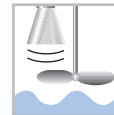


OPTIWAVE 7300 C

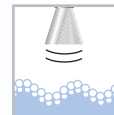
**Radar Level Meter
for distance, level and volume
of liquids, pastes and solids**

**Designed to satisfy better
than any other radar**

For all applications



Objects in tank



Foam



Agitated surface

**Setup-Wizard
easier than ever before**



Electromagnetic flowmeters
Variable area flowmeters
Mass flowmeters
Ultrasonic flowmeters
Vortex flowmeters
Flow controllers

Level measuring instruments

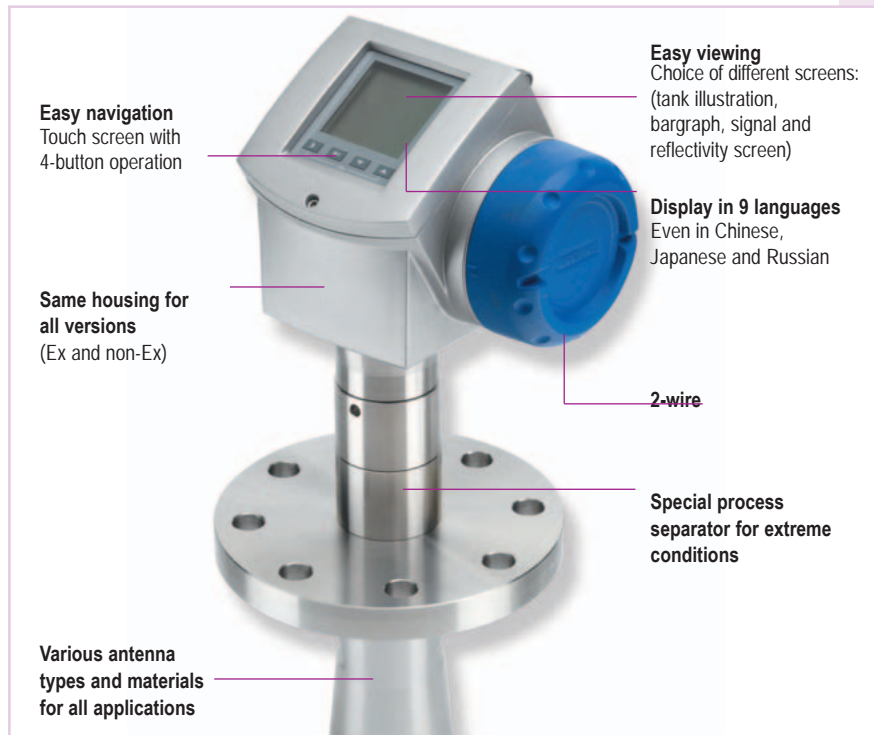
Pressure and temperature
Heat metering
Communications technology
Switches, counters, displays and recorders
Engineering systems & solutions



OPTIWAVE

works better than any radar ever before

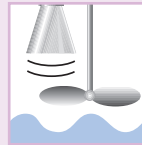
In contrast to earlier radar devices, the new OPTIWAVE with its new components and more advanced design solutions is able to operate over a larger bandwidth: This ensures a sharper resolution and higher accuracy. The higher signal dynamics of OPTIWAVE allow the detection of even the smallest level changes.



Designed to satisfy better than any other radar

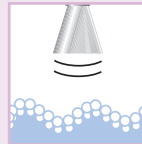
Objects in tank

Agitators and other objects such as struts, inlets, ladders, have less effect on signal reduction. The better signal is easier to evaluate and the results are more accurate and repeatable.



Foam

The better signal permits much clearer location of the product's true surface.



Agitated surface

The better signal production and the better PCB board characteristics allow the OPTIWAVE to determine the true level in the tank despite the agitated surface.



OPTIWAVE

makes level gauging easier than ever before

Wizard works wonders

Setting up a 2-wire level gauge couldn't be easier: Simply fit the gauge to the tank, wire it up and switch it on:

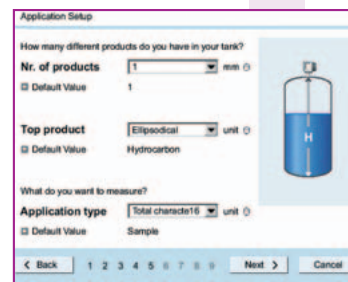
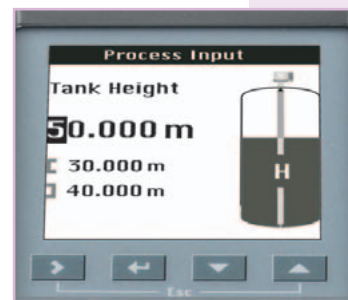
- Step 1** – OPTIWAVE tests itself to make sure its electronics are working perfectly.
- Step 2** – OPTIWAVE's Wizard walks you through a simple series of questions to define your tank and the product you want to measure.
- (Step 3)** – That's all you need. Your OPTIWAVE is already measuring.

Online help

Not certain what to do? You don't need a handbook. Simply wait 10 seconds, the help screen will appear and tell you what to do.

Process control

The easy-to-understand DTM screens make process setup, process analysis and also process control easier than with any other device.



Input

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

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

Application conditions

Temperature	Ambient temperature	-40...+175°F / -40...+80°C; EEx i: -40...+140°F / -40...+60°C
	Storage temperature	-40...+185°F / -40...+85°C
	Flange temperature	-40...+300°F / -40...+150°C (Ex: refer to relevant device's approval and temperature class)
Thermal shock resistance		100°C/min
Process conditions	Operating pressure	-14.5...580 psig / -1...40 bar; subject to process connection used and flange temperature
	Dielectric constant	≥ 1.8
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)
		*For corrosive and aggressive products coated antenna in PFA, silver, gold and platinum available.
	Process fitting	Stainless steel (1.4404 / 316L); Hastelloy C-22 (2.4602)
	Gaskets	Viton (-40...+300°F / -40...+150°C); Kalrez 6375 (-5 ...+300°F / -20...+150°C)
Process connection	Thread	G 1 1/2; 1 1/2 NPT
	Flange	1 1/2"...8" (150 lb / 300 lb) / DN 40...DN 150 (PN 40 / PN 16); 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; 1/2 NPT; G 1/2
Terminals		0.5...1.5 mm²

Human machine interface

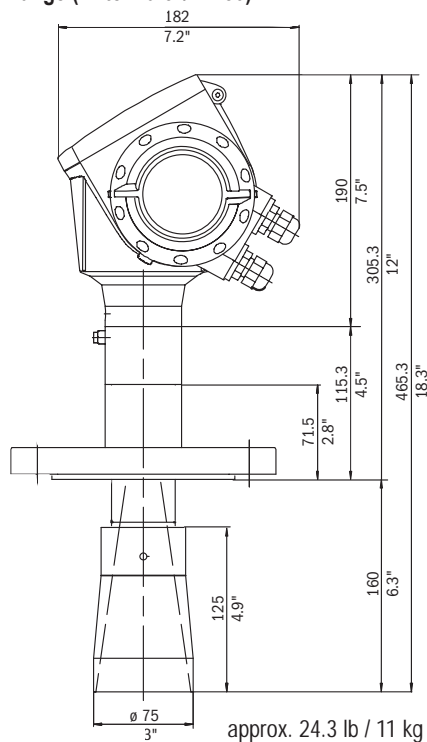
Display	9 lines, 160x160 pixels in 8-step grey scale with 4-button key pad
Operating languages	English (UK), German, French, Italian, Spanish, Portuguese, Japanese, Chinese (Mandarin), Russian

Approvals

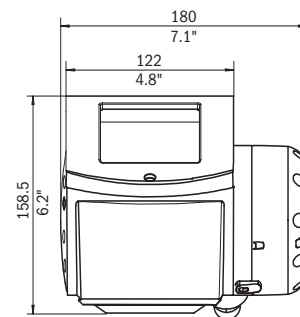
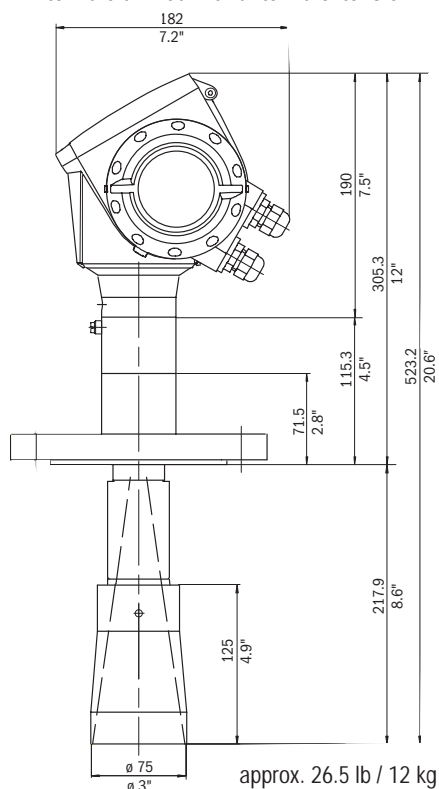
Overfill protection	WHG
ATEX	ATEX II G/D 1, 1/2, 2 EEx ia IIC T6...T1; ATEX II G/D 1/2, 2 EEx d ia IIC T6...T1
FM / CSA	XP / IS Class I, II, III Div. 1, NI Div. 2 Group A...G except CSA Group B...G
FM	Class I Zone 0 AEx d [ia] IIC
FM	Class I Zone 2 GR IIC
CSA	Class I Zone 0 Ex d [ia] IIC
FCC	FCC Part 15 for Horn antenna and only when device is installed within closed metal tanks as indicated in Certification filing (see Installation manual).

Dimensions and weights

Flange (Antenna 3"/DN 80)



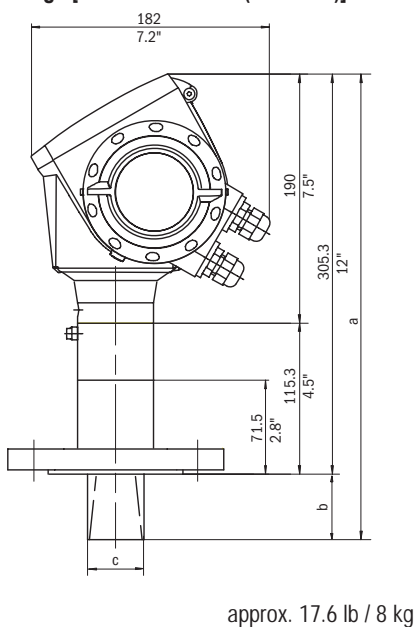
Antenna 3"/DN 80 with antenna extension



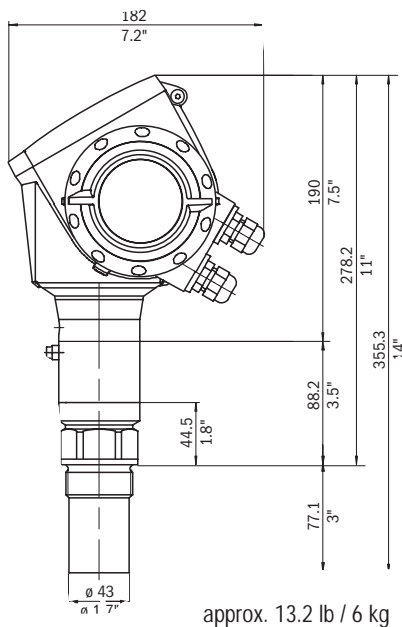
Note:

Cable glands are delivered with non-Ex, EEx i and EEx d approved devices. Non-Ex and EEx i fittings are plastic and EEx d fittings are metal. Non-Ex fittings are black and EEx i fittings are blue. The diameter of the outer sheath of the cable must be 0.2...0.5" or 6...12 mm. Cable glands for FM/CSA approved devices must be supplied by the customer.

Flange [Antenna 1 1/2" / 2" (DN 40/50)]



Thread



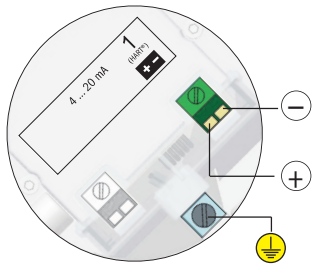
Note:

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

Antenna type	c inch / mm	b inch / mm	a inch / mm
Antenna 1 1/2"	1.5 / 39	1.5 / 38.5	13.5 / 343.8
Antenna 2"	1.7 / 43	2 / 50	14 / 355.3

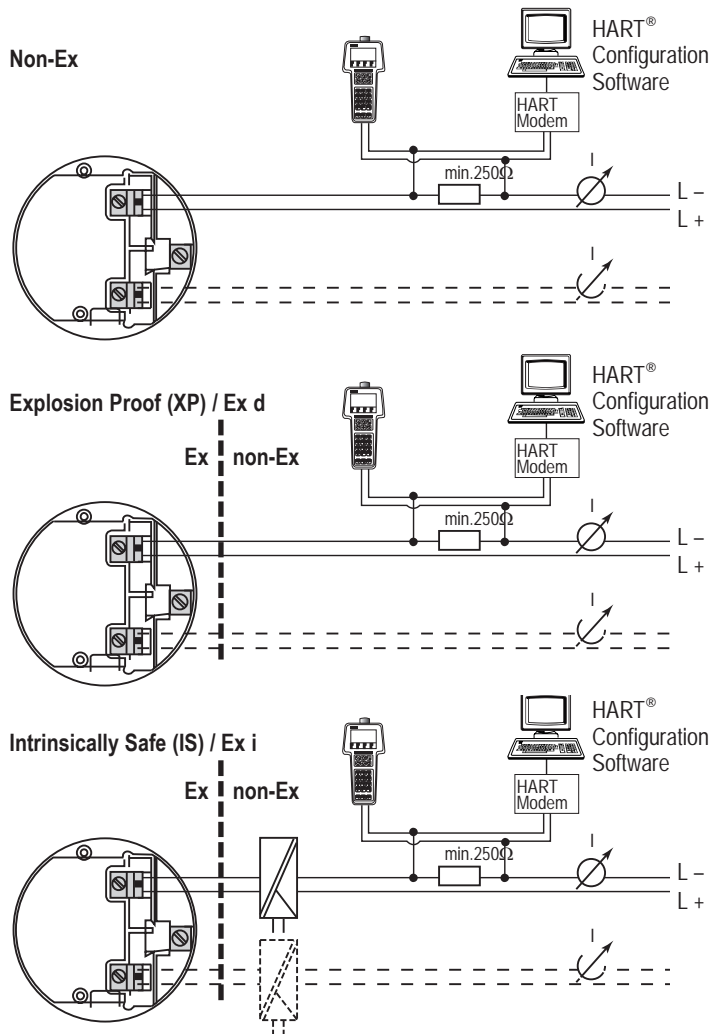
Dimensions in inch and mm

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 to connect the HHC (Hand Held Communicator) and modem to the HART® loop are available.

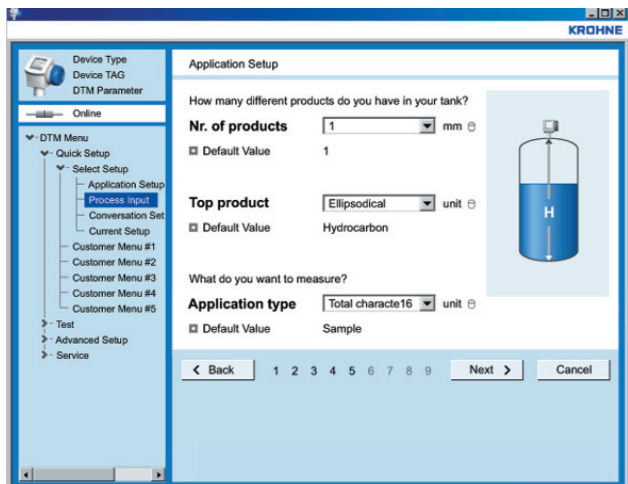


State-of-the-art with PACTware

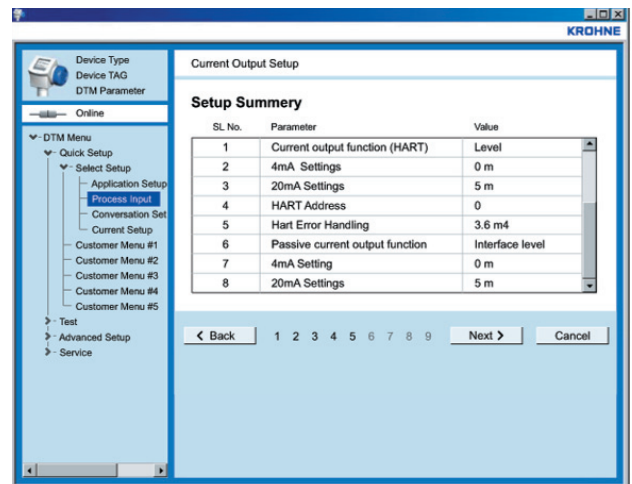
OPTIWAVE is PACTware-ready. Each device is supplied ex-factory with the appropriate DTM. A DTM (Device Type Manager) is a device driver making available the device functionality independent from the FIELDBUS protocol and providing a graphical user interface optimized for device operation and configuration. 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 a guarantee for perfect results.

All features of PACTware are fully supported:

- Online device setup
- Displays measured values
- Records measured information during operation
- Shows status of device



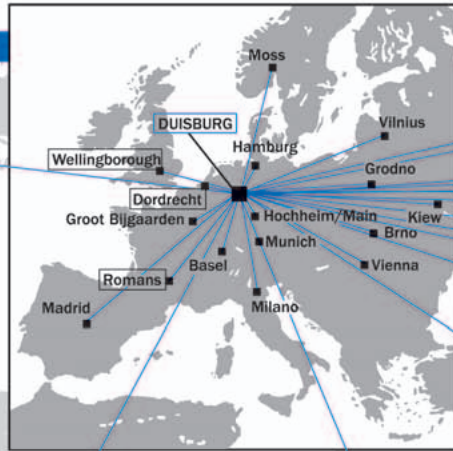
Gives stepwise setup with on-screen progress check



Displays summary of setup selection for final supervision







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