

MPS100

HYDROSTATIC LIQUID LEVEL TRANSMITTER



MPS100 LIQUID LEVEL TRANSMITTER

Hydrostatic liquid level transmitter - also for impure media

Description:

Compact and robust MPS100 hydrostatic level transmitter is used for continuous measurement of liquid level in pools, lakes, tanks, rivers, etc. Its housing with a small diameter of 22 mm allows also liquid level measurements in bores. Quality production - completely welded, hermetically sealed housing made of high-quality CrNi steel 316L (1.4571) allows liquid level measurements in difficult industrial conditions, as well as in sea water and provides a long life. MPS100 hydrostatic level transmitter is appropriate also for impure media, such as faecal water or slurry. In a special version, it is supplied with an increased opening, which facilitates cleaning. MPS100 hydrostatic level transmitter is not appropriate for liquid level measurements in tanks under pressure.

Main features and level probes

High precision of liquid level measurements: 0.5 or 0.25%
Allowed temperature of medium: -10 to +60°C
Output 4...20mA - power supply via a current loop
Measuring ranges from 0...100 mbar and from 0...7 bars.
Reverse polarity protection.
Robust design - housing completely welded.
The housing and measuring cell are made of high-quality CrNi steel 316 L.
Diameter of only 22 mm - suitable for liquid level measurements in bores.

Power supply:

Supply voltage: 10...36V DC (with protection against incorrect connection) (yellow+, white-).

Dimensions, materials:

Dimensions: 130 x 22mm
Probe weight: approx. 180g - without the cable
Cable weight: approx. 120g/meter
Housing material: high-quality CrNi steel 316 L.
Measurement membrane: - high-quality CrNi steel 316L

Version for impure media:

MPS100 level transmitter is appropriate for level measurement of impure media, such as faecal water or water with slurry. This version has an open membrane that can be cleaned. The use of protection cover is mandatory to prevent damage to the measurement membrane.

Measurement membrane:

Measurement membrane made of CrNi steel 316 is very sensitive. The use of protective cover, preventing damage to the measurement membrane, is mandatory during assembly and operation.



Figure: MPS100 liquid level transmitter
(figure is symbolic)

Cable:

Special PUR cable with an internal air tube and an internal metal shield.

Assembly:

MPS100 hydrostatic liquid level transmitter is easy to install - use a cable to lower it to the bottom of a tank, a lake, a river, etc. At the bottom, it can be in a horizontal or vertical position.

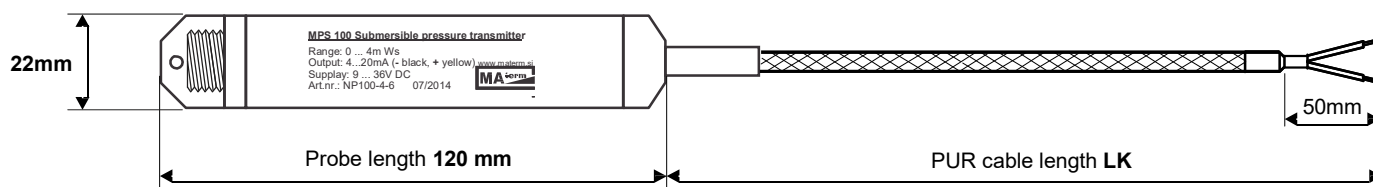
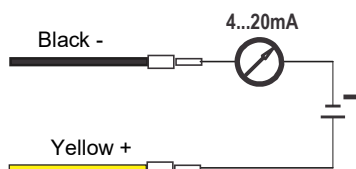
Technical data:

Measuring ranges:												
Measuring ranges (bar)	0.1	0.16	0.25	0.4	0.6	1.0	1.6	2.0	2.5	4.0	6.0	7.0
Permissible overload (bar)	1	1.6	1.6	4	5	5	10	10	17.5	35	35	35
Cell destruction pressure (bar)	1.5	3	3	7.5	7.5	7.5	15	15	25	40	40	42

Other measuring ranges on request.


Technical data:

Supply voltage	10 ... 36VDC with protection against incorrect connection
Output signal	current 4...20mA - two-line connection
Max. resistance in the loop	$R = [(U_N - 9.5) / 0.02] \Omega$ (U_N = supply voltage in V)
Allowed temperature of media	0 ... +70°C
Allowed storage temperature	-10 ... +70°C
Accuracy	± 0.5% - standard or 0.25% on request
Non-linearity	0.2% of the measuring range
Time stability:	0.15% per year
Influence of ambient temperature	0.1% / 10°C
Probe weight	approx. 0.18kg
Cable weight	approx. 0.12kg
Housing material	CrNi steel 316L
Material of measurement membrane	CrNi steel 316L
External cable insulation	PUR (gray)
Cable	PUR cable with a diameter of approx. 7mm and an internal steel shield
Linearity of measurements	from 3.8 to 20.5mA
Speed of measurements	0.2 measurement/second
Response time	approx. 4 seconds upon connection (immediately displays values between 4.3 and 4.6mA)
Protection	IP68


DIMENSIONS of MPS100 hydrostatic level transmitter (submersible probe):**Electrical connection for MPS100:**

ACCESSORIES - AUXILIARY EQUIPMENT

Plastic dose with filter

Image	Description	Other	Order number
	Cable dose for wall installation with IP65 protection and dimensions of 82 x 80 x 56mm, made of ABS plastic. The housing has an opening with a special filter, which is impermeable to moisture and dirt. Inside the housing are connection terminals for connecting the cable.	Dimensions: 82 x 80 x 56mm IP65 protection 2 x Pg9 ducts	DOZ01


FEM100 filter for an air tube assembly

Image	Description	Other	Order number
	FEM01 filter is designed for a direct assembly on the air tube. Special filter is impermeable to humidity and dirt. This filter is integrated, where the level probe cable is routed inside a building.	Small diameter of 7mm	FEM02

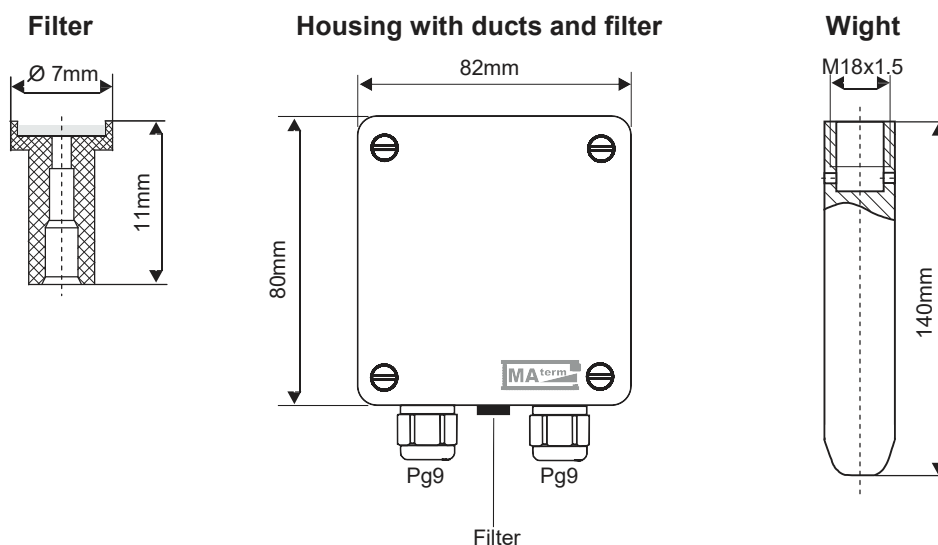
DKA100 cable holder

Image	Description	Other	Order number
	DKA100 cable holder allows easy installation of MPS100 or MPS200 level transmitter. The holder is designed so that it does not damage the cable at the point of contact. The arch on the handle allows easy attachment.	Simple assembly	DKA03

UTE100 additional weight for an air tube assembly

Image	Description	Other	Order number
	Additional weight is used when we have a running liquid. Additional weight holds the hydrostatic level transmitter always in one place. In the event that the transmitter is swinging or moving, it does not show the correct liquid level.	Material: CrNi steel 1.4571 mass: 500g diameter of 22mm	UTE04

Accessories dimensions



INSTRUCTIONS FOR USE:

Introduction

Read instructions for use carefully before the use and assembly of the submersible level probe. Store instructions and technical sheet in a place that is also accessible to other users. Instructions include operation, assembly mode, and safety warnings. By following these instructions you ensure a long life of MPS100 level transmitter.

Warnings:

- Electrical connection can be performed only by qualified personnel in compliance with safety regulations on electrical installations, which are valid in this country.
- Electrical cable with an air tube must be connected in a dry room or with the use of a special plastic housing.
- When transferring MPS100 hydrostatic level transmitter to third parties, it is necessary to attach all documentation, to draw attention to proper installation, management and use, as well as to dangers.

Do not install the level transmitter under the following conditions

- Media, which: crystallised, stick and have a lot of hard particles
- Where temperatures exceed +70°C or are below -10°C
- Cable should not be exposed to chemicals, steam, sun
- Exposure to strong vibrations and impacts
- Exposure to glowing heaters
- Exposure to inductive interferences and magnetic field

Cable connection

MPS100 level probe uses a special cable with an internal air tube. This tube is connected to the MPS100 pressure sensor in the transmitter. It is important that the connection is done in a dry, dust-free room. It is recommended that the electrical connection is carried out in DP100 plastic housing, because this housing protects the internal protective pipe against dust and water droplets entering the air tube. Clogged pipe can influence measurement accuracy.

Electrical connection

- Use only the specified voltage to prevent damage and disruptions.
- Ensure correct polarity when connecting. Despite integrated protection against incorrect polarity.
- Do not touch conductors when powered.
- Do not switch on the voltage until connection is complete.
- Connection may not be exposed to contact with combustible and explosive gases.

Measurement membrane

The measurement membrane of MPS100 level transmitter is very precise and detects even the smallest changes in the liquid level (pressure changes). The measurement membrane is protected behind the opening and the cover, preventing direct access of hard particles to the measurement membrane. MPS100 level transmitter should be used with the measuring cover that prevents damage to the measuring membrane.

Cleaning

MPS100 submersible level probe is made of robust welded housing, therefore cleaning of the housing is not necessary. When improper operation of the transmitter is observed or when it does not respond to the change in the water level, it is necessary to clean the opening to the measurement membrane. Be especially careful when cleaning the opening. Cleaning with a gentle stream of warm water is recommended. When we cannot remove all the dirt with water, we can use a cotton wool or any other soft, blunt object. In this case, apply slight pressure to remove the dirt. Applying too much pressure can result in damaging the measuring cell, which means that the measurement will no longer be accurate or it can stop operating completely.

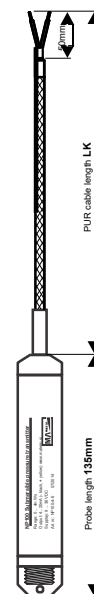
Never use sharp, hard objects to clean the measuring cell. Damage to the measuring cell can cause irreparable damage to the level transmitter.

ORDERING SHEET FOR MPS100 HYDROSTATIC LEVEL TRANSMITTER

Measuring range		
1	B010	0 ... 100 mbar
	B016	0 ... 160 mbar
	B025	0 ... 250 mbar
	B040	0 ... 400 mbar
	B060	0 ... 600 mbar
	B100	0 ... 1 bar
	B160	0 ... 1.6 bar
	B250	0 ... 2.5 bar
	B400	0 ... 4 bar
	B600	0 ... 6 bar
	B700	0 ... 7 bar
	M010	0 ... 1.0 mH ₂ O
	M016	0 ... 1.6 mH ₂ O
	M025	0 ... 2.5 mH ₂ O
	M040	0 ... 4.0 mH ₂ O
	M060	0 ... 6.0 mH ₂ O
	M100	0 ... 10 mH ₂ O
	M160	0 ... 16 mH ₂ O
	M250	0 ... 2.5 mH ₂ O
	M400	0 ... 40 mH ₂ O
	M600	0 ... 60 mH ₂ O
	M700	0 ... 70 mH ₂ O
	PP	Measuring range on request (enter range)

Accuracy:		
2	050	0.5% - standard
	25	0.25%

PUR cable length		
3	K3	3 meters
	K4	4 meters
	K5	5 meters
	K6	6 meters
	K7	7 meters
	K8	8 meters
	K9	9 meters
	K10	10 meters
	K12	12 meters
	K15	15 meters
	K18	18 meters
	K20	20 meters
	K25	25 meters
	K30	30 meters
	K35	35 meters
	K40	40 meters
	K45	45 meters
	K50	50 meters
	K60	60 meters
	K70	70 meters
	K80	80 meters
	K90	90 meters
	PP	Cable length on request



MPS200 -

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