71709014

Brief Operating Instructions
Nivotester FTC325, PFM

Capacitance
evaluation unit for capacitance point level measurement

These Brief Operating Instructions are not a substitute for the Operating Instructions pertaining to the device. Detailed information can be found in the Operating Instructions and the additional documentation.

Available for all device versions via:
- Internet: www.endress.com/deviceviewer
- Smartphone/tablet: Endress+Hauser Operations app

Basic safety instructions

Manufacturer's address

Manufacturer: Endress+Hauser SE+Co. KG, Hauptstraße 1, D-79689 Maulburg or www.endress.com.

Place of manufacture: See nameplate.

Requirements for the personnel

The operating personnel must fulfill the following requirements:
- Trained, qualified specialists: must have a relevant qualification for this specific function and task
- Are authorized by the plant operator
- Are familiar with national regulations
- They must have read and understood the instructions in the manual, supplementary documentation and certificates (depending on the application) prior to starting work
- They must follow instructions and comply with basic conditions

Intended use

- Use the device only as a transmitter supply unit for level switches from Endress+Hauser with a 2-wire PFM signal.
- The device may be dangerous if used incorrectly.
- Only use insulated tools.
- Only use original parts.

Workplace safety

For work on and with the device:
- Wear the required personal protective equipment according to federal/ national regulations.

Operational safety

- Operate the device only if it is in proper technical condition, free from errors and faults.
- The operator is responsible for trouble-free operation of the device.

For WHG applications, see the associated WHG documents.

Product safety

This state-of-the-art device is designed and tested in accordance with good engineering practice to meet operational safety standards. It left the factory in a condition in which it is safe to operate.

Installation

Installation requirements

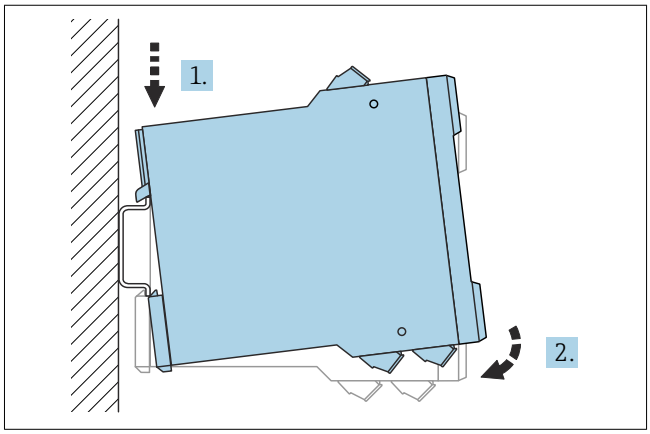
The device must be housed in a cabinet or protective housing outside the hazardous area.

Mount the device so that it is protected against weather and impact:
- If you are operating the device outdoors and in warmer climates, avoid direct sunlight.
- For outdoor installation, a protective housing (IP66) is available for up to 2 devices.

Ambient temperature range
- Installation of an individual device: –20 to +60 °C (–4 to 140 °F)
- Side-by-side installation without lateral spacing: –20 to +50 °C (–4 to +122 °F)
- Installation in protective housing: –20 to +40 °C (–4 to +104 °F)

Installing the device

The device can be mounted horizontally or vertically on a DIN rail.



1 *Mounting; DIN rail as per EN 60715 TH35-7.5/EN 60715 TH35-15*

Endress+Hauser
People for Process Automation

Electrical connection

Observe the specifications on the nameplate of the device.

WARNING

If the device is not connected properly, personal injury and explosion may occur due to limited electrical safety.

- ▸ Comply with applicable national standards.
- ▸ Comply with the specifications in the Safety Instructions (XA).
- ▸ Check to ensure that the power supply matches the information on the nameplate.
- ▸ Switch off the supply voltage before connecting.
- ▸ When connecting to the public mains, install a mains switch for the device such that it is within easy reach of the device. Mark the switch as a disconnector for the device (IEC 61010).

Connecting the device

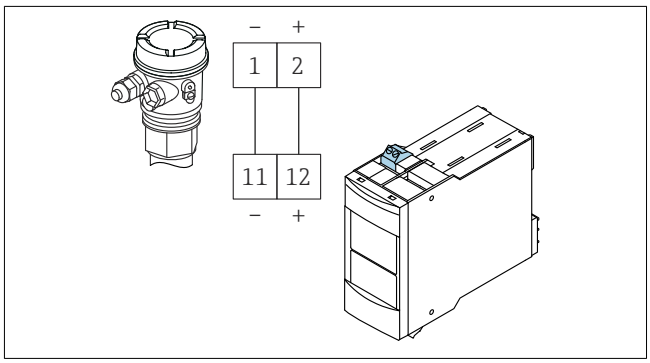
WARNING

Risk of electric shock from contact with live components! Burns and injuries caused by startle responses may result.

- ▸ Switch off the supply voltage before connecting the device.

The removable terminal blocks are color-coded into intrinsically safe and non-intrinsically safe terminals. This difference helps to ensure safe wiring.

Connecting the sensor



2 *Connecting the power supply using any sensor*

Sensors connectable with FEI57S electronic insert:

- Liquicap M FTI51, FTI52
- Solicap M FTI55, FTI56
- Solicap S FTI77

Upper, blue terminal blocks for use in hazardous areas

- Two-wire connection cable between the Nivotester and sensor, e.g. commercially available installation cable or wires in a multi-core cable for measurement purposes
- Use a shielded cable in the event of strong electromagnetic interference, e.g. from machines or radio equipment.
  Only connect the shield to the grounding terminal in the sensor. Do not connect it to the Nivotester

If the sensor's electronic insert has been replaced, a recalibration must be carried out.

Connecting the signal and control systems

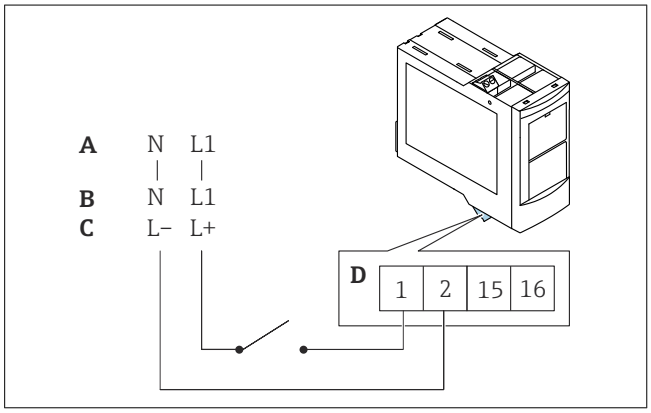
Lower, grey terminal blocks for non-hazardous areas

- Observe relay function depending on the level and safety mode.
- If a high-inductance device is connected (e.g. contactor, solenoid valve etc.), a spark arrester must be provided to protect the relay contact

Connecting the supply voltage

Bottom, green terminal blocks

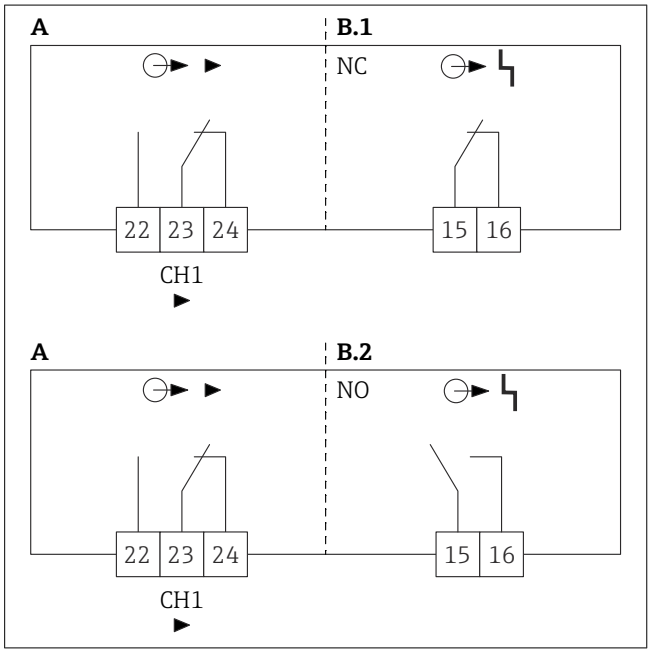
A fuse is integrated into the power supply circuit. An additional fine-wire fuse is not necessary. The device is equipped with reverse polarity protection.



3 *Arrangement of terminals*

A U ~ AC 85 to 253 V, 50/60 Hz
B U ~ AC 20 to 30 V, 50/60 Hz
C U ⎓ DC 20 to 60 V
D 1,5 mm² (16 AWG) maximum

Connecting the outputs



4 *Connecting the outputs*

A Level, limit signal
B1 Fault, NC alarm (normally-closed contact)
B2 Fault, NO alarm (normally-open contact)

Ensuring the degree of protection

- IP20 (as per IEC/EN 60529)
- IK06 (as per IEC/EN 62262)