User manual

Configuration module/ front display UMU-FD 2

Version 2.1.1

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Inhalt

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1. General

1.1 Information

- These operating instructions give important information on how to use the measuring instrument. A prerequisite for safe working is compliance with all specified safety instructions.
- The qualified personnel must have read and understood these operating instructions before installing and commissioning the sensor.
- These operating instructions are part of the product. Therefore, keep them in a place that is accessible to all users at all times, close to the place of use.
- The local regulations and safety regulations that apply to the sensor's area of application must be observed.
- If the serial number on the nameplate is no longer legible (e.g. due to mechanical damage), traceability is no longer ensured.
- The sensors described in the operating instructions are developed and manufactured according to the latest knowledge. All components are subject to strict quality and environmental criteria during production.
- The manufacturer is not liable if damage occurs as a result of improper use, non-observance of these operating instructions, use of insufficiently qualified specialist personnel and unauthorized modifications to the sensor.

1.2 Drawings, shortcut

Warning!
A non-observance can cause injuries to persons and/or the demolition of the device. There can be a dangerous to life.

Attention!
A non-observance can cause a faulty operation of the device or lead to property damage.

Info!
A non-observance can have influence on the operation of the device or cause unintentional reactions of the device.

Danger!
When not observing the safety instructions, there is a risk of serious or fatal injuries caused by electrical power.

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Warning!
Possibly a dangerous situation can occur, which results in burns because of hot surfaces or liquids, if not avoided.

Warning!

This device is designed for connection to life-threatening electrical voltages. Disregarding this warning can lead to severe injuries or mechanical destruction. To avoid the risk of electric shock or fire, the safety rules in the manual must be observed and the instructions followed. The specification values must not be exceeded and the device may only be used in accordance with the following description. Read the manual carefully before using the device. Only qualified persons (technicians) are allowed to install this device. If the device is not used as described in this manual, the protective devices of the device will be impaired.

Warning!

Before the device has been permanently installed, no dangerous voltage may be connected to it, and the following measures should only be carried out when the device is de-energized and under ESD-safe conditions:

- Installation, assembly and disassembly of lines.
- Troubleshooting the device.

Warning!

The front panel of the device must not be opened, as this could damage the contacts for contacting the UMU-FD 2 front display.
The device does not contain any internal DIP switches or programming bridges. The UMU 100 must be mounted on a DIN rail according to DIN 60715.

The CE mark is the visible sign that the device complies with the regulations.

Double insulation is the symbol that the device meets special insulation requirements.

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2. Transport, Packaging, Storage

2.1 Transport

Check the instrument for any damage that may have been caused during transportation. If, report them immediately.

2.2 Packaging

Do not remove packaging until just before mounting. Keep the packaging as it will provide optimum protection during transport (e.g. change in installation site, sending back).

2.3 Storage

For longer term storage avoid the following influences:

1. Direct sunlight or proximity to hot objects
2. Mechanical vibration, mechanical shock (putting it hard down)
3. Soot, vapour, dust and corrosive gases

If possible store the device in its original package or an equivalent one.

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3. Safety instructions

More important safety instructions can be found in the individual chapters.

Definitions:

Dangerous voltages are defined as the ranges**:** 75...1500 75...1500 volts DC and 50...1000 volts AC.

Technicians are qualified persons who are trained or instructed to carry out an installation, operation or possible troubleshooting that is justifiable from a technical as well as from a safety point of view.

Operating personnel are persons who set or operate the pushbuttons or potentiometers of the product during normal operation and who have been made familiar with the content of this manual.

Reception and unpacking:
Unpack the device without damaging it and check upon receipt that the device type corresponds to what you ordered. The packaging should remain with the device until it is installed in its final location.

3.1 Intended use of the product

Environmental conditions:

Direct sunlight, strong dust formation or heat, mechanical shocks and impacts are to be avoided; the device must not be exposed to rain or excessive moisture. If necessary, heating that exceeds the specified limits for the ambient temperature must be prevented with the help of a cooling fan. The device must be installed in pollution degree 2 or better.

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3.2 Stuff qualification

Improper handling can result in considerable injury and damage to equipment. The activities described in these operating instructions may only be carried out by skilled stuff who have the qualifications described below. Keep unqualified stuff away from hazardous areas.

For installation and starting of the flow-meter the stuff has to be familiar with the relevant regulations and directives of the country and must have the qualification required. They must have knowledge on measurement and control technology, have to be acquainted with electric circuits, are capable of carrying out the work described and can independently recognize potential hazards. Depending on the operation conditions of the application they have to have the corresponding knowledge, e.g. of aggressive media..

3.3 Special hazards

Comply with the country-specific regulations (e.g. standards) and observe the applicable standards and guidelines for special applications (e.g. for hazardous media such as acetylene, combustible or toxic substances as well as for refrigeration systems and compressors).
Failure to comply with the relevant regulations can result in serious personal injury and damage to property**!**

A protection from electrostatic discharge (ESD) is required. The proper use of grounded work surfaces and personal wrist straps is required when working with exposed circuitry (PCB, printed circuit boards), in order to prevent static discharge from damaging sensitive electronic components.

There is a danger of death caused by electric current. Upon contact with life parts, there is a direct danger of death. Electrical instruments may only be installed and connected by skilled electrical personnel. Operation using a defective power supply unit (e.g. short circuit from the mains voltage to the voltage output) can result in life-threatening voltages at the instrument.

Residual media in dismounted instruments can result in a risk to personnel, the environment and equipment. Take sufficient precautionary measures. Do not use this instrument in safety or Emergency Stop devices. Incorrect use of the instrument can result in injury. Should a failure occur, aggressive media with extremely high temperature and under high pressure or vacuum may be present at the instrument.

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4. Starting and operation

4.1 Before mounting

Check that a fully assembled transmitter has been delivered.
Examine the device for any transport damage that may have occurred. If such damage is present, notify the transport company and supplier immediately.
Keep the packaging as it offers optimal protection during transport.
Make sure that the housing and the connection contacts are not damaged.

4.2 Assembly / Installation / Configuration

- The extremely low power consumption allows the units to be mounted side by side with no air gap between them, even at an ambient temperature of 60°C.

Calibration and adjustment
During the calibration and adjustment, the measurement and the connection of external voltages must be carried out in accordance with this manual, and the technician must use tools and instruments that are safe from the point of view of safety.

Operation in normal mode
The operating personnel may only adjust or operate the device if these are installed in a reasonable manner in control panels or similar, so that the operation does not entail any danger to life or material. This means there must be no risk of contact and the device must be placed in such a way that it is easy to use.

5. Configuration module/ front display UMU-FD 2

- Programming front for universal transmitter UMU 100
- Monitoring of process values and status via the built-in display
- Scroll help texts in 7 languages

Applications

- Communication interface for programming and adjusting the operating parameters of the UMU 100.
- The easy-to-read display can be used to monitor the process signals, to simulate the output signal and to display sensor errors and internal device errors.
- Can be plugged from one UMU 100 to the next to transfer the data from the first transmitter to the next.
- If the device is integrated in the process, the display shows the corresponding process values and the respective process status.

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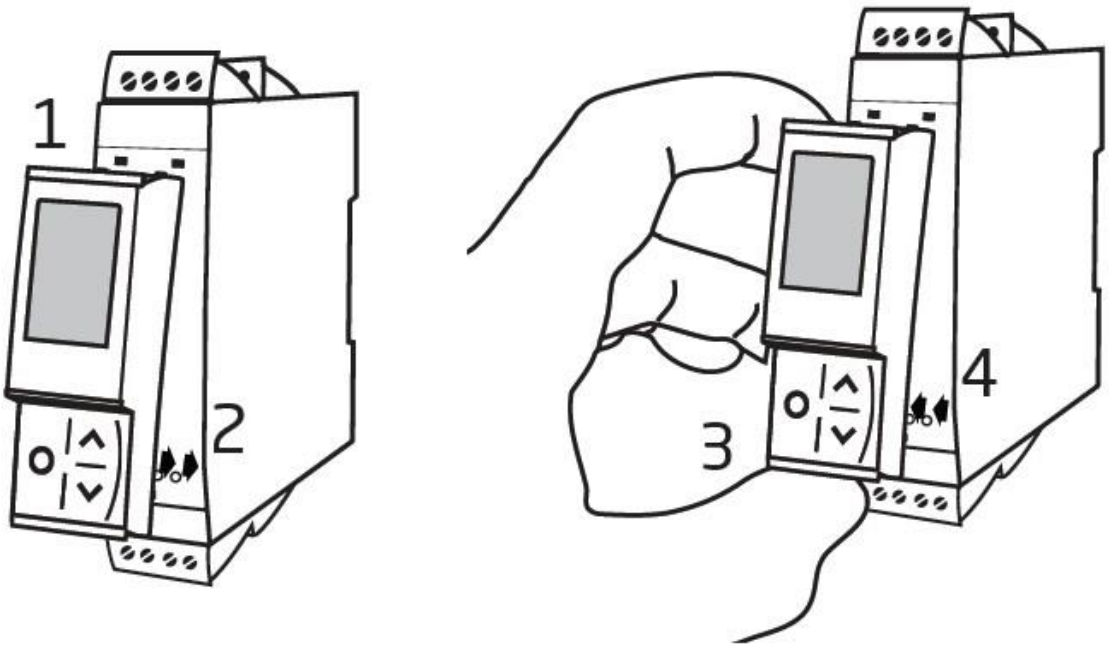
Technical features

- Easy to read dot matrix LCD display.
- Backup memory for loading and saving device configuration.
- Programming access can be blocked by assigning a password. The password is stored in the device saved to ensure a high level of protection against unauthorized configuration changes.

6. Attaching / detaching the UMU-FD 2

1: Insert the two fixing pins of the UMU-FD 2 into the openings on the upper front panel of the UMU 100.
2: Snap the UMU-FD 2 display into place at the bottom edge.

Remove the UMU-FD 2
3/4: Press the release of the UMU-FD 2 on the underside and carefully remove the UMU-FD 2.



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Order details

UMU 100 = universal transmitter
UMU-FD 2 = display / programming front
UMU-CJC = CJC-connecting terminal

7. Electrical data

Environmental conditions:
Operating temperatur . . . . . -20°C to +60
Storage temperature . . . . . .-20°C to +85°C
Relative humidity. . . . . < 95% RH (non cond.)
protection class. . . . . IP20 after installation
Installation in pollution degree 2 / overvoltage category II

Mechanical specifications:
Dimensions (HxWxD) . . . . . .73,2 x 23,3 x 26,5 mm
Dimensions (HxWxD) with 4000er- / 9000er-unit . . . . . 109 x 23,5 x 131 mm
Weight approx. . . . . .20 g

General specifications:
Supply voltage . . . . . .6,5...20 V via UMU 100
Power requirement, max.. . . . . .0,15 WmA

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8. Display structure

By default, the UMU-FD 2 switches to monitoring mode for process monitoring. The UMU-FD 2 can be switched to configuration or simulation mode using the buttons on the front panel.

UMU-FD 2	Line 1 shows the scaled process value	
	Line 2 shows the selected engineering unit	
	Line 3 shows the analog output value or TAG number	
	Line 4 shows the relay and communication status as well as the signal history	

8.1 Operation of the function keys

When using the FD 2 front display to configure a UMU device, you are guided through all parameters and can select the appropriate settings for the respective application. There is a scrolling help text for each menu, which is automatically shown on the 3rd line of the display.

The configuration can be carried out using 3 function keys:

- With ▲ you can increase the numerical value or select the next parameter.
- With ▼ you can decrease the numerical value or select the previous parameter.
- With OK you can save the selected value and continue to the next menu.

After completing the configuration, the display returns to the normal state (monitoring). If 3 is held down, one can return to the previous menu or to the normal state without saving the changed values or parameters.

If no key is pressed for 1 minute, the display returns to the normal state without saving the changed values or parameters.

For more information on the device-specific programming menus, please refer to the operating instructions for the respective device.

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UMU-FD 2		Relay status (relay energized) When the icon flashes with 1 or 2, it means a delay in relay action (configurable on/off delay).
		The arrow keys indicate that the process value is going up/down.
		The circle icon confirms the host communi-cation indicator

8.2 Display orientation

In order to ensure proper operability if the device is installed overhead, the display can be rotated by 180 degrees using the "ORIEN" menu item.

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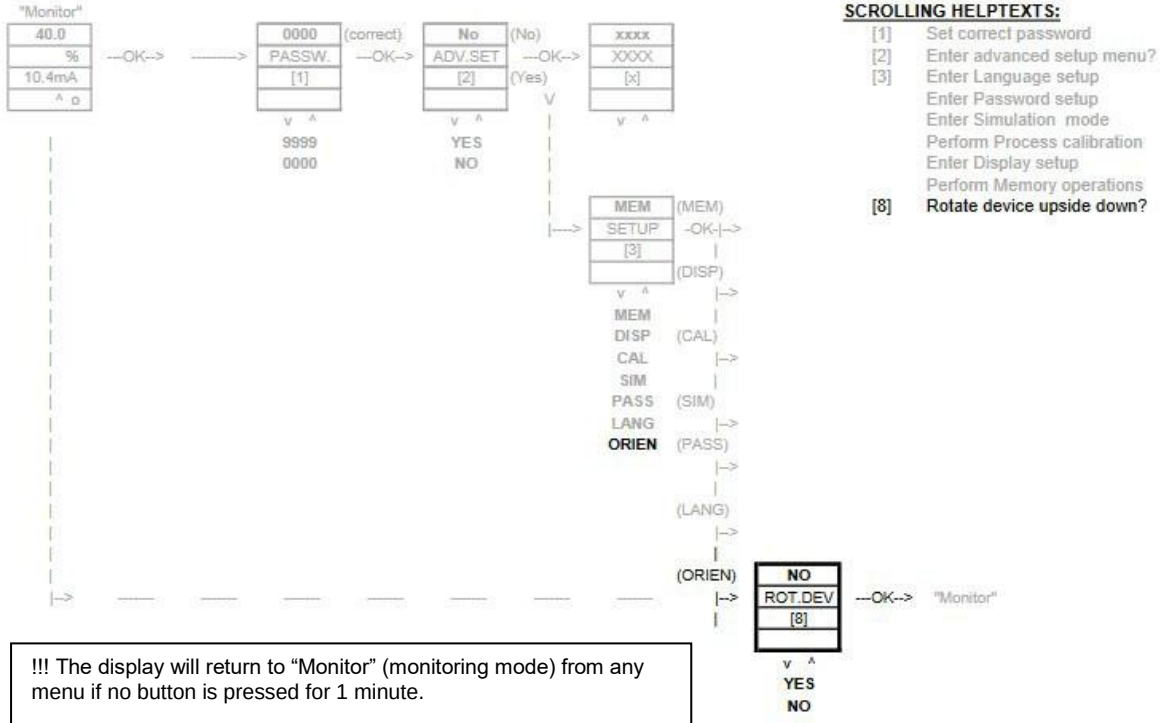
9. Settings – flow chart



!!! The display will return to “Monitor” (monitoring mode) from any menu if no button is pressed for 1 minute.

The menus / texts with a gray background are only displayed as an aid and do not belong to the respective UMU-FD 2 submenu. The product-specific menu structure for the UMU 100 device can be found in the associated product manual

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10. Maintenance, dismounting, return, cleaning, disposal

10.1 Maintenance, dismounting

Residual media in dismounted instruments can result in a risk of per-sonnel, the environment and equipment. Take sufficient precautionary measures.

There is a risk of burns. Let the instrument cool down sufficiently before dismounting. During dismounting there is a risk of dangerously hot pressure media escaping.

10.2 Return

When returning the instrument, use the original packaging or a suitable package.
To avoid a damage, use for example antistatic plastic film, shock-absorbent material, a marking as highly sensitive measuring instrument.

10.3 Liability

To the extent that the instructions in this manual are not followed exactly, the customer cannot assert any claims against promesstec GmbH, which could otherwise exist in accordance with the sales agreements entered into.

10.4 Cleaning

Before cleaning the instrument disconnect the electrical connection. Clean the instrument with a moist cloth. Electrical connections must not come into contact with moisture.

10.5 Disposal

Dispose instrument components and packaging materials in accordance with the respective waste treatment and disposal regulations of the region or country to which the sensor is supplied.

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10.6 Control of the device

The devices are checked before shipment and sent in perfect condition. If damage is visible on the device, we recommend a thorough inspection of the transport packaging. In the event of damage, please inform the supplier immediately.

11. Installation

The device may only be connected by technicians who are familiar with and follow the technical terms, warnings and instructions in the manual.

If you have any doubts about the correct handling of the device, you should contact promesstec GmbH directly.

The installation and connection of the device must be carried out in accordance with the applicable regulations of the respective country regarding the installation of electrical equipment, including cable cross-section, (electrical) pre-fusing and positioning. A description of input/output and supply connections is given on the block diagram and on the side label.

The following applies to devices that are permanently connected to a dangerous voltage: The maximum size of the back-up fuse is 10A and must be easily accessible and close to the unit, along with a circuit breaker. The circuit breaker should be marked in such a way that there can be no doubt that it cuts power to the equipment.

12. Order code

Order code: UMU-FD 2	Order example: UMU-FD 2

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