MAG X2 First Installation Guide

arkon flow systems

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First installation

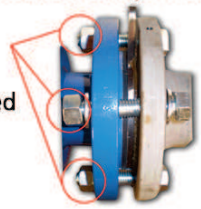
MAG X2

1 SENSOR SOAKING

Flowmeters can show unstable readings during the first 2-3 days after installation This change, in effect, affects reading accuracy. Simply by keeping the meter wet, this problem solves itself within 2-3 days and no other action is required at all.

Soaking of the sensor under operational conditions with a wetted full pipe

Nuts and bolts must be tightened correctly



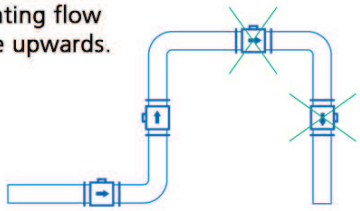
2 SENSOR INSTALLATION

Electromagnetic flowmeters only work correctly under certain determined conditions. For our right to guarantee the product, all those conditions have to be met in all applications. Those conditions are achieved by the correct installation of the sensor.

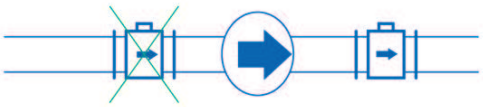
Flowmeter sensor must always remain full of liquid.

For horizontal mounting locate the sensor in a low section of the pipe.

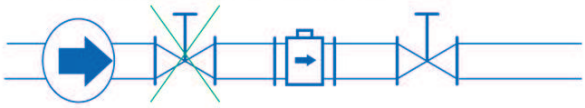
For vertical mounting flow direction must be upwards.



For installations with pumps, never install the sensor on the suction side of the pump.

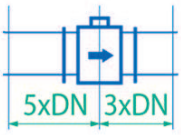


For installations with valves, correct location for the valve is downstream of a sensor.

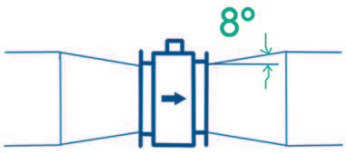


Laminar flow is required to guarantee the accuracy of the readings.

Sensor must be installed in a section of straight pipe with minimum 5 times the pipe diameter upstream and 3 times downstream.



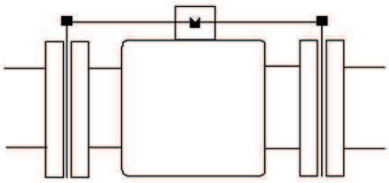
When using pipe reducers, they have to be installed before and after the straight pipe section. The angle of the slope of the reducer should not exceed 8°.

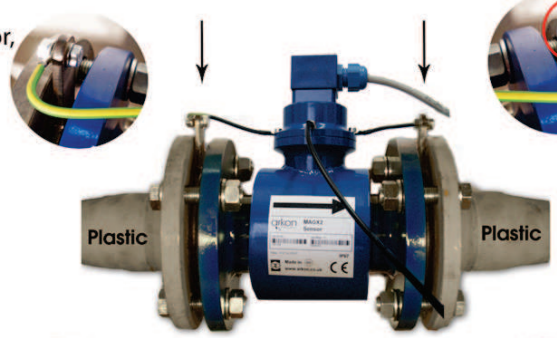


3 GROUNDING

a) PLASTIC PIPE (Grounding with earthing rings)

Ensure continuity of earth between sensor, ring, pipe and liquid





Washers must be used for earthing ring installations

You must use a conductor with a minimum cross-section of 1,5 mm of Copper wire for all grounding.

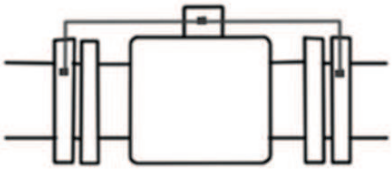
Nuts and bolts must be tightened using a spanner. Finger tight has no effect

Earthing rings must be used for plastic pipe installation

Remember to connect the main grounding cable to the sensor neck

! Electrical installation should only be done by a qualified person. Standard safety regulations for hazardous electrical installations have to be respected.

b) CONDUCTIVE PIPE (Grounding without earthing rings)

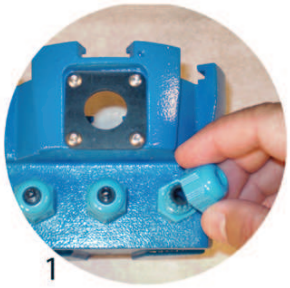


Measured medium must be in contact with ground through earthing ring or wetted internal conductive pipes of pipework.Contact point must be properly cleaned from rust, paint, etc.

See also the installation/operational manual

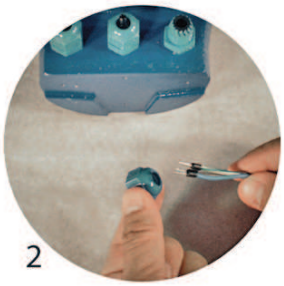
4 CABLE CONNECTION

a) Connection of power supply



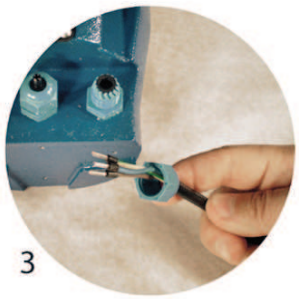
1

Unscrew blue cable gland



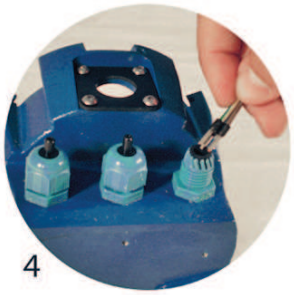
2

Pass the cable through screw female part of the cable gland



3

a) You must use a cable with a round cross-section
b) You must use a cable with 3 conductors (twin and earth)



4

Pull the cable through the cable gland by the insulation

5

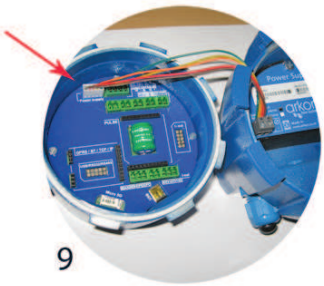
The overall insulation of the cable must be inside the housing to guarantee proper sealing of the cable gland

6

Screw the female part to cable gland

The female part must be properly tightened with a spanner or similar

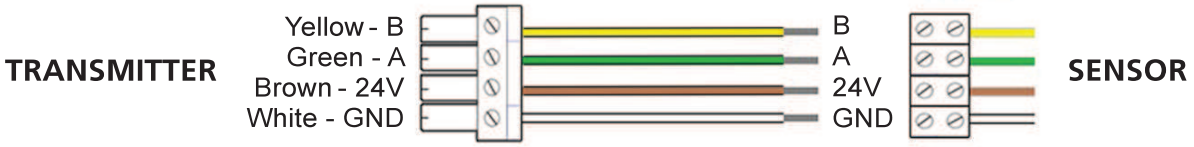
All three power supply conducts must be properly tightened



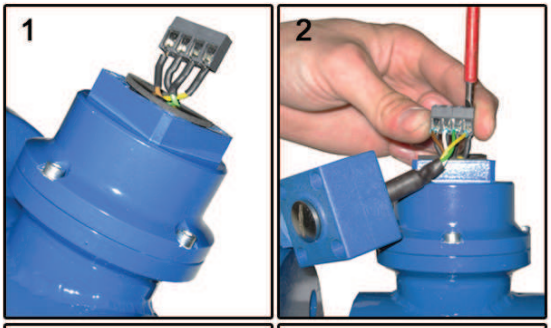
Warning: connection between the power supply module and the motherboard is protected with a lock

In case of IP68 Transmitter please see section 2.7. in the MAGX2 User Guide.

b) Connection of sensor

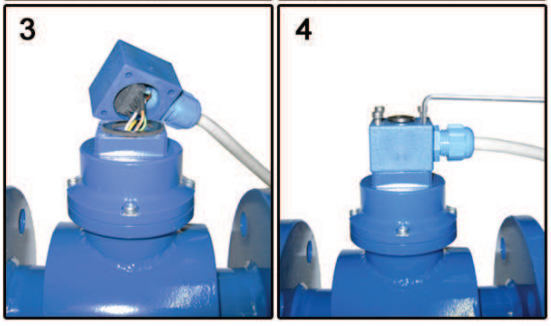


Preparing connections



Connecting cables

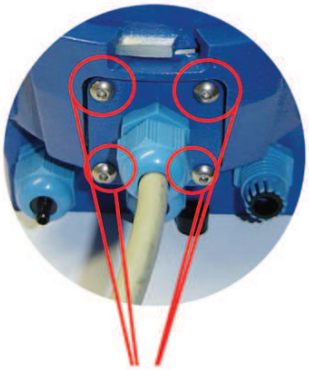
Close the terminal box



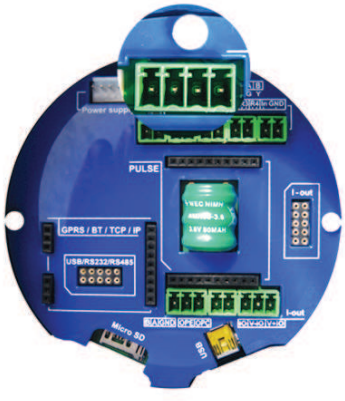
Tightly secure the terminal box

In case of IP68 Transmitter please see section 2.7. in the MAGX2 User Guide.

Transmitter part

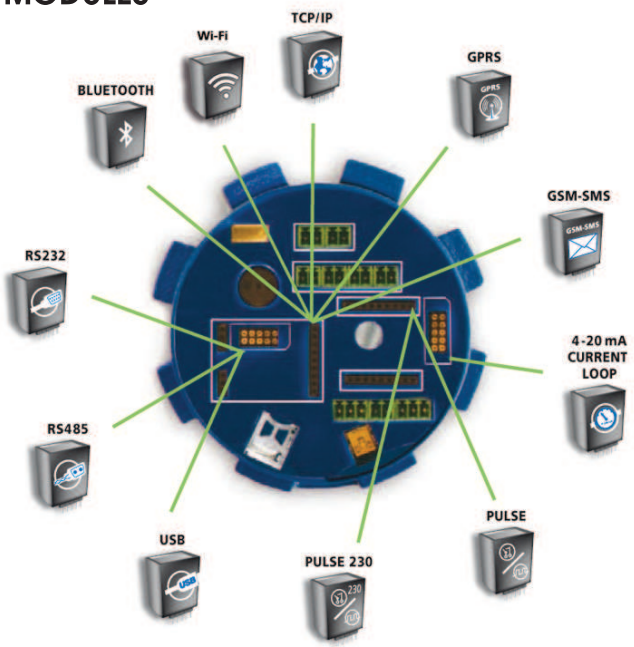


All connections must be properly tightened



Connection to motherboard

5 INSTALLATION OF MODULES

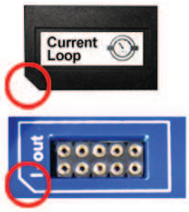


Each module has its own slot in motherboard

Example of installation: 4-20mA Current Loop Module

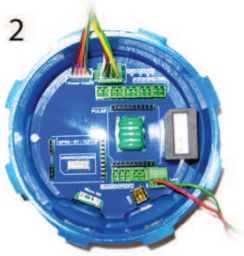
Each module has visual lock

1



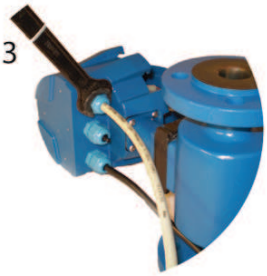
Correct module installation

2



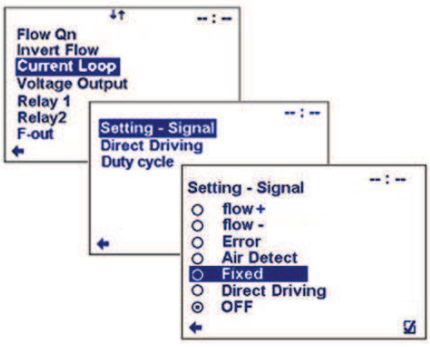
Cable connection

3



Cable connection to the module

4



Setup in user menu, current loop and confirm ☑

Go to setting signal and confirm ☑

Go to fixed to make verification (10mA), and confirm ☑

5

If 4-20mA Current Loop module is connected correctly, you can measure ~10mA on Output

6 CABLE, SD CARD AND ANTENNA CONNECTION

Connection to PC by cable and SD card connection

Unscrew left and right blind ports

For connecting the cable to the transmitter use the left blind port

For connecting SD card to the transmitter use the right blind port

Connection of antenna (for Bluetooth, GPRS/GSM module)

Unscrew the blind port

Screw the antenna and connect antenna to module

Connection to PC via RS232 module

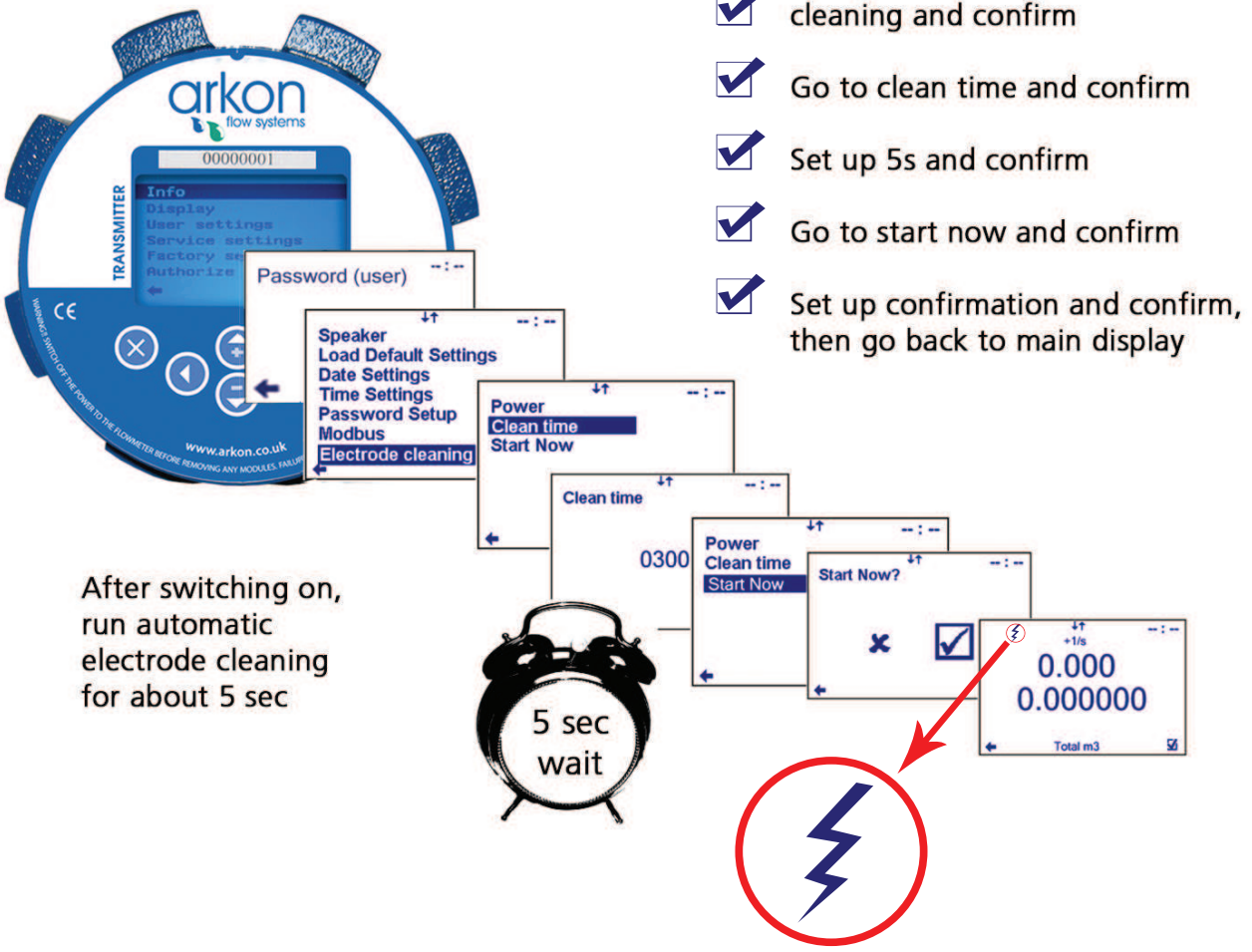
Connect cable to PC to serial RS232 communication port

Connection to PC via USB module

Connect transmitter to PC with standard USB cable

7 THE FIRST POWERING UP OF THE FLOWMETER

After switching on the transmitter the display should appear like this



- ☑ Set up in user menu-electrode cleaning and confirm
- ☑ Go to clean time and confirm
- ☑ Set up 5s and confirm
- ☑ Go to start now and confirm
- ☑ Set up confirmation and confirm, then go back to main display

After switching on, run automatic electrode cleaning for about 5 sec

Contact Support

Information required:
Serial number of the flowmeter, FW version, SW version, fault description, photos of installation (if applicable).

Technical support: support@arkon.co.uk
Windows Live Messenger: support@arkon.co.uk
Telephone: +420 543 214 822

ISO 9001 BUREAU VERITAS Certification

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Version 07/2018

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