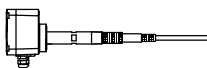
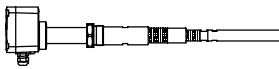
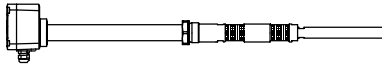


Table of content

	Page
Overview	2
Applications	4
RF 3100 Standard version	6
	
RF 3200 Heavy Duty version	8
	
RF 3300 High temperature version	10
	
Options	12
Dimensions	17
Detailed Ex-markings	21
Electrical installation	22
Spare parts	23

Subject to change.

All dimensions in mm (inches).

All prices in Euro, excluding VAT.

All prices are EXW Betzigau, excluding packaging costs.

Valid: From 01.04.2016 until 31.03.2017, 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
- GasEx and DustEx approvals
- EHEDG
- Hygiene approval
- FDA and 1935/2004/EC
- Food grade materials

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

Electronics	Supply voltage / Signal output	21 .. 230V AC/DC +-10% Relais DPDT
	Technology	RF with active shield
	Signal output delay	0.5 .. 60sec
	Measuring range / max.s ensitivity	3 .. 100pF / 0.5pF 3 .. 400pF / 2pF
	Preset sensitivy	2pF 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 .. 2.500mm (7.9 .. 98.4") rod 450 .. 20.000mm (17.7 .. 787") rope
Active rod / rope diameter	Rod ø10mm (0.39") Rope ø4mm (0.16")
Ambient temperature	-40 .. +70°C (-40 .. 158°F)
Process temperature	-40 .. +240°C (-40 .. +464°F)
Process pressure	-1 .. +25bar (-14.5 .. +363 psi)
Lateral load (rod version)	max. 20Nm (ø10mm probe), max. 125Nm (ø22mm pipe)
Tensile load (rope version)	max. 4kN
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 .. 2.500mm (11.8 .. 98.4") rod 550 .. 20.000mm (21.7 .. 787") rope
Active rod / rope diameter	Rod ø22mm (0.87") Rope ø8mm (0.31")
Ambient temperature	-40 .. +70°C (-40 .. +158°F)
Process temperature	-40 .. +240°C (-40 .. +464°F)
Process pressure	-1 .. +25bar (-14.5 .. +363 psi)
Lateral load (rod version)	max. 90Nm (ø22mm probe), max. 525Nm (ø33mm pipe)
Tensile load (rope version)	max. 40kN
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



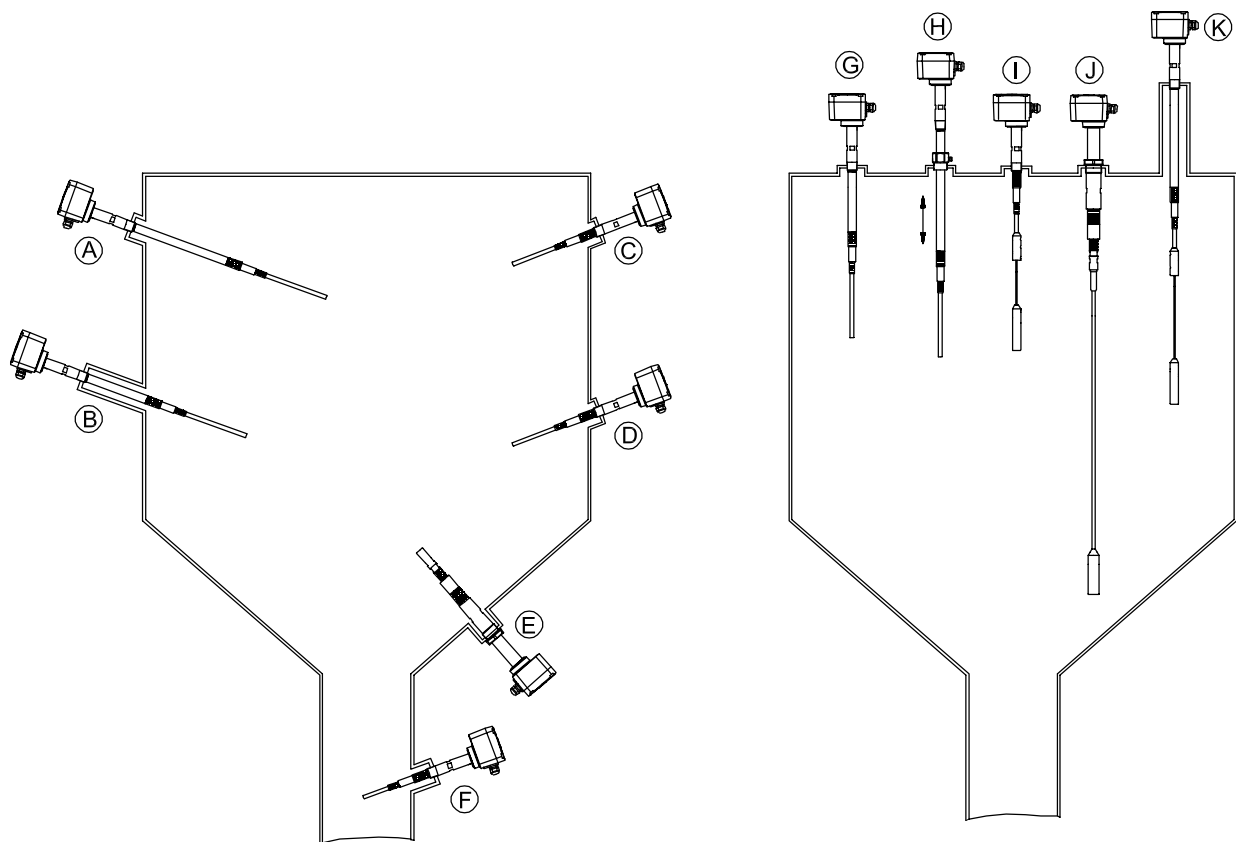
Example:
Rod version

RF 3300 High temperature version	
Total length L	320 ... 2.500mm (12.6 .. 98.4") rod 560 .. 20.000mm (22.0 .. 787") rope
Active rod / rope diameter	Rod ø22mm (0.39") Rope ø8mm (0.16")
Ambient temperature	-40 .. +70°C (-40 .. +158°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. 20Nm (ø22mm probe), max. 525Nm (ø33mm 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



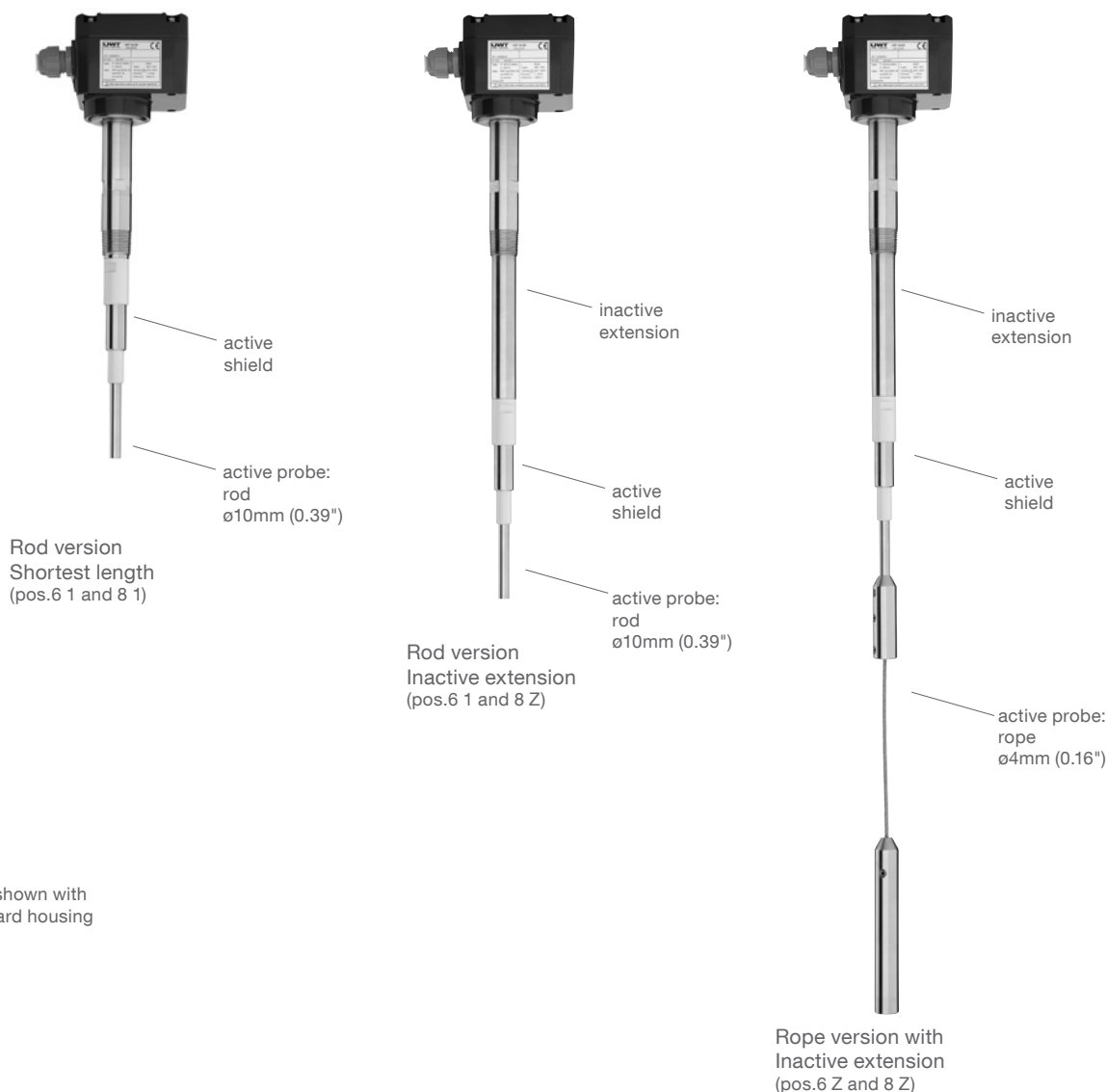
Example:
Rod version

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)	M20x1.5 (1x open conduit + 1x Ex-d blind plug)
FM/FMc (pos.2 M,N,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)

Length L1

Rod version,
horizontal mounting

DK*
< 1.5
>=1.6
>=1.8
>=2.2
>=10

*see external
DK table

L1 (pos.6) / mm (inch)
n.a.
>=300 (11.8")
>=200 (7.9")
>=100 (3.9")
>=50 (2.0")

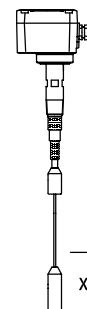
With stated L1 the
unit works with
factory setted
sensitivity (2pF).
For shorter L1 see
option pos.16

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
(2pF). 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 21)

	Dust	Gas	Protection method
0	CE	-	-
W	ATEX Zone 20 and 20/21	-	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
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 /FMc	-	General purpose
N	FM /FMc Cl. II, III, Div.1	-	Dust Ignition Proof
U	FM /FMc Cl. II, III, Div.1	Cl. I Div.1 / Zone 1	Explosion Proof / Dust Ignition Proof

pos. 4 **Electronic module**

L Relay DPDT 21 .. 230V AC/DC

pos. 5 **Process connection**

A	Thread G 1 1/2 inch, DIN 228	.....
B	Thread G 1 1/4 inch, DIN 228	.....
C	Thread G 1 inch, DIN 228	.....
W	Thread G 3/4 inch, DIN 228	.....
D	Thread M32 x 1.5	.....
E	Thread M30 x 1.5	.....
F	Thread NPT 1 1/2 inch, conical ANSI B1.20.1	.....
Q	Thread NPT 1 1/4 inch, conical ANSI B1.20.1	.....
G	Thread NPT 1 inch, conical ANSI B1.20.1	.....
J	Thread NPT 3/4 inch, conical ANSI B1.20.1	.....
P	Triclap 2" (DN 50) ISO 2852	.....
R	Triclap 1" (DN 25) and 1 1/2" (DN 40) ISO 2852	.....
L	Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi))	.....
M	Flange DN 100 PN16, EN1092-1 (max. 16 bar (232psi))	.....
S	Flange 2" 150lbs ANSI B16.5	.....
T	Flange 3" 150lbs ANSI B16.5	.....
U	Flange 4" 150lbs ANSI B16.5	.....
V	Flange 40NB	.....

pos. 6 **Active Probe length L1 ⁽¹⁾**

1	Rod, L1=100mm (3.94")	.....
2	Rod, L1=200mm (7.87")	.....
3	Rod, L1=300mm (11.8")	.....
Y	Rod, L1=custom specified	Price per 100mm (3.94") or part thereof (starting from 0mm) min. L1=50mm (1.97"), max. L1=2.000mm (78.7")
Z	Rope, Base price	.....
	L1=custom specified	Price per 100mm (3.94") or part thereof (starting from 0mm) min. L1=350mm (13.8"), max. L1=20.000mm (787"), observe max. load

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

1	Without	.....
Z	L2=custom specified	Base price
		Price per 100mm (3.94") or part thereof (starting from 0mm)
		Rod version: min. L2 = 50mm (1.97"), max. L2 = 2.400mm (94.5") - L1
		Rope version: min. L2 = 50mm (1.97"), max. L2 = 1.900mm (74.8")

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

- Stainless steel 1.4301/1.4305/1.4541 (303/304/321) and PPS, gaskets FKM
- 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 50mm (1.97") distance to the vessel wall

(3) Total length L = L1 + L2 + 100mm (3.94")

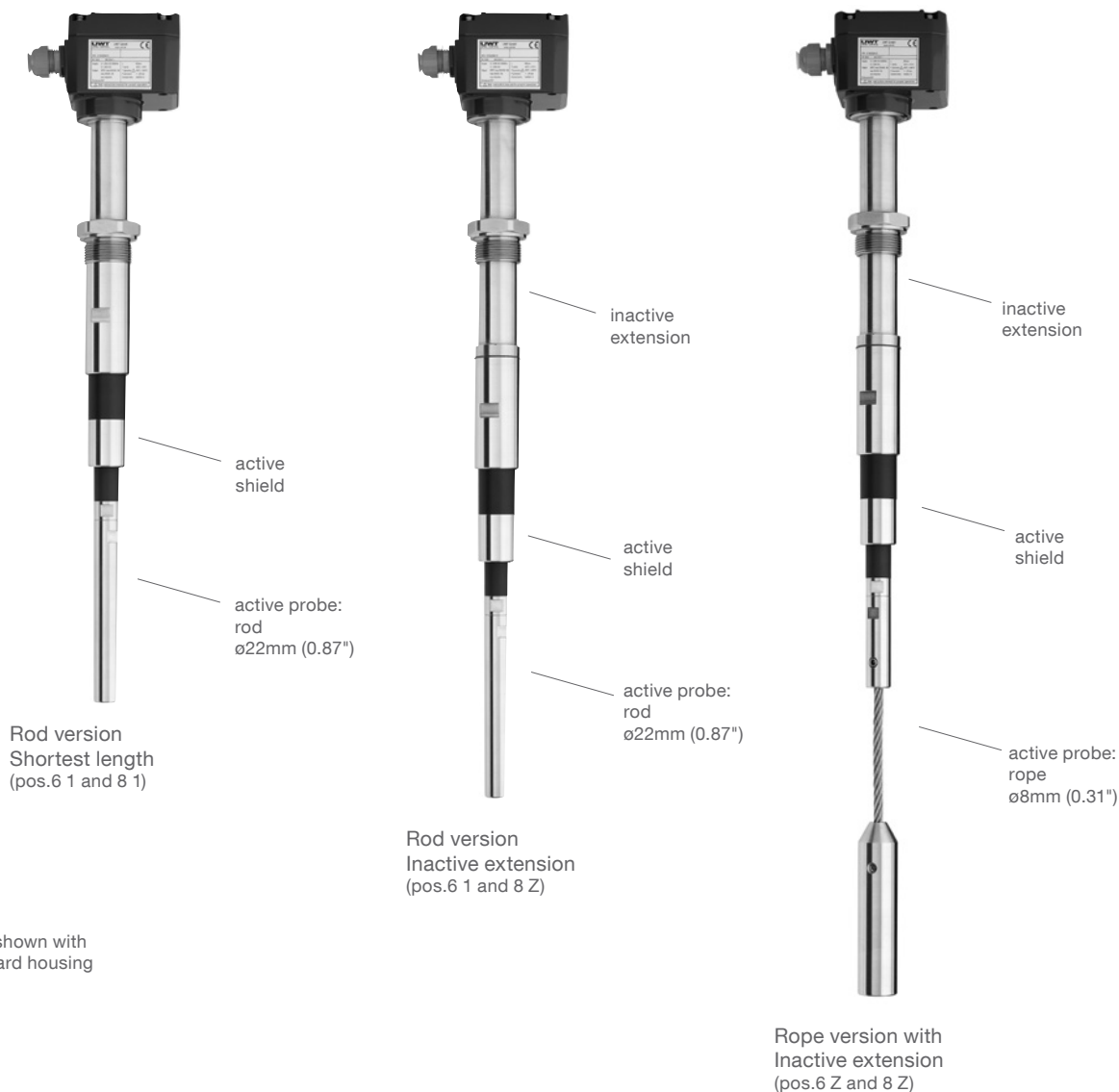
RF 3100	A		3	L			A		
Position	1	2	3	4	5	6	7	8	9

L1=	mm
L2=	mm

Order code

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

RF 3200 Heavy Duty version



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)	M20x1.5 (1x open conduit + 1x Ex-d blind plug)
FM/FMc (pos.2 M,N,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)

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

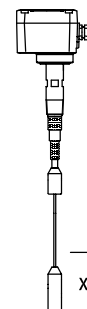
With stated L1 the unit works with factory setted sensitivity (2pF). For shorter L1 see option pos.16

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 (2pF). 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 21)

	Dust	Gas	Protection method
0 CE	-	-	
W ATEX	Zone 20 and 20/21	-	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
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 /FMc	-	-	General purpose
N FM /FMc	Cl. II, III, Div.1	-	Dust Ignition Proof
U FM /FMc	Cl. II, III, Div.1	Cl. I Div.1 / Zone 1	Explosion Proof / Dust Ignition Proof

pos. 4 **Electronic module**

L Relay DPDT 21 .. 230V AC/DC

pos. 5 **Process connection**

A Thread G 1 1/2 inch, DIN 228	.....	•	•
B Thread G 1 1/4 inch, DIN 228	.....	•	•
F Thread NPT 1 1/2 inch, conical ANSI B1.20.1	.....	•	•
Q Thread NPT 1 1/4 inch, conical ANSI B1.20.1	.....	•	•
L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi))	.....	•	•
M Flange DN 100 PN16, EN1092-1 (max. 16 bar (232psi))	.....	•	•
S Flange 2" 150lbs ANSI B16.5	.....	•	•
T Flange 3" 150lbs ANSI B16.5	.....	•	•
U Flange 4" 150lbs ANSI B16.5	.....	•	•
V Flange 40NB	.....	•	•

pos. 6 **Active Probe length L1 ⁽¹⁾**

1 Rod, L1=100mm (3.94")	.....	•	•
2 Rod, L1=200mm (7.87")	.....	•	•
3 Rod, L1=300mm (11.8")	.....	•	•
Y Rod, L1=custom specified	Price per 100mm (3.94") or part thereof (starting from 0mm) min. L1=100mm (3.94"), max. L1=1.000mm (39.4")	•	•
Z Rope, Base price	.....	•	•
L1=custom specified	Price per 100mm (3.94") or part thereof (starting from 0mm) min. L1=350mm (13.8"), max. L1=20.000mm (787")	•	•

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

1 Without	.....	•	•
Z L2 = custom specified	Price per 100mm (3.94") or part thereof (starting from 0mm) Rod version: min. L2 = 100mm (3.93"), max. L2 = 2.300mm (90.6") - L1 Rope version: min. L2 = 100mm (3.93"), max. L2 = 1.800mm (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 50mm (1.97") distance to the vessel wall

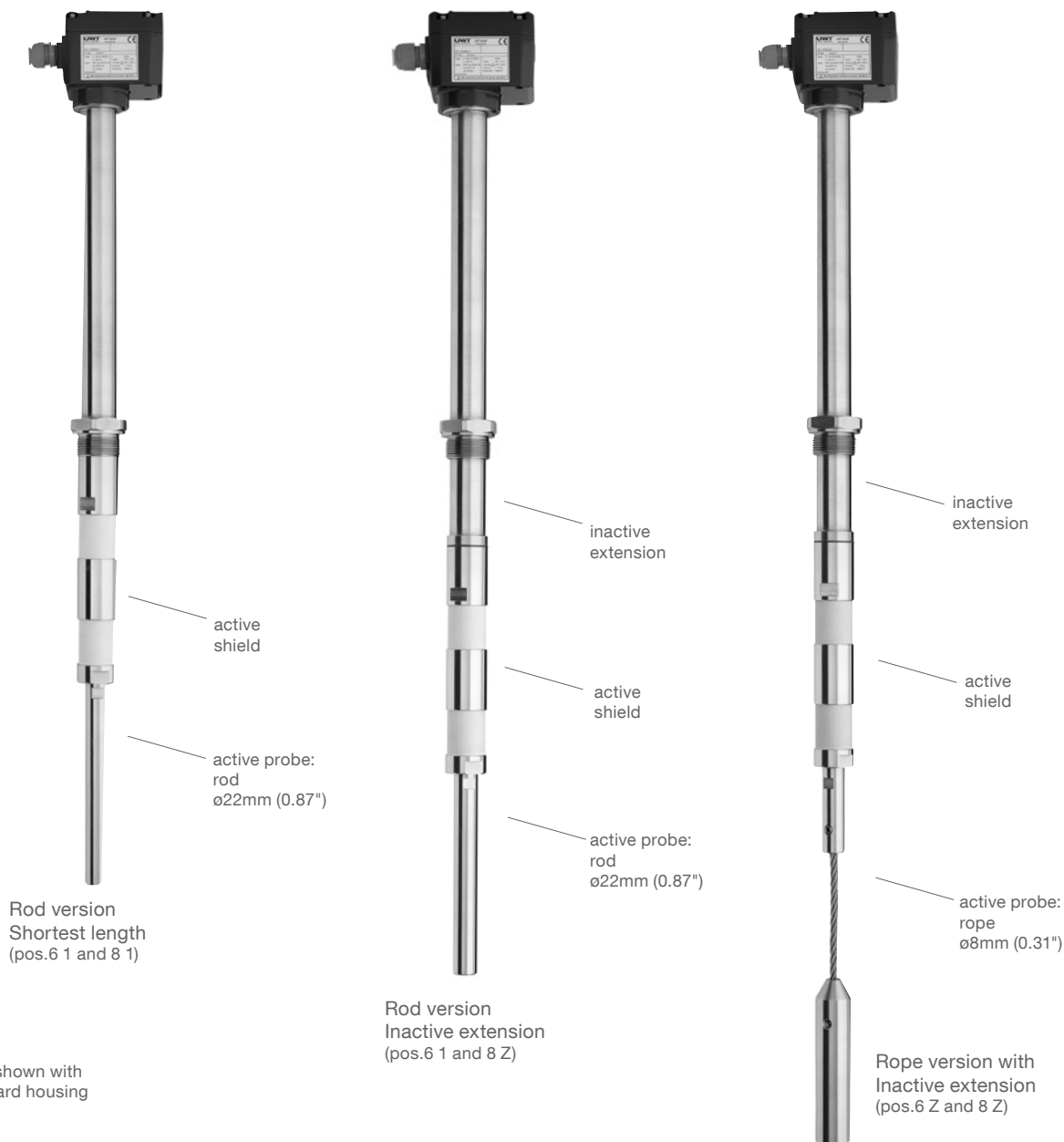
(3) Total length L = L1 + L2 + 200mm (7.87")

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)	M20x1.5 (1x open conduit + 1x Ex-d blind plug)
FM/FMc (pos.2 M,N,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)

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")

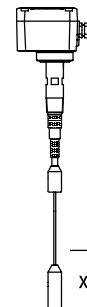
*see external
DK table

With stated L1 the
unit works with
factory setted
sensitivity (2pF).
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
(2pF). 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 21)

	Dust	Gas	Protection method
0 CE	-	-	
W ATEX	Zone 20 and 20/21	-	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
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 /FMc	-	-	General purpose
N FM /FMc	Cl. II, III, Div.1	-	Dust Ignition Proof
U FM /FMc	Cl. II, III, Div.1	Cl. I Div.1 / Zone 1	Explosion Proof / Dust Ignition Proof

pos. 4 **Electronic module**

L Relay DPDT 21 .. 230V AC/DC

pos. 5 **Process connection**

A Thread G 1 1/2 inch, DIN 228
 B Thread G 1 1/4 inch, DIN 228
 F Thread NPT 1 1/2 inch, conical ANSI B1.20.1
 Q Thread NPT 1 1/4 inch, conical ANSI B1.20.1
 L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi))
 M Flange DN 100 PN16, EN1092-1 (max. 16 bar (232psi))
 S Flange 2" 150lbs ANSI B16.5
 T Flange 3" 150lbs ANSI B16.5
 U Flange 4" 150lbs ANSI B16.5
 V Flange 40NB

pos. 6 **Active Probe length L1** ⁽²⁾

1 Rod, L1=100mm (3.94")
 2 Rod, L1=200mm (7.87")
 3 Rod, L1=300mm (11.8")
 Y Rod, L1=custom specified Price per 100mm (3.94") or part thereof (starting from 0mm)
 min. L1=100mm (3.94"), max. L1=1.000mm (39.4")
 Z Rope, Base price
 L1=custom specified Price per 100mm (3.94") or part thereof (starting from 0mm)
 min. L1=350mm (13.8"), max. L1=20.000mm (787")

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

1 Without
 Z L2 = custom specified Price per 100mm (3.94") or part thereof (starting from 0mm)
 Rod version: min. L2 = 100mm (3.93"), max. L2 = 2.300mm (90.6") - L1
 Rope version: min. L2 = 100mm (3.93"), max. L2 = 1.800mm (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 50mm (1.97") distance to the vessel wall

(4) Total length L = L1 + L2 + 220mm (8.66")

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

L1=	mm
L2 =	mm

← Order code

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

Options

RF 3100 RF 3200 RF 3300				
• •	pos. 11x	Guarantee extension to 5 years	•	
		Remote version:		
• • •	pos. 12x	Remote version including hexagon nut, not including remote cable and angle bracket	•	
• • •	pos. 13x	Remote cable specify cable length, price per 1000mm (39.4") special triaxial cable, no other cable permitted, max. 20m (65ft)	•	
• • •	pos. 14x	Angle bracket aluminium	•	
		Electronics:		
		Presettet sensitivity Standard calibration is 2pF, other sensitivities as follows:	•	
• • •	pos. 16a	0,5pF		
• • •	pos. 16b	1pF		
• • •	pos. 16c	4pF		
• • •	pos. 16d	10pF		
		Probes:		
		Probe gaskets		
•	Pos. 17a	Material FFKM, for increased requirements (such as superheated steam applications) on request	•	
		Coating (coating material PFA)		
1	pos. 18a	Coating of active probe (rod version)	•	
2	pos. 18b	Coating of complete probe (rod version) on request	•	
3	pos. 18c	Coating of rope (rope version), price per meter or part thereof	•	
		Rod extension kit, rigid		
•	pos. 19a	For ø10mm (0.39") rod, length 400mm (15.7"), 1.4404 (316L)	•	
• •	pos. 19b	For ø22mm (0.87") rod, length 400mm (15.7"), 1.4404 (316L)	•	
		Rod extension kit, flexible (pendulum rod)		
•	pos. 20a	For ø10mm (0.39") rod, length 1.000mm (39.4"), 1.4301/1.4305 (304/303)	•	
		Rope extension kit		
•	pos. 21a	For ø10mm (0.39") rod, rope ø4mm (0.16"), length 2000mm (78.7"), 1.4301/1.4305 (304/303)	•	
•	pos. 21b	For ø10mm (0.39") rod, rope ø4mm (0.16"), length 2000mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	•	
• •	pos. 21c	For ø22mm (0.87") rod, rope ø8mm (0.31"), length 2000mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	•	
		Fixing hole in probe rod		
•	pos. 22x	For ø10mm (0.39") rod, for fixing of the extensions. Not with pos.18a,b and pos.25.	•	
		Mounting:		
		Sliding sleeve		
4 4	pos. 24a	Material 1.4305/1.4541 (303/321)	•	
4 4	pos. 24b	Material 1.4404 (316L)	•	
		EHEDG approval (Type ED)		
5	pos. 25a	Process connection G 1 1/2" (without flush welding socket)	•	
5	pos. 25b	Process connection flush welding socket ø69/G 1 1/2" made of aluminium	•	
5	pos. 25c	Process connection flush welding socket ø69/G 1 1/2" made of 1.4301 (304)	•	
5	pos. 25d	Process connection flush welding socket ø69/G 1 1/2" made of 1.4404 (316L)	•	

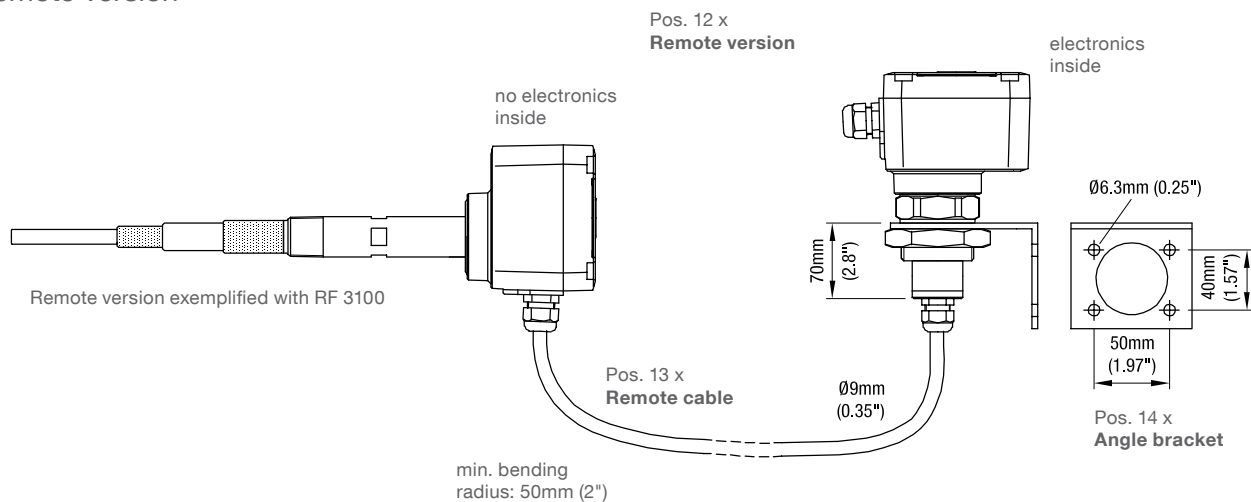
Options

			Mounting set for flange mounting							
			process connection flange	for counter flange with	consists of					
					screws*	nuts*	washers*	sealing**		
• • •	pos. 26c		L	hole ø18	4 x M16x60	4 x M16	4 pcs	1 pc	•	
• • •	pos. 26d		L	thread M16	4 x M16x40		4 pcs	1 pc	•	
• • •	pos. 26e		M	hole ø18	4 x M16x60	8 x M16	8 pcs	1 pc	•	
• • •	pos. 26f		M	thread M16	4 x M16x40		8 pcs	1 pc	•	
* material stainless steel 1.4301 (304) **max. 240°C (464°F), material not food grade										
Hexagon nut										
• • •	pos. 27e		For thread G 1 1/2", G 1 1/4", G 1", G 3/4", 1.4305 (303), 1 pc							•
• • •	pos. 27f		For thread G 1 1/2", G 1 1/4", G 1", G 3/4", 1.4305 (303), 2 pcs							•
Flat sealing										
• • •	pos. 28x		For process connection thread G 1 1/2", G 1 1/4", G 1", G 3/4", M32x1.5, M30x1.5, max. 240°C (464°F)							•
Housing:										
6 6 6	pos. 31a		Housing material							•
			Plastics PA6 reinforced							
7 7 7	pos. 32x		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:							
8 8 8	pos. 33x		M20x1,5 2x screwed cable gland							•
9 9 9	pos. 33d		M20x1,5 1x screwed cable gland +1x blind plug							•
10 10 10	pos. 33a		NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)							•
11 11 11	pos. 33c		NPT 3/4" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)							•
Signal lamp										
12 12 12	pos. 34a		Bulb in cable gland, 2W green							•
12 12 12	pos. 34c		Bulb in cable gland, 2W red							•
13 13 13	pos. 34d		LED (transparent lid section)							•
Plug										
13 13 13	pos. 35x		Valve connector (incl. mating plug)	4-pole (incl. PE)	max. 230V					•
13 13 13	pos. 35a		M12 (without mating plug)	4-pole	max. 25V					•
13 13 13	pos. 35b		M12 (without mating plug)	5-pole (incl. PE)	max. 60V					•
13 13 13	pos. 35c		Harting Han 4A (incl. mating plug)	5-pole (incl. PE)	max. 230V					•

- Recommended with excessive, mainly conductive material buildup and for reduction of abrasion. Available for CE and FM General purpose (Pos.2 0,M). Max. length L1 = 700mm (27.6").
- Recommended with corrosive materials. Available for CE and FM General purpose (Pos.2 0,M). Process connection NPT 1 1/2", G 1 1/2". Max. length L1 = 700mm (27.6"), length L2 = 50 .. 1000mm (2.0 .. 39.4").
- Recommended with excessive material buildup and for reduction of abrasion. Available for CE and FM General purpose (Pos.2 0,M). Not in combination with rod or rope extension kits (pos. 19,20,21).
- Process connection as selected in pos.5. Material must be the same as selected in pos.9. RF 3100 available with NPT 1 1/4", NPT 1 1/2", G 1 1/4", G 1 1/2". RF 3200 available with NPT 1 1/2", G 1 1/2". Not with pos.18 b.
- Certificate only valid with the use of the "flush welding socket". With pos. 25a this socket must be manufactured on site. Only for G 1 1/2" (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 9mm (0.35").
- Available for CE and ATEX/IEC-Ex Dust Ignition proof (pos.2 0,W,A). Ambient temperature for ATEX/IEC-Ex: -20°C (-4°F).
- Available for all versions except flameproof / increased safety versions (pos.2 R,T,C,D,U)
- Available for all versions except flameproof version (pos.2 T,U,D)
- 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
- Available for CE (pos.2 0), not in combination with weather protection cover (pos.32 x) and cable entries pos.33 x,a,c Three bulbs (24V, 115V and 230V) will be delivered. Without connection of bulb wires to internal terminals (standard) or according to customer specification.
- Available for CE (pos.2 0). Without connection of plug wires to internal terminals (standard) or according to customer specification.

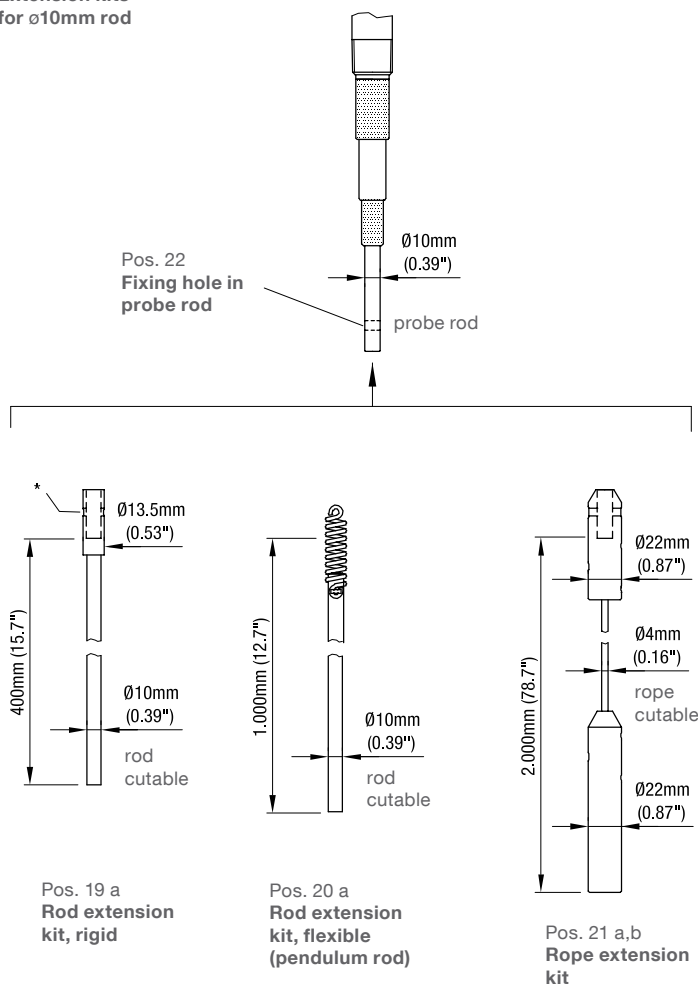
Options

Remote version



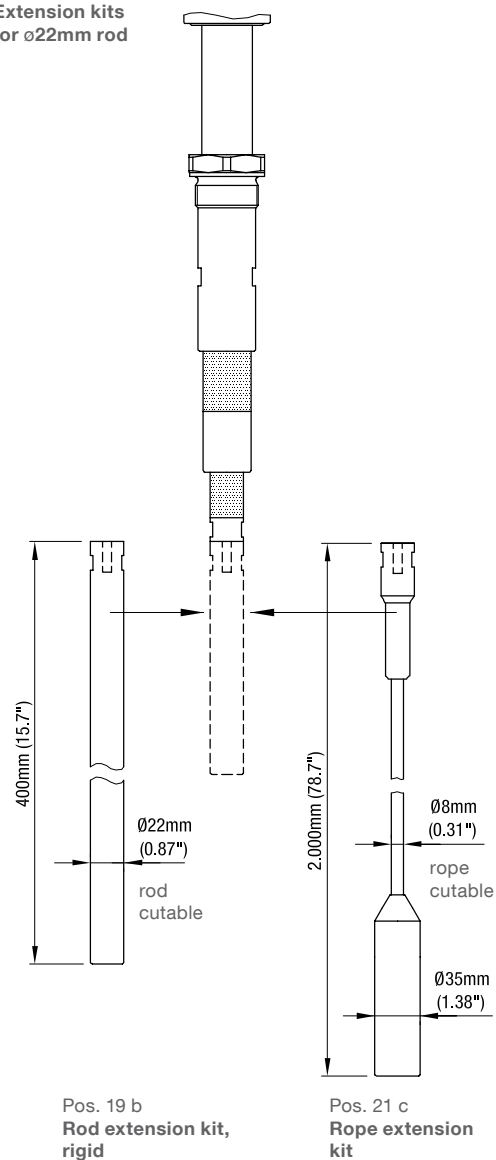
Probes

Extension kits for ø10mm rod



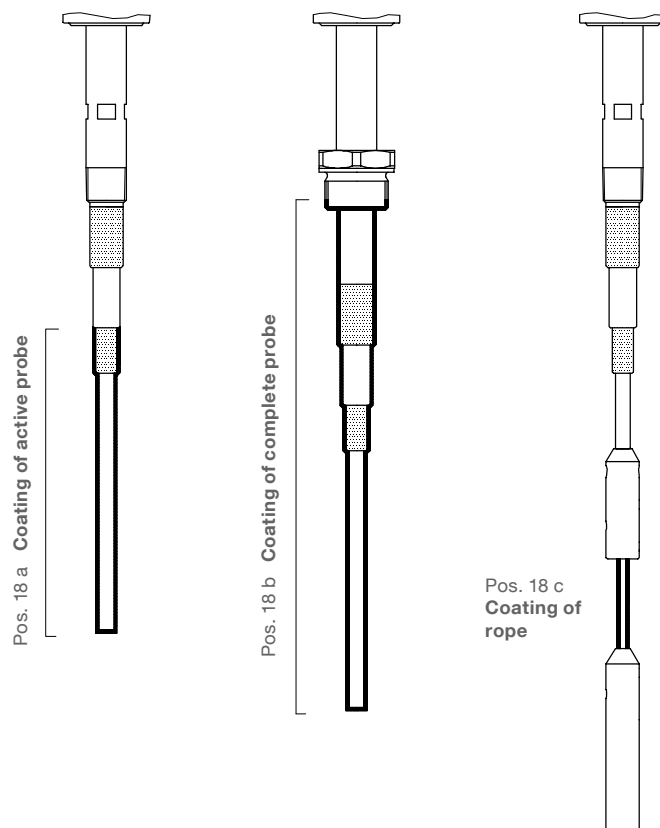
* Fixing by drilling a hole through the probe rod and fixing with a split pin

Extension kits for ø22mm rod

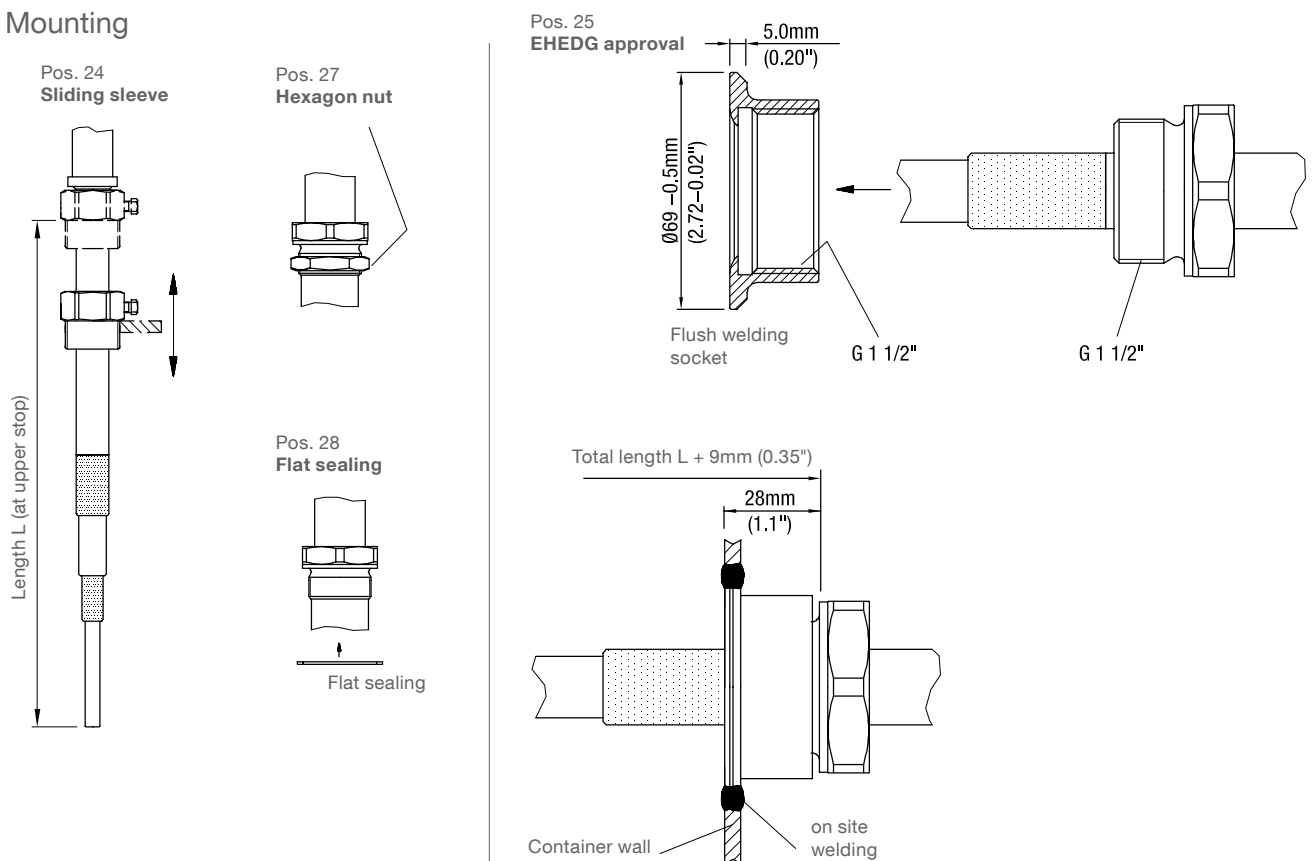


Options

Coatings



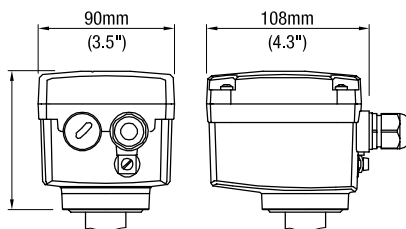
Mounting



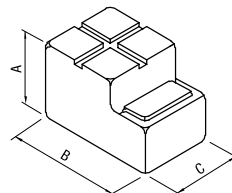
Options

Housing

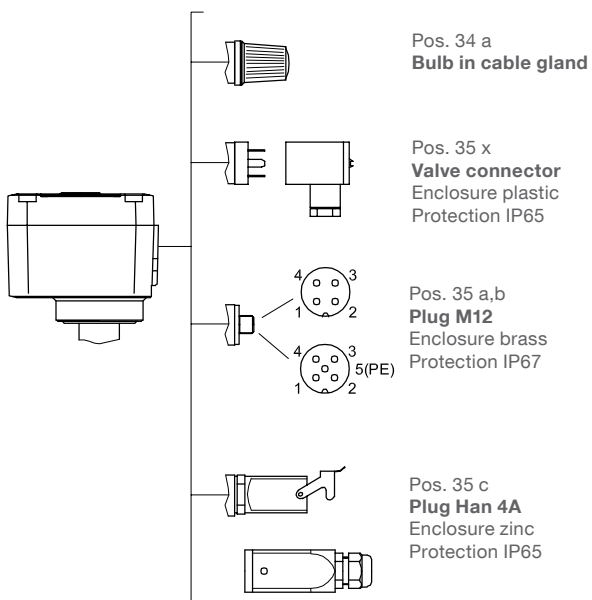
Pos. 31 a
Housing material Plastics PA6



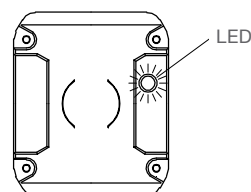
Pos. 32 x
Weather protection cover



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



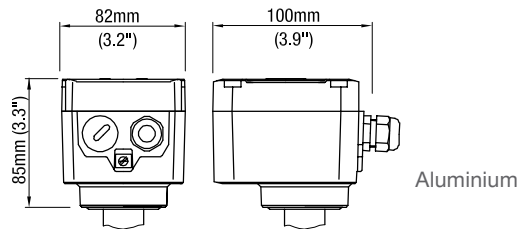
Pos. 34 d
LED (transparent lid section)



Dimensions

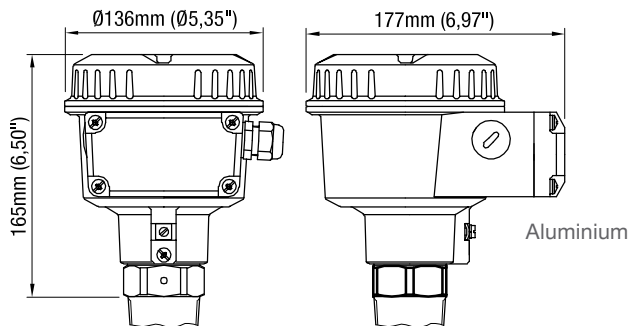
Housing versions

Standard



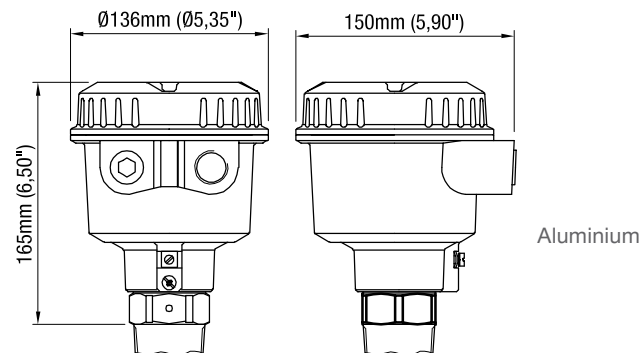
de

Explosionproof with
 increased safety
 terminal box



d

Flameproof /
 explosionproof

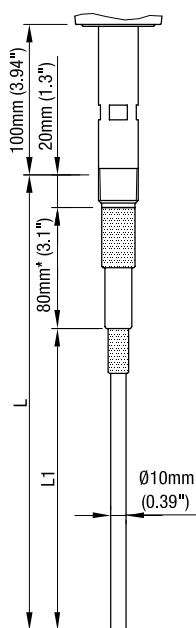


Dimensions

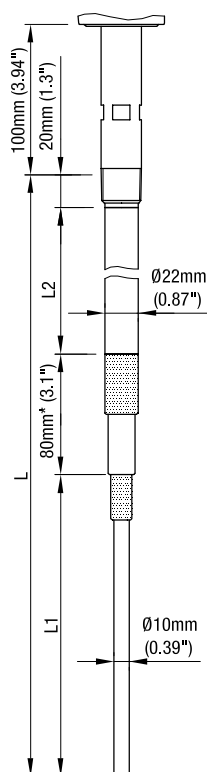
Probes

RF 3100 Standard version

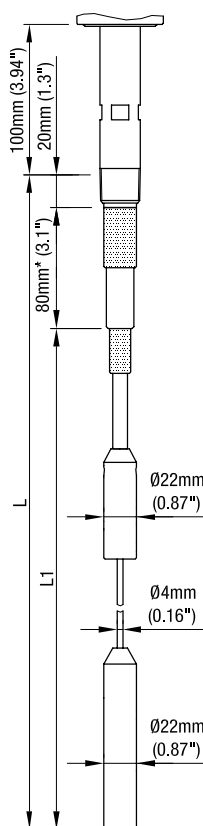
Rod version
 Shortest length



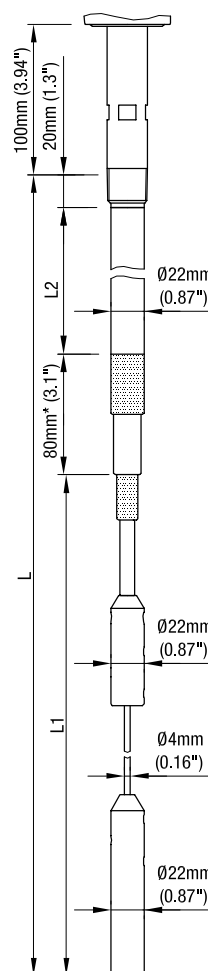
Rod version
 Inactive extension



Rope version
 Shortest length



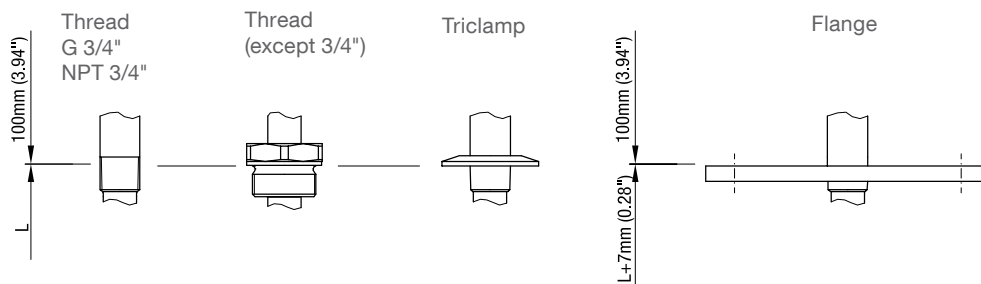
Rope version
 Inactive extension



* Active shield

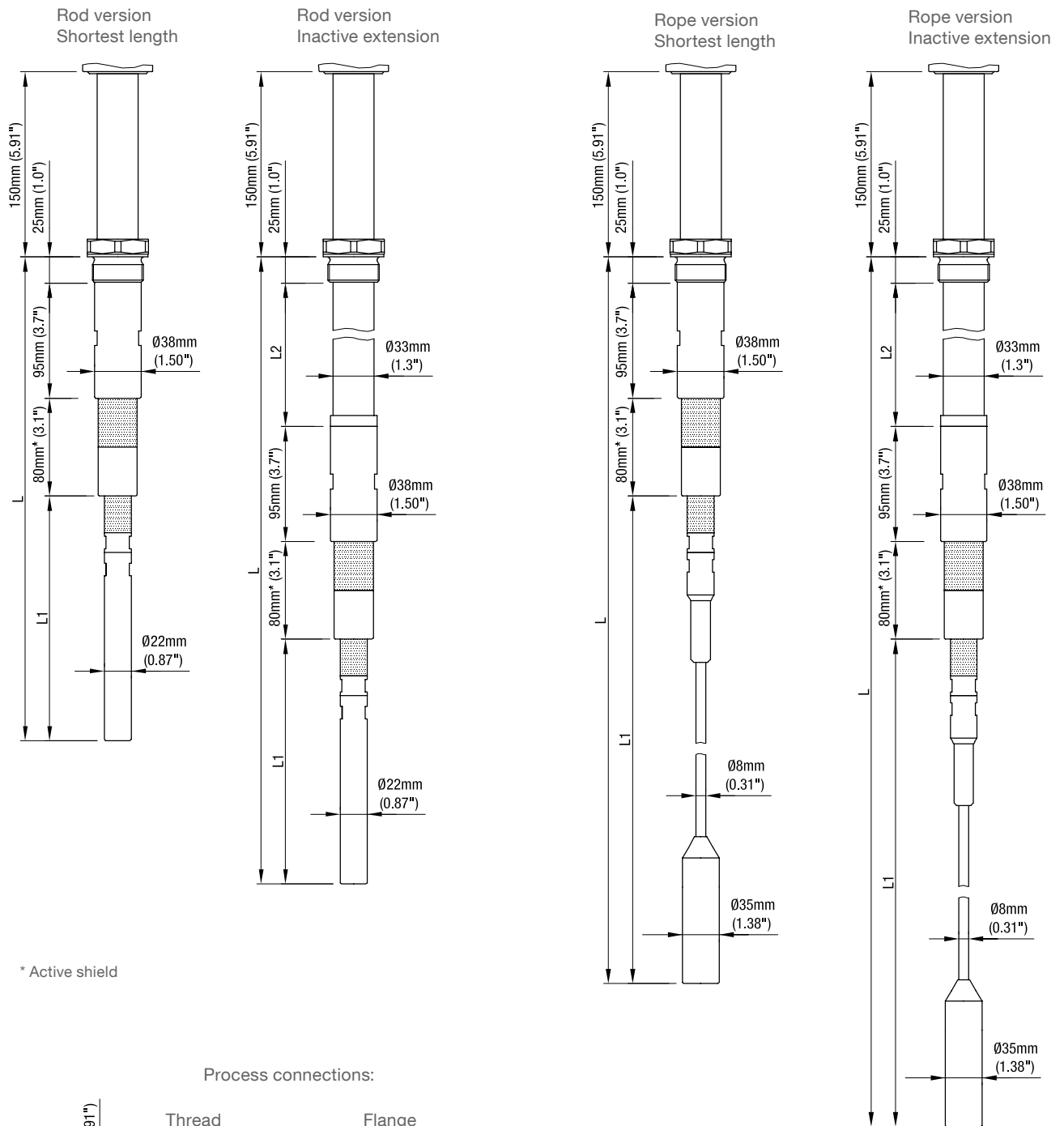
With EHEDG certificate the length "L" is increased by 9mm (0.35")

Process connections:



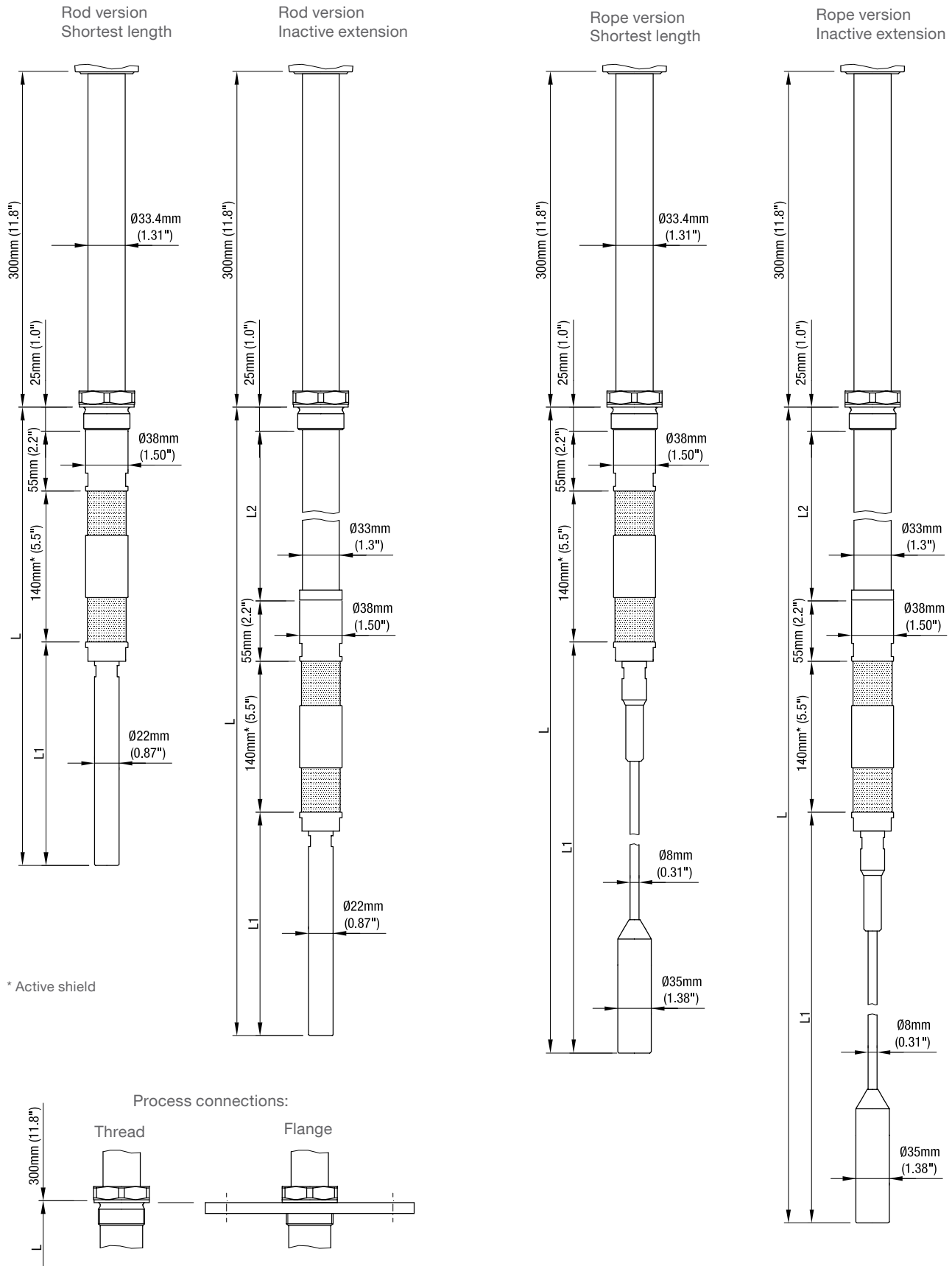
Dimensions

RF 3200 Heavy Duty version



Dimensions

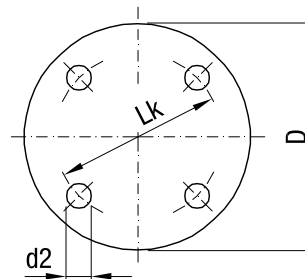
RF 3300 High temperature version



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")
V	Flange 40NB	4	14mm (0.55")	98mm (3.86")	133mm (5.24")	12mm (0.47")



Detailed Ex-markings

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

Electrical installation

Universal voltage

Relay DPDT

Power supply:

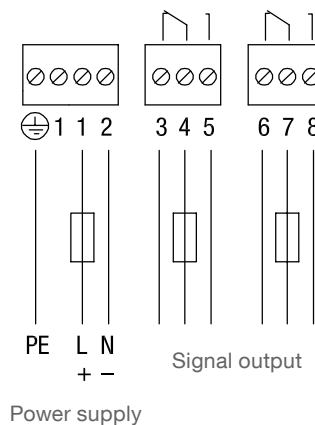
21 .. 230V 50/60Hz or DC +/-10%
 1.5VA or 1.5W

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

Signal output:

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

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



Spare parts

	Fitting to unit / model code	Description see page	Spare part Article number	
Electronics				
Universal voltage, Relais DPDT	pos.3 L	P7, 9, 11	pl407100	•
Remote version				
Remote cable (special Triaxial cable), price per 1000mm (39.4")	pos.13 x	P12, 14	zu400700	•
Angle bracket, 1.4301 (304)	pos.14 x	P12, 14	zu400701	•
Rod extension kit, rigid				
For ø10mm (0.39") rod, length 400mm (15.7"), 1.4404 (316L)	pos.19 a	P12, 14	zu400710	•
For ø22mm (0.87") rod, length 400mm (15.7"), 1.4404 (316L)	pos.19 b	P12, 14	zu400711	•
Rod extension kit, flexible (pendulum rod)				
For ø10mm (0.39") rod, length 1.000mm (39.4"), 1.4301/1.4305 (304/303)	pos.20 a	P12, 14	zu400720	•
Rope extension kit				
For ø10mm (0.39") rod, rope ø4mm (0.16"), length 2000mm (78.7"), 1.4301/1.4305 (304/303)	pos.21 a	P12, 14	zu400730	•
For ø10mm (0.39") rod, rope ø4mm (0.16"), length 2000mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	pos.21 b	P12, 14	zu400731	•
For ø22mm (0.87") rod, rope ø8mm (0.31"), length 2000mm (78.7"), 1.4404 (316L)/ rope 1.4401(316)	pos.21 c	P12, 14	zu400732	•
Single parts for rope version				
Rope ø4mm (0.16"), 1.4401 (316), not coated, price per 1000mm (39.4")	RF 3100	P18	zu400740	•
Rope ø4mm (0.16"), 1.4401 (316), coated, price per 1000mm (39.4")	RF 3100	P18	zu400741	•
Rope weight ø22mm (0.87"), 1.4301/1.4305 (304/303) *	RF 3100	P18	zu400742	•
Rope weight ø22mm (0.87"), 1.4404 (316L) *	RF 3100	P18	zu400743	•
Rope holder ø22mm (0.87"), 1.4301/1.4305 (304/303) *	RF 3100	P18	zu400744	•
Rope holder ø22mm (0.87"), 1.4404 (316L) *	RF 3100	P18	zu400745	•
Rope ø8mm (0.31"), 1.4401 (316), not coated, price per 1000mm (39.4")	RF 3200, RF 3300	P19, 20	zu400746	•
Rope weight ø35mm (1.38"), 1.4301/1.4305 (304/303) *	RF 3200, RF 3300	P19, 20	zu400747	•
Rope weight ø35mm (1.38"), 1.4404 (316L) *	RF 3200, RF 3300	P19, 20	zu400748	•
Rope holder ø22mm (0.87"), 1.4301/1.4305 (304/303) *	RF 3200, RF 3300	P19, 20	zu400749	•
Rope holder ø22mm (0.87"), 1.4404 (316L) *	RF 3200, RF 3300	P19, 20	zu400750	•
*delivery including fixing parts				
Hexagon nut				
G 1 1/2" 1.4305 (303)	Pos.27	P13, 15	zu300180	•
G 1 1/4" 1.4305 (303)	Pos.27	P13, 15	zu300181	•
G 1" 1.4305 (303)	Pos.27	P13, 15	zu200160	•
G 3/4" 1.4305 (303)	Pos.27	P13, 15	zu200140	•
M32x1.5 1.4305 (303)	Pos.27	P13, 15	zu200130	•
M30x1.5 1.4305 (303)	Pos.27	P13, 15	zu200180	•
Weather protection cover				
For standard housing	pos.32 x	P13, 16	zu300232	•