

Conductive Level Detection *T10805 compact pump protector*

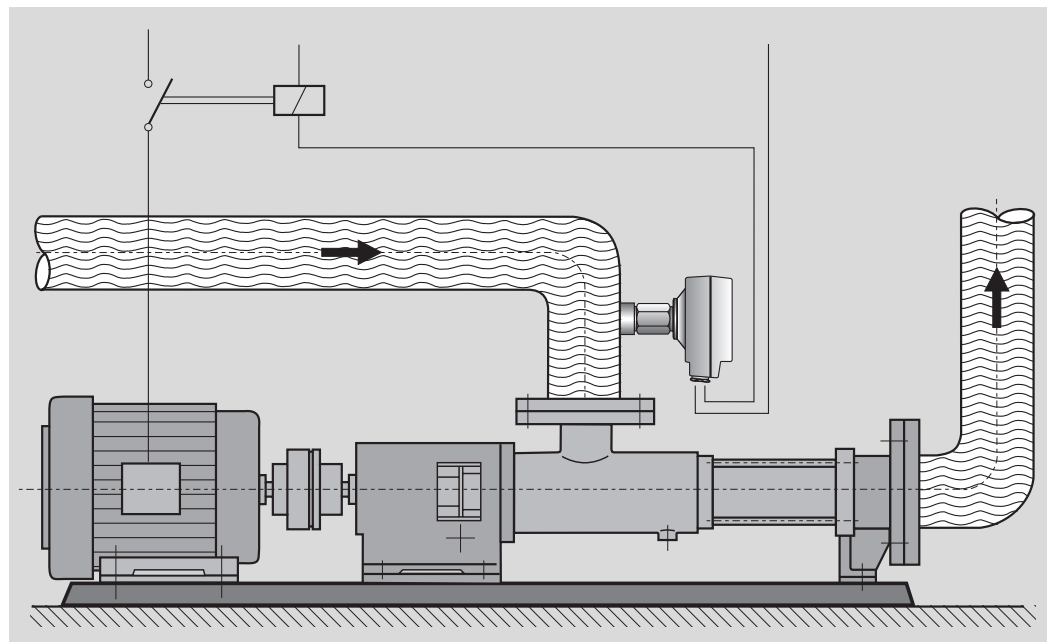
Dry running for pumps protection



Features and Benefits

Simple, reliable problem-solving with:

- adhesive or viscous products using an electronic protective ring against build-up
- Different products in the same pipeline, e.g. pineapple concentrate, sliced beets, stewed apple, etc.
- Temperatures to 100°C (210°F)
- Pressures to 10 bar (150 psi)



Flow detection and control
of the motor contactor
to protect the pump from
dry running

Endress + Hauser

Nothing beats know-how



Measuring System

The complete measuring system consists of the T10805 compact pump protector and a separate contactor for switching the pump on and off. Small, single-phase electrical pumps can be directly connected to the T10805 compact pump protector.

Function

The pump protector operates in all electrically conductive liquids and pastes which do not leave a permanent film of oil on the walls of the pipe. An active electronic protection ring fully compensates automatically for any conductive build-up.

Installation

Install the T10805 compact pump protector in a vertical or horizontal pipe on the suction side of the pump. Use a welded socket made of 1.4571 (SS 316 Ti) if you want to install the compact pump protector in a metallic pipe. (Contact Endress+Hauser for information on mounting the compact pump protector in plastic piping).

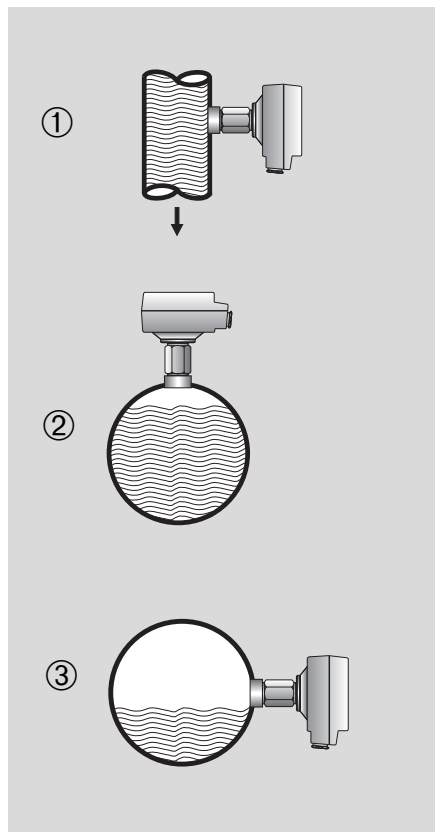
The position of the welded socket on the pipe determines the switching point of the instrument.

With horizontal piping, the switching sensitivity is greatest when the protector is top-mounted. If the T10805 compact pump protector is to switch when the pipe is only partially filled, then the welded socket should be mounted on the side of the pipe.

The welded socket should only protrude into the pipe as far as necessary is to compensate for its curvature.

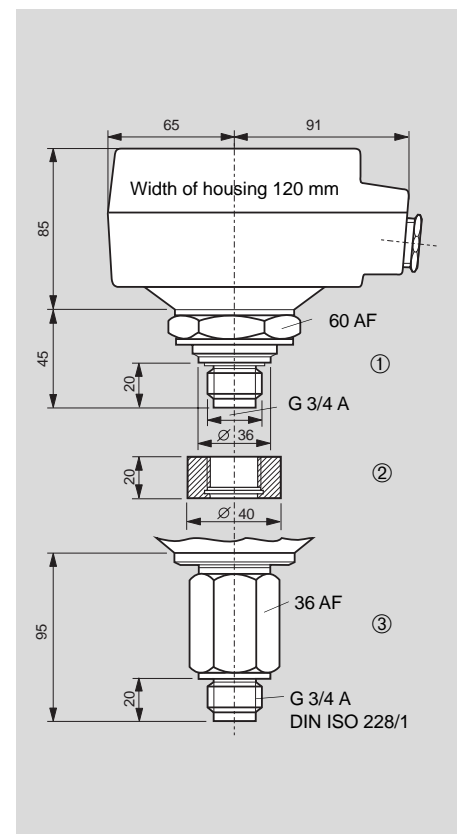
Examples of Mounting

- ① Mounted above the pump in a vertical pipe
- ② Top-mounted in a horizontal pipe; the pump is switched on on the slightest reduction in liquid level
- ③ Mounted laterally in a horizontal pipe; the pump is switched off with a partially filled pipe.



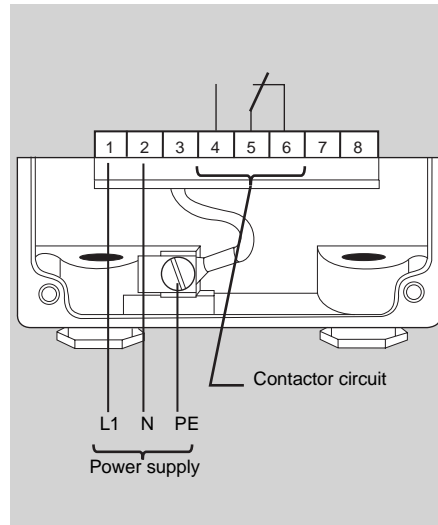
- ① Basic unit
- ② Welded socket with O-ring
- ③ Version with AF 36 collar

Dimensions in mm
 100 mm = 3.94 in
 1 in = 25.4 mm



Connection

Connect the T10805 compact pump protector as shown below. Note also the function of the relay with regard to the level in the pipe. The largest diameter wire to be connected to the terminals in the instrument is 4 mm².



Important:

The ground wire must be connected to the ground terminal in the housing.

The T10805 compact pump protector is ready to use at the power supply stated when ordering.

The unit can be set to another power supply voltage by resoldering a jumper on the circuit board (conductive path side).

If the T10805 compact pump protector is top-mounted in a horizontal pipe and air bubbles are expected, then a switching delay board is to be connected between the relay and motor contactor.

A spark arrester should be connected to protect the relay contact if instruments with high inductivity are connected to the T10805 compact pump protector (e.g. contactors, solenoid valves, etc.).

Fail-safe switching	Level	Relay contact	LED
Minimum fail-safe for pump protection 	Probe covered (pipe filled) 	 4 5 6	
	Probe uncovered (pipe empty) 	 4 5 6	
Maximum fail-safe 	Probe uncovered (pipe empty) 	 4 5 6	
	Probe covered (pipe filled) 	 4 5 6	
Without power supply		 4 5 6	

Operation of the relay and LED is a function of the level and the fail-safe switching

The fail-safe switch is selected by resetting the jumper in the instrument

The LED showing the switching mode of the relay is visible when the cover is opened.

Technical Data

Operating Data

- For aqueous liquids
- Housing in AISi 12
- Protection to DIN 40050: IP 55
- Threaded socket: 1.4571 (SS 316 Ti)
- Welded socket: 1.4571
- Insulation material: Teflon[®]
- O-ring: Viton[®]
- Ambient temperature for housing
-20 °C ... +60 °C (0...140°F)
- Operating temperature in pipe:
-20 °C ... +100 °C (0...210°F)
(higher temperatures on request)
- Compensation for build-up:
fully automatic

Output

- Relay output: potential-free
changeover contact (21)
max. 250 V, max. 4 A
max. 960 W at $\cos \varphi = 1$
max. 500 VA at $\cos \varphi > 0.7$

Electrical Connection

- Power supply: see Product Structure;
Versions J, A, G, F, B for resoldering;
Version D: 24 V, -10%, +15%,
50/60 Hz
- Max. power consumption: 3.5 VA

Product Structure

Pump protector - compact unit	
Process Connection / Material	
G3	Thread G 3/4 A, 1.4571, 60 AF
H3	Thread G 3/4 A, 1.4571, with 36 AF collar
Y9	Others on request
Material Welded Socket	
1	1.4571 - stainless steel welded socket
9	Others on request
Power Supply	
J	240 V, -15% + 10%, 50/60 Hz
A	220 V, -10% ... 230 V + 10%, 50/60 Hz
G	127 V -15% + 10%, 50 / 60 Hz
F	115 V - 10% +15%, 50 / 60 Hz
B	110 V -10% + 15%, 50 / 60 Hz
D	24 V -10% + 15%, 50 / 60 Hz
T10805	Product designation

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