

# MAGE1

## First Installation Guide



### Arkon Flow Systems

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Technical support: [support@arkon.co.uk](mailto:support@arkon.co.uk)

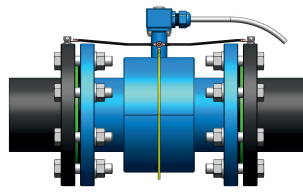
[www.arkon.co.uk](http://www.arkon.co.uk)



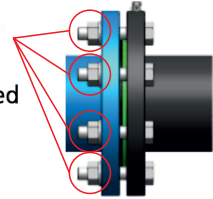
## 1 SENSOR SOAKING

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

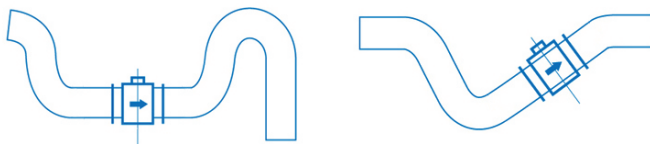


## 2 SENSOR INSTALLATION

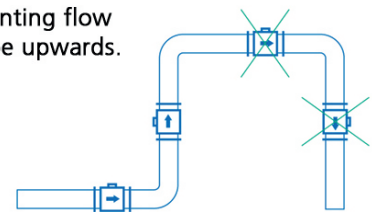
Electromagnetic flowmeters only work correctly under certain determined conditions. For our right to guarantee the product, all those conditions have to be met in all applications. Those conditions are achieved by the correct installation of the sensor.

**Flowmeter sensor must always remain full of liquid.**

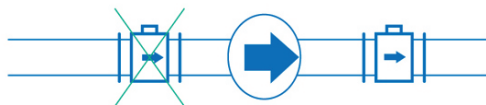
For horizontal mounting locate the sensor in a low section of the pipe.



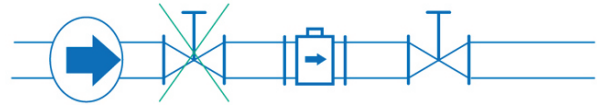
For vertical mounting flow direction must be upwards.



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

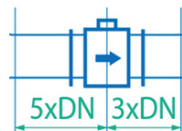


For installations with valves, correct location for the valve is downstream of a sensor.

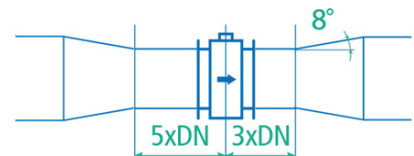


**Laminar flow is required to guarantee the accuracy of the readings.**

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



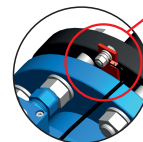
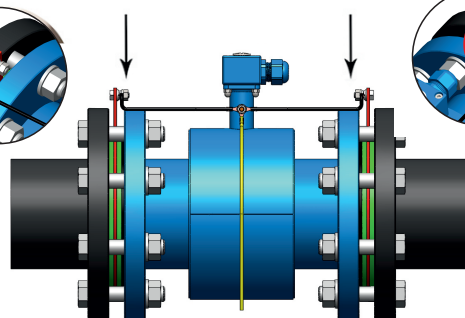
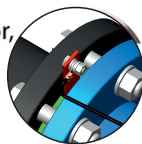
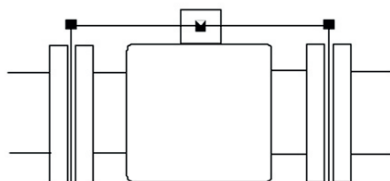
When using pipe reducers, they have to be installed before and after the straight pipe section. The angle of the slope of the reducer should not exceed 8°.



## 3 GROUNDING

### a) NON-CONDUCTIVE PIPE (Grounding with earthing rings)

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

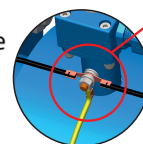


Washers must be used for earthing ring installations  
You must use a conductor with a minimum cross-section of 1,5 mm of Copper wire for all grounding.

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



Earthing rings must be used for plastic pipe installation



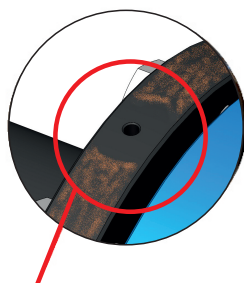
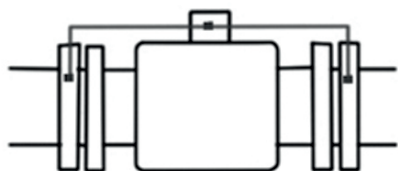
Remember to earth the cable  
Grounding of the neck



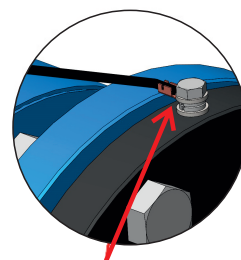
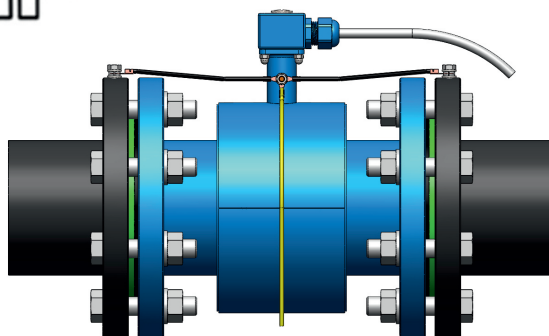
Electrical installation should only be done by a qualified person. Standard safety regulations for hazardous electrical installations have to be respected.



## b) CONDUCTIVE PIPE (Grounding without earthing rings)



Contact point must be properly cleaned from rust, paint, etc.



See also the installation/operational manual

## 4 POWER SUPPLY

The voltage power supply range is 9 - 35 VDC.

Maximum power consumption is 1,3W.

Connection to the unit is done via CA6 connector - a part of the delivery - standard 3m.

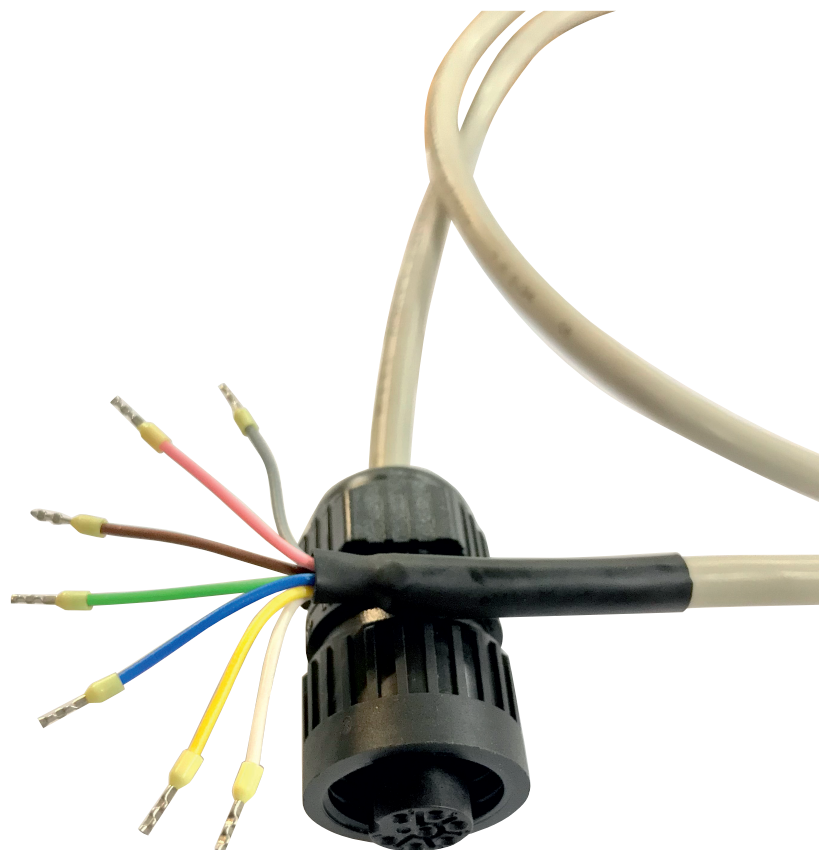
Maximum cable length is 20mts.

The power supply input is protected against reverse polarity.

Colour coding:

**Brown ... +U**

**White ... GND**





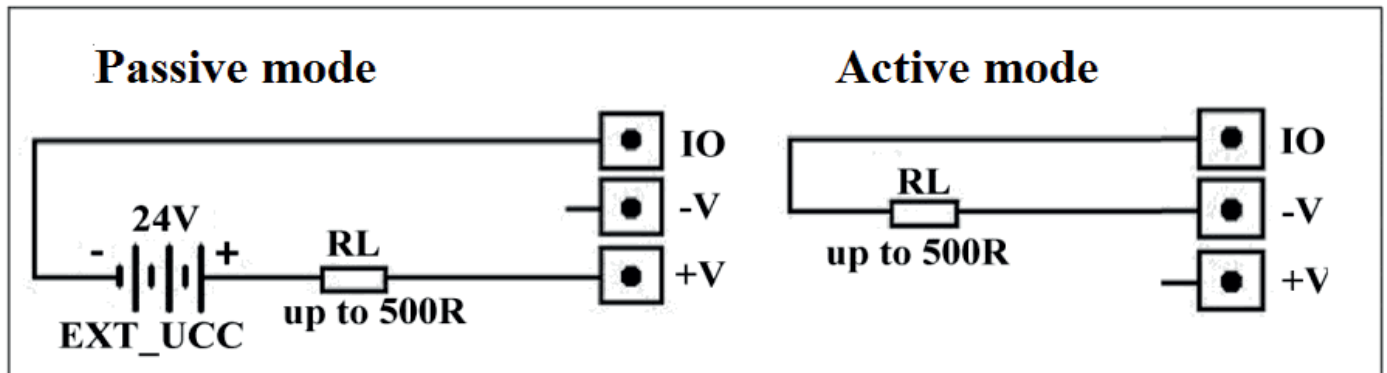
## 5 4-20mA OUTPUT

MAGE1 is equipped with embedded 4-20mA current loop output signal proportional to actual flow.

Gray ... I/O

Blue ... -V

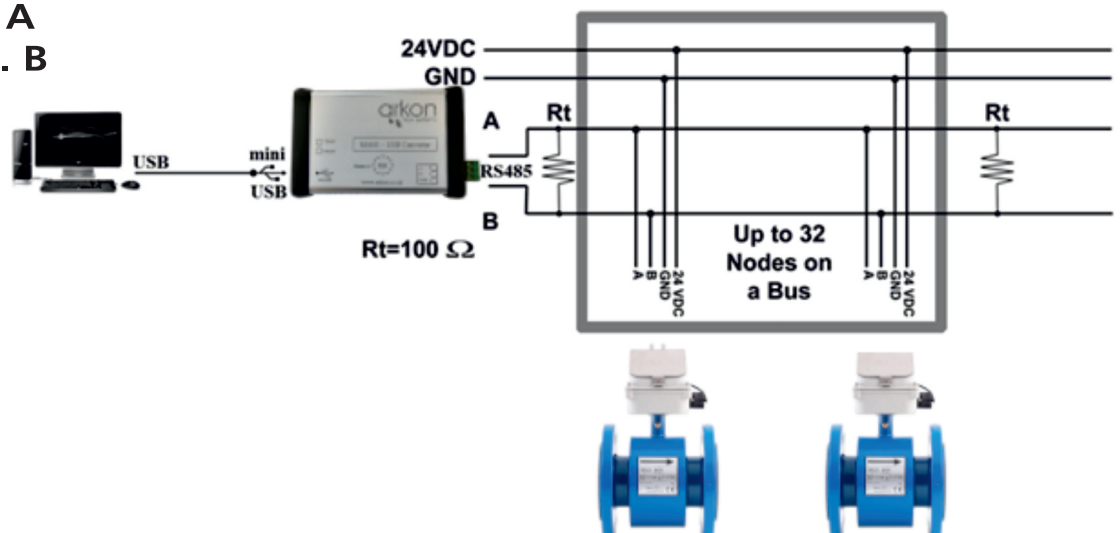
Pink .... +V



## 6 RS485 COMMUNICATION

Green ... A

Yellow ... B



## Contact Support

### Information required:

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

**Technical support:**

**Telephone:**

support@arkon.co.uk

+420 543 214 822