



FV-01

Compact Tuning Fork Level Switch



Features

- / Proven vibration principle
- / Short immersion depth of 40 mm
- / Error monitoring
- / Integrated testing function to ensure fault-free operation

Description:

The FV-01 is a compact tuning fork level switch for fluids and slurry. It can be used as overflow, high, low and demand applications, as well as pump protection. It is ideal for use in confined spaces. The vibrating fork is piezoelectric driven and vibrates on a mechanical resonance frequency of approximately 1.100 Hz. When the fork is covered by media, this frequency changes. This change will be registered by the built in oscillator, transforming it into a switching signal. Then, the integrated electronic will send this signal to connected devices. The FV-01 works practically without interferences from chemical or physical qualities of the fluid media. It can even be used under harsh conditions, such as turbulences, air bubbles, foam and external vibratons.

Application:

The 40 mm long vibrating fork makes the FV-01 ideal for deployment in small pipes and confined installations. The compact level switch was created to be used in all industrial fields with process engineering. The preferred field of application includes liquids and slurries, level monitoring and overflow and dry-running protection.



Technical Specifications:

Accuracy /

Switching point:	about 13 mm from the tip
Hysteresis:	2 mm for installation from above
Delay:	about 500 ms (on/off)
Frequency:	about 1100 Hz

Pressure /

-1 .. .64 bar g

Ambient-temp. /

-40 .. +70 °C

Media-temp. /

-40 .. +100 °C (standard)
-40 .. +150 °C (raised)

Media density /

0,7 .. .2,5 g/cm³

Materials /

Housing:	1.4404/316L and plastic PEI
Vibrating fork:	316L (1.4404 or 1.4435)
Process connection:	316L (1.4404 or 1.4435)
Seal:	klingsil C-4400

Process connection /

Thread (ISO 228 T1):	G ¾" A or G 1" A, others on request
Thread, conical:	¾" NPT or 1" NPT, others on request
Hygienic:	Pipe fitting DN 40, PN 40 Tri-clamp 1", 1½", 2" PN 10

Weight /

250 g (housing)

Ordering Codes:

Order number	FV-01.	1.	A.	2.	0.	1
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FV-01 Compact Vibrating Switch

Process connection /

1 = thread G¾" A PN 64/316L
2 = thread ¾" NPT A PN 64/316L
3 = thread G1" A PN 64/316L
4 = thread 1" NPT A PN 64/316L
9 = other (please specify separately)

Temperature /

A = -40 .. +100°C (standard)
B = -40 .. +150°C (raised)

Elektronik /

1 = 2-wire on load in series
2 = transistor output PNP DC 10 .. 35 V

Approvals /

0 = none
1 = ship-building approval (DNV, GL) - only possible for 150°C version
2 = flooding protection from WHG (only with transistor output)

Electrical connection /

1 = M12 x 1/IP67 (only PNP-output)
2 = DIN 43650 incl. plug/IP65

Electrical Specifications:

Power supply /

AC 20 .. 253 V, 50/60 Hz
DC 20 .. 253 V

Power consumption /

max. 0,5 W

Cable glands /

1 x M12 [IP66/IP67 or IP68 (0,2 bar)]

Electrical connection

Protection class /

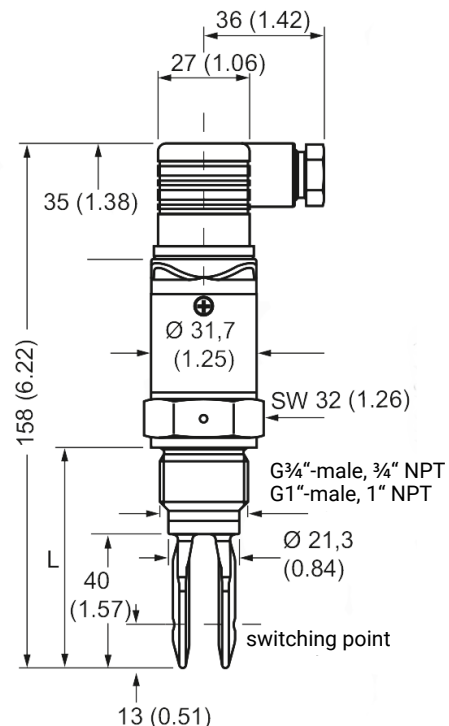
M12 x 1/IP67
according to ISO 4400 incl. plug/IP65
according to DIN 43650 incl. plug with
QUICKON-connection/IP65
M12 x 1 incl. 5 m cable/IP68 (0,2 bar)

Approvals /

overflow protection acc. to WHG
Ship-building approvals

Dimensions in mm:

Thread G¾"-male, G1"-male
(DIN ISO 228/1),
¾" NPT, 1" NPT
(valve plug ISO 4400)



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Length with G¾"-male, ¾" NPT:66 (2.6)
Length with G1"-male, 1" NPT:69 (2.7)