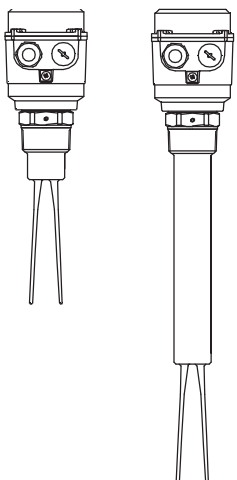
LEVEL. UP TO THE MAX.

Vibranivo ®

Series

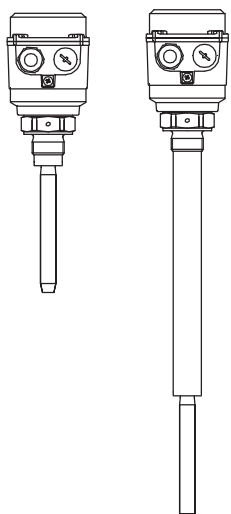
VN 4000



Mononivo ®

Series

MN 4000



Instruction manual

010523

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D-87488 Betzigau Fax: +49 (0)831 76879 E-Mail: info@uwtgroup.com

Scope of this instruction manual:	Types	VN 4020 4030 MN 4020 4030
	Approval	CE / TR-CU ATEX 1/2D IEC-Ex t IIIC
	Electronic modules	Relais (DPDT) PNP

Table of Contents

Safety /warning notes

Installation, maintenance and commissioning may be accomplished only by qualified technical personnel.
For terminal connection of the device, the local regulations or VDE 0100 (Regulations of German electrotechnical Engineers) must be observed.
All field wirings must have insulation suitable for at least 250V AC. The temperature rating must be at least 90°C (194°F).

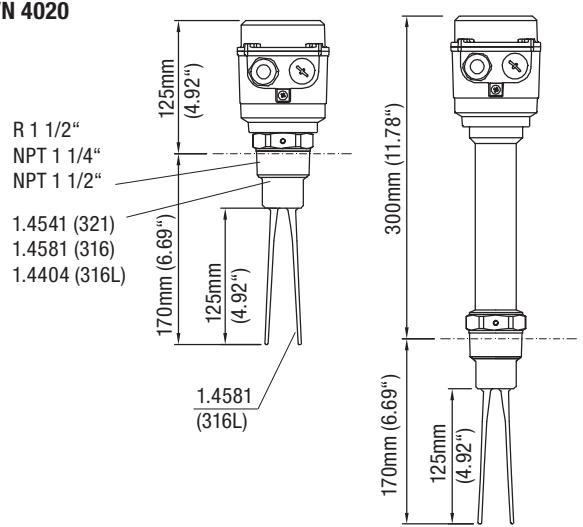
In the case of handling by untrained personnel or handling malpractice, the safety of the device cannot be guaranteed.

Fields of application

Level limit switch for level limit detection in powder and bulk materials.

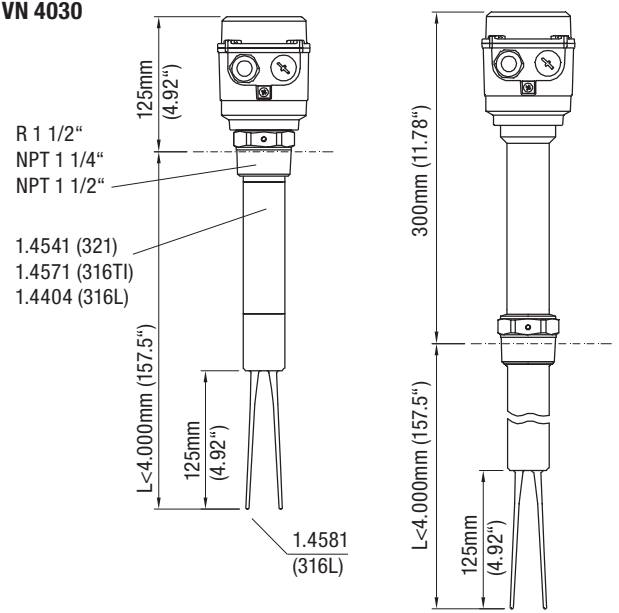
Technical Data

VN 4020



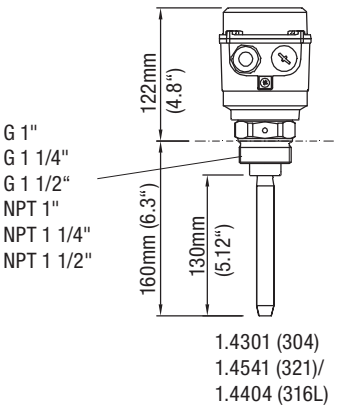
°C	1 → 9	2 → 9
P	-1 .. +16bar (-14.5 .. +232psi)	-1 .. +16bar (-14.5 .. +232psi)
kg	~ 1,7kg (3.7 lbs)	~ 2,4kg (5.3 lbs)

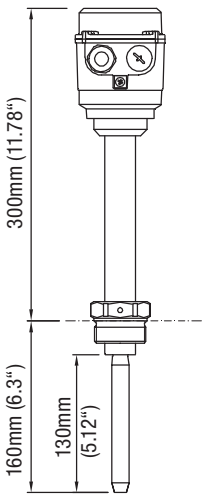
VN 4030



°C	1 / 2 → 9	2 → 9
P	-1 .. +16bar (-14.5 .. +232psi)	-1 .. +16bar (-14.5 .. +232psi)
kg	~1,7kg (3.7lbs) +1,9kg/m (+4.2 lbs per 39.9“) (L)	~2,4kg (5.3lbs) +1,9kg/m (+5.5 lbs per 39.9“) (L)

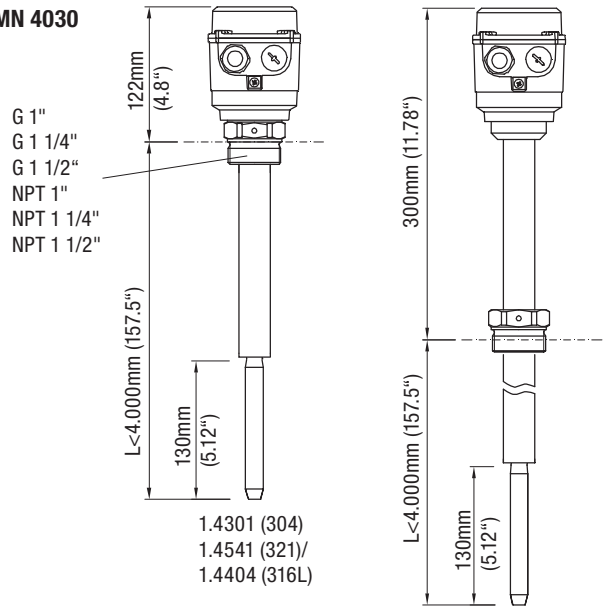
MN 4020





°C	① → 9	② → 9
P	-1 .. +16bar (-14.5 .. +232psi)	-1 .. +16bar (-14.5 .. +232psi)
kg	~ 1,3kg (2.9 lbs)	~ 2,0kg (4.5 lbs)

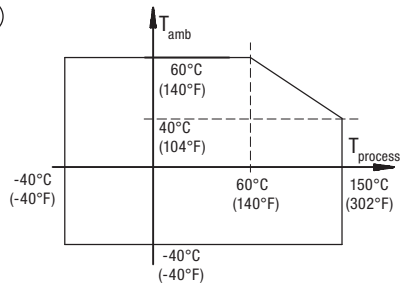
MN 4030

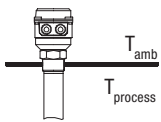


°C	(1) / (2) → 9	(2) → 9
P	-1 .. +16bar (-14.5 .. +232psi)	-1 .. +16bar (-14.5 .. +232psi)
kg	~1,3kg (2.9lbs) +1,3kg/m (+2.9 lbs per 39.9") (L)	~2,0kg (4.5lbs) +1,3kg/m (+2.9 lbs per 39.9") (L)

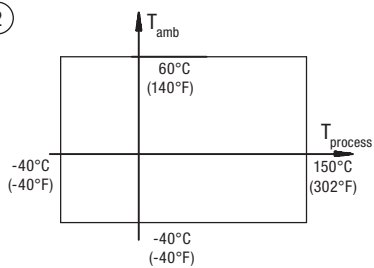
°C

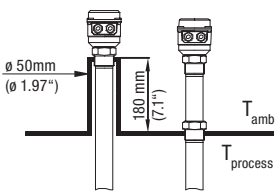
1


T amb
60°C
(140°F)
40°C
(104°F)
T process
-40°C
(-40°F)
60°C
(140°F)
150°C
(302°F)
-40°C
(-40°F)


T amb
T process

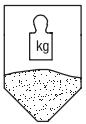
2


T amb
60°C
(140°F)
T process
-40°C
(-40°F)
150°C
(302°F)
-40°C
(-40°F)


ø 50mm
(ø 1.97")
180 mm
(7.1")
T amb
T process

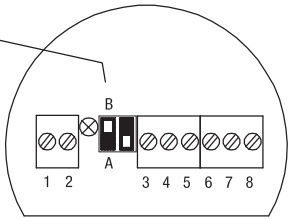
Sensitivity

VN 4000

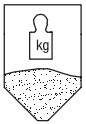


>30 g/l	B
>150 g/l	A

1g/l = 0.06 lb/ft³



MN 4000

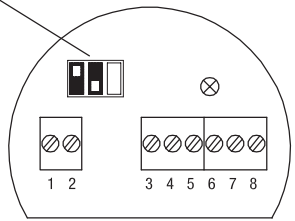


>20 g/l

>80 g/l

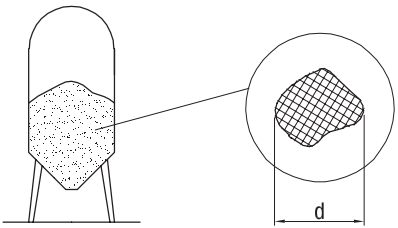
>150 g/l

>300 g/l



1g/l = 0.06 lb/ft³

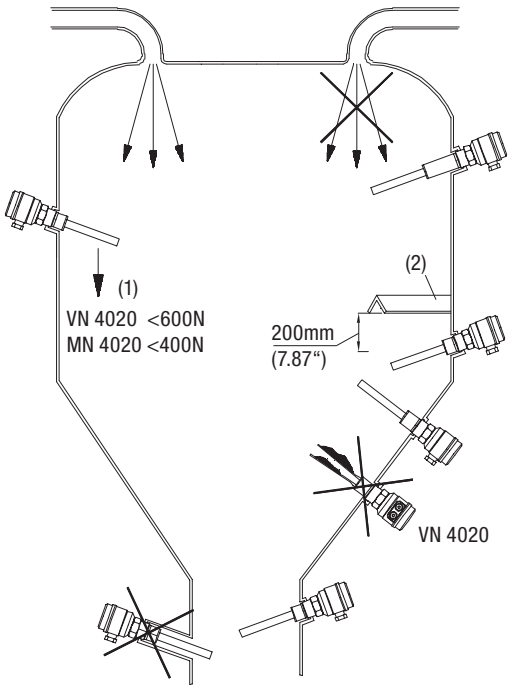
Bulk material



VN 4000:
d < 8mm (0.31“)

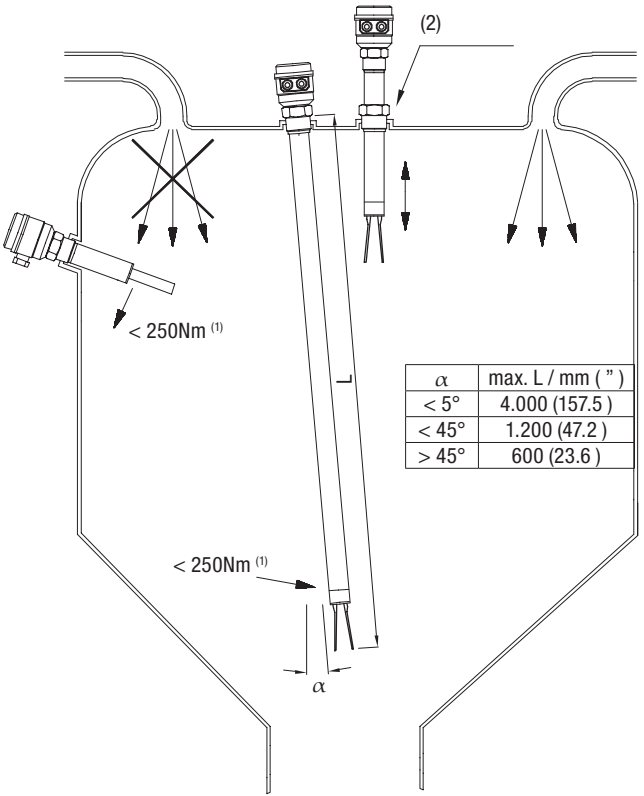
MN 4000:
d < 20mm (0.79“)

VN 4020
MN 4020



(1) Mech. load of the sensor
(2) Protective angle (canopy) in case of high mechanical load

VN 4030
MN 4030

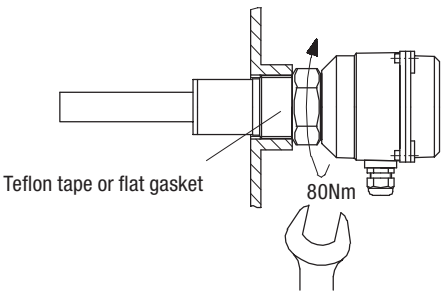


α	max. L / mm (”)
< 5°	4.000 (157.5)
< 45°	1.200 (47.2)
> 45°	600 (23.6)

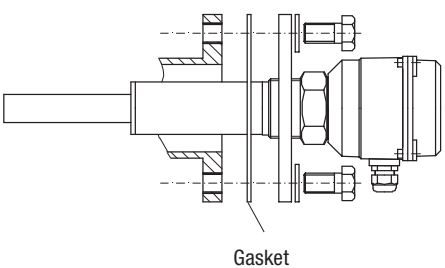
(1) Mech. load of the sensor
(2) Sliding sleeve: Tighten straining screws with 20Nm

Assembly

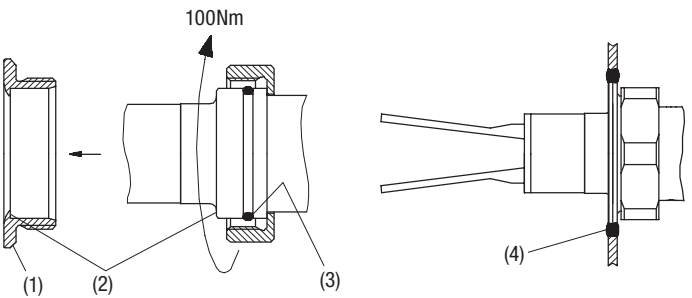
Fixing Threads



Fixing Flanges

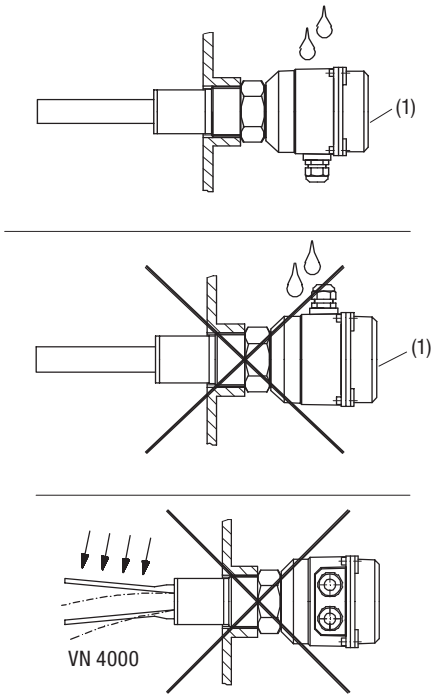


Fixing EHEDG



(1) Certified flush welding socket must be used
(2) Metal-metal support without any gap
(3) Sealing ring
(4) Welding (observe hygiene requirements)

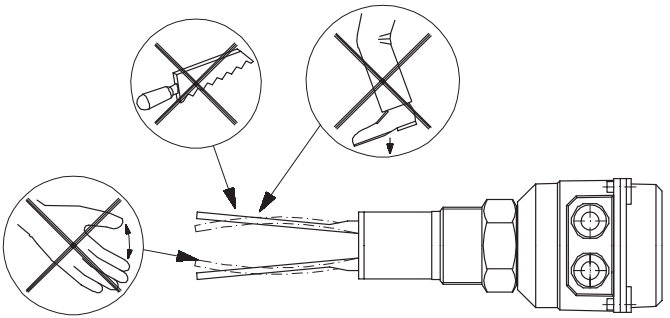
Alignment



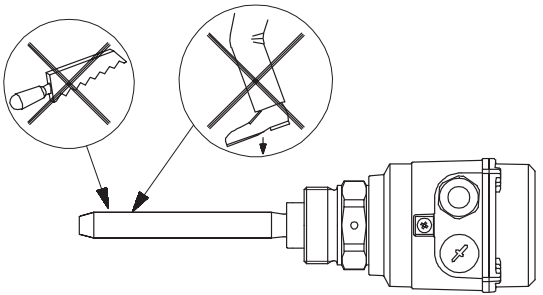
(1) Ingress protection IP 66

Treatment

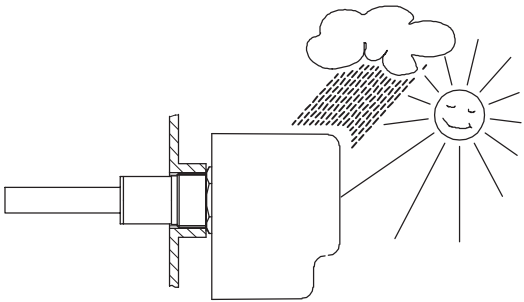
VN 4000



MN 4000



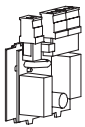
Option: Weather protection cover



for Ex only approved for Zone 22

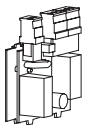
Spare parts

VN 4000



19...230V 50/60 Hz 19...40V DC	pl408265
18...50V DC PNP	pl408266

MN 4000



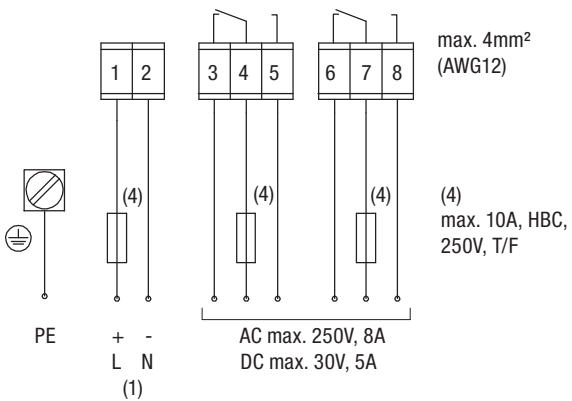
21...230V 50/60 Hz 22...45V DC	pl405265
18...50V DC PNP	pl405266

Electrical connection

All electronic modules: Over voltage category II

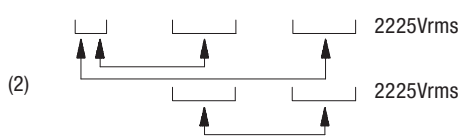
Relay DPDT

VN 4000
MN 4000



(1)

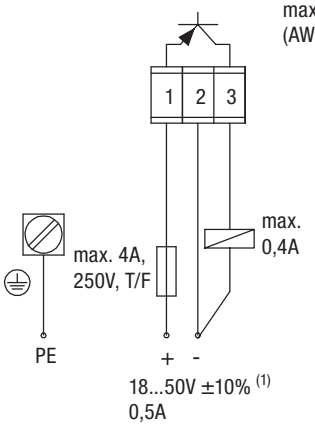
VN 4000:	19...230V ±10% (3) 50-60Hz 22VA	19... 40V ±10% (3) DC 2W
MN 4000:	21...230V ±10% (3) 50-60Hz 22VA	22... 45V ±10% (3) DC 2W



(1) Power supply
(2) Isolating voltage
(3) including 10% from EN 61010

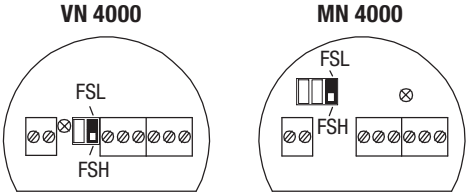
PNP

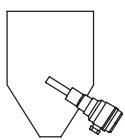
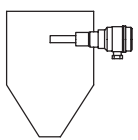
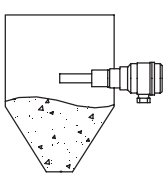
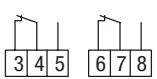
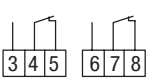
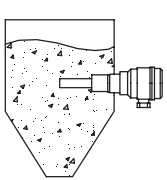
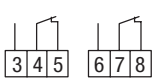
VN 4000
MN 4000



(1) Power supply, including 10% from EN 61010

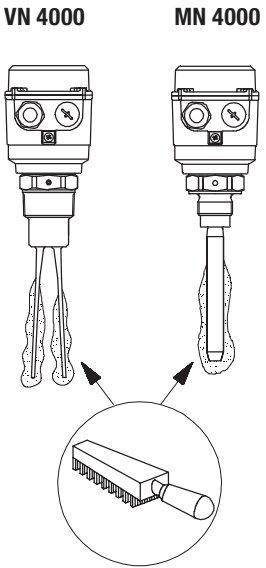
Switching logic



	FSL	FSH	
			
			(1)
			(2)
			(1)
			(2)

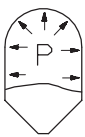
(1) = Relay DPDT
(2) = PNP

Cleaning



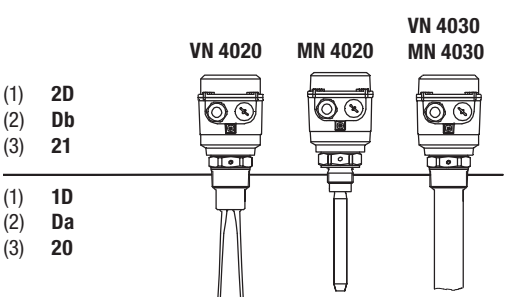
Notes

Permitted relative pressure



-0,2...+0,1bar
(-2.9…+1.45psi)

Zone borders



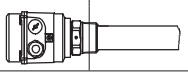
(1) Category (2) EPL (IEC-Ex) (3) Zone

Ambient temperature **max. Surface temperature**

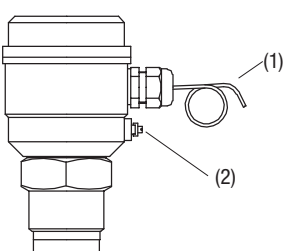
T

VN 4000
MN 4000

60°C (140°F)	110°C (230°F) 120°C (248°F) 130°C (266°F) 140°C (284°F) 150°C (302°F)	115°C (239°F) 120°C (248°F) 130°C (266°F) 140°C (284°F) 150°C (302°F)



Installation



(1) A pull relief must be provided
(2) Connect with equipotential bonding of the plant

ATEX / IEC-Ex: Further Remarks

For installation and field wiring the respectively valid installation regulations of the respective country must be observed.

Commissioning only with closed lid.

Do not remove the lid (cover) while circuits are alive.

Before opening the lid take care, that no dust deposits or whirlings are present.

The installation has to be carried out in a way, that mechanical friction or impact does not cause sparks between the aluminium enclosure and steel.

Cable glands:
Installation according to the regulations of the country, where the product is installed.
Not used entries have to be closed with blanking elements certified for this purpose.
Where applicable the factory provided parts must be used.
A strain relief must be provided for the field wiring cables, when the device is installed with the factory
provided cable glands.
The diameter of the field wiring cable must match to the clamping range of the cable clamp.
If other than the factory provided parts are used, following must be ensured:
The parts must have an approval adequate to the approval of the level sensor (certificate and type of protection).
The approved temperature range must be from the min. ambient temperature of the level sensor to the max. ambient temperature of the level sensor increased by 10 Kelvin.
The parts must be mounted according to the instructions of the supplier.