



Brief Operating Instructions

Waterpilot FMX21

HART

Hydrostatic level measurement

These Brief Operating Instructions are not a substitute for the Operating Instructions pertaining to the device.

Detailed information is provided in the Operating Instructions and other documentation.

Available for all device versions via:

- Internet: www.endress.com/deviceviewer
- Smartphone/tablet: Endress+Hauser Operations app

Basic safety instructions

Requirements for personnel

The personnel must fulfill the following requirements for its tasks:

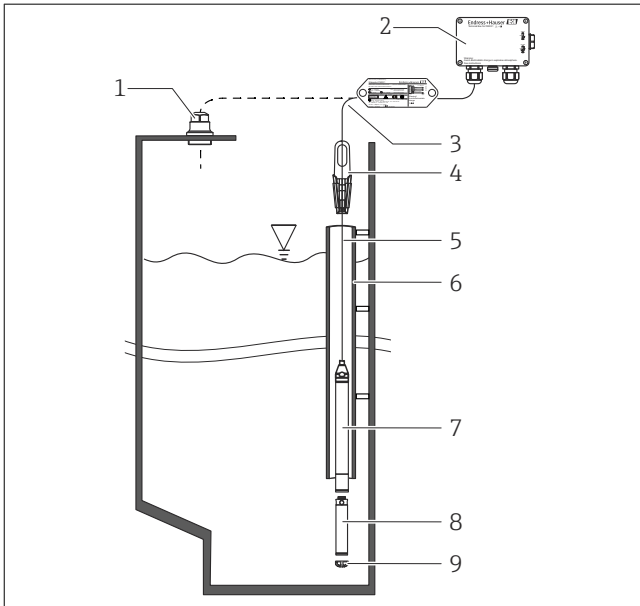
- ▶ Trained, qualified specialists must have a relevant qualification for this specific function and task.
- ▶ Personnel must be authorized by the plant owner/operator.
- ▶ Personnel must be familiar with federal/national regulations.
- ▶ Before starting work: personnel must read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application).
- ▶ Personnel must follow instructions and comply with general policies.

Intended use

Mounting



For dimensions, see the Technical Information



- 1 Cable mounting screw (can be ordered as an accessory)
- 2 Terminal box (can be ordered as an accessory)
- 3 Bending radius of extension cable > 120 mm (4,72 in)
- 4 Suspension clamp (can be ordered as an accessory)

- 5 Extension cable
- 6 Guide tube
- 7 Device
- 8 Additional weight can be ordered as an accessory for the device with external diameter of 22 mm (0,87 in) and 29 mm (1,14 in)
- 9 Protective cap

Der Waterpilot FMX21 is a hydrostatic pressure sensor for measuring the level of fresh water, wastewater and salt water. The temperature is measured simultaneously in the case of sensor versions with a Pt100 resistance thermometer.

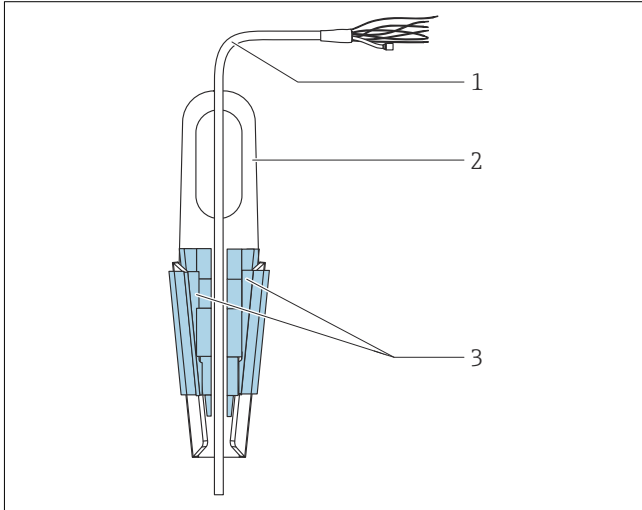
An optional temperature head transmitter converts the Pt100 signal into a 4 to 20 mA signal with superimposed digital communication protocol HART 6.0.

Workplace safety

When working on and with the device:

- ▶ Wear the required personal protective equipment as per national regulations.
- ▶ Before connecting the device: switch off the supply voltage.

Mounting the Waterpilot with a suspension clamp



1 Extension cable
 2 Suspension clamp
 3 Clamping jaws

1. Mount the suspension clamp (item 2). Take the weight of the extension cable (item 1) and the device into account when selecting the fastening point.
2. Push up the clamping jaws (item 3). Place the extension cable (item 1) between the clamping jaws as shown in the graphic.
3. Hold the extension cable (item 1) in position and push the clamping jaws (item 3) back down. Tap the clamping jaws gently from above to fix them in place.

Mounting the terminal box

The optional terminal box is mounted using four screws (M4). For the dimensions of the terminal box, see the Technical Information.

Electrical connection

⚠ WARNING

An incorrect connection compromises electrical safety!

- ▶ When using the measuring device in hazardous areas, installation must comply with the corresponding national standards and rules and the Safety Instructions (XAs) or the Installation or Control Drawings (ZDs). All explosion-protection data are listed in separate documentation. This documentation is supplied with the devices as standard, but can also be requested if required.
- ▶ The supply voltage must match the supply voltage specified on the nameplate.
- ▶ Before connecting the device: switch off the supply voltage.
- ▶ The cable must end in a dry room or a suitable terminal box. The IP66/IP67 terminal box with GORE-TEX® filter from Endress+Hauser is suitable for outdoor installation.
- ▶ Connect the device in accordance with the following diagrams. Reverse polarity protection is integrated in the device and the temperature head transmitter. Changing the polarities will not result in the destruction of the devices.
- ▶ A suitable circuit breaker should be provided for the device in accordance with IEC/EN 61010.

Wire colors

RD = red, BK = black, WH = white, YE = yellow, BU = blue, BR = brown

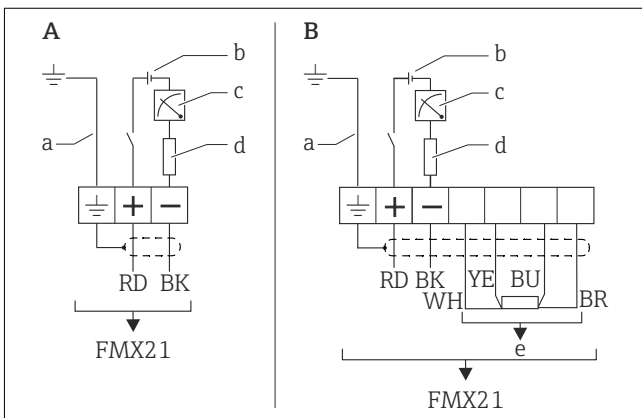
Connection data

Connection classification as per IEC 61010-1:

- Overvoltage category 1
- Pollution level 1

Connection data in the hazardous area

See relevant XA.



A Device
 B Device with Pt100 (not for use in hazardous areas)
 a Not for devices with external diameter of 29 mm (1,14 in)
 b 10,5 to 30 V_{DC} (hazardous area), 10,5 to 35 V_{DC}
 c 4 to 20 mA
 d Resistance (R_t)
 e Pt100