

Radar Level Transmitter for Liquids

8137 / 8138

G thread or flange connection

- For filling level measurement up to 30 m
- High Pressure Version
- Two-wire version
- Adjustable via display and buttons as well as PC-Tool with DTM



Radar level transmitter for aggressive media and high pressure. A sleek, compact stainless steel design incorporates a 2-wire HART transmitter which is easily PC configurable.

Technical Data

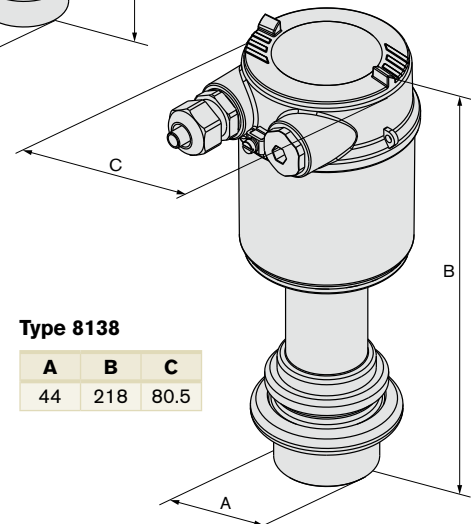
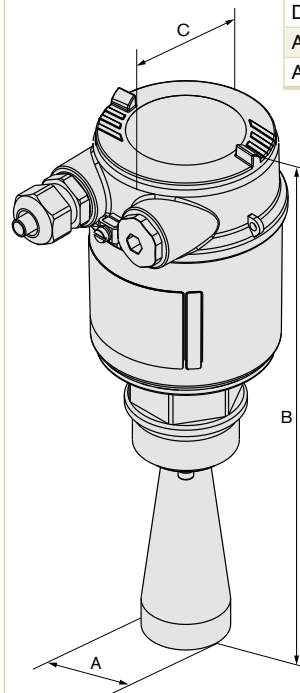
Type	8137	8138
General data		
Housing / Cover	PBT, Stainless steel 316L / PC	
Seal ring / Ground terminal	NBR / Stainless steel 316Ti/316L (1.4571/1.4435)	
Seal	KLINGERSIL® C-4400 (8137), EPDM (8138)	
Antenna / cone	Stainless steel 316L (8137), TFM™ PTFE (8138) / PTFE (8137)	
Seal (antenna system)	FKM (8137), EPDM (8138)	
Display	LCD in full dot matrix*	
Ambient temperature	-40 °C to +80 °C	
Voltage supply	2-wire, 14 to 36 V DC	
Current consumption max.	22 mA	
Electrical connections	Cable glands M20 x 1.5	
Outputs	4-20 mA/HART	
Dead zone	50 mm	
Measuring range (40 mm antenna)	50 mm to 10 m	
Process temperature	-40 °C to +130 °C	-40 °C to +200 °C
Vessel pressure	-1 to 40 bar (-100 to 4000 kPa) or according to flange rules	-1 to 16 bar (-100 to 1600 kPa)
Vibration resistance	Mechanical vibrations with 4 g and 5 to 100 Hz	
Accuracy	± 3 mm	
Min. dielectric	ε _r > 1.6	
Temperature coefficient	0.03%/10K (Average temperature coefficient of the zero signal - temperature error)	
Resolution	max. 1 mm	
Frequency	K-band (26 GHz technology)	
Interval	approx. 1 s	
Beam angle at 3 dB	22° (antenna with ø 40 mm)	18° (range 0.05 to 10 m) - 10° (range 0.05 to 20 m)
Adjustment time	> 1 s (dependent on the parameter adjustment)	
Accuracy	± 2 mm	
Ingress protection	IP66, IP67	

* must be ordered separately.

Envelope Dimensions [mm] (see datasheet for details)

Type 8137

Standards	DN	A	B	C
DIN 2501	50	40	279	80.5
DIN 2501	100	75	395	80.5
ANSI B16.5	2"	40	279	80.5
ANSI B16.5	4"	75	395	80.5



Type 8138

A	B	C
44	218	80.5

Technical Data (continued)

Type	8137	8138
Electrical Specifications		
Operating voltage	14 - 36 V DC or 14 - 30 V DC (Ex ia instrument)	
Permissible residual ripple	< 100 Hz: $U_{ss} < 1$ V 100 Hz... 10 kHz: $U_{ss} < 10$ mV	
Output signal	4... 20 mA/HART	
Resolution	1.6 μ A	
Fault signal	current output unchanged 20.5 mA, 22 mA or < 3.6 mA (selectable)	
Current limitation	22 mA	
Load	see load diagram	
Damping (63% of the input variable)	0... 999 s, adjustable	
Standards and approvals		
Protection	IP66 / IP67 with mounted and tightened cable gland M20 x 1.5	
Overvoltage category	III	
Protection class	II	
Standard		
EMV	EN61326	EN61326
Security	EN61010-1	EN61010-1
NAMUR	NE 21; NE 43	NE 21; NE 43
Approvals	ATEX ¹⁾ : EN60079-0; EN60079-11; EN60079-26	ATEX ¹⁾ : EN60079-0; EN60079-11; EN60079-26 FDA

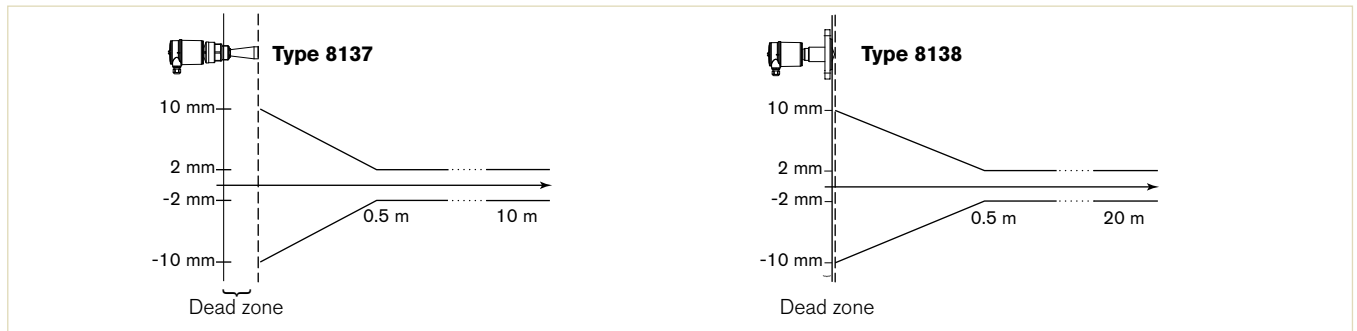
Type	8137	8138
Specifications Ex		
Ex - Protection	Categories 1/2G or 2G	
Ex - Certification	EEx ia IIC T6	
Conformity specifications¹⁾		
Operating voltage U_i	30 V	
Short circuit rating I_i	131 mA	
Power limitation P_i	983 mW	
Ambient temperature	-40 to +55 °C (depending on the category)	
Internal capacity C_i	negligible	
Internal inductivity L_i	negligible	

¹⁾ homologation certificate PTB 08 ATEX 2002X

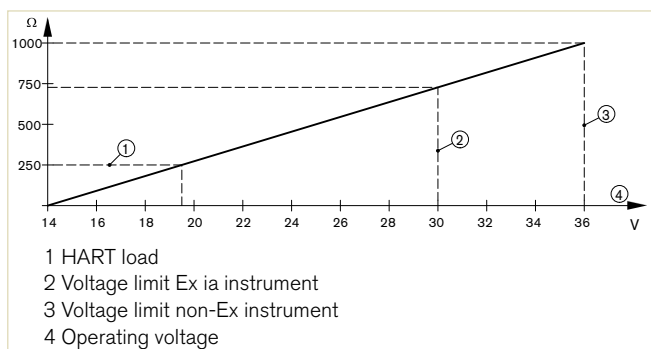
Option

- Other hygienic fittings

Accuracy diagram



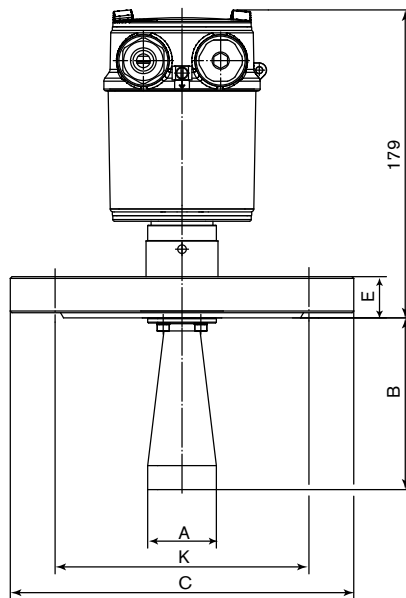
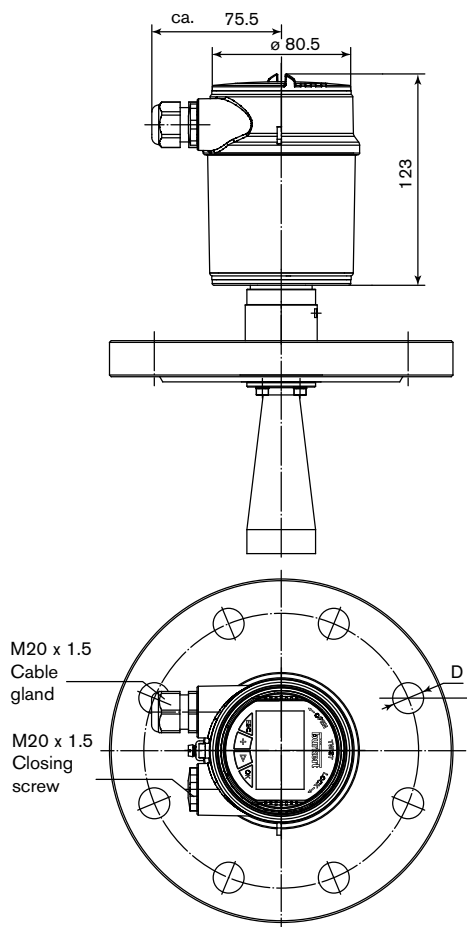
Load diagram



Dimensions [mm]

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Flange horn antenna version



Standard	DN	A	B	C	E	D	K
DIN 2501	50	ø 40	100	ø 165	20	4 x ø18	ø 125
DIN 2501	100	ø 75	216	ø 220	20	8 x ø18	ø 180
ANSI B16.5	2"	ø 40	100	ø 152.4	19.1	4 x ø19.1	ø 120.7
ANSI B16.5	4"	ø 75	216	ø 228.6	23.9	8 x ø19.1	ø 190.5

Ordering Chart

Area of application	Process connection	Electrical connection	Item no.
8137			
Without Ex	G 1 1/2" ISO 228	M20 cable gland	560 157
	Flange DIN 2301 DN 50	M20 cable gland	560 161
Ex	G 1 1/2" ISO 228	M20 cable gland	560 158
	Flange DIN 2301 DN 50	M20 cable gland	560 162

Area of application	Process connection	Electrical connection	Item no.
8138			
Without Ex	Clamp 2"	M20 cable gland	560 169
Ex	Clamp 2"	M20 cable gland	560 170

Note: Display not included, must be ordered separately (see accessories)

Accessories

Description	Item no.
Set with 2 M20 x 1.5 / NPT $\frac{1}{2}$ "-Reductions + 2 Neoprene gaskets for cable gland M20 x 1.5 + 2 sealing plugs	551 782
HART-USB Modem	560 177
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Set with a transparent cover and a sealing ring	561 006