

Point level switch for liquid, pasty and sticky media in the food and beverage industry

Liquipoint FTW33



€ 223.-
11-35 pcs.

- Flush-mounted installation, pipes remain piggyback
- For water- and oil-based media
- Reliable switching function due to compensation even in the case of heavy buildup

i Specs at a glance:

- **Product:**
Liquid, pasty and sticky media (DC ≥ 2)
- **Installation:**
Vessels and pipes
- **Process temperature range:**
-20 to +100 °C (-4 to +212 °F)
(For 1 hour: +150 °C (+302 °F))
- **Process pressure range:**
-1 to +25 bar
(-14.5 to +362.5 psi)

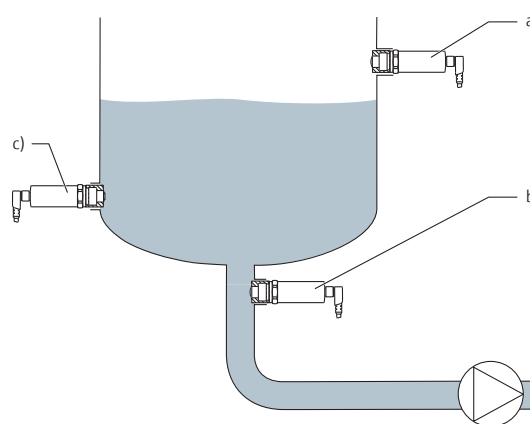
 Complete product information:
www.e-direct.endress.com/ftw33

Application The Liquipoint FTW33 is a point level switch for liquid and pasty media. It is used preferably in storage tanks, mixing vessels and pipes. Developed and built for the food and beverage industry, the Liquipoint FTW33 meets international hygienic requirements. It is particularly suited to applications where flush-mounting is necessary.

The Liquipoint FTW33 can be used permanently in process temperatures up to 100 °C (212 °F) and for 60 minutes in cleaning and sterilization processes up to 150 °C (302 °F). The Liquipoint FTW33 can also be used for detecting the foam that commonly occurs within the food and beverage industry.

Function A low, galvanically isolated AC voltage is applied at the electrode in contact with the process. If liquid or pasty media come in contact with the electrode, a measurable current flows and the Liquipoint FTW33 switches. Active buildup compensation ensures reliable switching of the measuring device even if buildup occurs on the sensor.

Application example



The measuring system consists of a Liquipoint FTW33 point level switch, e.g. for connection to programmable logic controllers (PLC).

- a) Overfill protection or upper level detection (MAX)
- b) Pump dry running protection (MIN)
- c) Lower level detection (MIN)

Technical data

Output	
Function	3-wire DC-PNP Positive voltage signal at the switch output of the electronics
Connectable load	200 mA (short-circuit proof)
Residual voltage	<3 V
Residual current	<100 µA
Supply voltage	10 to 30 V DC
Power consumption	<1 W (at max. load: 200 mA)
Current consumption	<15 mA
Cable specification	– M12 connector: IEC 60947-5-2 – Valve plug: Cable cross-section $\leq 1.5 \text{ mm}^2$ (16 AWG); \varnothing 3.5 to 6.5 mm – Cable: Cable cross-section 0.75 mm^2 (AWG 20)
Connecting cable length	max. 25 Ω /core, total capacitance <100 nF
Performance characteristics	
Reference operating conditions	Horizontal orientation: – Ambient temperature: 20 °C (68 °F) ± 5 °C – Medium temperature: 20 °C (68 °F) ± 5 °C – Process pressure: 1 bar (14.5 psi) – Medium: water – Conductivity: approx. 200 $\mu\text{S}/\text{cm}$
Measured error	$\pm 1 \text{ mm}$ (0.04 in) in accordance with DIN 61298-2
Hysteresis	max. 1 mm (0.04 in)
Non-repeatability	$\pm 0.5 \text{ mm}$ (0.02 in) in accordance with DIN 61298-2
Switching delay	0.5 s when sensor is covered; 1.0 s when sensor is uncovered
Switch-on delay	<1 s (no defined switching status before this)
Orientation	any position
Environment	
Ambient temperature range	–40 to +70 °C (–40 to +158 °F) (at $T_{\text{Process}} \leq 90$ °C (194 °F)), –40 to +45 °C (–40 to +113 °F) (at $T_{\text{Process}} = 150$ °C (302 °F))
Storage temperature	–40 to +85 °C (–40 to +185 °F)
Climate class	DIN EN 60068-2-38/IEC 68-2-38: test Z/AD
Degree of protection	– IP65 (valve plug) – IP65/67 NEMA Type 4X Enclosure (connector for plastic housing cover) – IP66/68/69K NEMA Type 4X/6P Enclosure (M12 connector for metal housing cover) – IP66/68 NEMA Type 4X/6P Encl. (cable)
Cleaning	Resistant to typical cleaning agents from the outside, in accordance with Ecolab test.
Electromagnetic compatibility	In accordance with EN 61326-Serie series and NAMUR Recommendation EMV (NE 21).
Short-circuit protection	Overload protection/short-circuit protection at $I > 250 \text{ mA}$; the sensor is not destroyed. Intelligent monitoring: Testing for overload at intervals of approx. 1.5 s; normal operation resumes once the overload/short-circuit has been rectified

Process	
Process temperature range	–20 to +100 °C (–4 to +212 °F) (For 1 hour: +150 °C (+302 °F))
Process pressure range	–1 to +25 bar (–14.5 to +362.5 psi)
Standard and Extended	The following settings can be made on the device using the test magnet: – Standard: For water- or alcohol-based media (DC ≥ 10) – Extended: For oil-based media (2 < DC < 10) or media which generate heavy buildup

Mechanical construction

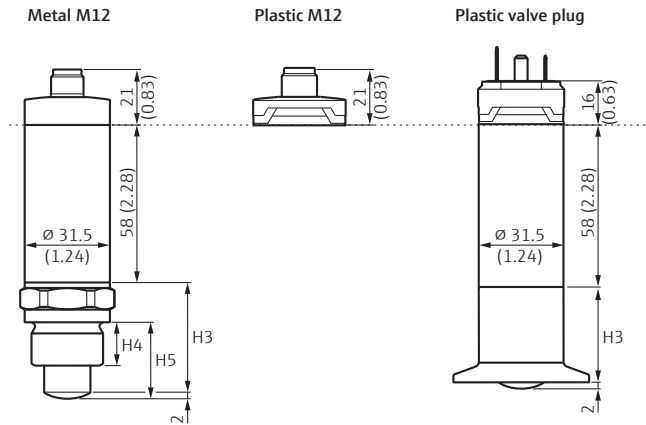
Weight	approx. 300 g (10.58 oz)
Materials in contact with process	– Sensor: 316L (1.4404), PEEK The material PEEK meets the requirements of EU 1935/2004, 10/2011 as well as 2023/2006 and FDA 21 CFR 177.2415 – Process connection: 316L (1.4404 (1.4435))
Materials not in contact with process	Housing covers: – M12 metal: 316L (1.4404) – M12 plastic: PPSU; Design ring: PBT/PC – Valve connector, plastic: PPSU – Plastic cable: PPSU Housing: 316L (1.4404)
Surface	$R_a \leq 0.76 \mu\text{m}$ (30 μin)

Approvals

Approval	CSA C/US General Purpose
Sanitary compatibility	3-A EHEDG

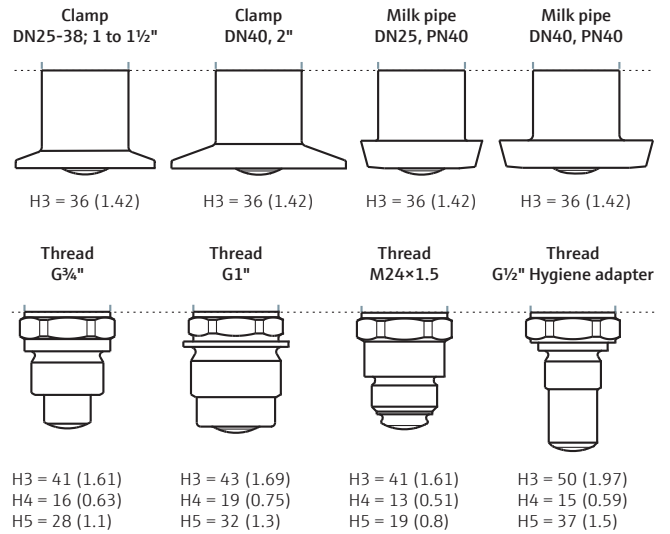
Dimensions in mm (inches)

Housing, electrical connection



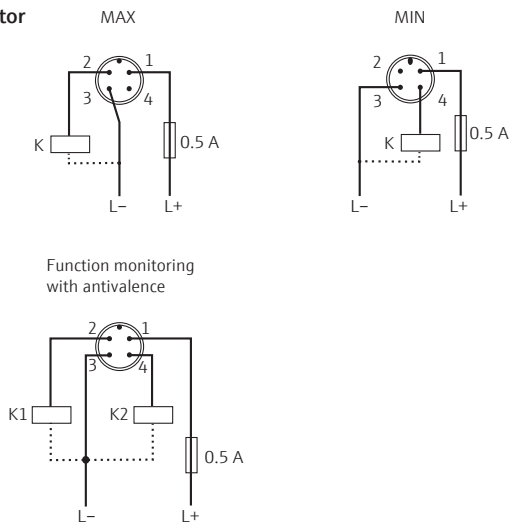
Installation according to instruction manual.

Process connections

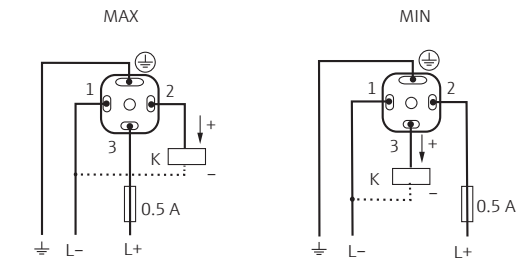


Electrical connection

M12 connector



Valve plug



Price table

Liquipoint FTW33		Order no.	Price/pcs. in €		
Electrical connection	Process connection		1 to 3	4 to 10	11 to 35
M12 connector, IP65/67 NEMA Type 4 Enclosure	Thread ISO228 G1	FTW33-AA4MWSJ	283.-	255.-	232.-
	Thread ISO228 G½	FTW33-AA4MWVJ	278.-	251.-	228.-
	Thread ISO228 G¾	FTW33-AA4MW5J	272.-	244.-	223.-
	DIN11851 DN25 PN40	FTW33-AA4M1AJ	318.-	287.-	261.-
	DIN11851 DN40 PN40	FTW33-AA4M1CJ	318.-	287.-	261.-
	Tri-Clamp ISO2852 DN25-38 (1 to 1½")	FTW33-AA4M3CJ	318.-	287.-	261.-
	Tri-Clamp ISO2852 DN40-51 (2")	FTW33-AA4M3EJ	318.-	287.-	261.-
M12 connector, IP66/68/69K NEMA Type 4/6P Enclosure	Thread ISO228 G1	FTW33-AA4NWSJ	306.-	275.-	251.-
	Thread ISO228 G½	FTW33-AA4NWXJ	301.-	271.-	247.-
	Thread ISO228 G¾	FTW33-AA4NW5J	294.-	265.-	241.-
	DIN11851 DN25 PN40	FTW33-AA4N1AJ	341.-	307.-	280.-
	DIN11851 DN40 PN40	FTW33-AA4N1CJ	341.-	307.-	280.-
	Tri-Clamp ISO2852 DN25-38 (1 to 1½")	FTW33-AA4N3CJ	341.-	307.-	280.-
	Tri-Clamp ISO2852 DN40-51 (2")	FTW33-AA4N3EJ	341.-	307.-	280.-

Accessories	Order no.	Price/pcs. in €
Weld-in adapter G¾, d=50, 316L	71258355	25.77
Weld-in adapter G¾, d=29, 316L	71258357	26.-
Weld-in adapter G1, d=60, 316L	52001051	37.76
Weld-in adapter G1, d=53, 316L	71258358	37.77
5 m cable with M12×1 plug + integrated LED	52018763	20.22
5 m cable with M12×1 plug	52010285	7.05
Straight plug, without cable (self wired)	52006263	15.32
Test magnet	71267011	7.05

Prices are applicable for Austria until 30/09/2019, in Euro per unit, net excluding value added tax (VAT), cost of packing and dispatch. The terms of sales and delivery of Endress+Hauser are applicable. Delivery times: 48 hours or 5 working days – please check www.e-direct.endress.com for exact delivery times. Endress+Hauser retains the right to change or modify pricing at any time. Prices can be verified prior to ordering on www.e-direct.endress.com.

 Complete product information:
www.e-direct.endress.com/ftw33

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