

Technical Data Sheet - Type VG7
Input

Function	K-band FMCW radar
Parameter	Level, distance, volume and reflectivity
Min. tank height	0.5 m / 1.5 ft
Max. measuring range	40 m / 131 ft
Blocking Distance (dead zone)	Antenna extension length + antenna length + 0.1 m / 4"

Output

Output signal	Output 1	4 ... 20 mA HART® or 3.8 ... 20.5 mA acc. to NAMUR NE 43
Accuracy		0.05% (rel. 20 mA; 20°C / 68°F)
Resolution		±2 µA
Temperature drift		Typically 50 ppm/K
Error signal		High: 22 mA; Low: 3.6 mA acc. to NAMUR NE 43
Max. Load		350 ohm

Measuring accuracy

Reference conditions acc. to IEC770	Temperature	+20°C ±5°C / +68°F ±9°F
	Pressure	1013 mbar abs. ±20 mbar / 14.69 psig ±0.29 psig
	Relative air humidity	60% ±15%
Resolution		1 mm / 0.04 "
Accuracy		±3 mm / ±0.12"
Beam angle	DN 40 / ANSI 1 1/2"	20°
	DN 50 / ANSI 2"	15°
	DN 80 / ANSI 3"	10°

Application conditions

Temperature	Ambient temperature	-40...+80°C / -40...+175°F; EEx i: -40...+60°C / -40...+140°F
	Storage temperature	-40...+85°C / -40...+185°F
	Flange temperature	-40...+150°C / -40...+300°F (Ex: refer to relevant device's approval and temperature class)
Thermal shock resistance		100°C/min
Process conditions	Operating pressure	-1...40 bar / -14.5...580 psig; subject to process connection used and flange temperature
	Dielectric constant	≥1.5
Vibration resistance		IEC 68-2-6 and prEN 50178 (10...57Hz: 0.075 mm / 57...150 Hz: 1 g)
Protection category		IP 66/67 equiv. to NEMA 6-6X

Mechanical data

Material	Housing	Aluminium
	Wetted parts	Stainless steel (1.4404 / 316L); Hastelloy C-22 (2.4602)
	Process fitting	Stainless steel (1.4404 / 316L); Hastelloy C-22 (2.4602)
	Gaskets	Viton (-40...+150°C / -40...+300°F); Kalrez 6375 (-20...+150°C / -5...+300°F)
Process connection	Thread	G 1 1/2"; NPT 1 1/2"
	Flange	DN 40...DN 150 (PN 40 / PN 16); 1 1/2"...8" (150 lb / 300 lb); 10 K (40...100A)

Electrical connection

2-wire power supply	Terminals output 1	
	Non-Ex / EEx i	24 V DC (14 ... 30 V DC)
	EEx d	24 V DC (20 ... 36 V DC)
Cable entry		M20x1.5; NPT 1/2"; G 1/2"
Terminals		0.5...1.5 mm ²

Human machine interface

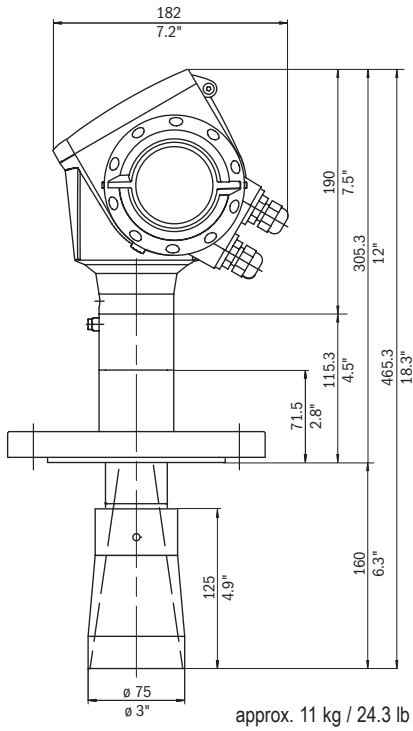
Display	9 lines, 160x160 pixels in 8-step greyscale with 4-button keypad
Operating languages	English (UK), German, French, Italian, Spanish, Portuguese, Japanese, Chinese (Mandarin), Russian

Approvals

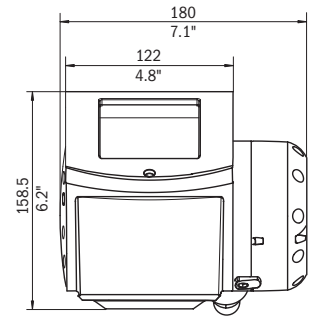
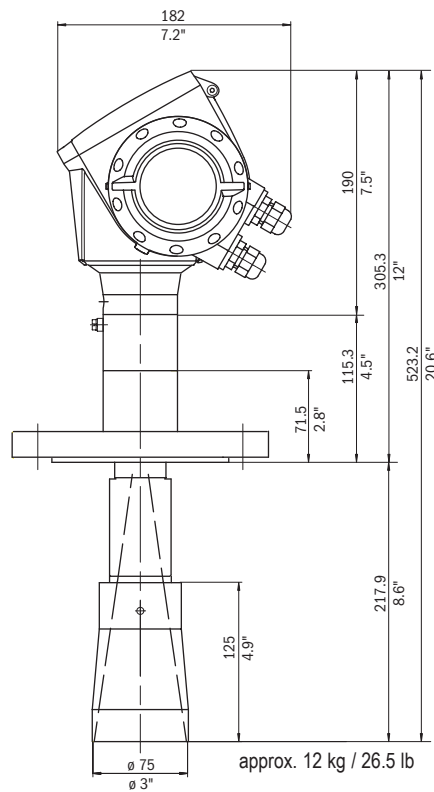
Overfill protection	WHG
ATEX	ATEX II G/D 1, 1/2, 2 EEx ia IIC T6; ATEX II G/D 1/2, 2 EEx d ia IIC T6
FM	IS class I Div. 1 Gr. A...G; XP class I Div. 1 Gr. A...G
CSA	IS class I Div. 1 Gr. A...G; XP class I Div. 1 Gr. A...G

Dimensions and weights

Flange (Antenna DN 80)



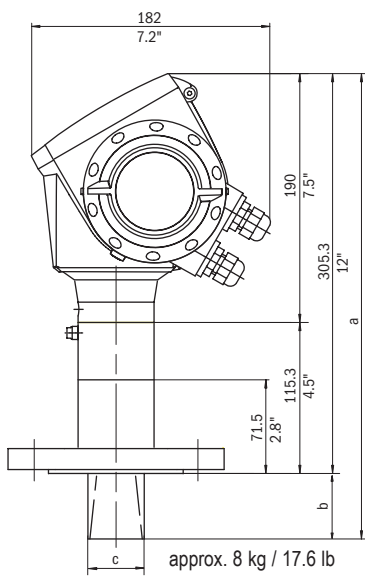
Antenna DN 80 with antenna extension



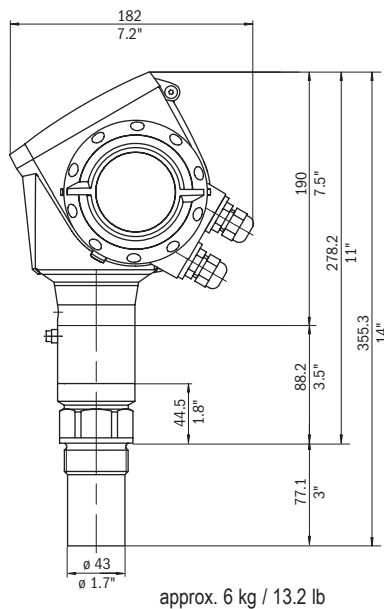
Note:
Cable glands are not delivered with the device.

Note:
Additional antenna extensions of 105 mm / 4.1" length are available.

Flange (Antenna DN 40/50)



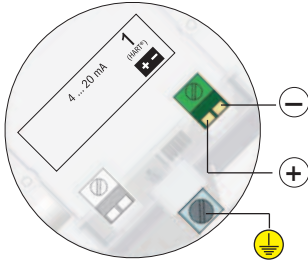
Thread



Antenna type	c mm / inch	b mm / inch	a mm / inch
Antenna DN 40	39 / 1.5	38.5 / 1.5	343.8 / 13.5
Antenna DN 50	43 / 1.7	50 / 2	355.3 / 14

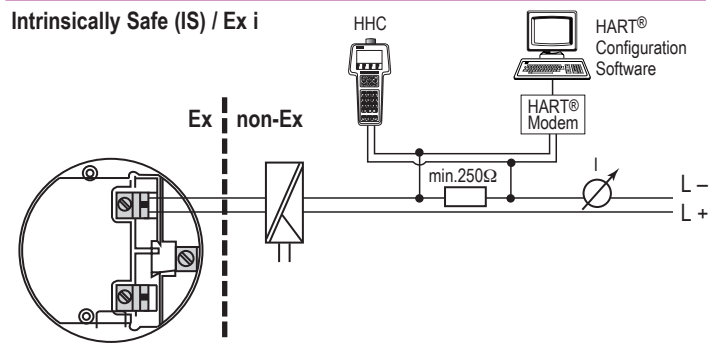
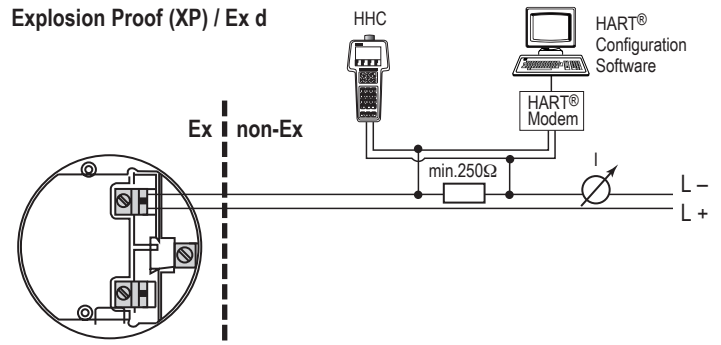
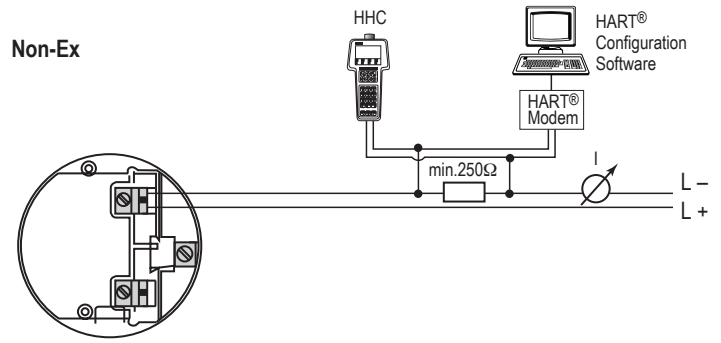
Dimensions in mm and inch

Electrical connection and wiring



Output 1
 4 ... 20 mA/HART
 or
 3.8 ... 20.5 mA/HART
 acc. to NAMUR NE 43

Note: Other options how to connect the HHC (Hand Held Communicator) and modem to the HART® loop are available.



State-of-the-art with PACTware

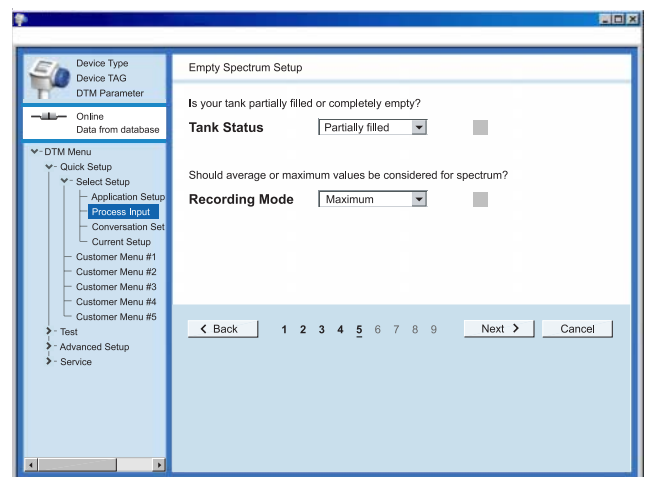
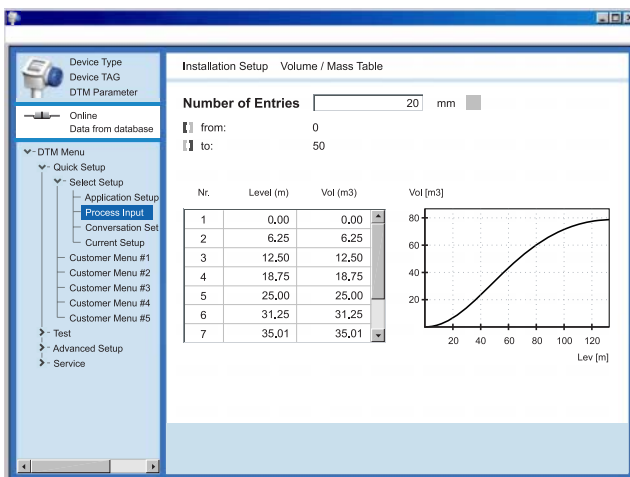
The VG7 is PACTware-ready. Each device is supplied ex-factory with the appropriate DTM.

A DTM (Device Type Manager) is a device driver making available the device functionality independent from the FIELDBUS protocol and providing a graphical user interface optimized for device operation and configuration.

Simple on-screen and intuitive setup procedure for devices without a display, or for setup from the Central Control Room. Summarized setup provides perfect control of initial input, and guarantees perfect results.

All features of PACTware are fully supported:

- Online device setup
- Displays measured values
- Records measured information during operation
- Shows status of device
- Gives stepwise setup with on-screen progress check
- Displays summary of setup selection for final supervision





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