

OEM radar measuring device for aggressive medium

8136

- For level measurement up to 20 m, 4-20 mA/Hart - 2 wires
- Adjustable via Display, key operation or PC-Tool with DTM
- ATEX approvals
- Insensitive to variations of temperature, pressure, medium data of the product and gas layers



Type 8136 is a non-contact radar level measuring device for continuous level measurement.

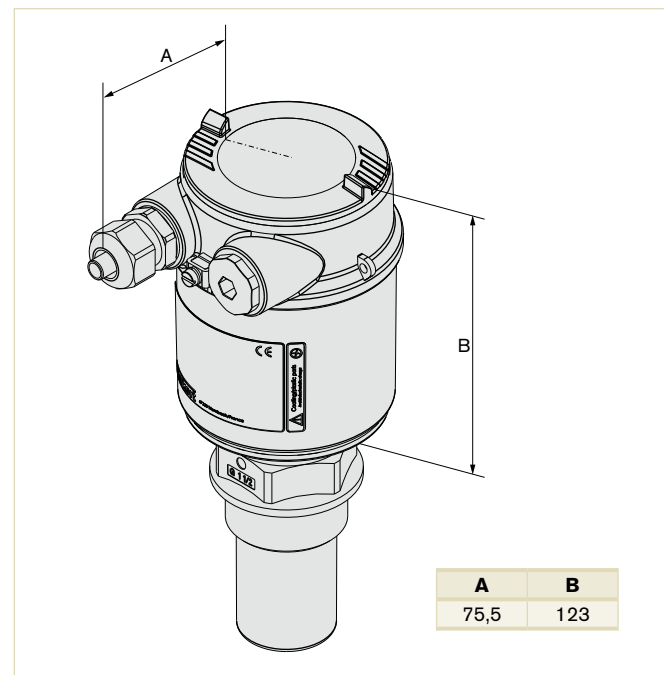
The unit is available in two versions:

- with encapsulated horn antenna particularly suitable for level measurement of aggressive liquids in small vessels.
- with plastic horn antenna particularly suitable for measurement in open flumes or gauge measurement in waters.

Technical Data

Materials	
Housing / Cover	PBT, Stainless steel. 316L / PC
Seal ring / Ground terminal	NBR / St. st. 316Ti/316L (1.4571/1.4435)
Mounting strap / Fixing screws	St. st. 304 (1.4301) / St. st. 316L (1.4435)
Wetted parts	
Encapsulated horn antenna version	
Process connection/Antenna/Seal	PVDF/PVDF (completely encapsulated)/FKM
Plastic horn antenna version	
Process connection	Stainless steel 316L (1.4435)
Horn antenna / Focus lens	PBT-GF30 / PP
Display*	LCD in full dot matrix (option)
Process connection	Thread G 1 1/2" or NPT 1 1/2" (Encapsulated horn antenna version) Mounting strap 170 mm (Plastic horn antenna version)
Max. torque mounting boss	4 Nm (mounting screws - strap on the sensor housing)
Electrical connection	Cable glands M20 x 1.5
Measuring value	Distance between process connection and product surface
Min. dielectric figure	$\mu r > 1.6$
Dead zone	50 mm ¹⁾
Measuring range	0.05 to 10 m (Encapsulated horn antenna ver.) 0 to 20 m (Plastic horn antenna version)
Process temperature	-40 °C to +80 °C
Vessel pressure	-1 to 3 bar (-100 to 300 kPa)
Vibration resistance	Mechanical vibrations with 4 g and 5-100 Hz
Temperature coefficient	0.03%/10 K (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° (Encapsulated horn antenna vers.) - 10° (Plastic horn antenna vers.)
Adjustment time	> 1 s (dependent on the parameter adjustment)
Accuracy	± 2 mm

Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

Electrical data	
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	0... 999 s, adjustable (63% of the input variable)

* to be ordered separately

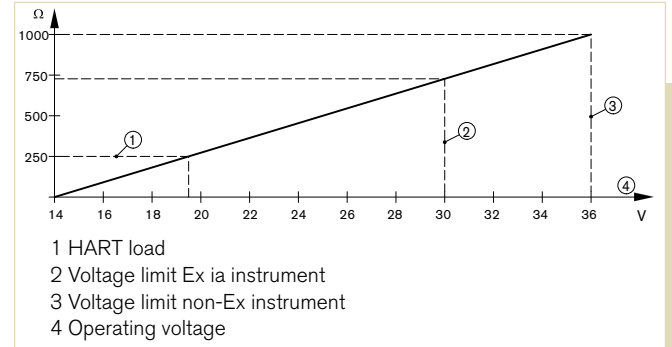
¹⁾ Encapsulated horn antenna version. In products with low dielectric value up to 50 cm.

Technical Data (continued)

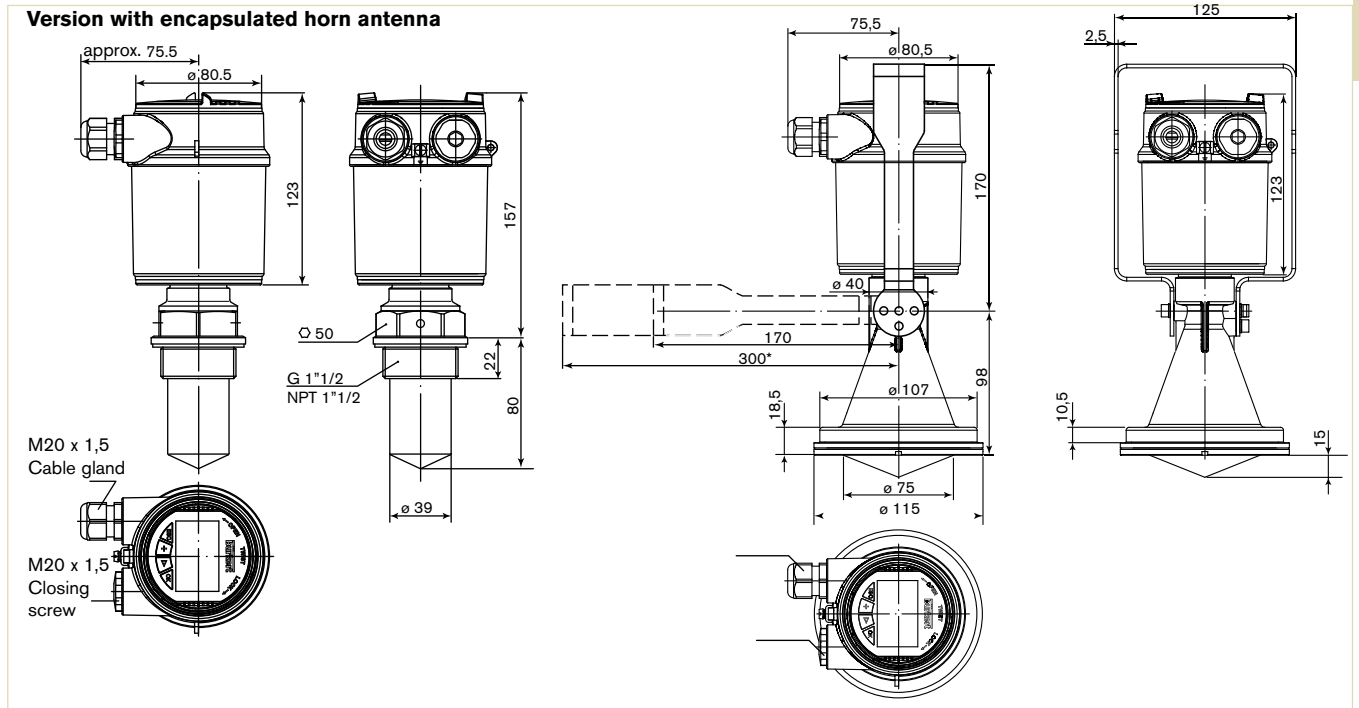
Standards and approvals	
Protection	IP66/IP67 with M20 x 1.5 gland mounted and tightened
Overvoltage category	III
Protection class	II
Standard	
EMC	EN61326
Security	EN61010-1
NAMUR	NE 21; NE 43
Approvals	ATEX ²⁾ : EN60079-0; EN60079-11; EN60079-26

²⁾ Certificate PTB 08 ATEX 2002X

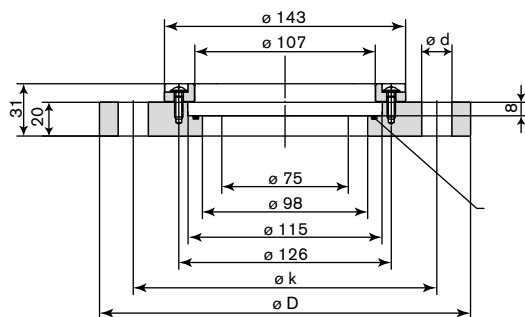
Load diagram



Envelope Dimensions [mm]



Adapter flange* for plastic horn antenna ø 80 mm version



Flange	ø D	ø k	ø d	Number of hole
DN100 PN16	220	180	18	8 x 45° (=360°)
ASME (ANSI B16,5) 4" 150 psi	228,6	190,5	19,1	8 x 45° (=360°)

* The 300 mm mounting bracket of the flange adapter must be ordered separately.

Ordering Chart

Description	Voltage supply	Output	Sensor	Electrical connection	Item no.
Encapsulated horn - 40 mm	14 - 36 V DC	4 - 20 mA/HART (2-wire)	G 1 1/2"	Cable gland M20 x 1.5	560 146
Plastic horn - 80 mm	14 - 36 V DC	4 - 20 mA/HART (2-wire)	Mounting bracket or compression flange	Cable gland M20 x 1.5	560 150

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

Accessories

Description	Item no.
Set with 2 reductions M20 x 1.5/NPT 1/2" + 2 neoprene flat seals for cable gland + 2 screw-plugs M20 x 1.5	551 782
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Hart-USB Modem	560 177
Mounting strap 300 mm	559 839
Adapter flange DN 100 PN 16 FKM / PPH	560 437
Adapter flange ASME (ANSI B16.5) 4" 150PSI FKM / PPH	560 436

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