

CAPACITIVE LEVEL LIMIT SWITCH



Type: **PFKS**

- AQUEOUS MEDIA
- OUTPUT PNP, 50 mA
- HYGIENIC G1/2" CONNECTION
- EHEDG CONFORMITY



ORDER DETAILS

Level switch standard	M12 × 1, process connection standard, 24 V DC, aqueous media
Level switch, lubricous media	M12 × 1, process connection standard, 24 V DC, on request

The manufacturer document lists no further versions.



OVERVIEW

The capacitive limit switch is built with a hygienic process connection for the pharmaceutical and food industries and is adjusted for aqueous media — water, ultrapure water, beer, milk, CiP solution, juice. It does not measure a level, it switches: the PNP output carries 50 mA, is short-circuit proof and responds after 140 ms. Body and process connection are stainless steel, the probe tip is PEEK; the device conforms to EHEDG and withstands CiP/SiP cleaning at 0 ... 150 °C for 30 minutes. Two limits are stated expressly by the manufacturer: condensation and temperature shock are not permitted, and the IP68 rating does not change that. For hygienic use a welding sleeve belongs between device and process; once the sensor is sealed, an intact electrical connection has to remain between the G1/2" thread and the wall of the tank.

INPUT AND OUTPUT

- Capacitive limit switch for aqueous media
- Other media on request
- Output PNP, 50 mA, short-circuit proof, active
- Response time 140 ms, delay < 300 ms
- Supply 24 V DC $\pm 20\%$ (18 ... 32 V DC)
- Own current consumption < 20 mA
- Electrical connection M12 x 1, 4-pole
- Conformity with EHEDG

DEVICE AND MOUNTING

- Process connection G1/2" hygienic
- Welding sleeve on request
- Body and process connection stainless steel
- Probe tip PEEK, weight approx. 240 g
- Fitting position any, system pressure 10 bar maximum
- Protection class at least IP67 electronics, IP68 sensor
- Operation -10 ... +60 °C, process 0 ... +100 °C
- CiP/SiP cleaning 0 ... 150 °C for 30 min



TECHNICAL DATA

INPUT AND SWITCHING BEHAVIOUR

Principle	capacitive, limit level
Medium	aqueous media (e.g. beer, milk, CiP liquids)
Other media	on request
Adjusted for	water, ultrapure water, beer, milk, CiP solution, juice
Response time	140 ms
Switch-on delay	< 300 ms
Fitting position	any

PROCESS AND MATERIALS

Process connection	G1/2" hygienic
System pressure	10 bar maximum
Body	stainless steel
Process connection, material	stainless steel
Probe tip	PEEK
Weight	approx. 240 g
Dimensions	body 50 × 36 mm, 55 mm below the body
Protection class	at least IP67 electronics · IP68 sensor

OUTPUT AND SUPPLY

Output	PNP, active
Current	50 mA
Short-circuit proof	yes
Supply voltage	24 V DC ±20 % (18 ... 32 V DC)
Own current consumption	< 20 mA
Isolation	supply not electrically isolated from the sensor ground
Output voltage	proportional to the supply voltage
Electrical connection	M12 × 1, 4-pole

AMBIENT CONDITIONS

Operating range	−10 ... +60 °C
Storing	−20 ... +70 °C
Process temperature	0 ... +100 °C
CiP/SiP cleaning	0 ... 150 °C for 30 min
Condensation	not permitted
Temperature shock	not permitted
Conformity	EHEDG

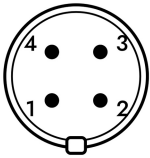
NOTES FOR USE

Mounting	Once the sensor is sealed, an intact electrical connection has to remain between the G1/2" thread and the wall of the tank; sealing tape therefore cannot be used. For hygienic applications the device is connected to the process through a welding sleeve; such sleeves are available on request.
Limits	Highly adhesive media can cause incorrect measurements. If the dew point is undercut, condensation can destroy the sensor. Under changing temperatures — a cold water jet on a hot sensor, for instance — liquid can be drawn into the sensor or into the connector. The IP68 rating does not imply that the device is suitable for dew point undercut or thermal shock.



ELECTRICAL CONNECTION

View onto the connector pins at the device



M12x1, 4-pole

Supply 24 V DC

+	-
1	3
U+	GND

Switching signal PNP

4
OUT/PNP

Plug M12x1, 4-pole

Pin 1 carries U+, pin 3 GND and pin 4 the switching signal OUT/PNP; pin 2 is not used. The view onto the connector pins is given in the manufacturer document itself. The supply is not electrically isolated from the sensor ground.

ACCESSORIES

Welding sleeve

adapter sleeve for hygienic mounting, available on request

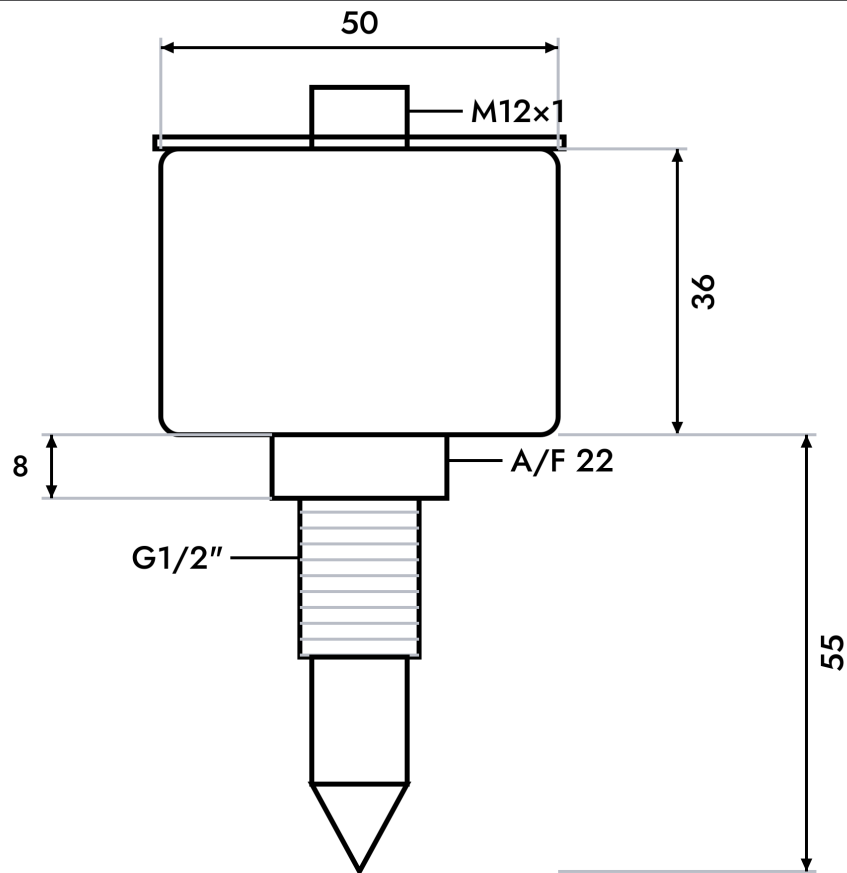
The device has to be connected to the process through such a sleeve for hygienic applications.

COMPLIANCE

 IP67	Protection class, electronics	at least IP67
 IP68	Protection class, sensor	IP68
 Stainless Steel	Wetted material	stainless steel, body and process connection; probe tip PEEK
 M12	Electrical connection	M12 x 1, 4-pole

The device conforms to EHEDG. No approval beyond this is documented in the manufacturer document.

DIMENSIONS (mm)



Drawn by octogon from the manufacturer document; the dimensioned values — 50, 36, 55, 8 and the 22 across flats — are taken from it, the outline is schematic.

