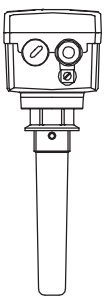
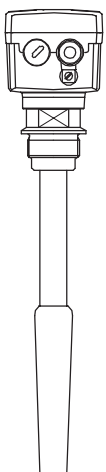
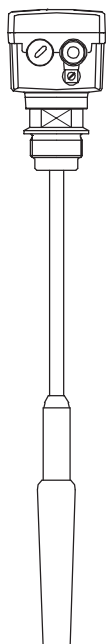
Capanivo ®

Series CN 4000

LEVEL. UP TO THE MAX.







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	CN 4020 / 4030 / 4050
	Approval	CE / TR-CU / ATEX / IEC-Ex
	Electronic modules	Relay (SPDT, DPDT) PNP

Table of Contents

Safety /warning notes

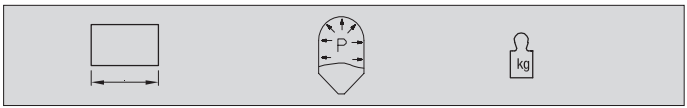
Installation, maintenance and commissioning may be accomplished only by qualified technical personnel.
For terminal connection of the device, the local regulations or VDE 0100 (Regulations of German electrotechnical Engineers) must be observed.
All field wirings must have insulation suitable for at least 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.

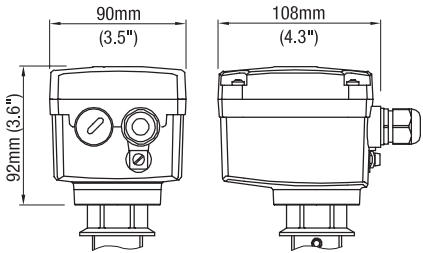
Fields of application

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

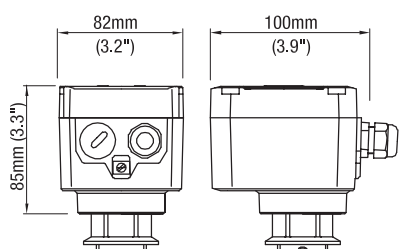
Technical Data

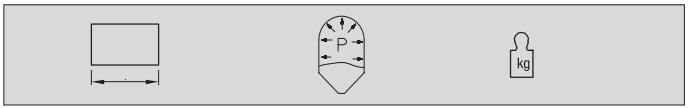


Plastics PA

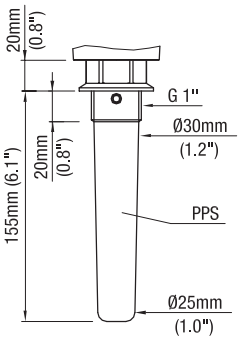


Aluminium

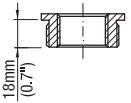




CN 4020
120°C



G 1" –> G 1 1/2" / NPT 1 1/4'' / NPT 1 1/2"



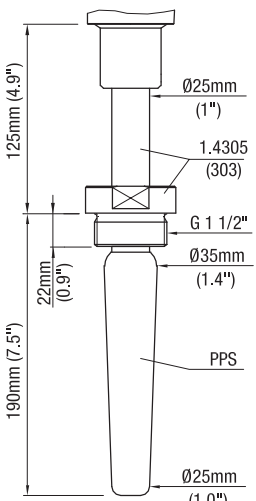
Material according to order data

Accessory

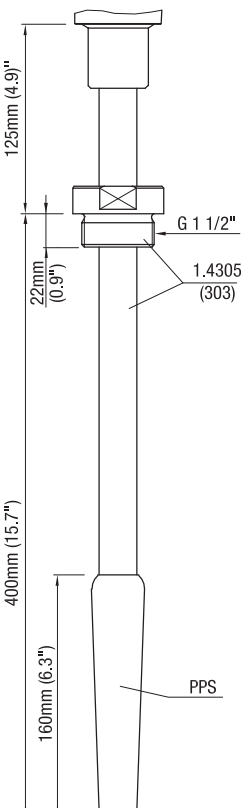
P	min. -1bar (-14.5psi) max. +25bar (+363psi)
kg	~ 0,5kg (1.1 lbs)

CN 4020
180°C

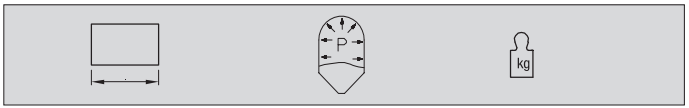
L=190mm



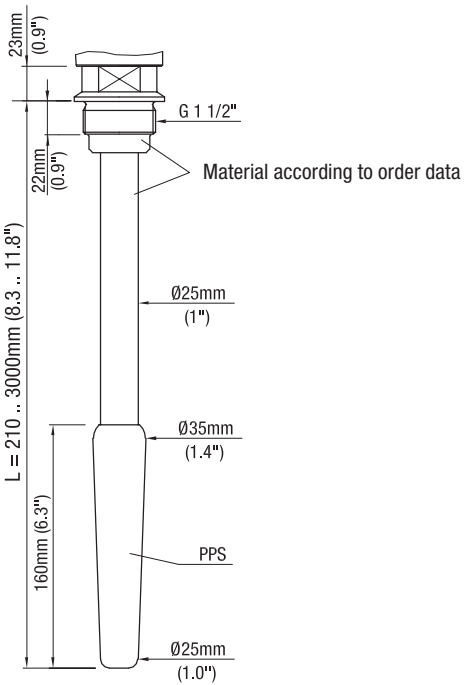
L=400mm



P	min. -1bar (-14.5psi) max. +16bar (+232psi)
kg	~ 1.8kg (4.0 lbs)



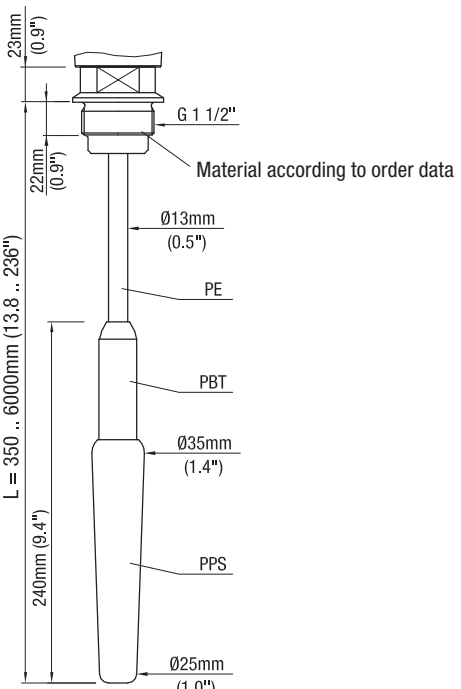
CN 4030



P	min. -1bar (-14.5psi) max. +16bar (+232psi)
kg	~ 0.8 kg (1.8 lbs)+ L: 0.8 kg/m (1.8 lbs/39.9“) (1) ~ 1.5 kg (3.3 lbs)+ L: 1.6 kg/m (3.5 lbs/39.9“) (2)

(1) = Aluminium (2) = Stainless steel

CN 4050

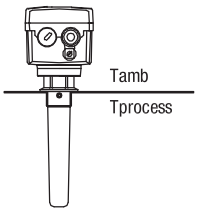


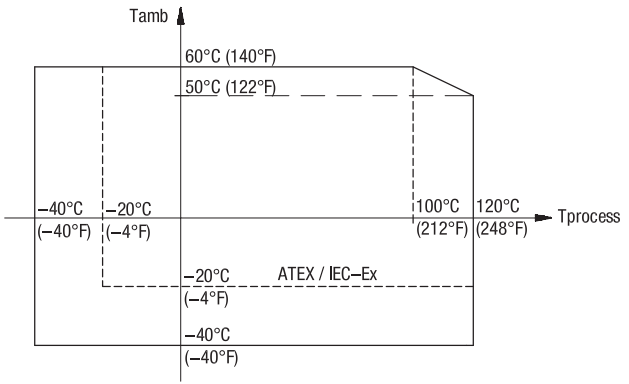
P	min. -1bar (-14.5psi) max. +6bar (+87psi)
kg	~ 0.9 kg (2.0 lbs)+ L: 0.25 kg/m (0.55 lbs/39.9“) (1) ~ 1.4 kg (3.1 lbs)+ L: 0.25 kg/m (0.55 lbs/39.9“) (2)

(1) = Aluminium (2) = Stainless steel

°C

CN 4020
120°C

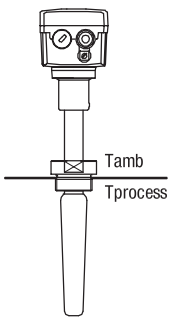


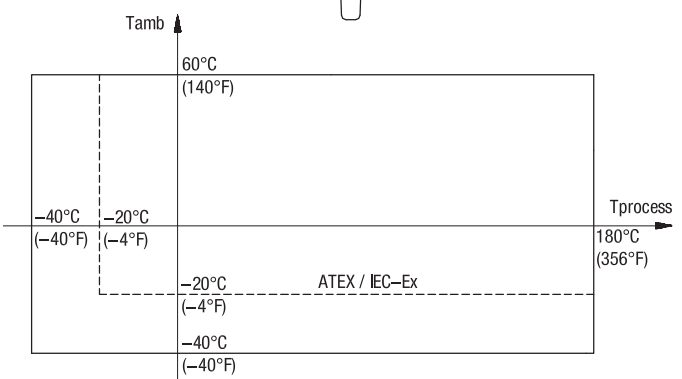


°C

CN 4020

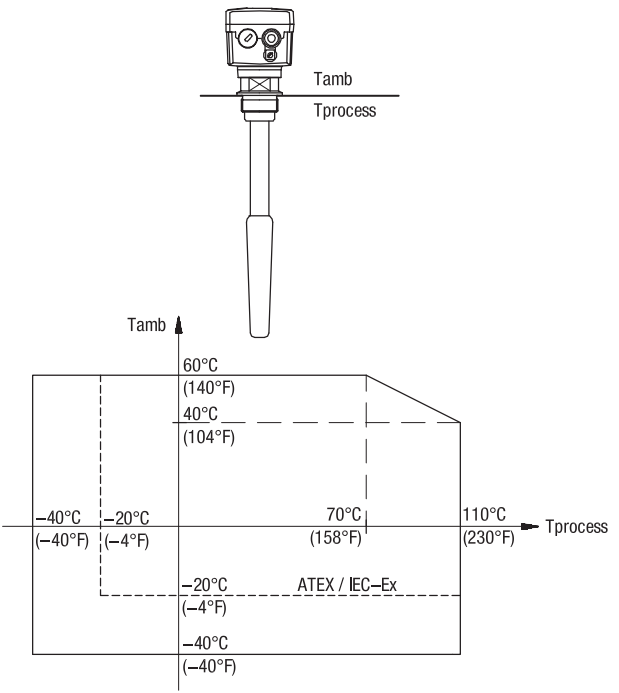
180°C





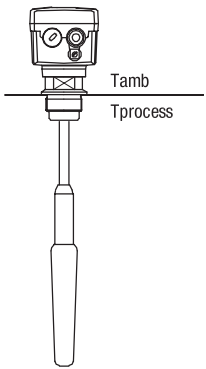
°C

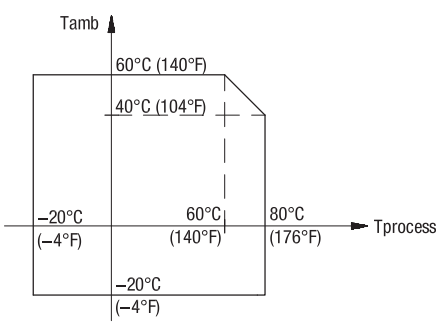
CN 4030


Tamb
Tprocess
Tamb
60°C
(140°F)
40°C
(104°F)
–40°C
(–40°F)
–20°C
(–4°F)
70°C
(158°F)
110°C
(230°F)
Tprocess
–20°C
ATEX / IEC–Ex
(–4°F)
–40°C
(–40°F)

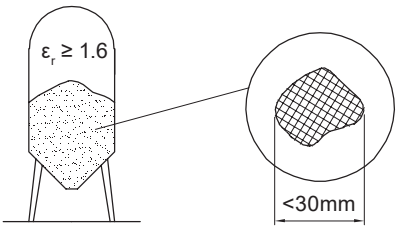
°C

CN 4050


Tamb
Tprocess

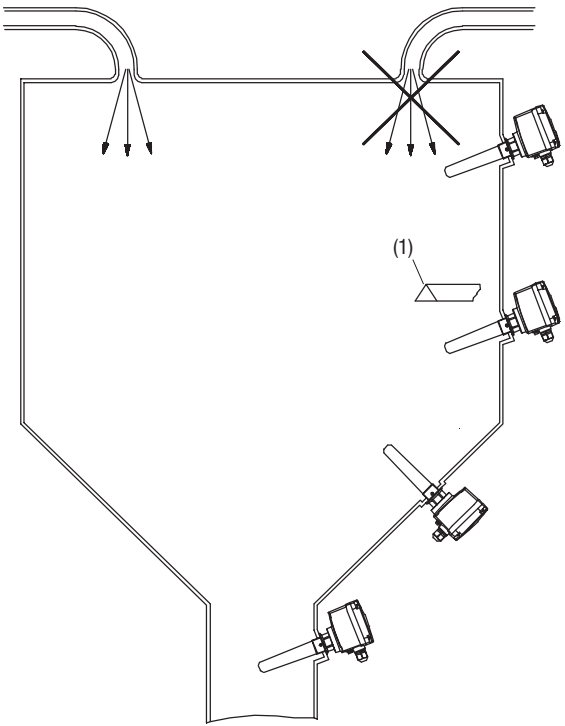

Tamb
60°C (140°F)
40°C (104°F)
–20°C
(–4°F)
60°C
(140°F)
80°C
(176°F)
Tprocess
–20°C
(–4°F)

Bulk material

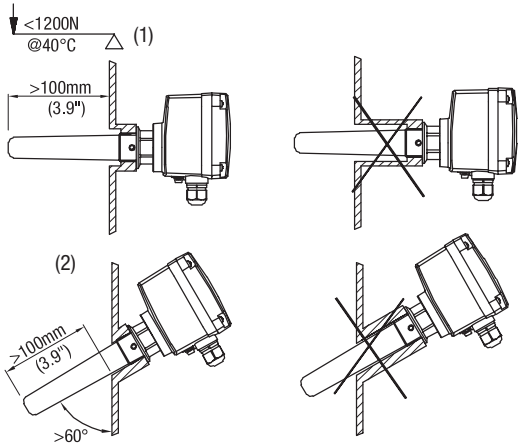


ε_r Dielectric constant

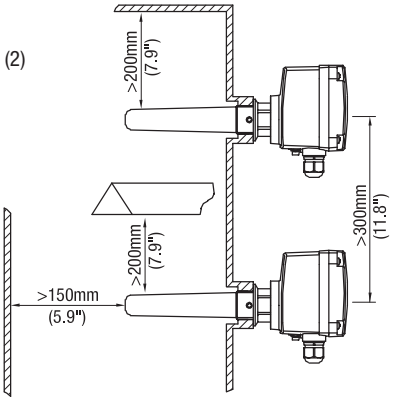
CN 4020

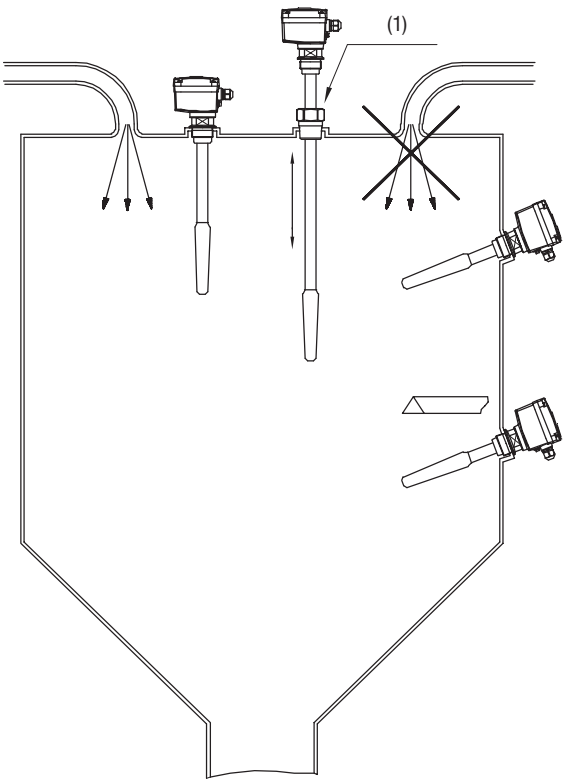


(1) Protective angle (canopy) in case of high mechanical load



(1) Mech. load of the sensor
(2) Observe minimum distances

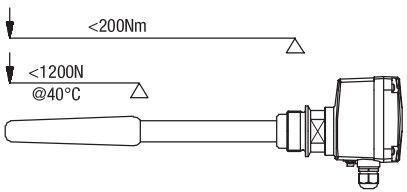




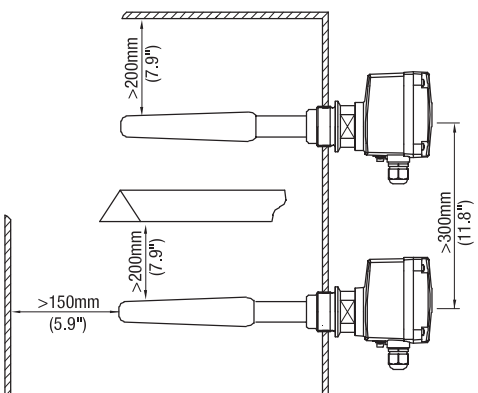
(1) Sliding sleeve: Tighten straining screws with 20Nm

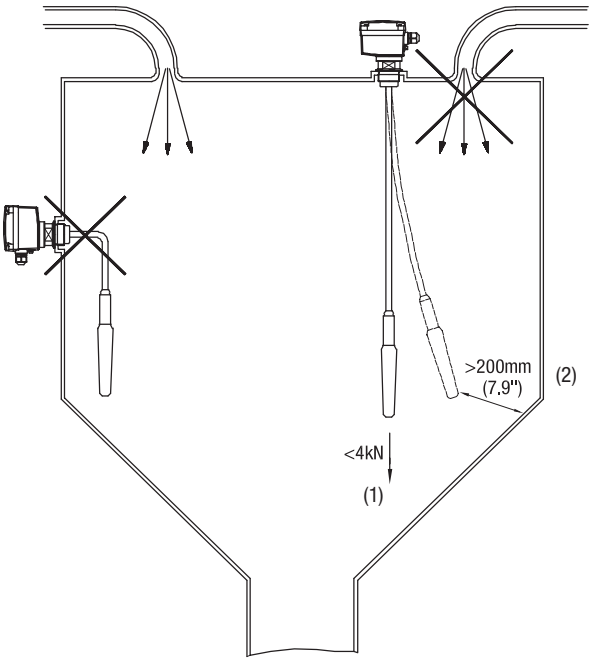
CN 4030

Mech. load of the sensor



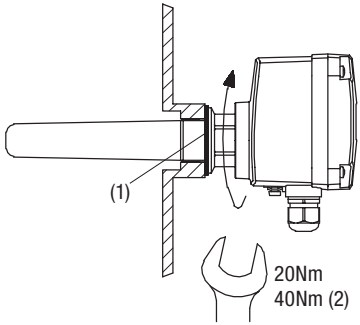
Observe minimum distances





(1) Mech. load of the sensor
(2) Observe minimum distances

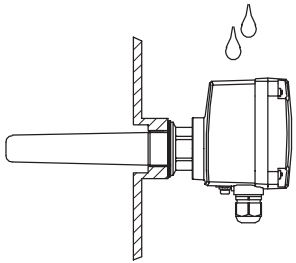
Fixing Threads

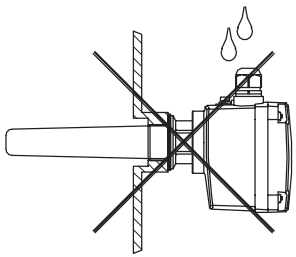


(1) Flat gasket (2) Metal

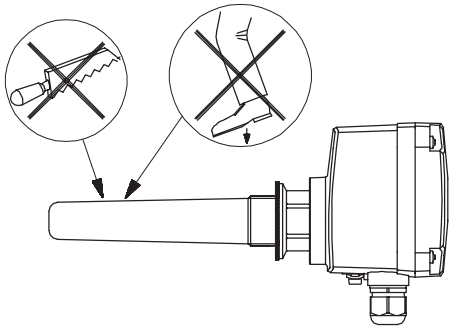
Alignment

Ingress protection IP 66

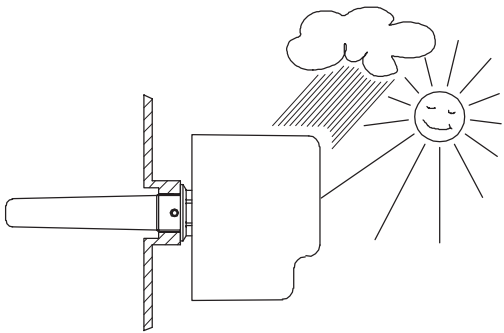




Treatment

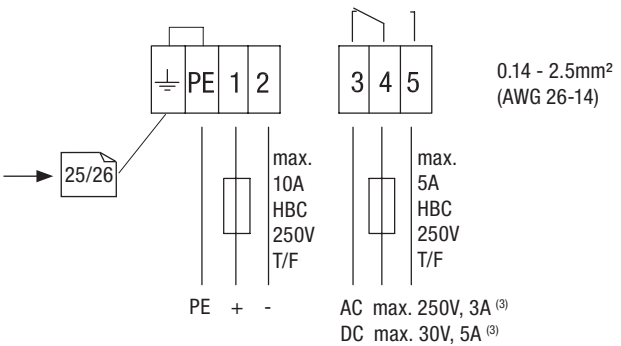


Option: Weather protection cover



for Ex only approved for Zone 22

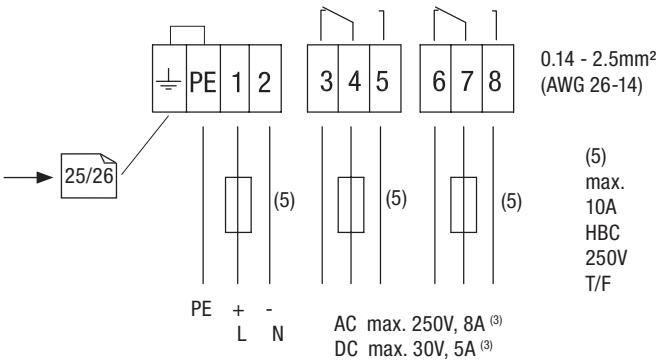
Relay SPDT



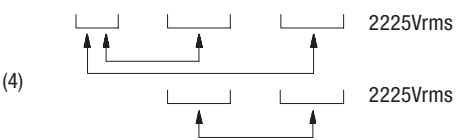
(1)
21...27V DC ±10% (2), max. 1.5W

(1) Power supply
(2) Including 10% from EN 61010
(3) Non inductive
(4) Isolating voltage

Relay DPDT

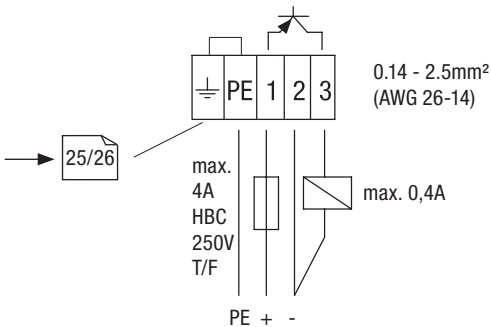


(1)
21...230V 50-60Hz ±10% (2) , max. 18VA
21...45V DC ±10% (2) , max. 2W



(1) Power supply
(2) Including 10% from EN 61010
(3) Non inductive
(4) Isolating voltage

PNP

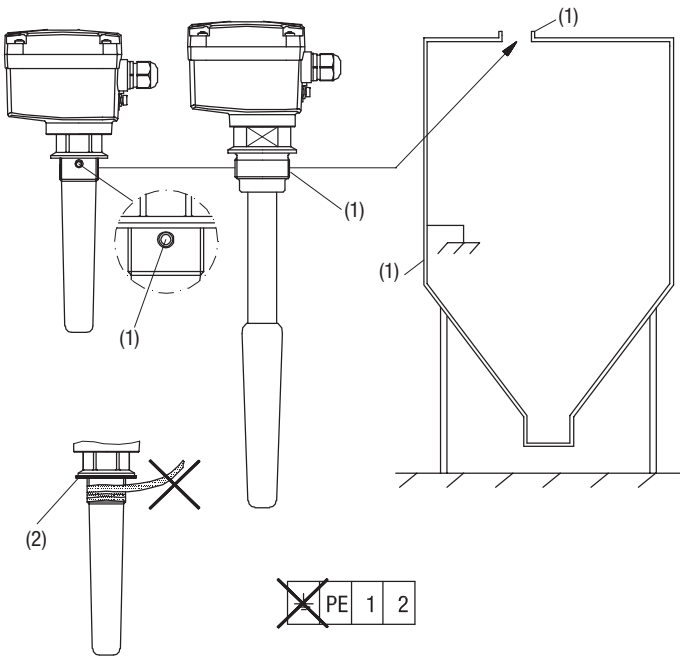


(1)
20...40V DC ±10% (2), max. 0.5A

(1) Power supply
(2) Including 10% from EN 61010

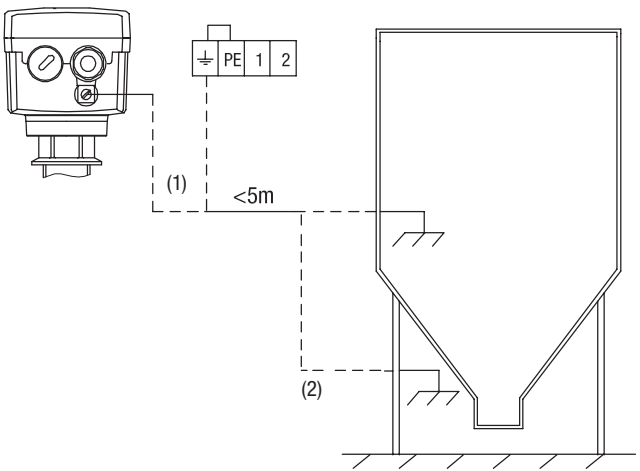
Functional grounding

by process connection



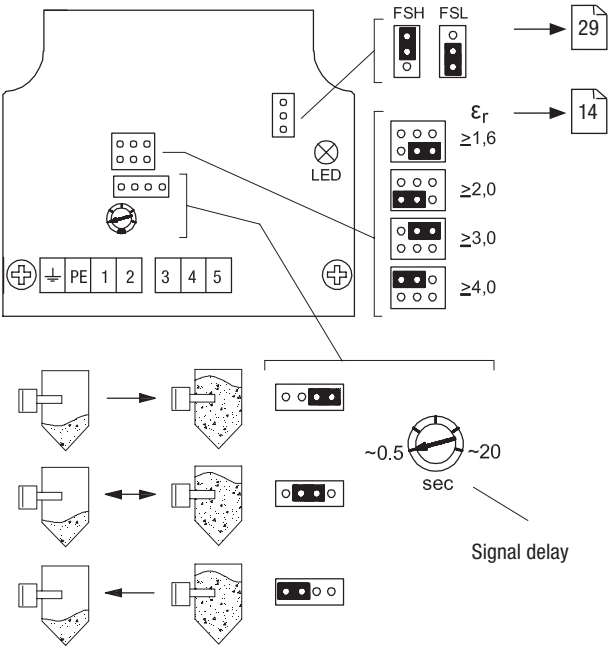
(1) Metal
(2) Use flat gasket, no teflon tape

alternative by cable

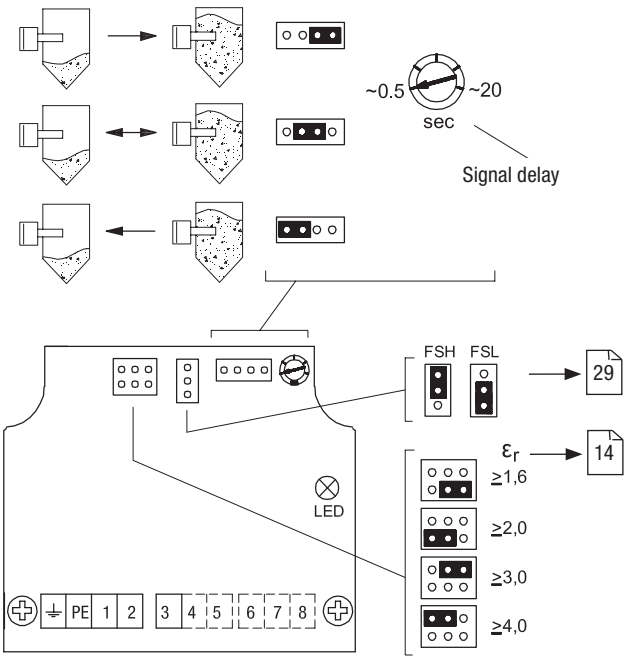


(1) Use internal or external terminal
(2) Grounded metal parts in case of non metal bin

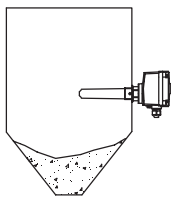
Relay SPDT


FSH
FSL
29
ε_r
14
LED
≥1,6
≥2,0
≥3,0
≥4,0
PE
1
2
3
4
5
~0.5
~20
sec
Signal delay

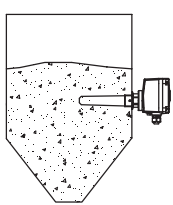
Relay DPDT / PNP



Signal output logic

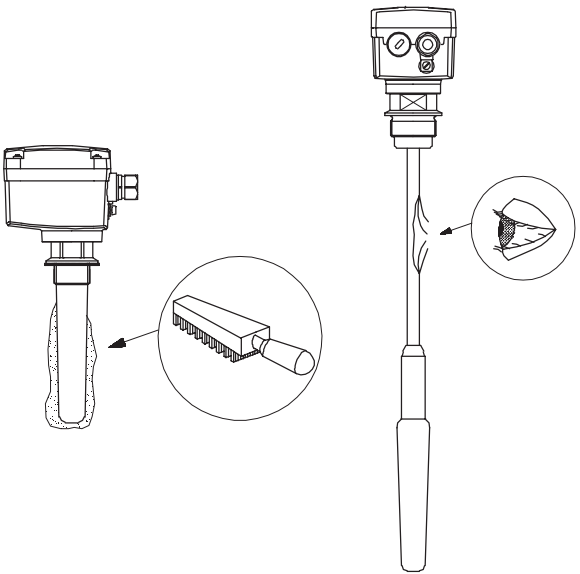


FSL	FSH → 27	
3 4 5	3 4 5	(1)
3 4 5 6 7 8	3 4 5 6 7 8	(2)
1 3	1 3	(3)
yellow	green	(4)



3 4 5	3 4 5	(1)
3 4 5 6 7 8	3 4 5 6 7 8	(2)
1 3	1 3	(3)
green	yellow	(4)

(1) = Relais SPDT
(2) = Relay DPDT
(3) = PNP
(4) = LED Signal



Spare parts

CN 4020 120°C

SPDT	21..27V DC	pl406100
DPDT	21..230V AC 21..45V DC	pl406110
PNP	20..40V DC	pl406120

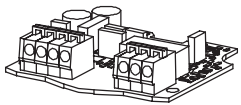
CN 4020 180°C

DPDT	21..230V AC 21..45V DC	pl406111
PNP	20..40V DC	pl406121

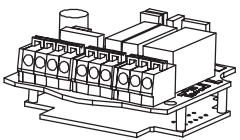
CN 4030 / CN 4050

No spare parts available

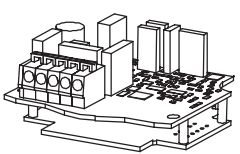
SPDT



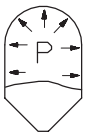
DPDT



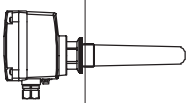
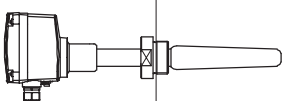
PNP

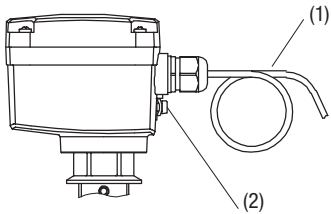


Permitted relative pressure



-0,2...+0,1bar
(-2.9…+1.45psi)

Ambient temperature		Max. surface temperature
60°C (140°F) 60°C (140°F) 60°C (140°F)	CN 4020: 120°C (248°F) CN 4030: 110°C (230°F CN 4050: 80°C (176°F)	120°C (248°F) 120°C (248°F) 135°C (275°F)
		
60°C (140°F) 60°C (140°F) 60°C (140°F) 60°C (140°F) 60°C (140°F) 60°C (140°F) 60°C (140°F)	CN 4020: 120°C (248°F) 130°C (266°F) 140°C (284°F) 150°C (302°F) 160°C (320°F) 170°C (338°F) 180°C (356°F)	CN 4020: 120°C (248°F) 130°C (266°F) 140°C (284°F) 150°C (302°F) 160°C (320°F) 170°C (338°F) 180°C (356°F)
		



(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.