



Brief Operating Instructions Nivotester FTC325, PFM

Capacitance
Evaluation unit for capacitance point level detection



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 only as a transmitter supply unit
- Use only for point level switches from Endress+Hauser with two-wire PFM signal

- Use only tools that have been insulated against ground
- Use only original parts

Workplace safety

When working on and with the device:

- ▶ Wear the required personal protective equipment as per 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 product is designed in accordance with good engineering practice to meet state-of-the-art safety requirements and has been tested and left the factory in a condition in which it is safe to operate.

Mounting

Mounting requirements

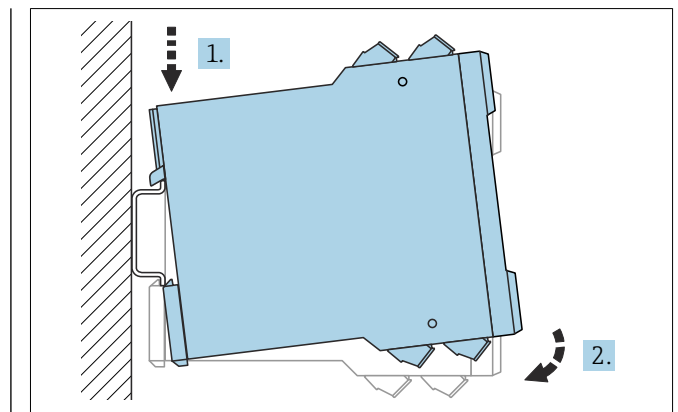
- If using outside the hazardous area, mount the device in a cabinet
- Mount the device so that it is protected against weather and impact
If operating outdoors and in warmer climates, avoid direct sunlight.

Ambient temperature range

- Mounted individually: -20 to +60 °C (-4 to 140 °F)
- Mounted in a row without lateral spacing: -20 to +50 °C (-4 to +122 °F)
- For installation in protective housing: -20 to +40 °C (-4 to +104 °F)
A maximum of two FTC325 PFM units can be installed in a protective housing.

Mounting 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

Electrical connection

⚠ WARNING

Risk of explosion due to faulty connection.

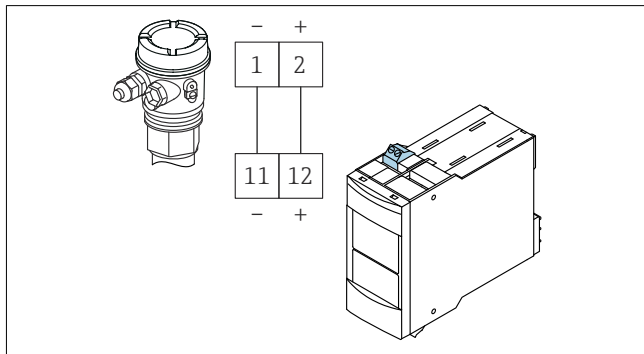
- ▶ Observe applicable national standards.
- ▶ Comply with the specifications in the Safety Instructions (XA).
- ▶ Check to ensure that the power supply matches the information on the nameplate.
- ▶ Switch off the supply voltage before connecting.
- ▶ When connecting to the public mains, install a mains switch for the device such that it is within easy reach of the device. Mark the power switch as a disconnector for the device (IEC/EN61010).

i Observe the specifications on the nameplate of the device.

Connecting the device

i 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 Sensor connection

Blue terminal blocks at top for hazardous area

- 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

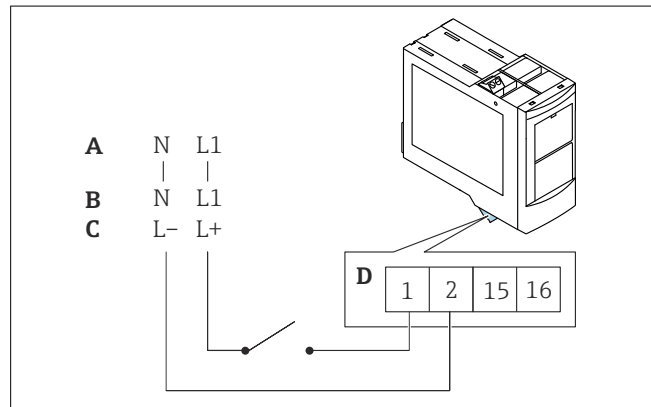
Connecting the signal and control systems

Gray terminal blocks at bottom for the non-hazardous area

- Observe the 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 power supply

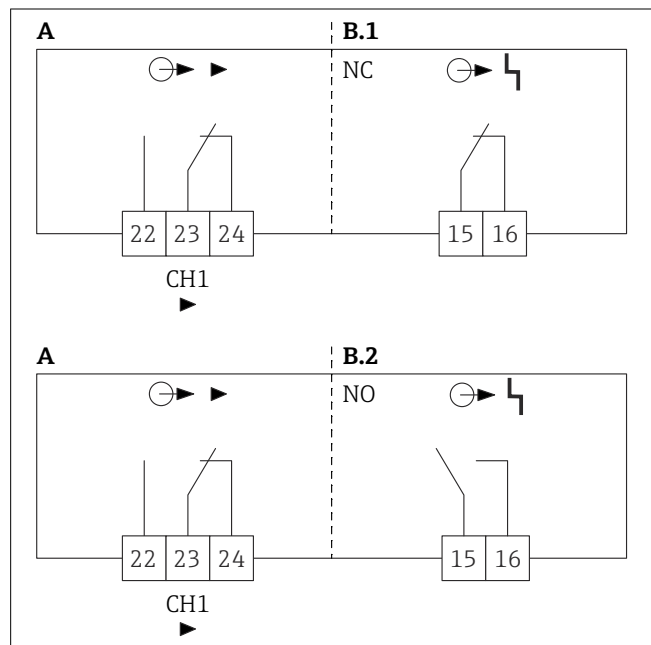
i A fuse is integrated into the power supply circuit. An additional fine-wire fuse is not necessary. The device is equipped with reverse polarity protection.



3 Arrangement of terminals

- A $U \sim 85$ to $253 V_{AC}$, 50/60 Hz
- B $U \sim 20$ to $30 V_{AC}$, 50/60 Hz
- C $U = 20$ to $60 V_{DC}$
- D Max. 1.5 mm^2 (max. AWG 16)

Connecting the outputs



4 Connecting the outputs

- A Level, limit signal
- B Fault, alarm

Ensuring the degree of protection

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