

### OPTISONIC 6300 F/...Ex Ultrasonic clamp-on flowmeter



Installation, assembly, start-up and maintenance may only be performed by appropriately trained personnel. Check the nameplate for correct operating conditions.



For use in hazardous areas, special codes and regulations are applicable. Instruments must not be connected to power supply before reading instructions described in the supplementary manual.



The responsibility as to the suitability, intended use and corrosion resistance of the used materials against the measured fluid of this device rests solely with the operator.



For complete documentation (manuals, supplementary manuals, data sheets and certificates) please refer to:  
[www.krohne.com/Downloads](http://www.krohne.com/Downloads)



#### Special conditions to be observed

- For ambient and process temperatures, specific product and electrical data, see Ex manual or certificate
- For dimensions and details of the flameproof joints, the manufacturer shall be contacted
- The tensile strength of the special fasteners is at least 700 N/mm<sup>2</sup> (property class A2-70 / A4-70)
- The protection class of the signal converter enclosure is according EN 60529: IP65...68
- All connection cables are fixed and installed correctly so adequate protection against possible damage is guaranteed
- Only for connection to a separately certified UFC 300 F/...Ex flow converter
- The instructions provided with the product shall be followed in detail to assure safe operation

Ex ► Type Examination Certificate: KIWA 17ATEX 0034 X / KIWA 18ATEX0007 X

#### General

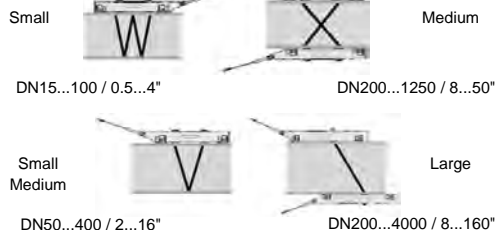


Ta = -40...+70°C / -40...+158°F  
Tp = -40...+200°C / -40...+392°F

Maximum ambient and process temperatures are depending on version (e.g liner material, DN size), temperature and protection class and maximum surface temperature of sensor.



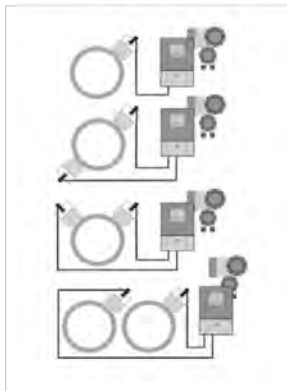
#### Diameter range and rail versions



Preferred measuring modes

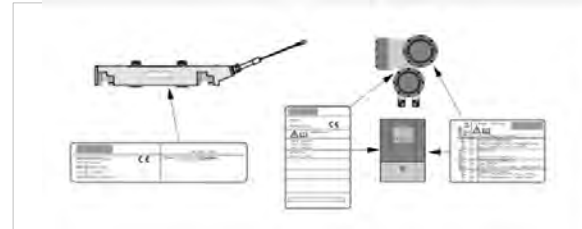
For initial set up, we strongly recommend the use of the relevant manuals in addition!

#### General



#### System Configuration

#### Device nameplate



Check the device nameplate to ensure that the device is delivered according to your order.



### 1 Electrical connection

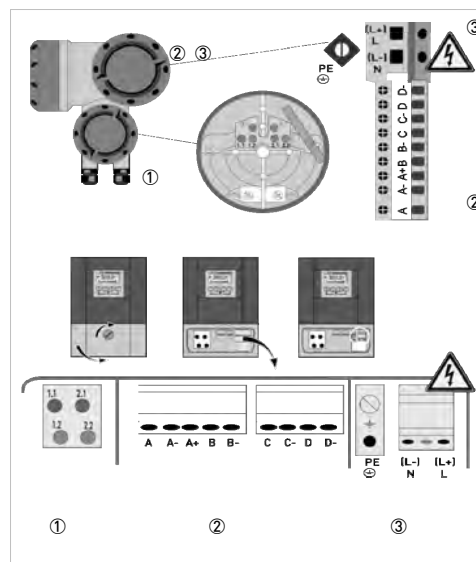


All work on the electrical connections may only be carried out with the power disconnected. Take note of the voltage data on the nameplate! Observe the national regulations for electrical installations!

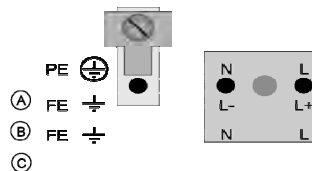


Observe without fail the local occupational health and safety regulations. Any work done on the electrical components of the measuring device may only be carried out by properly trained specialists.

#### Electrical connections signal converter



#### Power supply - grounding



- ① 100...230VAC (-15% / +10%), 22VA
- ② 24VDC (-55% / +30%), 12W
- ③ 24VAC/DC (AC: -15% / +10%; DC: -25% / +30%), 22VA or 12W



The device must be grounded in accordance with regulations in order to protect personnel against electric shocks.

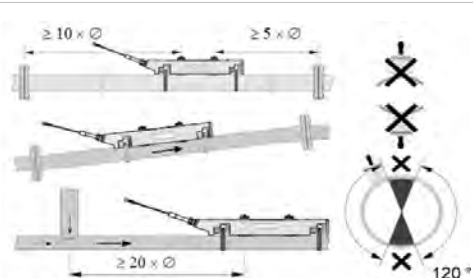


For devices used in hazardous areas, additional safety notes apply; please refer to the Ex documentation.

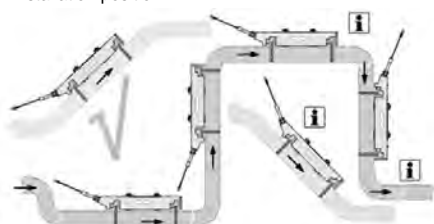
Refer to the manual for connection of Ex (i) acc. to NAMUR

- ① Sensor cable connections
- ② I/O connections
- ③ Mains supply connection

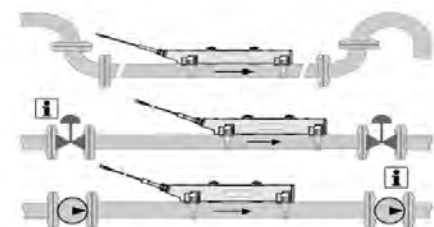
## 2 Installation



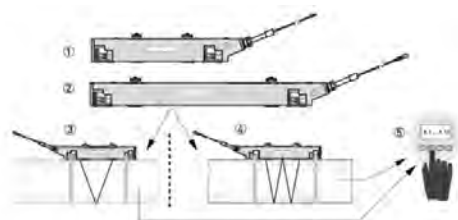
Installation position



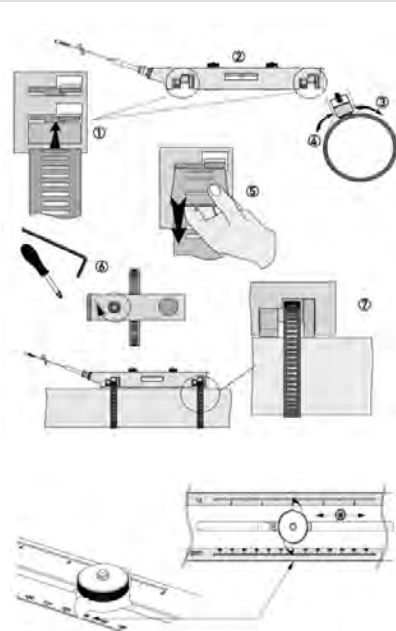
Pump, control valve - open feed / discharge



Check the manual for more details on installation options



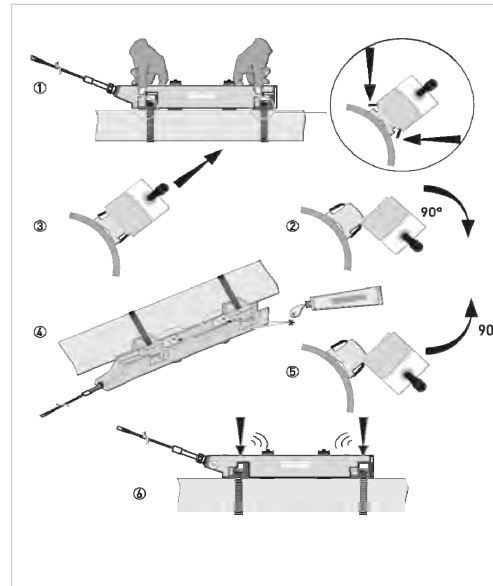
### General installation of the rails



### Change the position of the transducer

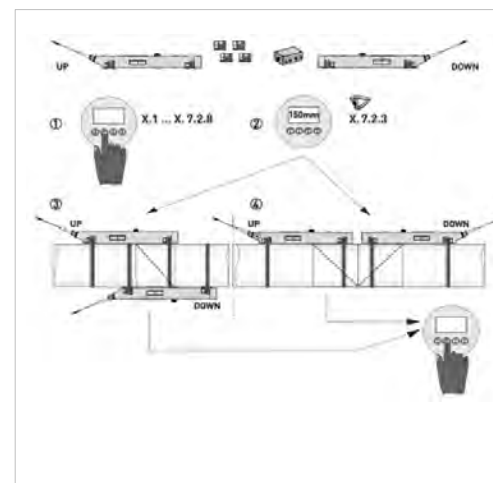
- ① - ② Choose sensor size
- ③ - ④ Choose the applicable measuring mode
- ⑤ Go through menu X1...X5

### Greasing the transducer surfaces



Check the OPTISONIC 6300 manual for more details on installation options (e.g. Large version installation or applying solid pads)

### General configuration instructions



### Go through menu X1...X5

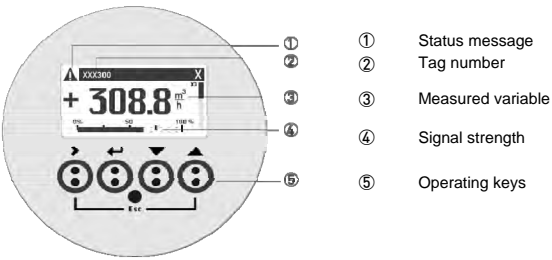
- ① Enter the values for the installation menu, X1...X7.2.8
- ② Read the advised mounting distance in menu X7.2.3
- ③ The advised distance (menu X7.2.3) must be > 246 mm / 9.7" for V-mode  
Follow up with menu X7.2.4...X7.2.8  
Run the optimization loop
- Repeat if necessary.
- ④ Adjust settings in menu X5 / X7 and finish with X7.2.9...7.2.11

3 Installation menu X

Measuring mode			
	Select menu	Select Submenu	Functions
Press > 2.5 s			
X Installation	X1 language	X2 GDC IR interface	
		X3 units	
		X3.1 size	
		X3.2 volume flow	
		X3.3 free unit	
		X3.4 [m3/s]*factor	
		X3.5 velocity	
		X3.6 density	
		X3.7 temperature	
		X4 pipe configuration	
	select	X4.1 number of pipes	
		X4.2 number of paths	
	X5 pipe data	X5.2 diameter	
		X5.3 pipe material	
		X5.4 VoS pipe material	
		X5.5 wall thickness	
		X5.6 liner material	
		X5.7 velocity of sound	
		X5.8 liner thickness	
		X5.9 fluid	
		X5.10 VoS fluid	
		X5.11 density	
		X5.12 glycol % vol.	
		X5.13 dynamic viscosity	
		X5.14 pipe temperature	
		X6 if pipe=2 at X4.1 X6._: identical to X5._	
	X7 install transd. 1	X7.1 transducer set	
		X7.2.1 calibration number	
		X7.2.2 number of traverses	
		X7.2.3 mount transducers at	
		X7.2.4 act. flow, prelim.	
		X7.2.5 check signal	
		X7.2.6 actual distance	
		X7.2.7 optimize distance	
		X7.2.8 act.flow, prelim.	
		X7.2.9 path ready?	
		X7.2.11 end installation	
		Ready? or next transducer? / install transd. 2 /	
		① X8._ is identical to X7._	
	X9 transducer sets	X9.1 Ta serial no.	
		X9.2 Ta calibration no.	
		X9.3 Tb serial no.	
		X9.4 Tb calibration no.	
		X9.5 Tc serial no.	
		X9.6 Tc calibration no.	

① shows when configuring a 2 pipe installation

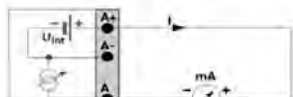
4 Quick Setup



Measuring mode			
	Select menu	Select Submenu	Functions
Press > 2.5 s			
A Quick Setup	A1 Language	A2 Tag	
		A3 Reset	
		A3.1 reset errors	
		A3.2 totalizer 1	
		A3.3 totalizer 2	
		A3.4 totalizer 3	
	A4 Analog Outputs	A4.1 measurement	
		A4.2 unit	
		A4.3 range	
		A4.4 low flow cutoff	
		A4.5 time constant	
	A5 Digital Outputs	A5.1 measurement	
		A5.2 pulse value unit	
		A5.1 value p. pulse	
		A5.1 low flow cutoff	
		A6GDC IR interface	

## Connection diagram

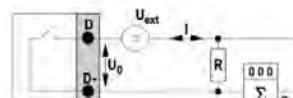
⚠ Observe connection polarity



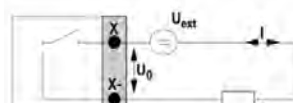
Current output active Ia (basic I/O)



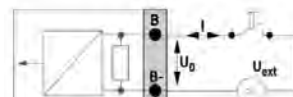
Current output passive Ip (basic I/O)



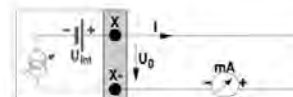
Pulse/frequency output passive Pp (basic I/O)



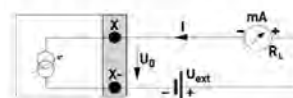
Status output/limit switch passive Sp (basic I/O)



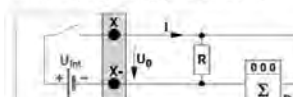
Control input passive Cp (basic I/O)



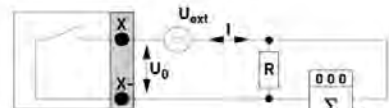
Current output active Ia (modular/Ex I/O)



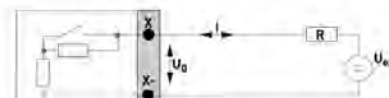
Current output passive Ip (modular/Ex I/O)



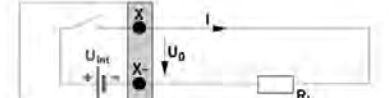
Pulse/frequency output active Pa (modular I/O)



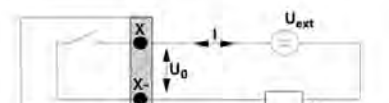
Pulse/frequency output passive Pp (modular I/O)



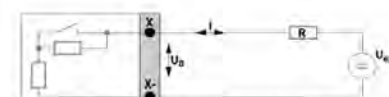
Pulse/frequency output passive PN, NAMUR (modular I/O)



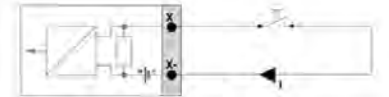
Status output/limit switch active Sa (modular I/O)



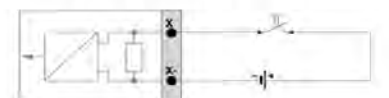
Status output/limit switch passive Sp (modular I/O)



Status output/limit switch SN, NAMUR (modular I/O)



Control input active Ca (modular I/O)



Control input passive Cp (modular/Ex I/O)



Control input active CN to NAMUR (modular I/O)

## Contact

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