
DC max. 253V, 4A, 60W

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

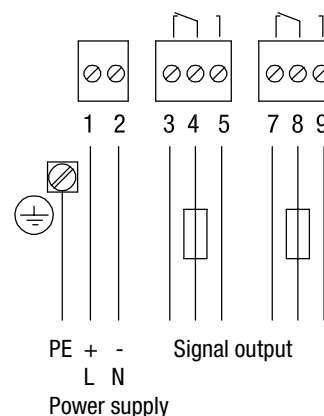
VN 5000/ 6000:

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 price list)



3-wire

PNP

Power supply:

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

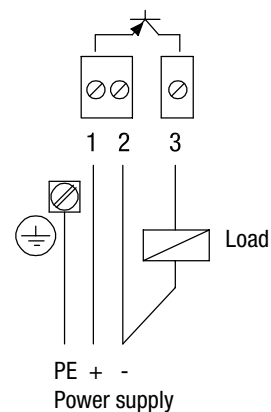
Fuse: max 4A

Signal output:

max. 0,4A

Load for example:

PLC, relay, contactor, bulb



Electrical installation

2-wire

without contact

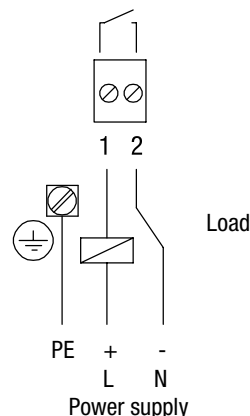
Power supply:

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

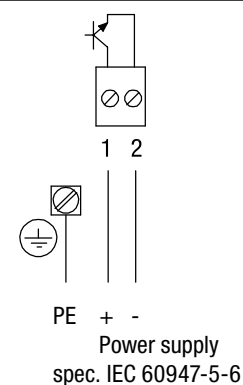


NAMUR IEC 60947-5-6

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:

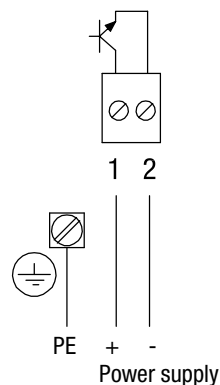
Non intrinsic safe version:
 12,5..36V DC +0%

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.



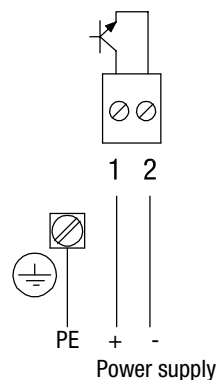
8/16mA

Power supply:

12,5..36V DC +0%

Signal output

8mA or 16mA



Spare parts

Electronic modules VN 1000 / VN 5000

		Prices Electronic module			
Electronic module	Electronic module number	Electronic modules are used for following certificates (see pos. 2 of price list):			
		VN 1020	VN 1020 VN 1030 VN 1040 separate housing	VN 1030 VN 1040	VN 1050
Relay (SPDT) 19..230V AC 19..55V DC	pl100932	0, W, A	0	0, W, A	0
	pl100120 *		W, A		W, A
Relay (DPDT) 19..230V AC 19..55V DC	pl100247	0, W, A	0	0, W, A	0
	pl100052 *				
PNP 18..50V DC	pl100246	0, W, A	0	0, W, A	0
	pl100123*		W, A		W, A
2-wire without contact 19..230V AC/DC	pl100242	0, W, A	0	0, W, A	0
	pl100122				
8/16mA or 4-20mA 2-wire	pl100122 *		W, A		W, A
	pl100062*		W, A		W, A
8/16mA or 4-20mA 2-wire intrinsic safe	pl100090 **	0, W, A, Y, B	0, Y, B	0, W, A, Y, B	Y, B

* 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 modules are used for following certificates (see pos. 2 of price lists):				
VN 6020	VN 6020 temp. extended shaft	VN 6020 VN 6030 separate housing	VN 6030 VN 6040	VN 6050
O, M, W, A, N, R, C, S, T, D, U	O, M, W, A, N	O, M	O, M, W, A, N	O, M
O, M, W, A, N, R, C, S, T, D, U			O, M, W, A, N	O, M
	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U
O, M, W, A, N, R, C, S, T, D, U	O, M, W, A, N	O, M	O, M, W, A, N	O, M
	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U	R, S, T, U	W, N, R, S, T, U
O, M, W, A, N, R, C, S, T, D, U	O, M, W, A, N	O, M	O, M, W, N	O, M
	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U
O, M, W, A, N, R, C, S, T, D, U	O, M, W, A, N	O, M	O, M, W, A, N	O, M
	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U	R, C, S, T, D, U	W, A, N, R, C, S, T, D, U
Y, P	Y, P	Y, P	Y, P	Y, P
	R, C, T, D	W, A, R, C, T, D	R, C, T, D	W, A, R, C, T, D
O, W, A, Y, B, R, C, T, D	O, W, A, Y, B	O, Y, B	O, W, A, Y, B	Y, B

Electronic modules are used for following certificates (see pos. 2 of price lists):			
VN 2020	VN 2020 VN 2030 separate housing	VN 2030 VN 2040	VN 2050
O, W, A	0	O, W, A	0
O, W, A		O, W, A	0
	W, A		W, A
O, W, A	0	O, W, A	0
O, W, A	0	O, W, A	0
	W, A		W, A
O, W, A	0	O, W, A	0
	W, A		W, A
Y	Y	Y	Y
	W, A		W, A
O, W, A, Y, B	O, Y, B	O, W, A, Y, B	Y, B

Elektronikmodul	Sensitivity (see pos. 26)	Electronic module number
Relay (SPDT) 19..230V AC 19..55V DC	20g/l (1,2lb/ft³)	pl100930
	5g/l (0,3lb/ft³)	pl100931
	Vibrasi® 70	pl100312
	Vibrasi® 90	pl100310
Relay (DPDT) 19..230V AC 19..55V DC	20g/l (1,2lb/ft³)	pl100124 *
	5g/l (0,3lb/ft³)	pl100128 *
	20g/l (1,2lb/ft³)	pl100193
	5g/l (0,3lb/ft³)	pl100194
Relay (DPDT) 19..230V AC 19..36V DC	20g/l (1,2lb/ft³)	pl100050 *
	5g/l (0,3lb/ft³)	pl100051 *
	20g/l (1,2lb/ft³)	pl100176
	5g/l (0,3lb/ft³)	pl100173
PNP 18..50V DC	20g/l (1,2lb/ft³)	pl100127 *
	5g/l (0,3lb/ft³)	pl100131 *
	20g/l (1,2lb/ft³)	pl100182
	5g/l (0,3lb/ft³)	pl100187
2-wire without contact 19..230V AC/DC	20g/l (1,2lb/ft³)	pl100126
	5g/l (0,3lb/ft³)	pl100130
	20g/l (1,2lb/ft³)	pl100126 *
	5g/l (0,3lb/ft³)	pl100130 *
NAMUR EC 60947-5-6 2-wire intrinsic safe	20g/l (1,2lb/ft³)	pl100081 **
	5g/l (0,3lb/ft³)	pl100082 **
	20g/l (1,2lb/ft³)	pl100060 *
	5g/l (0,3lb/ft³)	pl100061 *
8/16mA or 4-20mA 2-wire intrinsic safe	20g/l (1,2lb/ft³)	pl100091 **
	5g/l (0,3lb/ft³)	

* Intrinsic safe connection between Electronic module and Vibrating fork

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