

WATERFLUX 3070

Battery powered electromagnetic water meter

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

This instrument complies with requirements of Low Voltage Directive. Instruments must not be connected to power supply before reading instructions described in the 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.

This device cannot be used in Hazardous Locations or Explosive Gas Atmospheres!

Lithium batteries are primary power sources with high energy content. If mistreated, they may present a potential risk. The lithium batteries supplied, are non-rechargeable. Do NOT recharge the empty lithium batteries. Dispose of them according the local legislation in your country.

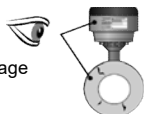
To prevent damage to the Rilsan® coating, the WATERFLUX 3000 flow sensor must be installed carefully. Take precautions during transport and installation to protect the in- and outlet of the flow sensor.

General

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



Check for damage



Device nameplate (example)

KROHNE	Altimeter, Dordrecht NL - 3313 LC12	M 16 0122 NSF-61-G	
WATERFLUX 3070 C P&T		Battery powered 3.6 V DC / UPS 4.2 V DC (UPS : Uninterruptable Power Supply)	
S/N: Axx xxxxxx Manufactured: 20xx		ERX.X.X Tamb: -25°C / +55°C	
GK070L: 2.345	P&T sensor data P: 0,5...16 bar T: -5...+70°C		
GK070H: 1.234	www.krohne.com		
DN 80 mm/ 3 inch	Wetted materials: RI 304	Approval no.: T10201	
IP65	MAP: xx bar	Environmental class: M2 / E2	
[tag: xxxxxxxxxxxxxxxxxxxxxxxxxxxx]		Q3 50 m3/h ; R80 ; MAP= 24bar; T50	

Device version(s)



Compact version



Remote version

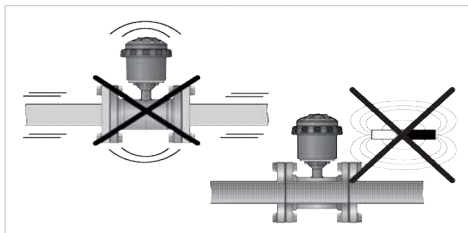
Transport

- No special requirements
- Use the original packing of the device(s) when transporting to the installation location.

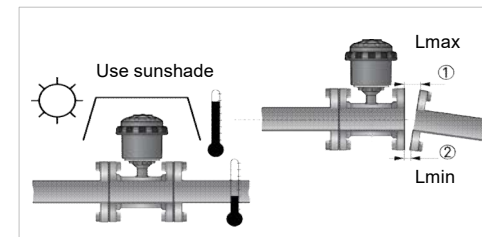


1 Installation

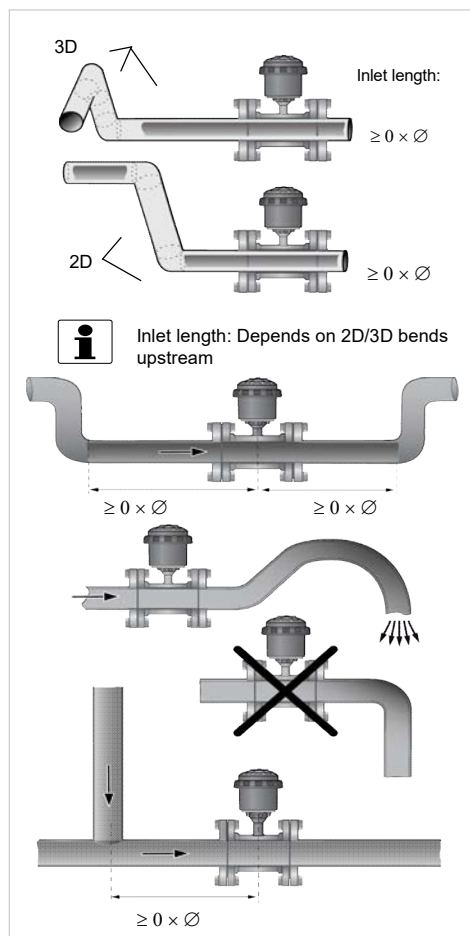
General installation requirements



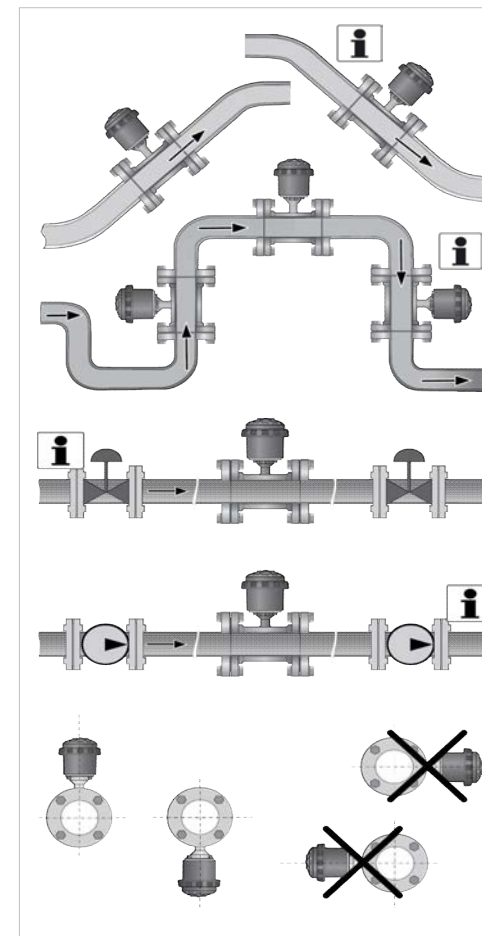
Check the manual for more details on installation options.



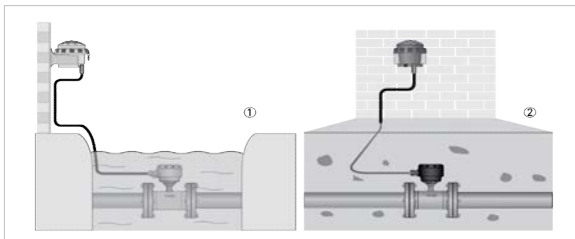
Avoid vibration / Electromagnetic fields



$L_{max} - L_{min} < 0.5 \text{ mm} / 0.02''$

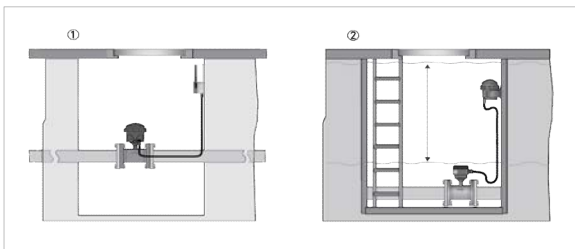


Installation in a metering pit and subsurface applications



- ① Submersible
- ② Buried

Examples of flooded and buried application

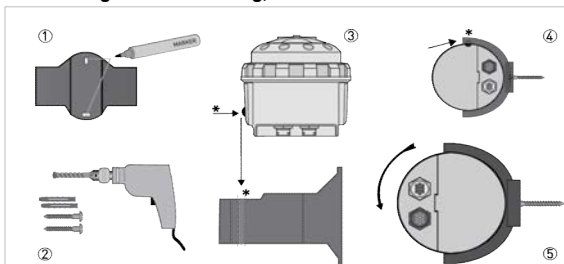


- ① Periodic submersion
- ② Continuous submersion

Examples of installation in measuring pit

Mounting the field housing, remote version

① → ⑤



Mark the fixation points, drill the holes and mount the wall holder. Do not exceed a tightening torque of 2 Nm / 1.5 lb-ft.

Slide the IP68 remote version housing into the holder as shown. Make sure that the positioning cam * is placed in the guiding.

Turn the housing 180° counter clockwise. Make sure that the holder snaps into the lock of the wall holder.

2 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!

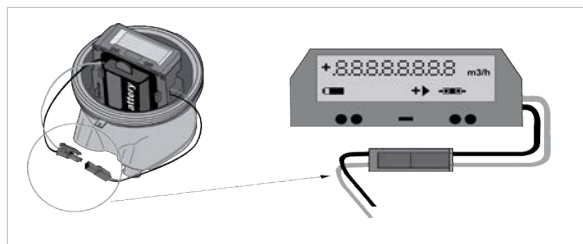
Electrical connection is carried out in conformity with the VDE 0100 directive "Regulations for electrical power installations with line voltages up to 1000 V" or equivalent national regulations.



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.



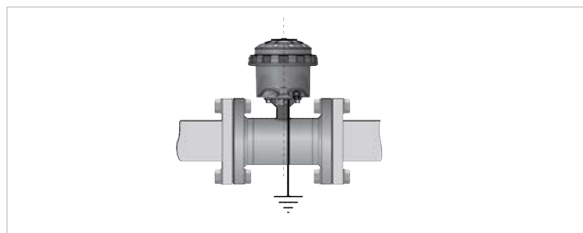
Connecting the internal battery



Please connect the battery before first use. The signal converter is delivered with a disconnected battery. Make sure that the battery cable is not jammed by the cover.



For transport purposes signal converters which are verified to MI-001 or OIML R49 have also disconnected batteries. Please connect battery before placing the local utility seal.



Grounding without grounding rings. The flow sensor is equipped with a reference electrode.

2 Electrical connection

Cable overview



Make sure the device functions properly, always use the signal cables included in the delivery



IP68 Cable versions

I/O version	KROHNE FlexPower cable	PIN
Modbus cable	N	4
Pulse cable	N	8
KGA 42	N	8
Modbus cable	Y	10
Pulse cable	Y	8
KGA 42	Y	8

Electrical values :

Pulse output passive (2 x) : $f \leq 100$ Hz; $I \leq 10$ mA; $U: 2.7...24$ VDC ($P \leq 100$ mW)

Status output passive (2 x) : ≤ 10 mA; $U: 2.7...24$ VDC ($P \leq 100$ mW)

Standard flow sensor cable

Wire colour	Terminal	Function
Brown	1	Reference electrode
White	2	Standard electrode signal
Violet	3	Standard electrode signal
Blue	7	Field current
Green	8	Field current
Yellow	9	No function
Drain wires	Screws	Shielding

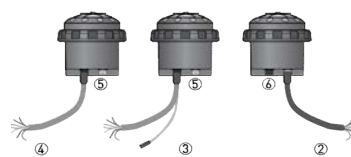
Flow sensor cable with integrated P&I option

Wire colour	Contact on connector	Terminal	Function
Brown	H	1	Reference electrode/P&T sensor
White	D	4	P&T sensor
Grey	F	5	P&T sensor
Pink	B	6	P&T sensor
Blue	A	7	Field current
Green	G	8	Field current
White/White	C	2	Standard electrode signal
White/Red	E	3	Standard electrode signal
Drain wires	Housing	Screws	Shielding



The standard WSC2 flow sensor cable (double shielded), includes both electrode and field current leads and has a maximum length of 25 m / 82 ft. (other lengths on request).

Electrical connections signal converter : Compact version / Remote version



Remote version

Compact version

- ① Color coded leads of the output cable
- ② Color coded leads of flow sensor cable
- ③ Y - cable with additional power cable
- ④ I/O cable (pulse, modbus)
- ⑤ Stainless steel flow sensor cable connection
- ⑥ I/O connections

Pulse output cable

Wire colour	Contact on connector	Function
Yellow	A	Status output 1 or threshold for P or T or pulse output C
White	G	Status output 1 or threshold for P or T
Blue	H	Ground
Brown	B	Pulse output A
Green	F	Pulse output B
Pink	C	External battery +
Grey	E	External battery -

Modbus cable

Wire colour	Contact on connector	Function
Yellow	1	Down link wire B Signal B (D1+) ←
Grey	1	Up link wire B Signal B (D1-) →
Pink	2	Up link wire A Signal A (D0-) →
Green	2	Down link wire A Signal A (D0-) ←
White	3	Ground
Brown	-	-
Shielding	Earth	



Refer to the manual for the description of the combined Y-cables (power/pulse output or power/modbus connections).

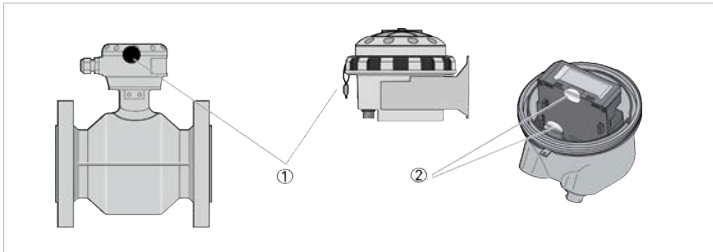
For proper use and installation, it is recommended to follow the advised color coded wire connections in the table above. A 120 Ω line terminator is required when the WATERFLUX 3070 signal converter is the last device in line and/or is part of the bus connection.

Specific information is described in the supplementary Modbus manual, available on the manufacturer website.

Locations of the metrological seals



Do not break the metrological seals if the meter has been verified to MID Annex III (MI-001) or OIML R49 and has received metrological sealing



- ① Metrological seals on the outside of the flow sensor/ signal converter (remote) housing
- ② Metrological seals on the inside of the signal converter (remote) housing



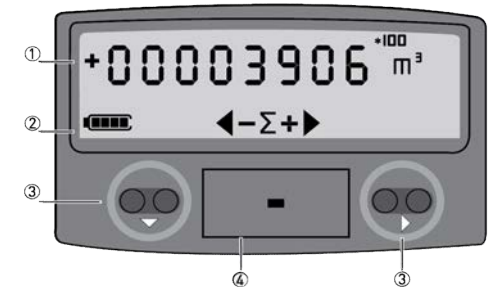
Metrological seals on the compact version and cable connection

3 Quick Setup



Device display

- ① Counter value or flow rate
- ② Status information including battery status, flow direction and counter settings
- ③ Optical keys \blacktriangledown and \blacktriangleright to navigate the menu and for display options
- ④ Reset button only accessible after removing the housing



Display symbols for flow direction and counter settings

Flow direction is from left to right (default)	Flow direction is from right to left	Description
$\blacktriangleleft - \Sigma + \blacktriangleright$	$\blacktriangleleft + \Sigma - \blacktriangleright$	Sum counter (default)
$\Sigma + \blacktriangleright$	$\blacktriangleleft + \Sigma$	Forward counter
$\blacktriangleleft - \Sigma$	$\Sigma - \blacktriangleright$	Reverse counter
$+ \blacktriangleright$	$\blacktriangleleft +$	Positive flow rate
$\blacktriangleleft -$	$- \blacktriangleright$	Negative flow rate

Download documents/software

Scan the code on the nameplate or scan the following code and enter the serial number.



Watch ICV videos

- Unboxing
- Installation
- Commissioning
- Verification



Contact

Select your country from the region / language selector to view your local KROHNE contact details on:

www.krohne.com