MPM436W

Operation Manual

V1.0

MICROSENSOR

Thanks for your using products from MICROSENSOR. MPM436W Lower Range Submersible Level Transmitter is a full-sealed immersiable low range capacitive transmitter. We suggest you to read this manual carefully before use.

1 Introduction

MPM436W Lower Range Submersible Level Transmitter uses high reliable and tested ceramic capacitive sensor and special circuit, which is installed into a stainless steel housing. With its integrated stainless steel full-sealed construction, compact size, high stability, overpressure up to 80 times of FS and good anti-corrosive. The MPM436W transmitter can be widely used for low liquids level measurements and controls in the fields of petroleum, chemi-industry, power factory, mine, city water supply etc.

2 Specifications

Pressure Range: 0…0.5 mH_2O~0…2mH_2O

Overpressure: 10×FS

Power Supply: 15V~28VDC 15V～28VDC

Output Signal: 4mA~20mADC(2-wire) 0V~5VDC(3-wire)

Load Resistor: $R_L \leq ((U-15V)/20mA)-Rwire(k\Omega)$ ＞5kΩ

U=power supply, Rwire=wire resistor value

Accuracy (including lin.+rep.+hys.): ±0.5%FS(min.) ±1.0%FS(max.)

Media Temperature: -30℃~+70℃

Storage Temperature:-30℃~+85℃

Protection:IP68

Materials contact with media:

Housing: Stainless steel1Cr18Ni9Ti

Diaphragm: Ceramic

Sealing part: Viton

Rubber casing: NBR

Cable: Φ7.2mm, Polyethylene(or Polyurethane),

integrated reference tube

3 Construction and install dimmension

3.1 Outline dimension (Unit:mm)

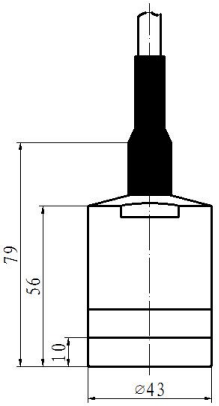

Figure 1

3.2 Installation

The product has been made calibration and inspection according to the specifications and contract requirements before out of factory, it is no need to go further calibration before installation.

Attention before installation:

a) The possible line pressure at the installation point shall not be over the pressure range.

b) The measuring media shall be compatible with the transmitter materials.

c) The transmitter pressure connection hole shall not be clogged with the measuring media.

d) Be sure the vented cable is clear and going through to the atmosphere without any dirt. In case any water or liquids into the vented cable, it may damage the transmitter.

e) The transmitter shall be installed downwards vertically.

3.3 Installation Method

Installation in still water (see **Figure** 2.):

The transmitter shall be located far from the water access to avoid the shock from the water bump, as it may damage the transmitter.

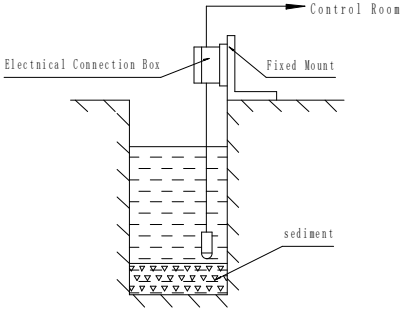

Figure2 still water installation

Installation in deep well (see Figure3.):

It is recommend to use a straight steel pipe Φ>50mm and punch several holes in the pipe.

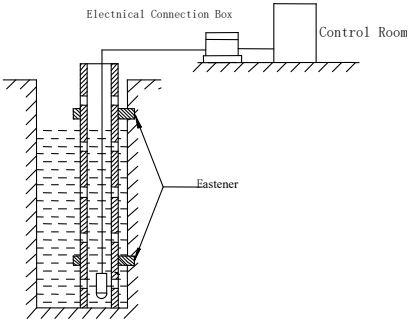

Figure3. Installation in deep well

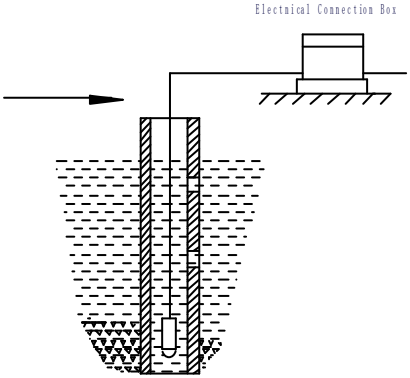

Figure4 Installation in flowing water

Installation in flowing water such as river, reservoir, etc.

Be sure the sensor diaphragm is parallel with the water flowing direction.

a) See Figure 4., It is recommend to insert a steel pipe and punch several holes on it, so as to avoid water wave or shock on the sensor diaphragm.

b) See Figure 5, It is better to cover the transmitter lightly into clear sandy or pebbly water.

c) See Figure 6, It is a good way for avoiding any possible water wave or shock on the transmitter. And this can also leach dirt or sands in the water.

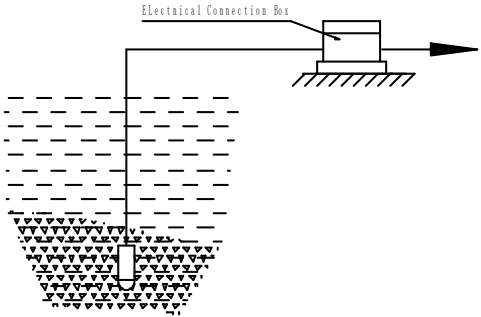

Figure5 Installation in pebbly water

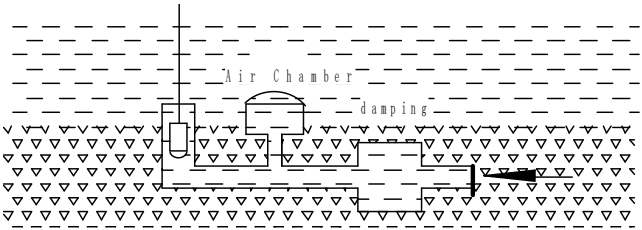

Figure6 Installation in Flowing Water

4 Electrical connection

After installation, please make electrical connection as mentioned on each product certificate card, and take reference as below Figure7 or Figure8.

Two-wire, the electrical connection method of transmitter output 4~20mADC to see Figure7:

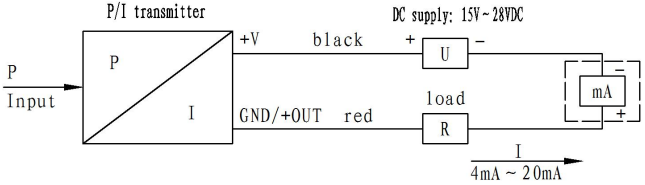

Figure7

Three-wire, the electrical connection method of transmitter output 0~5VDC to see Figure8:

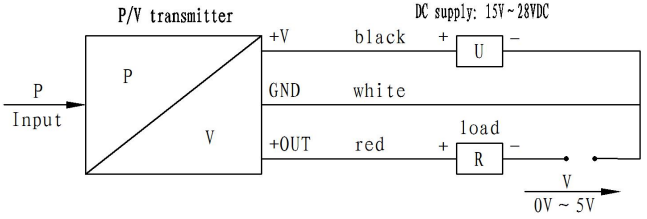

Figure8

5 Attentions

a) Before using the transmitter. Please firstly read this operating manual and do the connections accordingly.

b) Be sure power supply is within the permitted range before giving power.

c) Do not pull the cable strongly.

d) The housing shall be grounded to avoid strong interference.

e) It is recommend to install a lightning-protection device.

f) The sensor diaphragm is extremely delicate, it must never be touched as this can destroy the element.

6 Troubles & Solutions

In case the transmitter is in any abnormal operation, please cut off the transmitter immediately and check as follows:

6.1 Failure: No signal output with power supply

Possible solve steps:

a) If power supply is in range: 15V~28VDC.

b) If the positive and negative polarity of transmitter power voltage is at right connections (see Figure7or Figure8.).

c) If the connection wires is grounded well.

6.2 Failure: Abnormal Outputs

Possible solve steps:

a) If power supply voltage is fit well.

b) If current pressure range is within the permitted range.

c) If the vented cable is clear to the atmosphere.

d) If the transmitter is grounded well.

6.3 Failure: output is in bad linearity.

Possible solve steps:

a) If pressure sources is stable and connections are sealed well.

b) If the transmitter has a proper load.

c) If the sensor is good without any damage.

In case the failures can not be solved as above steps, please contact the factory.

7 Responsibility

Within one year from the delivery date, we shall repair or replace the instrument with any quality fault caused by material parts or our manufacturing technique free of charge. For non-quality malfunction during user's operation, we are in charge of repair. The material cost and the shuttle transportation fees should be borne by users.

www.microsensor.cn

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