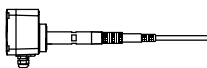
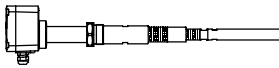
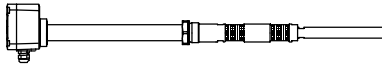


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Subject to change.

All dimensions in mm (inches).

All prices in Euro (€) or USD (\$),
excluding VAT.

All EURO prices are EXW Betzigau,
all USD prices are EXW Memphis,
excluding packaging costs.

Valid: From 01.04.2020 until 31.03.2021, 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
- Wide range of applications
- No maintenance
- Full, demand, empty detector
- Aluminium or plastics housing
- RF technology
- Active shield technology
- Self diagnostics
- Auto calibration
- ATEX, IEC-Ex, FM, FMc, TR-CU
GasEx and DustEx approvals
- FDA and 1935/2004/EC
Food grade materials

Approvals		CE
		ATEX/ IEC-Ex
	Zone 20/21	Dust Ignition Proof
	Zone 1	Flameproof/ Increased Safety
		FM/ FMc
	General purp.	
		FM
	Cl. II, III Div. 1	Dust Ignition Proof
	Cl. I Div. 1 Cl. I Zone 1	Explosionproof
		TR-CU
	Zone 20/21	Dust Ignition Proof
	Zone 1	Flameproof/ Increased Safety

Electronics	Supply voltage/ Signal output	21 .. 230 V AC/ DC ±10% Relais DPDT
	Technology	RF with active shield
	Signal output delay	0.5 .. 60 sec
	Measuring range/ max.s ensitivity	3 .. 100 pF/ 0.5 pF 3 .. 400 pF/ 2 pF
	Preset sensitivy	2 pF default, other sensitivity optional
	Calibration	Auto power up calibration at first time operation Auto recalibration with uncovered probe Push button calibration Manual calibration
	Display	4 digit LCD Display of actual measured capacitance, signal output state and self diagnostics
	Self diagnostics	Auto or manual function test Over and Under Range Actual calibrated switchpoint capacitance Min. and max. electronics temperature

Housings		
Standard Aluminium	d Aluminium	de Aluminium
		

Overview

RF 3100 Standard version	
Total length L	200 .. 2,500 mm (7.9 .. 98.4") rod 450 .. 20,000 mm (17.7 .. 787") rope
Active rod/ rope diameter	Rod \varnothing 10 mm (\varnothing 0.39") Rope \varnothing 4 mm (\varnothing 0.16")
Ambient temperature	-40 .. +70°C (-40 .. 158°F) Ex flameproof/XP +60°C (140°F)
Process temperature	-40 .. +240°C (-40 .. +464°F)
Process pressure	-1 .. +25 bar (-14.5 .. +363 psi)
Lateral load (rod version)	max. 20 Nm (\varnothing 10 mm probe), max. 125 Nm (\varnothing 22 mm pipe)
Tensile load (rope version)	max. 4 kN
Process connection material/ Extension material	1.4301/ 1.4305/ 1.4541 (SS303/ 304/ 321) or 1.4404/ 1.4401 (SS316L/ 316)
Probe isolation material	PPS reinforced FDA and 1935/2004/EC conform
Probe gasket material	FKM

Rod version
Shortest length



Rod version
Inactive extension



Rope version
Inactive extension



Remote version



Overview / Applications

RF 3200 Heavy Duty version	
Total length L	300 .. 2,500 mm (11.8 .. 98.4") rod 550 .. 20,000 mm (21.7 .. 787") rope
Active rod/ rope diameter	Rod \varnothing 22 mm (\varnothing 0.87") Rope \varnothing 8 mm (\varnothing 0.31")
Ambient temperature	-40 .. +70°C (-40 .. +158°F) Ex flameproof/XP +60°C (140°F)
Process temperature	-40 .. +240°C (-40 .. +464°F)
Process pressure	-1 .. +25 bar (-14.5 .. +363 psi)
Lateral load (rod version)	max. 90 Nm (\varnothing 22 mm probe), max. 525 Nm (\varnothing 33 mm pipe)
Tensile load (rope version)	max. 40 kN
Process connection material/ Extension material	1.4301/ 1.4305/ 1.4541 (SS303/ 304/ 321) or 1.4404/ 1.4401 (SS316L/ 316)
Probe isolation material	PPS reinforced FDA and 1935/2004/EC conform
Probe gasket material	FKM or FFKM



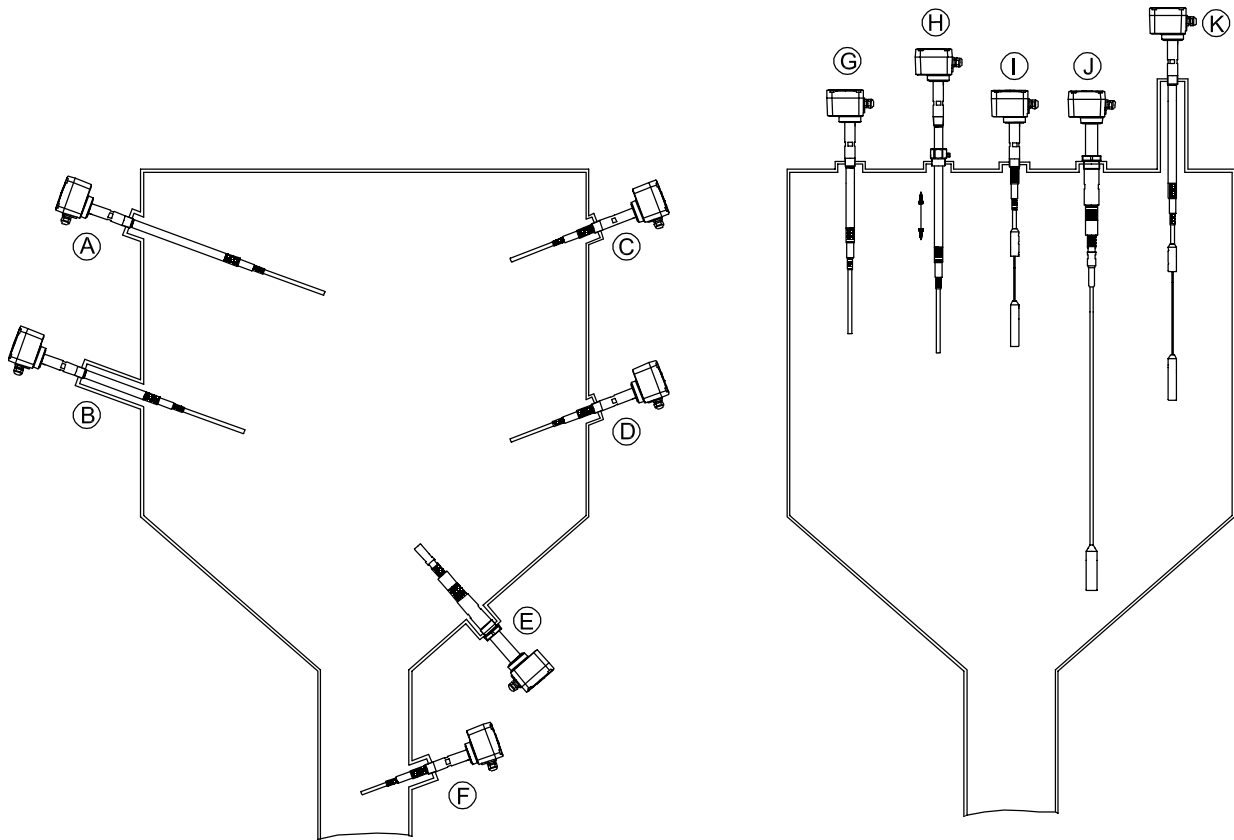
Example:
Rod version

RF 3300 High temperature version	
Total length L	320 ... 2,500 mm (12.6 .. 98.4") rod 570 .. 20,000 mm (22.4 .. 787") rope
Active rod/ rope diameter	Rod \varnothing 22 mm (\varnothing 0.39") Rope \varnothing 8 mm (\varnothing 0.16")
Ambient temperature	-40 .. +70°C (-40 .. +158°F) Ex flameproof/XP +60°C (140°F)
Process temperature	-40 .. +500°C (-40 .. +932°F) Ex versions: +445°C (833°F)
Process pressure	-1 .. +10bar (-14.5 .. +145 psi)
Lateral load (rod version)	max. 20 Nm (\varnothing 22 mm probe), max. 525 Nm (\varnothing 33 mm pipe)
Tensile load (rope version)	max. 10 kN
Process connection material/ Extension material	1.4301/ 1.4305/ 1.4541 (SS303/ 304/ 321) or 1.4404/ 1.4401 (SS316L/ 316)
Probe isolation material	Ceramic FDA and 1935/2004/EC conform
Probe gasket material	Graphite



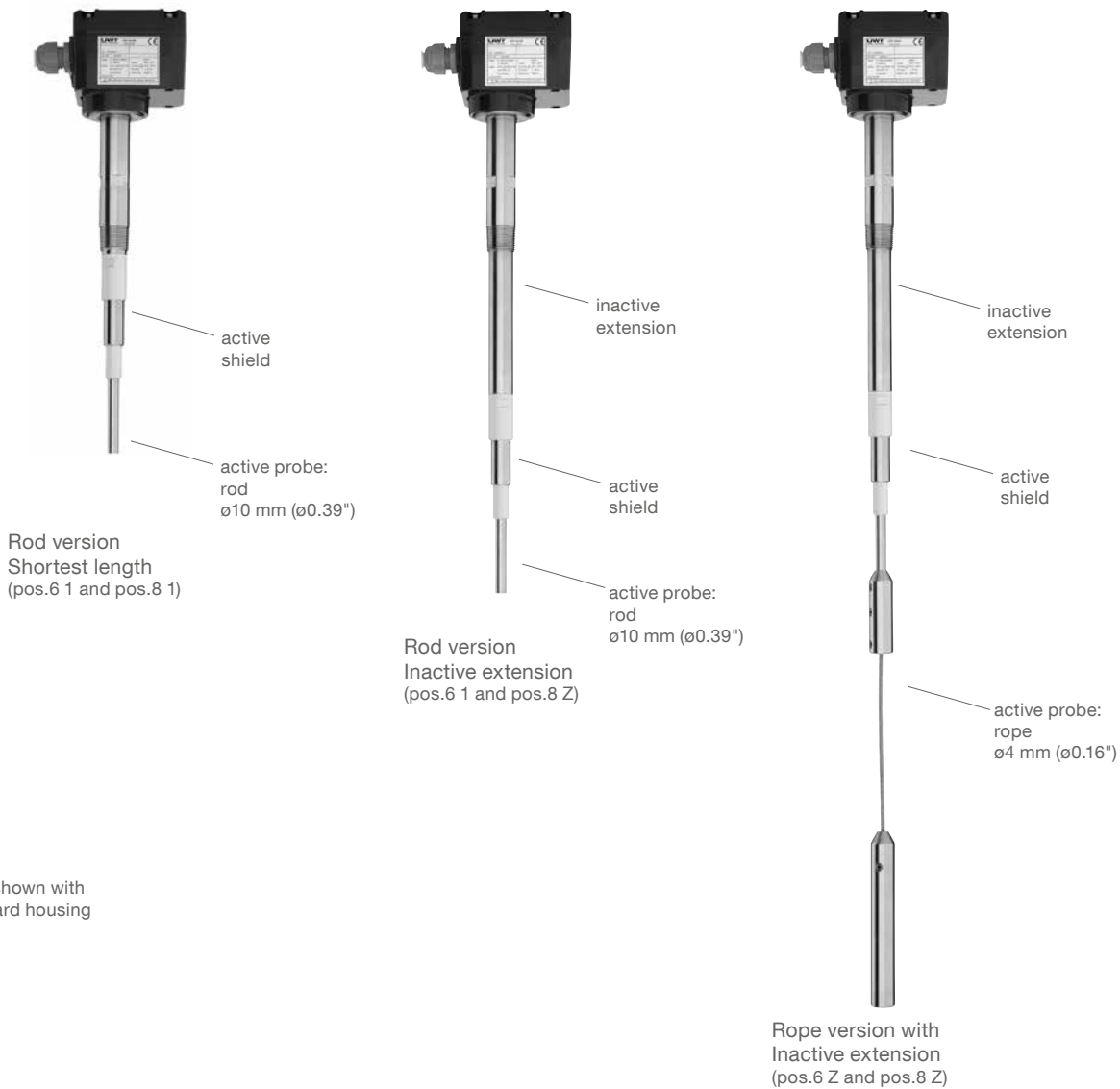
Example:
Rod version

Applications



		RF 3100	RF 3200	RF 3300
(A)	Inactive length to reach distance from silo wall	•	•	•
(B)	Inactive length due to long mounting nozzle	•	•	•
(C)	Full detector with short length	•	•	•
(D)	Demand detector with short length, observe max. load	•	•	•
(E)	Empty detector with short length, observe max. load	•	•	•
(F)	Application in down pipe, observe max. load	•	•	•
(G)	Inactive length to bring active probe to required level	•	•	•
(H)	Inactive length and sliding sleeve for adjustable height	•	•	
(I)	Full detector, rope version	•	•	•
(J)	Empty detector, rope version, observe max. load	•	•	•
(K)	Inactive length due to long mounting nozzle	•	•	•

RF 3100 Standard version



Units shown with
 Standard housing

Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos.33 on page 13):

Version:	Cable entries:
ATEX/IEC-Ex flameproof (pos.2 T,D,L)	M20 x 1.5 (1x open conduit + 1x blind plug)
FM/FMc (pos.2 M,N,U)	NPT ½" tapered ANSI B1.20.1 (1x open conduit + 1x blind plug)
All other versions	M20 x 1.5 (1x screwed cable gland + 1x blind plug)

Length L1

Rod version, horizontal mounting

DK*	L1 (pos.6)/ mm (inch)
<1.5	n.a.
≥1.6	≥300 (11.8")
≥1.8	≥200 (7.9")
≥2.2	≥100 (3.9")
≥10	≥50 (2.0")

*see external DK table

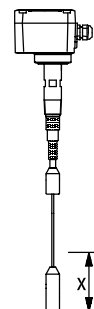
With stated L1 the unit works with factory setted sensitivity (2 pF). For shorter L1 see option pos.16

Switchpoint

Rope version

x mm (inch)
n.a.
≤300 (11.8")
≤200 (7.9")
≤100 (3.9")
≤50 (2.0")

The table states the switchpoint with factory setted sensitivity (2 pF). For smaller x see option pos.16



Dimensions see pages 17, 18

RF 3100 Standard version

Basic type

RF 3100 ●

pos.2 **Certificate** (detailed Ex-markings: see page 22)

	Dust	Gas	Protection method
0	CE/ TR-CU	-	-
W	ATEX	Zone 20/21	-
R	ATEX	Zone 20/21	Zone 1
T	ATEX	Zone 20/21	Zone 1
A	IEC-Ex	Zone 20/21	-
C	IEC-Ex	Zone 20/21	Zone 1
D	IEC-Ex	Zone 20/21	Zone 1
M	FM/ FMc	-	-
N	FM	Cl. II, III, Div.1	-
U	FM	Cl. II, III, Div.1	Cl. I Div.1/ Zone 1
E	TR-CU	Zone 20/21	-
K	TR-CU	Zone 20/21	Zone 1
L	TR-CU	Zone 20/21	Zone 1

pos.4 **Electronic module**

L Relay DPDT 21 .. 230 V AC/ DC ●

pos.5 **Process connection**

- A Thread G 1½", DIN 228 ● ●
- B Thread G 1¼", DIN 228 ● ●
- C Thread G 1", DIN 228 ● ●
- W Thread G ¾", DIN 228 ● ●
- D Thread M32 x 1.5 ● ●
- E Thread M30 x 1.5 ● ●
- F Thread NPT 1½", conical ANSI B1.20.1 ● ●
- Q Thread NPT 1¼", conical ANSI B1.20.1 ● ●
- G Thread NPT 1", conical ANSI B1.20.1 ● ●
- J Thread NPT ¾", conical ANSI B1.20.1 ● ●
- P Triclamp 2" (DN50) ISO 2852 ● ●
- R Triclamp 1" (DN25) and 1½" (DN40) ISO 2852 ● ●
- L Flange DN100 PN6, EN 1092-1 (max. 6 bar (87 psi)) ● ●
- M Flange DN100 PN16, EN 1092-1 (max. 16 bar (232 psi)) ● ●
- S Flange 2" 150lbs ANSI B16.5 (max. 10 bar (145 psi)) ● ●
- T Flange 3" 150lbs ANSI B16.5 (max. 10 bar (145 psi)) ● ●
- U Flange 4" 150lbs ANSI B16.5 (max. 10 bar (145 psi)) ● ●

pos.6 **Active Probe length L1 (1)**

- 1 Rod, L1=100 mm (3.94") ● ●
- 2 Rod, L1=200 mm (7.87") ● ●
- 3 Rod, L1=300 mm (11.8") ● ●
- Y Rod, L1=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) ● ●
 min. L1=50 mm (1.97"), max. L1=2,000 mm (78.7")
- Z Rope, Base price ● ●
 L1=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) ● ●
 min. L1=350 mm (13.8"), max. L1=20,000 mm (787"), observe max. load

pos.8 **Inactive extension length L2 (2,3)**

- 1 Without ● ●
- Z L2=custom specified Base price ● ●
 Price per 100 mm (3.94") or part thereof (starting from 0 mm) ● ●
 Rod version: min. L2=50 mm (1.97"), max. L2=2,400 mm (94.5") - L1
 Rope version: min. L2=50 mm (1.97"), max. L2=1,900 mm (74.8")

pos.9 **Material of process connection and extension "L"**

- 1 Stainless steel 1.4301/ 1.4305/ 1.4541 (303/ 304/ 321) and PPS, gaskets FKM
- 2 Stainless steel 1.4404 (316L), 1.4401 (316) for rope, PPS, gaskets FKM

Further options: see page 12

(1) See recommendations on page before
 (2) Inactive extension: the active probe shall have at least 50 mm (1.97") distance to the vessel wall
 (3) Total length L = L1 + L2 + 100 mm (3.94")

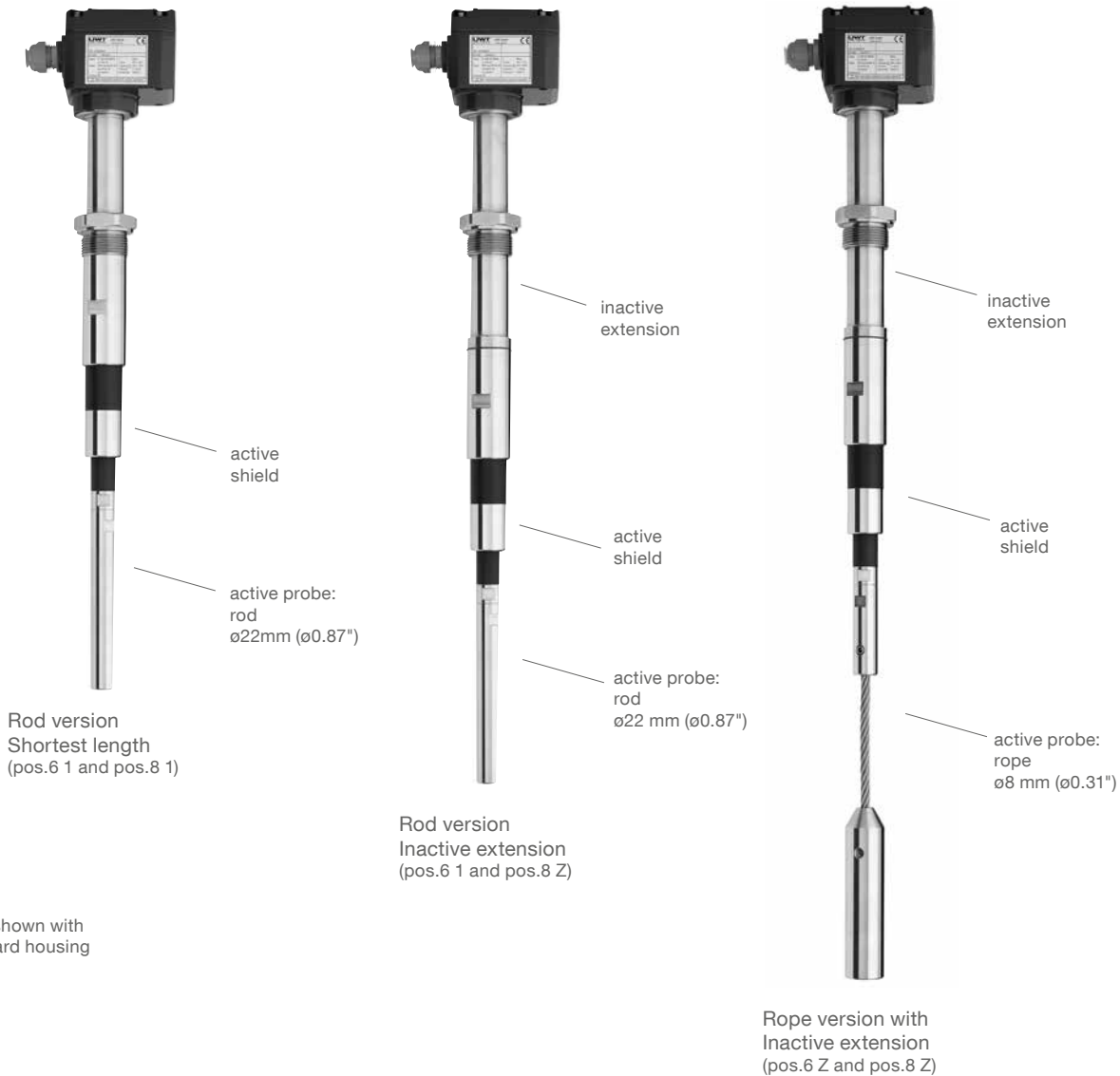
RF 3100	A	3	L			A		
Position	1	2	3	4	5	6	7	8

L1 = mm ← **Order code**
L2 = mm

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



RF 3200 Heavy Duty version



Units shown with Standard housing

Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos.33 on page 13):

Version:	Cable entries:
ATEX/IEC-Ex flameproof (pos.2 T,D,L)	M20 x 1.5 (1x open conduit + 1x blind plug)
FM/FMc (pos.2 M,N,U)	NPT ½" tapered ANSI B1.20.1 (1x open conduit + 1x blind plug)
All other versions	M20 x 1.5 (1x screwed cable gland + 1x blind plug)

Length L1

Rod version, horizontal mounting

DK*	L1 (pos.6)/ mm (inch)
<1.5	n.a.
≥1.6	≥300 (11.8")
≥1.8	≥200 (7.9")
≥2.2	≥100 (3.9")
≥10	≥50 (2.0")

*see external DK table

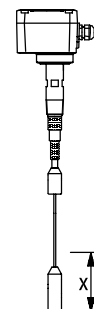
With stated L1 the unit works with factory setted sensitivity (2 pF). For shorter L1 see option pos.16

Switchpoint

Rope version

x mm (inch)
n.a.
≤300 (11.8")
≤200 (7.9")
≤100 (3.9")
≤50 (2.0")

The table states the switchpoint with factory setted sensitivity (2 pF). For smaller x see option pos.16



Dimensions see pages 17, 18

RF 3200 Heavy Duty version

Basic type

RF 3200 •

pos.2 **Certificate** (detailed Ex-markings: see page 22)

	Dust	Gas	Protection method
0	CE/ TR-CU	-	-
W	ATEX	Zone 20/21	-
R	ATEX	Zone 20/21	Zone 1
T	ATEX	Zone 20/21	Zone 1
A	IEC-Ex	Zone 20/21	-
C	IEC-Ex	Zone 20/21	Zone 1
D	IEC-Ex	Zone 20/21	Zone 1
M	FM/ FMc	-	-
N	FM	Cl. II, III, Div.1	-
U	FM	Cl. II, III, Div.1	Cl. I Div.1/ Zone 1
E	TR-CU	Zone 20/21	-
K	TR-CU	Zone 20/21	Zone 1
L	TR-CU	Zone 20/21	Zone 1

pos.4 **Electronic module**

L Relay DPDT 21 .. 230 V AC/ DC •

pos.5 **Process connection**

- A Thread G 1½", DIN 228 • •
- B Thread G 1¼", DIN 228 • •
- F Thread NPT 1½", conical ANSI B1.20.1 • •
- Q Thread NPT 1¼", conical ANSI B1.20.1 • •
- L Flange DN100 PN6, EN 1092-1 (max. 6 bar (87 psi)) • •
- M Flange DN100 PN16, EN 1092-1 (max. 16 bar (232 psi)) • •
- S Flange 2" 150lbs ANSI B16.5 (max. 10 bar (145 psi)) • •
- T Flange 3" 150lbs ANSI B16.5 (max. 10 bar (145 psi)) • •
- U Flange 4" 150lbs ANSI B16.5 (max. 10 bar (145 psi)) • •

pos.6 **Active Probe length L1 (1)**

- 1 Rod, L1=100 mm (3.94") • •
- 2 Rod, L1=200 mm (7.87") • •
- 3 Rod, L1=300 mm (11.8") • •
- Y Rod, L1=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) • •
 min. L1=100 mm (3.94"), max. L1=2,000 mm (78.7")
- Z Rope, Base price • •
 L1=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) • •
 min. L1=350 mm (13.8"), max. L1=20,000 mm (787")

pos.8 **Inactive extension length L2 (2,3)**

- 1 Without • •
- Z L2=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) • •
 Rod version: min. L2=100 mm (3.93"), max. L2=2,300 mm (90.6") - L1
 Rope version: min. L2=100 mm (3.93"), max. L2=1,800 mm (70.9")

pos.9 **Material of process connection and extension "L"**

- 1 Stainless steel 1.4301/ 1.4305/1 .4541 (303/ 304/ 321) and PPS, gaskets FKM
- 2 Stainless steel 1.4404 (316L), 1.4401 (316) for rope, PPS, gaskets FKM



Further options: see page 12

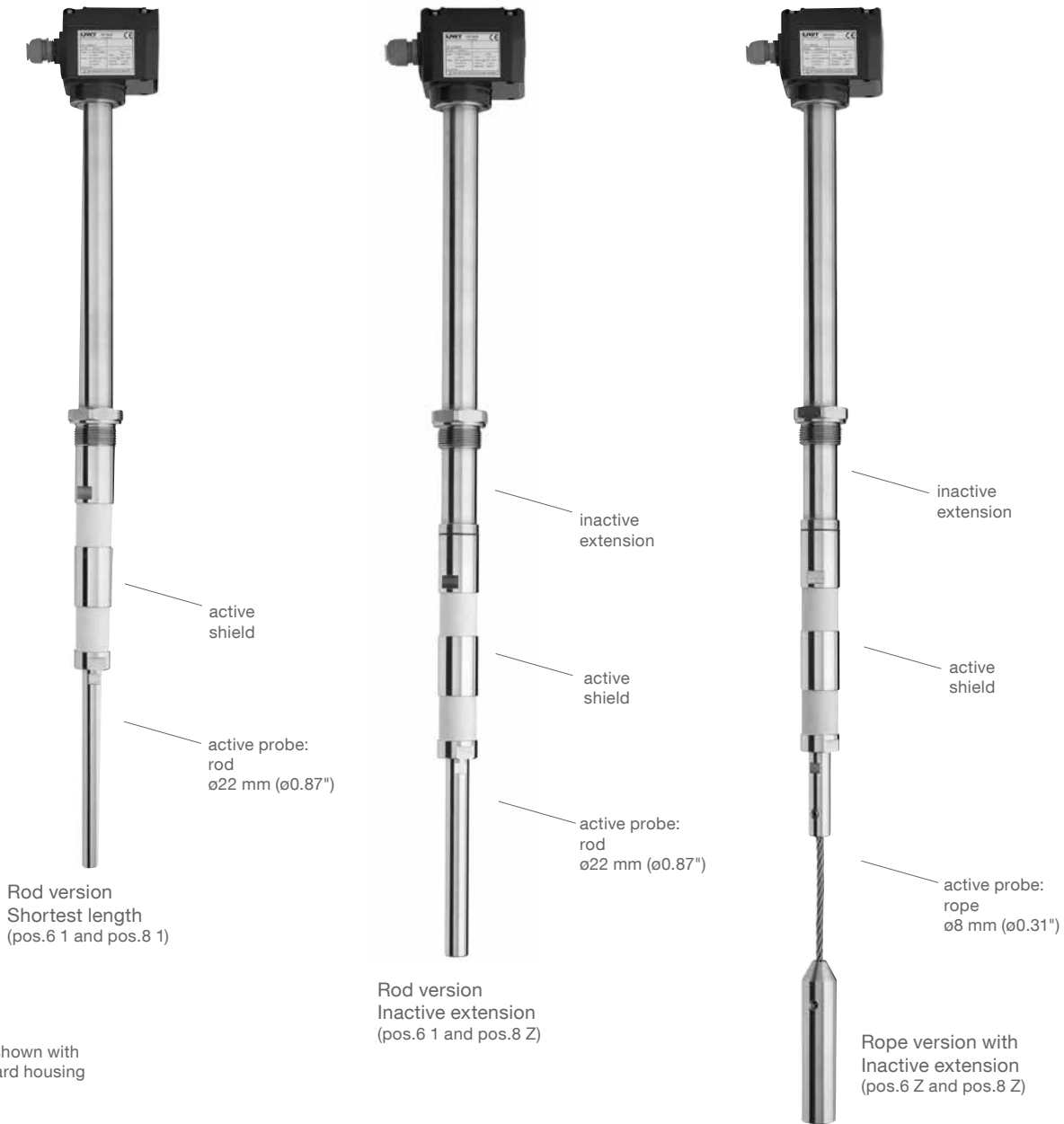
(1) See recommendations on page before
 (2) Inactive extension: the active probe shall have at least 50 mm (1.97") distance to the vessel wall
 (3) Total length L = L1 + L2 + 200 mm (7.87")

RF 3200	B		3	L		A		
Position	1	2	3	4	5	6	7	8 9

L1 =	mm	← Order code
L2 =	mm	

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

RF 3300 High Temperature version (500°C)



Units shown with
 Standard housing

Cable entries (by default)

Depending on model selected, the following cable entries are supported (options see pos.33 on page 13):

Version:	Cable entries:
ATEX/IEC-Ex flameproof (pos.2 T,D,L)	M20 x 1.5 (1x open conduit + 1x blind plug)
FM/FMc (pos.2 M,N,U)	NPT ½" tapered ANSI B1.20.1 (1x open conduit + 1x blind plug)
All other versions	M20 x 1.5 (1x screwed cable gland + 1x blind plug)

Length L1

Rod version,
 horizontal mounting

DK*	L1 (pos.6)/ mm (inch)
<1.5	n.a.
≥1.6	≥300 (11.8")
≥1.8	≥200 (7.9")
≥2.2	≥100 (3.9")
≥10	≥50 (2.0")

*see external
 DK table

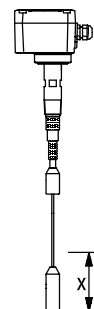
With stated L1 the unit works with factory setted sensitivity (2 pF). For shorter L1 see option pos.16

Switchpoint

Rope version

x mm (inch)
n.a.
≤300 (11.8")
≤200 (7.9")
≤100 (3.9")
≤50 (2.0")

The table states the switchpoint with factory setted sensitivity (2 pF). For smaller x see option pos.16



Dimensions see pages 17, 28

RF 3300 High Temperature version (500°C)

Basic type

RF 3300 ●

pos.2 **Certificate** ⁽¹⁾ (detailed Ex-markings: see page 22)

	Dust	Gas	Protection method
0	CE/ TR-CU	-	-
W	ATEX	Zone 20/21	-
R	ATEX	Zone 20/21	Zone 1
T	ATEX	Zone 20/21	Zone 1
A	IEC-Ex	Zone 20/21	-
C	IEC-Ex	Zone 20/21	Zone 1
D	IEC-Ex	Zone 20/21	Zone 1
M	FM/ FMc	-	-
N	FM	Cl. II, III, Div.1	-
U	FM	Cl. II, III, Div.1	Cl. I Div.1/ Zone 1
E	TR-CU	Zone 20/21	-
K	TR-CU	Zone 20/21	Zone 1
L	TR-CU	Zone 20/21	Zone 1

pos.4 **Electronic module**

L Relay DPDT 21 .. 230 V AC/ DC ●

pos.5 **Process connection**

- A Thread G 1½", DIN 228 ● ●
- B Thread G 1¼", DIN 228 ● ●
- F Thread NPT 1½", conical ANSI B1.20.1 ● ●
- Q Thread NPT 1¼", conical ANSI B1.20.1 ● ●
- L Flange DN100 PN6, EN 1092-1 (max. 6 bar (87 psi)) ● ●
- M Flange DN100 PN16, EN 1092-1 ● ●
- S Flange 2" 150lbs ANSI B16.5 ● ●
- T Flange 3" 150lbs ANSI B16.5 ● ●
- U Flange 4" 150lbs ANSI B16.5 ● ●

pos.6 **Active Probe length L1** ⁽²⁾

- 1 Rod, L1=100 mm (3.94") ● ●
- 2 Rod, L1=200 mm (7.87") ● ●
- 3 Rod, L1=300 mm (11.8") ● ●
- Y Rod, L1=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) ● ●
 min. L1=100 mm (3.94"), max. L1=1,000 mm (39.4")
- Z Rope, Base price ● ●
 L1=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) ● ●
 min. L1=350 mm (13.8"), max. L1=20,000 mm (787")

pos.8 **Inactive extension length L2** ^(3,4)

- 1 Without ● ●
- Z L2=custom specified Price per 100 mm (3.94") or part thereof (starting from 0 mm) ● ●
 Rod version: min. L2=100 mm (3.93"), max. L2=2,300 mm (90.6") - L1
 Rope version: min. L2=100 mm (3.93"), max. L2=1,800 mm (70.9")

pos.9 **Material of process connection and extension "L"**

- 1 Stainless steel 1.4301/ 1.4305/ 1.4541 (303/ 304/ 321) and ceramic, gaskets graphite
- 2 Stainless steel 1.4404 (316L), 1.4401 (316) for rope, ceramic, gaskets graphite



Further options: see page 12

(1) Max. process temperature for Ex versions limited to 445°C
 (2) See recommendations on page before
 (3) Inactive extension: the active probe shall have at least 50 mm (1.97") distance to the vessel wall
 (4) Total length L = L1 + L2 + 220 mm (8.66")

RF 3300	C	5	L	A					
Position	1	2	3	4	5	6	7	8	9

L1 = mm ← **Order code**
L2 = mm

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

Options

RF 3100	RF 3200	RF 3300			
•	•		pos.11 x	Guarantee extension to 5 years	•
				Remote version:	
•	•	•	pos.12 x	Remote version	•
				Including hexagon nut, not including remote cable and angle bracket	
•	•	•	pos.13 a	Remote cable, both sides wired	
				Spezial Triaxial cable, min. 1,000 mm (39.4"), max. 20,000 mm (65ft)	
				Basic price	•
				Price per 1,000 mm (39.4") or part there of (starting from 0 mm)	•
•	•	•	pos.13 x	Remote cable, not wired specify cable length, price per 1,000 mm (39.4")	•
				Special triaxial cable, no other cable permitted, max. 20,000 mm (65ft)	
•	•	•	pos.14 x	Angle bracket aluminium	•
				Electronics:	
				Presettet sensitivity	•
				Standard calibration is 2 pF, other sensitivities as follows:	
•	•	•	pos.16 a	0,5 pF	
•	•	•	pos.16 b	1 pF	
•	•	•	pos.16 c	4 pF	
•	•	•	pos.16 d	10 pF	
				Probes:	
				Probe gaskets	
•	•		pos.17 a	Material FFKM, for increased requirements (such as superheated steam applications) on request	
				Coating (coating material PFA)	
1			pos.18 a	Coating of active probe (rod version)	•
2			pos.18 b	Coating of complete probe (rod version) L1=50...400 mm (1.97...15.7"), L2=50...360mm (1.97...14.2")	•
2			pos.18 d	Coating of complete probe (rod version) L1=50...400 mm (1.97...15.7"), L2=361...1000mm (14.2...39.4")	•
3			pos.18 c	Coating of rope (rope version), price per meter or part thereof	•
				Rod extension kit, rigid	
4			pos.19 a	For ø10 mm (ø0.39") rod, length 400 mm (15.7"), 1.4404 (316L)	•
•	•		pos.19 b	For ø22 mm (ø0.87") rod, length 400 mm (15.7"), 1.4404 (316L)	•
				Rod extension kit, flexible (pendulum rod)	
4			pos.20 a	For ø10 mm (ø0.39") rod, length 1,000 mm (39.4"), 1.4301/ 1.4305 (304/303)	•
				Rope extension kit	
4			pos.21 a	For ø10 mm (ø0.39") rod, rope ø4 mm (ø0.16"), length 2,000 mm (78.7"), 1.4301/ 1.4305 (304/ 303)	•
4			pos.21 b	For ø10 mm (ø0.39") rod, rope ø4 mm (ø0.16"), length 2,000 mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	•
•	•		pos.21 c	For ø22 mm (ø0.87") rod, rope ø8 mm (ø0.31"), length 2,000 mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	•
			pos.22 x	Fixing hole in probe rod	
•				For ø10 mm (ø0.39") rod, for fixing of the extensions. Not with pos.18 and pos.25	•
				Mounting:	
				Sliding sleeve	
5	5		pos.24 a	Material 1.4305/ 1.4541 (303/321)	•
5	5		pos.24 b	Material 1.4404 (316L)	•
				EHEDG approval (Type ED)	
6			pos.25 a	Process connection G 1½" (without flush welding socket)	•
6			pos.25 b	Process connection flush welding socket ø69/ G 1½" made of aluminium	•
6			pos.25 c	Process connection flush welding socket ø69/ G 1½" made of 1.4301 (304)	•
6			pos.25 d	Process connection flush welding socket ø69/ G 1½" made of 1.4404 (316L)	•

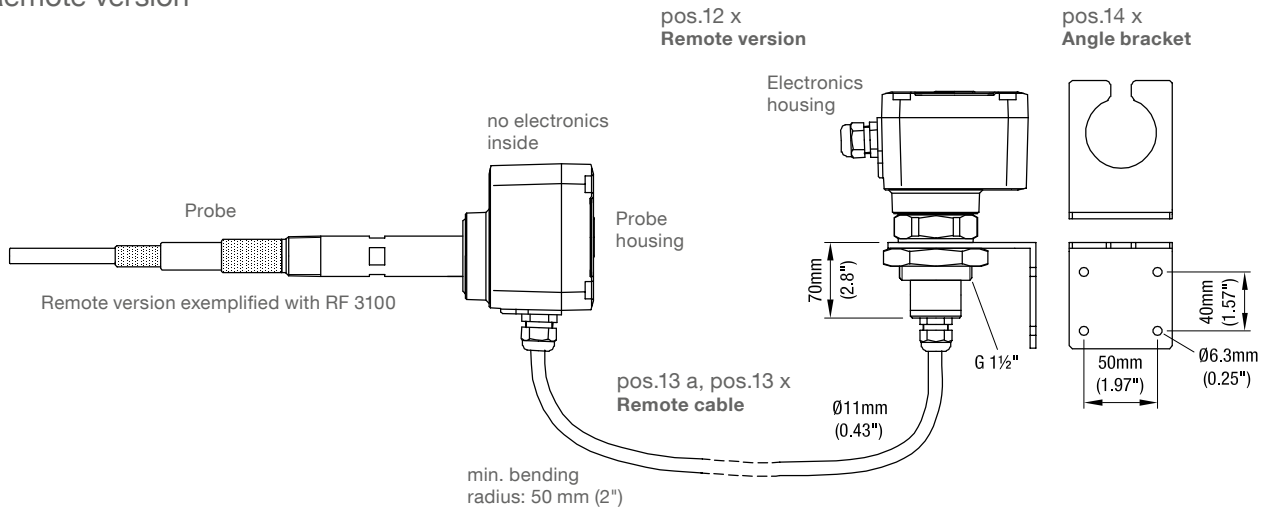
Options

		Mounting set for flange mounting						
		process connection flange	for counter flange with	consists of				
				screws*	nuts*	washers*	sealing**	
• • •	pos.26 c	L	hole ø18	4x M16 x 60	4x M16	4 pcs	1 pc	•
• • •	pos.26 d	L	thread M16	4x M16 x 40		4 pcs	1 pc	•
• • •	pos.26 e	M	hole ø18	8x M16 x 60	8x M16	8 pcs	1 pc	•
• • •	pos.26 f	M	thread M16	8x M16 x 40		8 pcs	1 pc	•
		* material stainless steel 1.4301 (304) **max. 240°C (464°F), material not food grade						
		Hexagon nut						
• • •	pos.27 e	For thread G 1½", G 1¼", G 1", G ¾", 1.4305 (303), 1 pc						•
• • •	pos.27 f	For thread G 1½", G 1¼", G 1", G ¾", 1.4305 (303), 2 pcs						•
		Flat sealing						
• • •	pos.28 x	For process connection thread G 1½", G 1¼", G 1", G ¾", M32 x 1.5, M30 x 1.5, max. 240°C (464°F)						•
		Housing:						
7 7 7	pos.31 a	Housing material						
		Plastics PA6 reinforced						•
8 8 8	pos.32 x	Weather protection cover						•
		(for Ex approved for Zone 2 or 22 or Div. 2)						
		Cable entry						
		Selection of the following options only necessary, if a deviation from the default cable gland/ conduit is required:						
9 9 9	pos.33 x	M20 x 1.5 2x screwed cable gland						•
10 10 10	pos.33 d	M20 x 1.5 1x screwed cable gland +1x blind plug						•
11 11 11	pos.33 a	NPT ½" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)						•
12 12 12	pos.33 c	NPT ¾" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)						•
		Signal lamp						
13 13 13	pos.34 a	LED, mounted in cable gland M20 x 1.5, green						•
13 13 13	pos.34 c	LED, mounted in cable gland M20 x 1.5, red						•
14 14 14	pos.34 d	LED (transparent lid section)						•
		Plug						
15 15 15	pos.35 x	Valve connector (incl. mating plug)	4-pole (incl. PE)	max. 230 V			•	
15 15 15	pos.35 a	M12 (without mating plug)	4-pole	max. 25 V			•	
15 15 15	pos.35 b	M12 (without mating plug)	5-pole (incl. PE)	max. 60 V			•	
15 15 15	pos.35 c	Harting Han 4A (incl. mating plug)	5-pole (incl. PE)	max. 230 V			•	

- Recommended with excessive, mainly conductive material buildup and for reduction of abrasion. Available for CE/ TR-CU and FM General purpose (pos.2 0,M). Max. length L1=700 mm (27.6").
- Recommended with corrosive materials. Available for CE/ TR-CU and FM General purpose (pos.2 0,M). Process connection NPT 1½", G 1½". Only with inactive extension length L2 (pos.8 Z)
- Recommended with excessive material buildup and for reduction of abrasion. Available for CE/ TR-CU and FM General purpose (pos.2 0,M).
- Available for rode version with active probe length pos.6 1,2,3. Not with PFA coating.(pos.18).
- Process connection as selected in pos.5. Material must be the same as selected in pos.9. RF 3100 available with NPT 1¼", NPT 1½", G 1¼", G 1½". RF 3200 available with NPT 1½", G 1½". Not with coating of complete probe (pos.18 b, d).
- Certificate only valid with the use of the "flush welding socket". With pos.25 a this socket must be manufactured on site. Only for G 1½" (pos.5 A). Not in combination with rope version (pos.6 Z). Not in combination with options pos.18,19,20,21,24,26,27,28. Selected length "L" is increased by 9 mm (0.35").
- Available for CE and ATEX/ IEC-Ex/ TR-CU Dust Ignition proof (pos.2 0,W,A,E). Ambient temperature for ATEX/ IEC-Ex/ TR-CU: -20°C (-4°F).
- Available for all versions except flameproof/ increased safety versions (pos.2 R,T,C,D,U,K,L)
- Available for all versions except flameproof version (pos.2 T,U,D,L)
- Available for FM version (pos.2 M,N) except flameproof version (pos.2 U)
- Available for all versions except FM (pos.2 M,N,U)
- Available for all versions except pos.2 0,W,A,M,N,E
- Available for CE/ TR-CU (pos.2 0), not in combination with weather protection cover (pos.32 x) and cable entries pos.33 x,a,c. 2 LED's (24V, 80-260V) will be delivered. Without connection of LED wires to internal terminals (standard) or according to customer specification.
- Available for CE/ TR-CU (pos.2 0).
- Available for CE/ TR-CU (pos.2 0). Without connection of plug wires to internal terminals (standard) or according to customer specification.

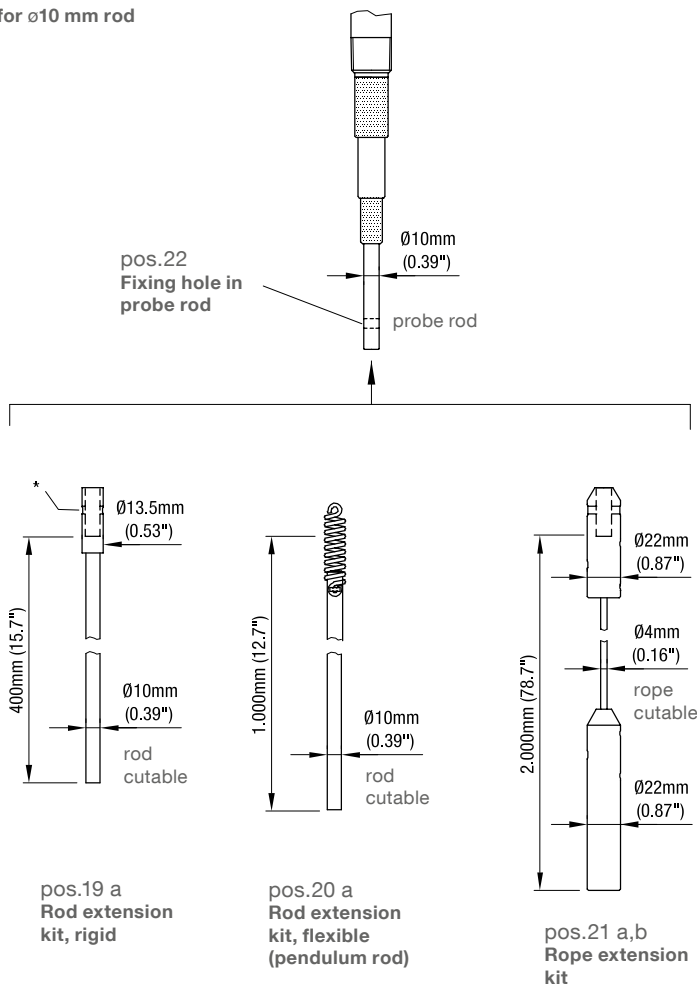
Options

Remote version



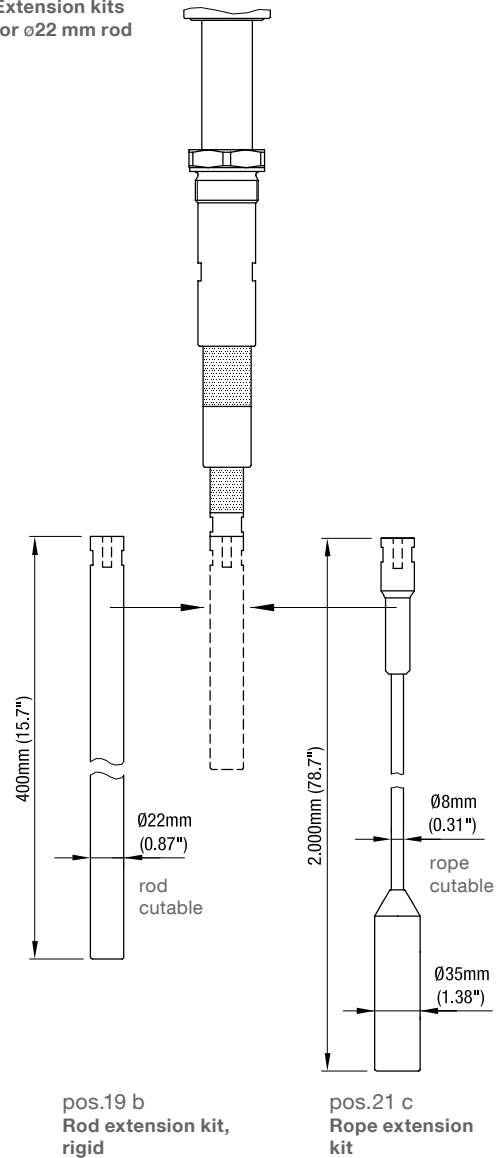
Probes

Extension kits for Ø10 mm rod



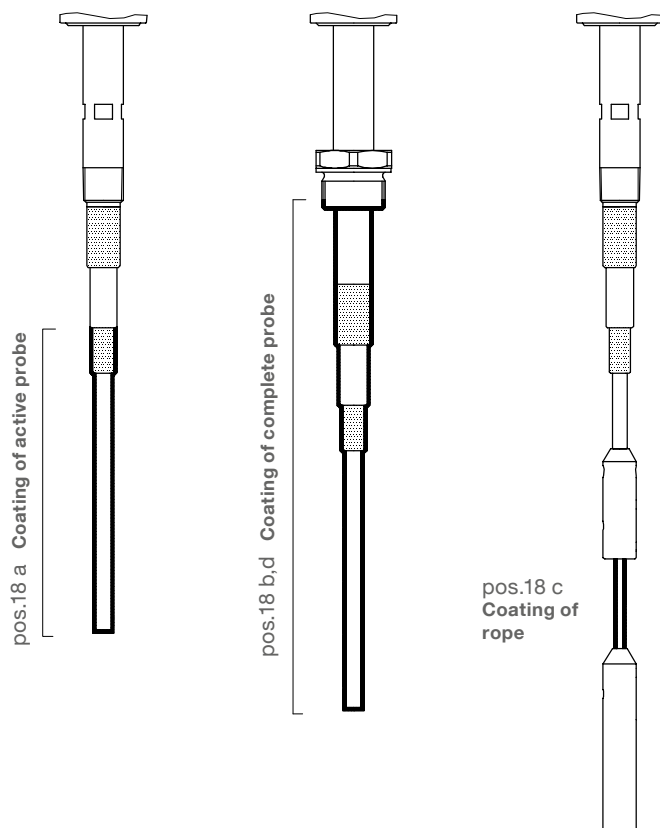
* Fixing by drilling a hole through the probe rod and fixing with a split pin

Extension kits for Ø22 mm rod

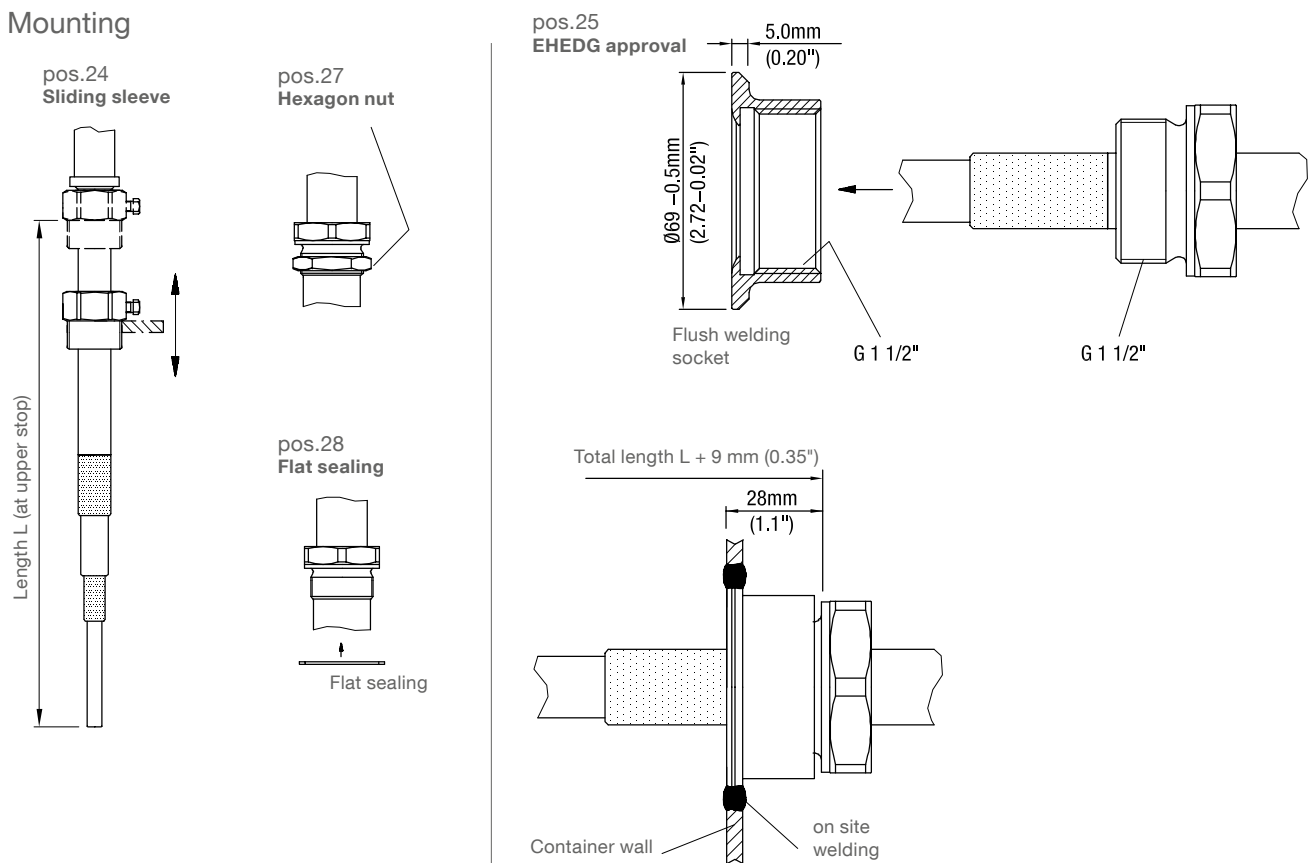


Options

Coatings

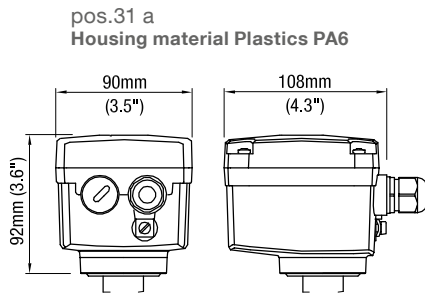


Mounting

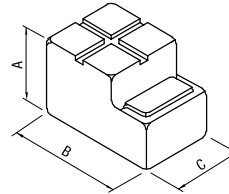


Options

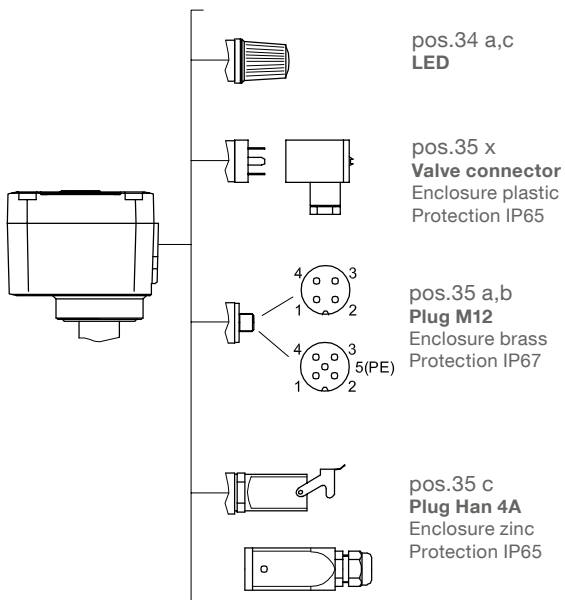
Housing



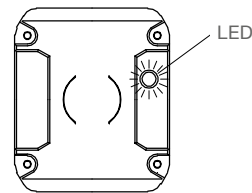
pos.32 x
 Weather protection cover



A	100 mm (3.94")
B	165 mm (6.5")
C	95 mm (3.7")



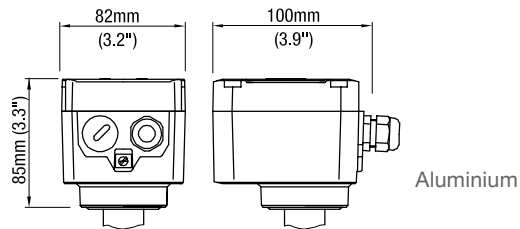
pos.34 d
 LED (transparent lid section)



Dimensions

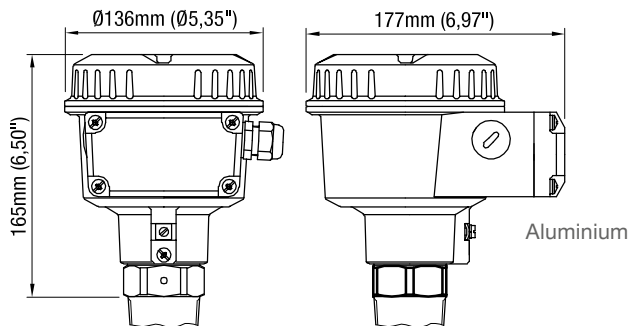
Housing versions

Standard



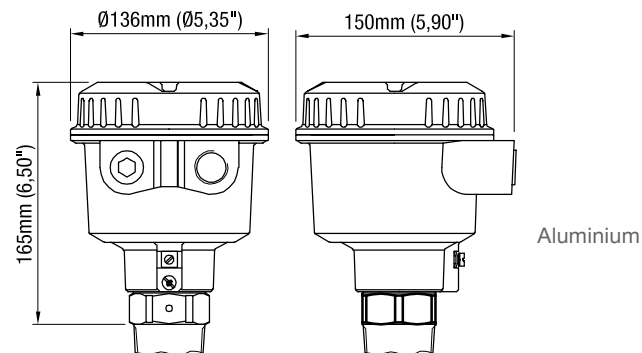
de

Explosionproof with
 increased safety
 terminal box



d

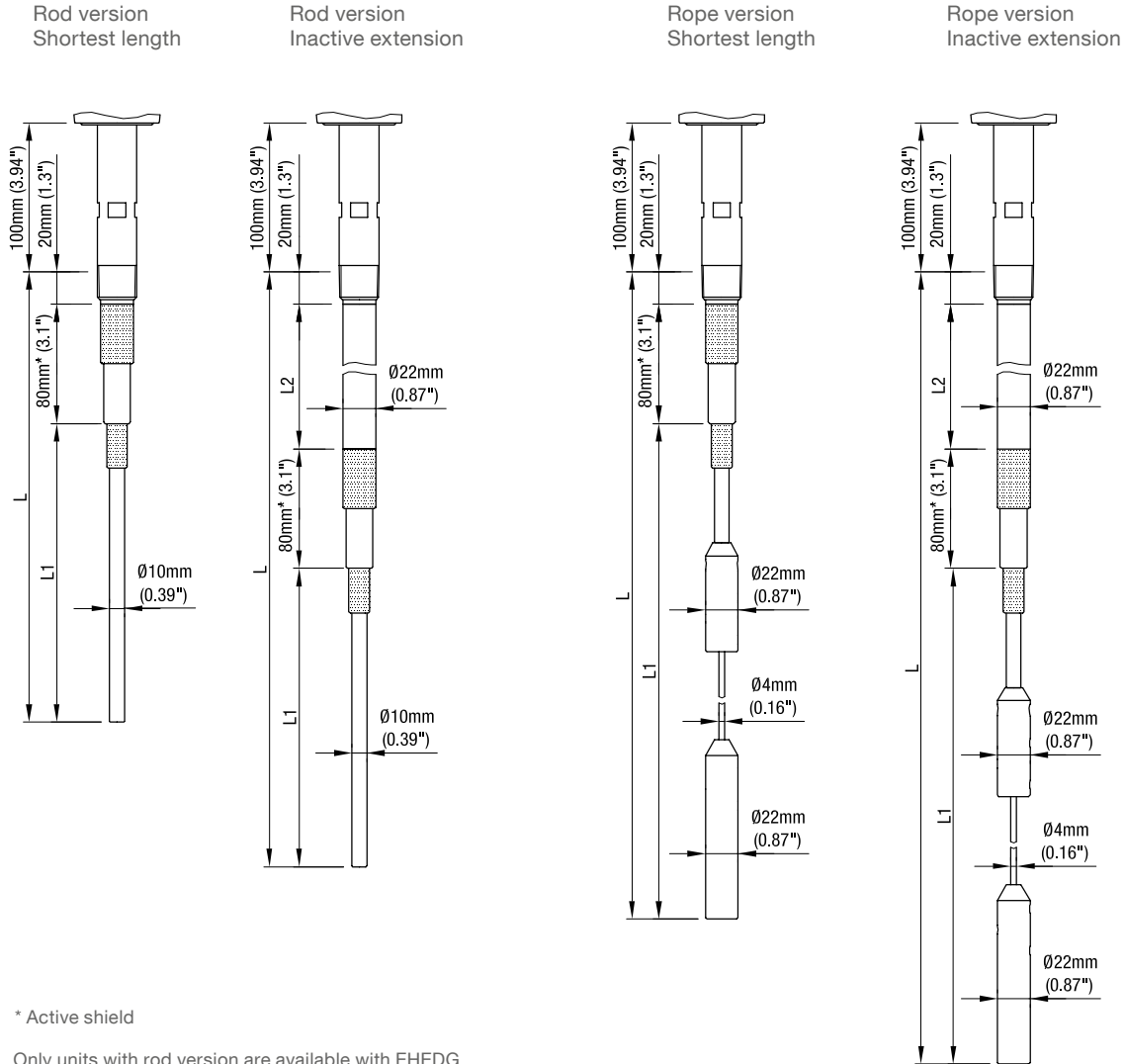
Flameproof/
 explosionproof



Dimensions

Probes

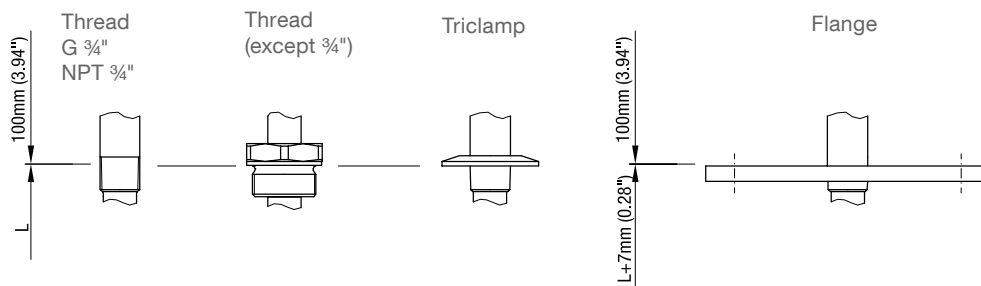
RF 3100 Standard version



* Active shield

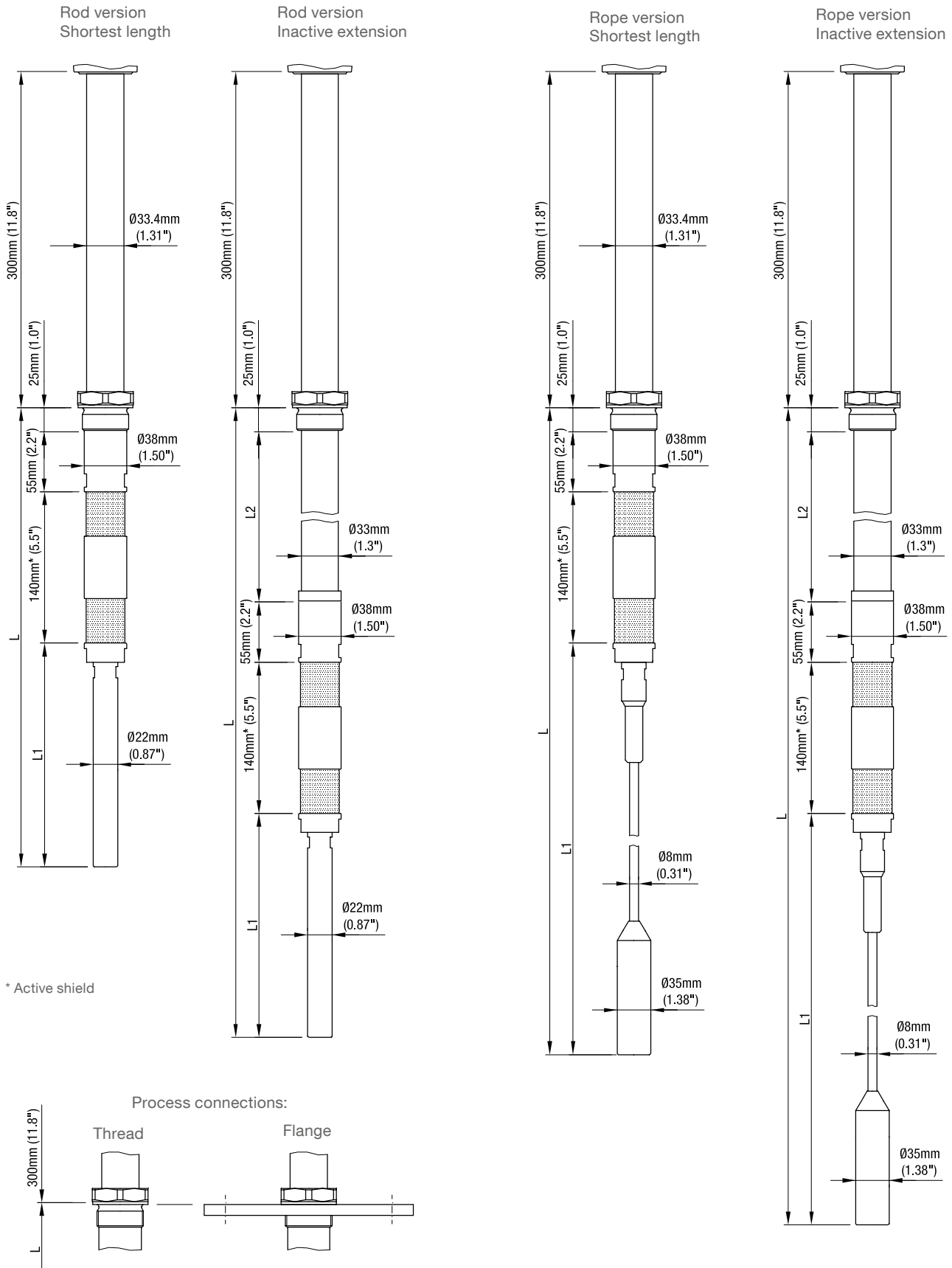
Only units with rod version are available with EHEDG Certificate. On rod versions with EHEDG Certificate the length "L" is increased by 9 mm (0.35")

Process connections:



Dimensions

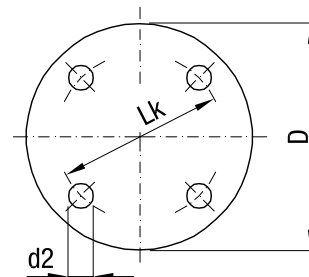
RF 3300 High temperature version



Dimensions

Flanges

Code	type	number of holes	d2	Lk	D	T (thickness)
L	Flange DN100 PN6	4	18 mm (0.71")	170 mm (6.69")	210 mm (8.27")	16 mm (0.63")
M	Flange DN100 PN16	8	18 mm (0.71")	180 mm (7.09")	220 mm (8.66")	20 mm (0.79")
S	Flange 2" 150lbs	4	19.1 mm (0.75")	120.7 mm (4.75")	152.4 mm (6.01")	19.1 mm (0.75")
T	Flange 3" 150lbs	4	19.1 mm (0.75")	152.4 mm (6.01")	190.5 mm (7.5")	23.9 mm (0.94")
U	Flange 4" 150lbs	8	19.1 mm (0.75")	190.5 mm (7.5")	228.6 mm (9.0")	23.9 mm (0.94")



Detailed Ex-markings

Compact version (without pos.12 x)

pos.2	Certificate		Housing
0	CE		Standard
W	ATEX II 1/2D	Ex ia/tb IIIC T! Da/Db	Standard
R	ATEX II 2G ATEX II 1/2D	Ex db eb ia IIC T! Gb and Ex ia/tb IIIC T! Da/Db	de
T	ATEX II 2G ATEX II 1/2D	Ex db ia IIC T! Gb and Ex ia/tb IIIC T! Da/Db	d
A	IEC	Ex ia/tb IIIC T! Da/Db	Standard
C	IEC	Ex db eb ia IIC T! Gb and Ex ia/tb IIIC T! Da/Db	de
D	IEC	Ex db ia IIC T! Gb and Ex ia/tb IIIC T! Da/Db	d
M	FM/ FMc	General purpose	Standard
N	FM	Cl. II, III Div.1 Gr. E,F,G	Standard
U	FM	XP-IS Cl. I,II,III Div.1 Gr. B-G and Cl. I Zone 1 Gr. IIB+H2 and DIP-IS Cl. II; III Div.1 Gr. E,F,G	d
E	TR-CU	Ex ia/tb IIIC T! Da/Db X	Standard
K	TR-CU	1Ex de ia IIC T! Gb X and Ex ia/tb IIIC T! Da/Db X	de
L	TR-CU	1Ex d ia IIC T! Gb X and Ex ia/tb IIIC T! Da/Db X	d

Remote Version (with pos.12 x)

pos.2	Certificate electronic housing		Electronic housing	Certificate Probe/ Probe housing	
0	CE/ TR-CU		Standard	CE/ TR-CU	
W	ATEX II 2D	Ex tb [ia Da] IIIC T! Db	Standard	ATEX II 1/2D	Ex ia/tb IIIC T! Da/Db
R	ATEX II 2G ATEX II 2D	Ex db eb [ia Ga] IIC T! Gb and Ex tb [ia Da] IIIC T! Db	de	ATEX II 2G ATEX II 1/2D	Ex ia IIC T! Gb and Ex ia/tb IIIC T! Da/Db
T	ATEX II 2G ATEX II 2D	Ex db [ia Ga] IIC T! Gb and Ex tb [ia Da] IIIC T! Db	d		
A	IEC	Ex tb [ia Da] IIIC T! Db	Standard	IEC	Ex ia/tb IIIC T! Da/Db
C	IEC	Ex db eb [ia Ga] IIC T! Gb and Ex tb [ia Da] IIIC T! Db	de	IEC	Ex ia IIC T! Gb and Ex ia/tb IIIC T! Da/Db
D	IEC	Ex db [ia Ga] IIC T! Gb and Ex tb [ia Da] IIIC T! Db	d		
M	FM/ FMc	General purpose	Standard	-	
N	FM	Cl. II, III Div.1 Gr. E,F,G	Standard	FM	DIP-IS Cl. II, III Div.1 Gr. E,F,G
U	FM	XP-IS Cl. I,II,III Div.1 Gr. B-G and Cl. I Zone 1 Gr. IIB+H2 and DIP-IS Cl. II; III Div.1 Gr. E,F,G	d	FM	IS Cl. I Div.1 Gr. B,C,D and Cl. I Zone 1 Gr. IIB+H2 and DIP-IS Cl. II, III Div.1 Gr. E,F,G
E	TR-CU	Ex tb [ia] IIIC T! Db X	Standard	TR-CU	Ex ia/tb IIIC T! Da/Db X
K	TR-CU	1Ex de [ia] IIC T! Gb X and Ex tb [ia] IIIC T! Db X	de	TR-CU	1Ex ia IIC T! Gb X and Ex ia/tb IIIC T! Da/Db X
L	TR-CU	1Ex d [ia] IIC T! Gb X and Ex tb [ia] IIIC T! Db X	d		

Electrical installation

Universal voltage

Relay DPDT

Power supply:

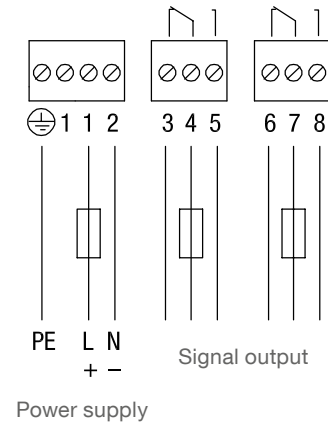
21 .. 230 V 50/60 Hz or DC ±10%
 1.5 VA or 1.5 W

Fuse on power supply:
 max. 10 A, 250 V, HBC, fast or slow

Signal output:

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

Fuse on signal output:
 max. 10 A, 250 V, HBC, fast or slow



Spare parts

Minimum order value for separate orders of spare parts or accessories is 75 €.

Fitting to unit/ model code	Description see page	Spare part Article number
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Electronics

Universal voltage, Relais DPDT	pos.3 L	7, 9, 11	pl407100	•
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Remote version

Remote cable (special Triaxial cable), price per 1,000 mm (39.4")	pos.13 x	12, 14	zu400700	•
Angle bracket, 1.4301 (304)	pos.14 x	12, 14	zu400701	•

Rod extension kit, rigid

For ø10 mm (ø0.39") rod, length 400 mm (15.7"), 1.4404 (316L)	pos.19 a	12, 14	zu400710	•
For ø22 mm (ø0.87") rod, length 400 mm (15.7"), 1.4404 (316L)	pos.19 b	12, 14	zu400711	•

Rod extension kit, flexible (pendulum rod)

For ø10 mm (ø0.39") rod, length 1.000 mm (39.4"), 1.4301/ 1.4305 (304/303)	pos.20 a	12, 14	zu400720	•
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Rope extension kit

For ø10 mm (ø0.39") rod, rope ø4 mm (ø0.16"), length 2,000 mm (78.7"), 1.4301/ 1.4305 (304/303)	pos.21 a	12, 14	zu400730	•
For ø10mm (ø0.39") rod, rope ø4 mm (ø0.16"), length 2,000 mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	pos.21 b	12, 14	zu400731	•
For ø22 mm (ø0.87") rod, rope ø8 mm (ø0.31"), length 2,000 mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	pos.21 c	12, 14	zu400732	•

Single parts for rope version

Rope ø4 mm (ø0.16"), 1.4401 (316), not coated, price per 1,000 mm (39.4")	RF 3100	18	zu400740	•
Rope ø4 mm (ø0.16"), 1.4401 (316), coated, price per 1,000 mm (39.4")	RF 3100	18	zu400741	•
Rope weight ø22 mm (ø0.87"), 1.4301/ 1.4305 (304/ 303) *	RF 3100	18	zu400742	•
Rope weight ø22 mm (ø0.87"), 1.4404 (316L) *	RF 3100	18	zu400743	•
Rope holder ø22 mm (ø0.87"), 1.4301/ 1.4305 (304/303) *	RF 3100	18	zu400744	•
Rope holder ø22 mm (ø0.87"), 1.4404 (316L) *	RF 3100	18	zu400745	•
Rope ø8 mm (ø0.31"), 1.4401 (316), not coated, price per 1,000 mm (39.4")	RF 3200, RF 3300	19, 20	zu400746	•
Rope weight ø35 mm (ø1.38"), 1.4301/ 1.4305 (304/ 303) *	RF 3200, RF 3300	19, 20	zu400747	•
Rope weight ø35 mm (ø1.38"), 1.4404 (316L) *	RF 3200, RF 3300	19, 20	zu400748	•
Rope holder ø22 mm (ø0.87"), 1.4301/ 1.4305 (304/ 303) *	RF 3200, RF 3300	19, 20	zu400749	•
Rope holder ø22 mm (ø0.87"), 1.4404 (316L) *	RF 3200, RF 3300	19, 20	zu400750	•

*delivery including fixing parts

Hexagon nut

G 1½" 1.4305 (303)	pos.27	13, 15	zu300180	•
G 1¼" 1.4305 (303)	pos.27	13, 15	zu300181	•
G 1" 1.4305 (303)	pos.27	13, 15	zu200160	•
G ¾" 1.4305 (303)	pos.27	13, 15	zu200140	•
M32 x 1.5 1.4305 (303)	pos.27	13, 15	zu200130	•
M30 x 1.5 1.4305 (303)	pos.27	13, 15	zu200180	•

Weather protection cover

For standard housing	pos.32 x	13, 16	zu300232	•
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