

Overview / Specification / Applications

- Level limit detection in bulk goods/ solids
- Compact unit
- Wide range of applications, no maintenance
- Full-, demand-, empty detector
- Flexible extensions (kits)
- ATEX/ UKEX/ IEC-Ex/ INMETRO/ TR-CU/ CCC approvals (Dust Ex)
- 2011/65/EU RoHS conform



Approvals	CE/ UKCA	
	ATEX/ UKEX/ IEC-Ex/ INMETRO/ CCC	Zone 20/21 (Dust Ignition Proof)
	TR-CU	Ordinary Locations Dust Ignition Proof

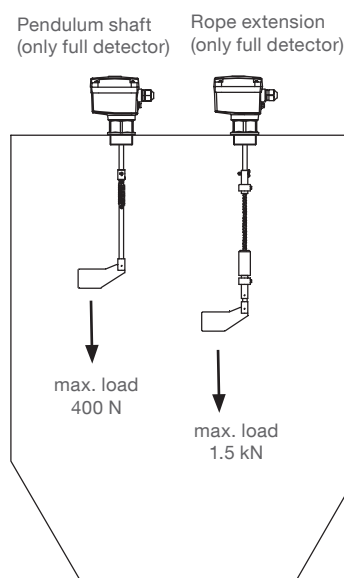
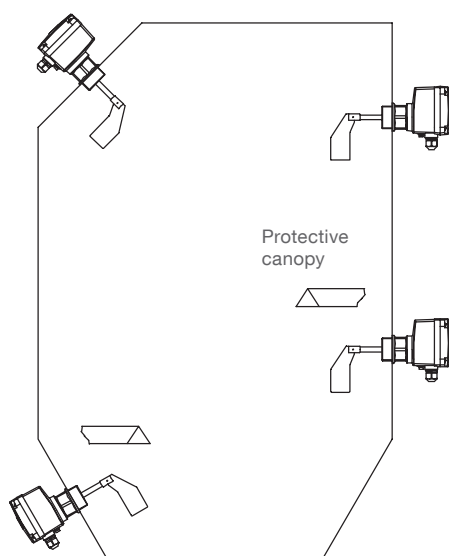
Technical data	Ambient temperature	-20 .. +60°C (-4 .. +140°F) -40 .. +60°C (-40 .. +140°F) with *heating *for certificate CE/ UKCA
	Process temperature	-20 .. +80°C (-4 .. +176°F) -40 .. +80°C (-40 .. +176°F) with *heating *for certificate CE/ UKCA
	Process pressure	-0.9 .. +0.8 bar (-13.1 .. 11.6 psi)
	Type of protection	IP66
	Material housing	Plastics PA6
	Material process connection	Aluminum or plastics PA6
	Material of measuring vane/ shaft/ extensions	1.4301 (SS304)/ 1.4305 (SS303)

Electronics		Signal output				
		SPDT ⁽¹⁾	PNP	FSH/ FSL ⁽²⁾	Adjust. delay	Fail safe alarm
AC version	24 V or 48 V or 115 V or 230 V AC	•	-	-	-	-
DC version	24 V DC	•	-	-	-	-
DC version	24 V DC PNP	-	•	•	•	-
Universal voltage	24 V DC/ 22 .. 230 V AC	•	-	•	•	option

⁽¹⁾ Micro switch, Relais for universal voltage

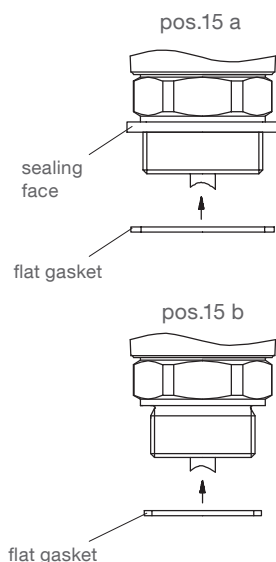
⁽²⁾ Switchable signal output (Fail safe high/ low)

Applications

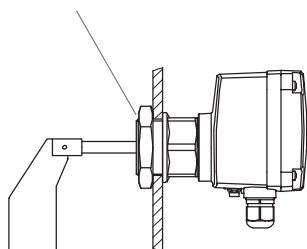


Options

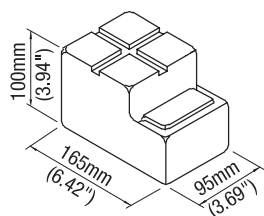
pos.15
Flat gasket



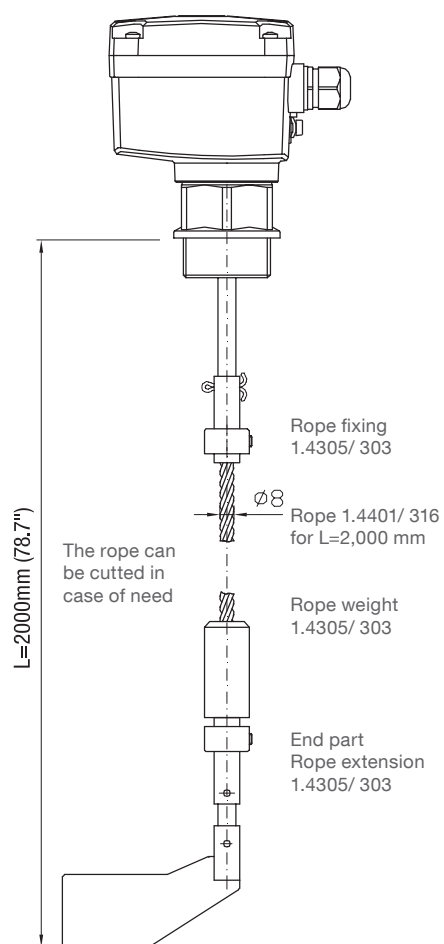
pos.24
Hexagon nut



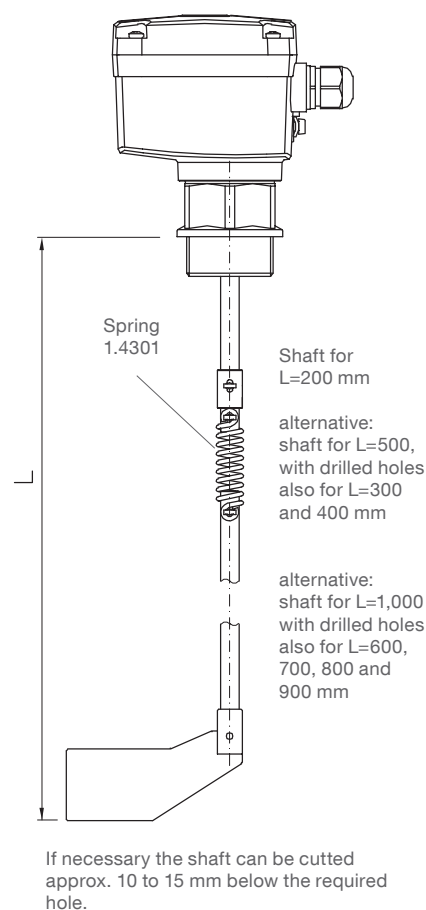
pos.21
Weather protection cover



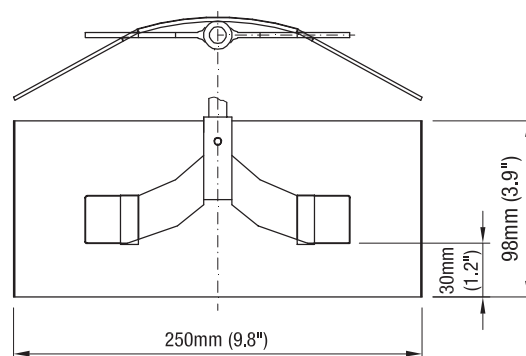
pos.39
Kit „rope extension“



pos.40
Kit „pendulum shaft“

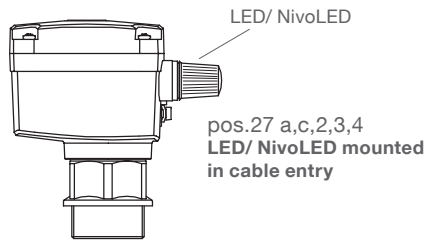


pos.23 a
Vane extension (plastics)

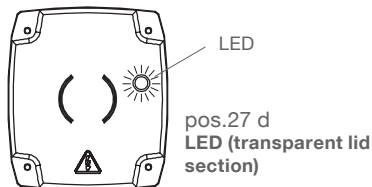


Options

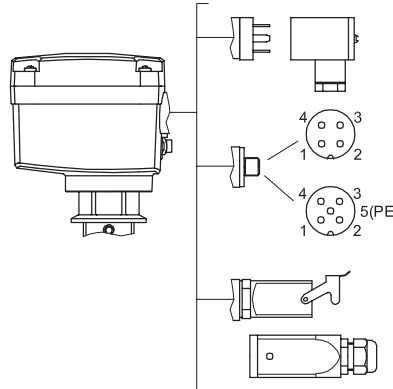
Signal lamp



Connection of the wires to the internal terminals of the unit refer to documentation "Plugs and Signal lamps - Connecting diagram".



Plug



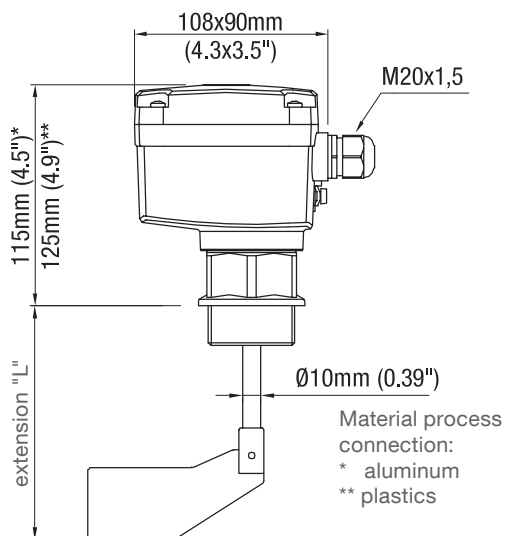
pos.35 x
Valve connector
 max. 230 V
 Enclosure plastic
 Protection IP65
 $-40\text{ }^{\circ}\text{C} \leq T_a \leq +125\text{ }^{\circ}\text{C}$

pos.35 a,b
Plug M12
 max. 25 V (4-pole), 60 V (5-pole)
 Enclosure brass
 Protection IP66
 $-25\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$

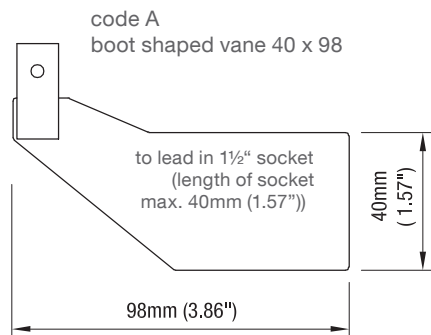
pos.35 c
Plug Han 4A
 max. 230 V
 Enclosure zinc
 Protection IP65
 $-40\text{ }^{\circ}\text{C} \leq T_a \leq +125\text{ }^{\circ}\text{C}$

Connection of the plug wires to the internal terminals of the unit refer to documentation "Plugs and Signal lamps - Connecting diagram".

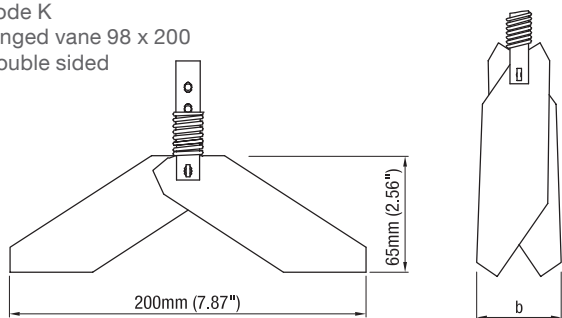
Dimension



Measuring vanes

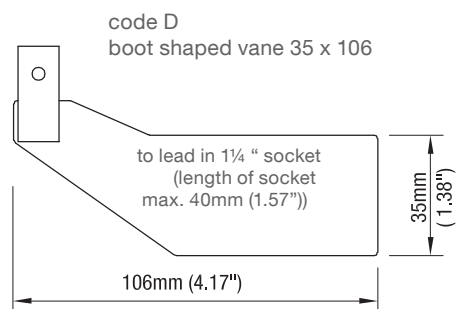


code K
hinged vane 98 x 200
double sided

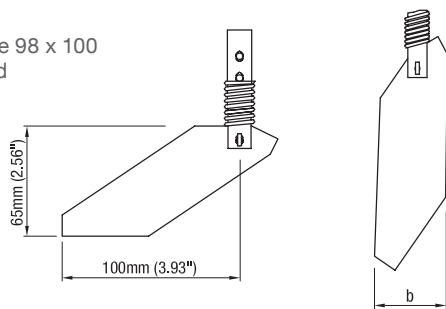


b=37 mm (1.46")
for 1 1/2" / 1 1/4"

b=28 mm (1.1")
for 1" / M32 x 1.5

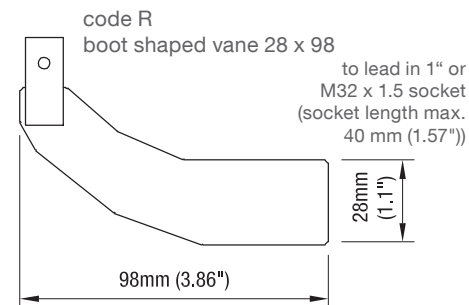


code S
hinged vane 98 x 100
single sided

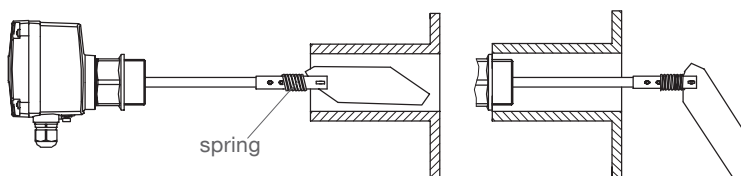


b=37 mm (1.46")
für 1 1/2" / 1 1/4"

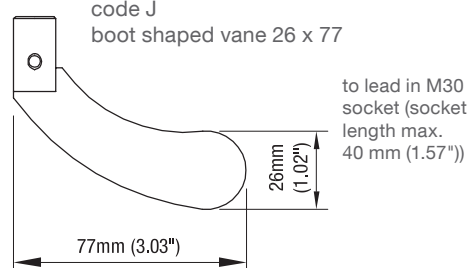
b=28 mm (1.1")
for 1" / M32 x 1.5



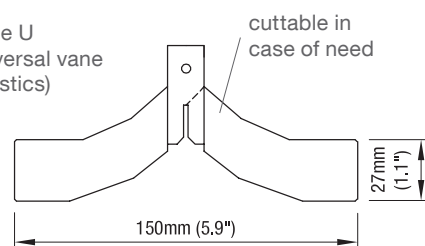
Insertion of the hinged vane through a long socket



code J
boot shaped vane 26 x 77



code U
universal vane
(plastics)



Dimension

Sensitivity

The table shows approximate values for the minimum densities, at which a normal function should be possible.

Vane	*Minimum density in g/l = kg/m ³ (lb/ft ³) (without guarantee)			
	Vane completely covered with bulk material		Bulk material covers vane up to 100 mm (3.93")	
	Spring adjustment		Spring adjustment	
	fine	medium (Factory setting)	fine	medium (Factory setting)
Boot shaped vane 40 x 98	200 (12)	300 (18)	100 (6)	150 (9)
Boot shaped vane 35 x 106	200 (12)	300 (18)	100 (6)	150 (9)
Boot shaped vane 28 x 98	300 (18)	500 (30)	150 (9)	200 (12)
Boot shaped vane 26 x 77	350 (21)	560 (33)	200 (12)	250 (15)
Hinged vane 98 x 200 b=37 double sided	70 (4.2)	100 (6)	35 (2.16)	50 (3)
Hinged vane 98 x 200 b=28 double sided	100 (6)	150 (9)	50 (3)	75 (4.5)
Hinged vane 98 x 100 b=37 single sided	200 (12)	300 (18)	100 (6)	150 (9)
Hinged vane 98 x 100 b=28 single sided	300 (18)	500 (30)	150 (9)	250 (15)

The above mentioned data is a guideline and is for loose, non compacted material.

During the filling the bulk density can change (e. g. for fluidised material).

*For versions with option 26 (heating of housing) the above mentioned data must be multiplied by 1.5.

Electrical installation

Version:

- AC
- DC
- **Universal voltage**

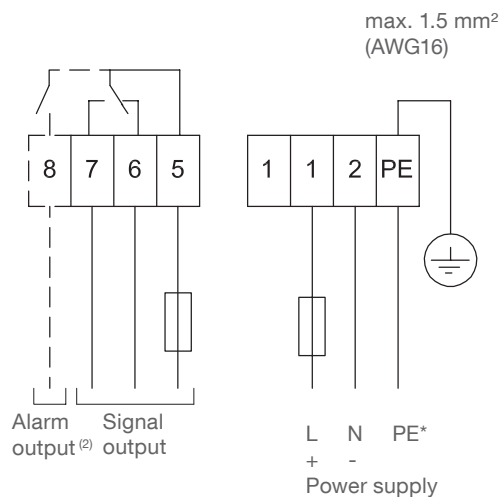
Power supply:

- **AC version:**
24 V or 48 V or 115 V or 230 V 50/60 Hz max. 4 VA
All voltages $\pm 10\%$ ⁽¹⁾
Supply voltage as selected.
External fuse: max. 10 A, fast or slow, HBC, 250 V
- **DC version:**
24 V DC $\pm 15\%$ ⁽¹⁾ max. 2.5 W
External fuse: not required
- **Universal voltage:**
24 V DC $\pm 15\%$ ⁽¹⁾ max. 4 W
22 .. 230 V 50/60 Hz $\pm 10\%$ ⁽¹⁾ max. 10 VA
External fuse: not required

⁽¹⁾ including $\pm 10\%$ of EN 61010

Signal and alarm output:

Micro switch or relay, SPDT contact
max. 250 V AC, 2 A, 500 VA ($\cos\phi = 1$)
max. 250 V DC, 2 A, 60 W
External fuse: max. 10 A, fast or slow, HBC, 250 V



⁽²⁾ With option Fail safe alarm (rotation control)
Contact open when de-energised

Version:

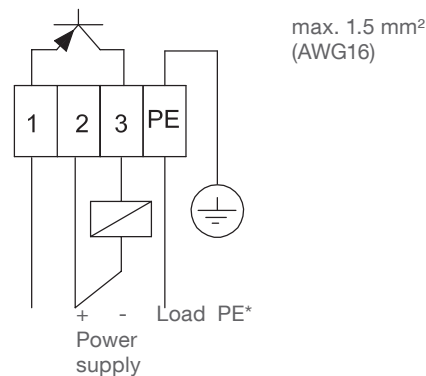
- PNP

Power supply:

24 V DC $\pm 15\%$ ⁽¹⁾
⁽¹⁾ including $\pm 10\%$ of EN 61010
Input current: max. 0.6 A

Signal output:

Load max. 0.4 A
Output voltage equal to input voltage, drop < 2.5 V
Open collector
Protected against short circuit and overload



* Protection against static charge:

- The PE terminal of the unit must be grounded to avoid static charging of the unit.
- This is particularly important for applications with pneumatic conveying.