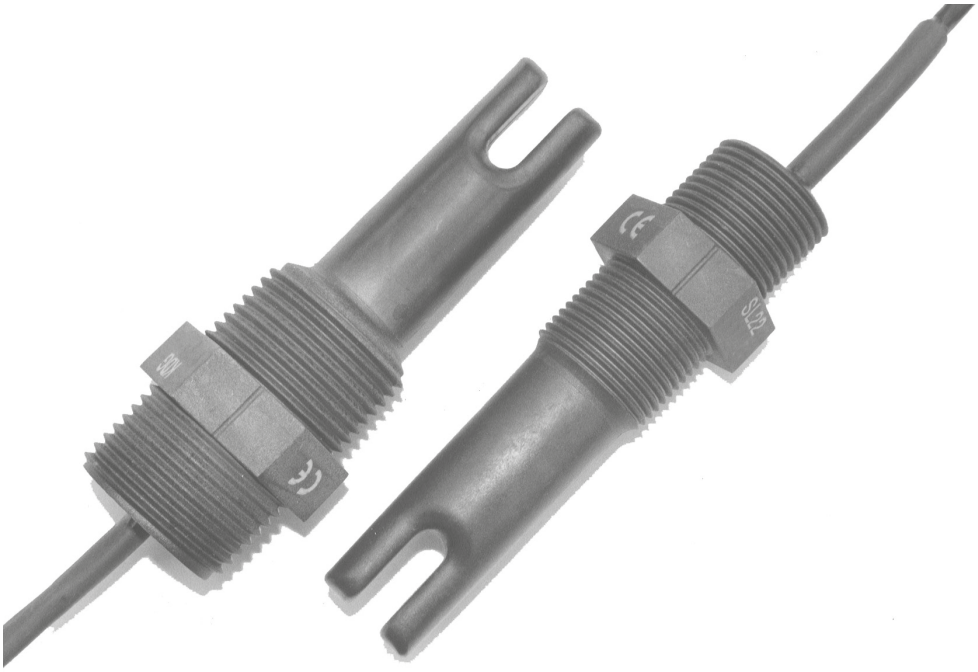
FU-03

Ultrasonic Liquid Level Switch



- **1“ or 3/4“ threaded mounting**
- **Relay or solid-state output**
- **24V AC or DC powered**
- **Corrosion resistant PPS construction**
- **Small in-tank dimensions**
- **No moving parts**

Description: The moulded body contains two piezo-electric crystals on each side of the gap at the tip of the sensor. An ultrasonic signal is transmitted from one crystal into the gap. If there is air or gas in the sensor gap, the signal is not received by the other crystal. If there is liquid present, the signal will be transmitted across the gap, and the integral electronics will switch the output circuitry to signal the presence of a liquid.

Typical applications: The FU-03 is manufactured in Polyphenylene Sulphide (PPS). It is corrosion resistant in many liquids and can be used even in aggressive liquids such as acids and lyes.
The sensor can be mounted in any position in a tank using the 1“ or 3/4“ BSPT or the 1“ NPT threads available.
A thread is provided on each side of a hexagonal boss to allow external or internal pole mounting of the sensor.
Comprising a one piece moulded body with integral pcb, the FU-03 switch is factory sealed and supplied with 10ft (3m) flying lead for customer connection. The FU-03 switch meets the EU regulation, is powered with 24 VAC or DC and can be used for high or low level alarm duties to give a voltage free changeover contact or dual solid state transistor output.
Typical applications are: low level alarms in header tanks, pump control duty in feeder tanks, high and low alarms in storage tanks, level and pump control in storage tanks and small or thin wall tanks.

N 2015 / 05

www.profimess.com
Schleusenstraße 3 · 27568 Bremerhaven · ☎ +49 471 98 24 -151 · 🖷 +49 471 98 24 -152 · E-Mail: info@profimess.de

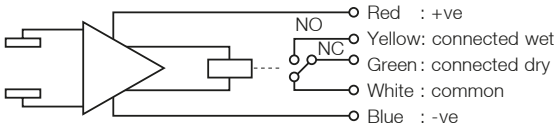
Versions:

FU-03 Ultrasonic Liquid Level Switch

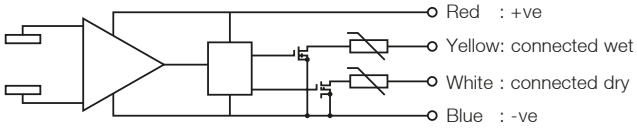
Electrical function: The FU-03 switch is factory sealed and supplied with a 3 m flying lead for customer connection.
It is designed for high or low level alarm duties to give a voltage free changeover contact or dual solid state transistor output for alarm signalling .

Process connection: The FU-03 can be mounted in any position in a tank using either a BSPT 1“ or 3/4“ thread or a 1“ NPT thread.
A thread is provided on each side of a hexagonal boss to allow either external or internal/pole mounting of the sensor.

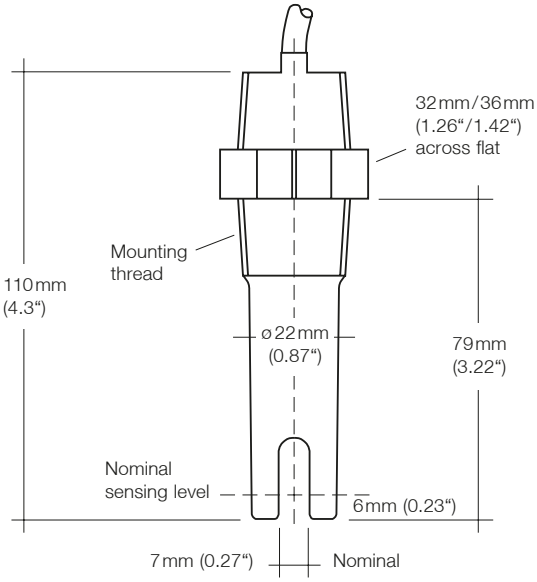
Schematic FU-03-R.x models



Schematic FU-03-T.x models



Dimensions



Ordering codes:

Ordering number:	FU-03.	R.	0.	0

FU-03 Ultrasonic Liquid Level Switch

Output:
R = integral SPCO relay energised when sensor wet
T = two open drain FET transistors

Mounting thread:
0 = 3/4“ BSPT
1 = 1“ BSPT
2 = 1“ NPT

Option:
0 = no option
1 = relay energised when sensor dry

Technical specifications:

Operating pressure:	5 bar/72.5 psi
Operating temperature:	-20°C to + 70°C (FU-03.R) -40°C to +105°C (FU-03.T)
Ambient temperature:	as operating temp.
Minimum S.G.:	0.50 g/cm^3
Max. viscosity:	5000 cSt. at 68°F (+20°C)
Switching response:	50 ms dry - wet, 0,5 s wet - dry
Hysteresis:	< 4 mm/0.12“
Repeatability:	± 2 mm/0.08“
Overall length:	110 mm/4.33“
Length into tank:	79 mm/3.11“ (external mount)
Body diameter:	22 mm/0.87“
Body Material:	Polyphenylene Sulphide (PPS)

Electrical Specifications:

FU-03.R* Models

Power supply:	18 to 30 V DC or AC
Switching function:	SPCO relay (energised wet)
Max. switched current:	1 A at 30 V res., 0.25 A at 30 V ind. (FU-03.R
Max. switched voltage:	30 V
Dry current drawn:	10 mA nom. (FU-03.R)
Wet current drawn:	25 mA nom. (FU-03.R)
Cable length:	3m/10ft: 5 core 7/0.2 mm (0.008“)
Cable sheathing:	PVC
IP rating of sensor:	IP66/IP68 (3 m)/NEMA 6P (10ft)

FU-03.T* Models

Power supply:	18 to 30 V DC
Switching function:	2 x FET open drain (short circuit protected)
Max. switched current:	100 mA max.
Max. switched voltage:	30 V
Dry current drawn:	8 mA nom. (4 mA min.)
Wet current drawn:	16 mA nom. (20 mA max.)
Cable length:	3m/10ft: 4 core 7/0.2 mm (0.008“)
Cable sheathing:	PVC
IP rating of sensor:	IP66/IP68 (3 m)/NEMA 6P (10ft)