float

Level Gauge/Switch Flex-LC

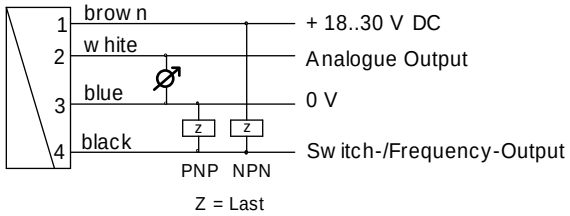
- level sensor with reed chain
- analogue output and/or switching output
- alternative with temperature sensor
- available in various materials
- designed for industrial use
- small, compact construction
- very easy installation

PRINCIPLE

A float equipped with a magnet switches a reed chain within the brass lining, which is actuated like a potentiometer using resistors. The resolution is 10-20mm and very repeatable. The Flex sensor electronics convert the potentiometer values into standardised outputs using a microcontroller and, in addition to an analogue output, also provides a switching output Alternatively, a temperature sensor can be integrated which actuates the analog output or the switching output.

TERMINAL ASSIGNMENT

Before the electrical installation, make sure that the supply voltage corresponds to the data provided!



Please you use shielded cable, signal lines < 30m and power supply lines < 10m.

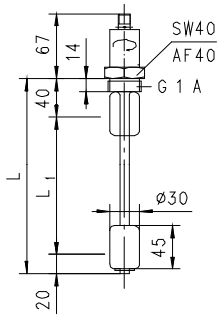
TECHNICAL DATA

lengths, pitch, and operating pressure	see table under "DIMENSIONS"
working temperature	-20..70°C (with goose-neck max. 105°C)
storage temperature	-20..80°C
voltage supply	18..30 VDC
power consumption	< 100mA
analogue output	4..20 mA or 0..10 VDC
switching output	transistor output, PNP or NPN) max. load of 100mA, available as minimum or maximum switch, short circuit proof/ reverse polarity protected
switching hysteresis	approx. 2% (>1 increment) or optional. Position depends on minimum or maximum.
display (only in case of switching output)	yellow LED (ON = OK /OFF = alarm)
connection	at locking plug M 12x1, 4-pole
protection class	IP67
materials in contact with media	Ms58 brass and spansil or stainless steel 1.4571
material electronic housing	stainless steel 1.4305

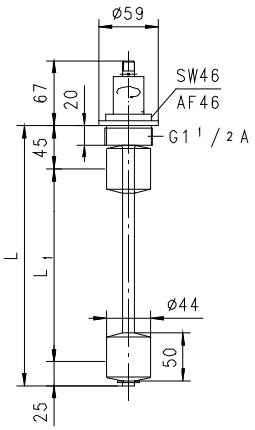
PROGRAMMING

Designs with a limit switch have a magnetic contact by means of which the current measurement value can be assumed as a limit value. It is programmed by applying a magnet to the marking on the type plate for 0.5 to 2 seconds. If the contact time is too short or too long, no programming will take place (protection against magnetic fields). Immediately after programming, the switching output enters the OK state (LED on, output switched through, e.g. PNP = high or NPN = low).

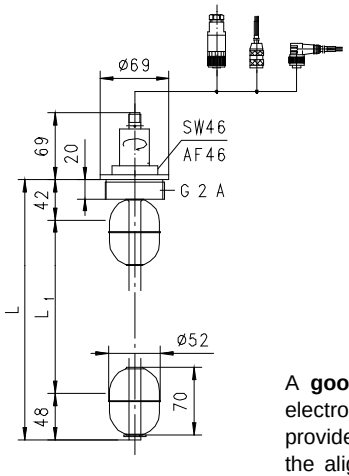
DIMENSIONS



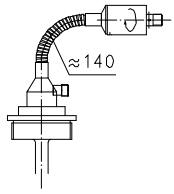
Flex-LC-45m



Flex-LC-44m



Flex-LC-52K



A **goose-neck** (optional) between the electronic head and the primary sensor provides for freedom of movement in the alignment and reading direction of the sensor. At the same time, this option provides for a thermal decoupling between both units.

	G	Type	PN bar	density of medium g/cm³	resolution mm	L mm	L1 mm	weight kg
brass	G1 A	Flex-LC45M0250	20	≥0,34	10	250	190	0.6
		Flex-LC45M0500	20	≥0,34	10	500	440	0.7
		Flex-LC45M0750	20	≥0,34	10	750	690	0.7
		Flex-LC45M1000	20	≥0,34	10	1000	940	0.8
	G1 1/2 A	Flex-LC44M1000	20	≥0,44	20	1000	930	0.8
		Flex-LC44M1500	20	≥0,44	20	1500	1430	0.9
		Flex-LC44M2000	20	≥0,44	20	2000	1930	0.9
stainless steel	G2 A	Flex-LC52K0250	40	≥0,66	10	250	160	1.1
		Flex-LC52K0500	40	≥0,66	20	500	510	1.1
		Flex-LC52K0750	40	≥0,66	20	750	690	1.1
		Flex-LC52K1000	40	≥0,66	20	1000	910	1.2
		Flex-LC52K1500	40	≥0,66	20	1500	1410	1.2
		Flex-LC52K2000	40	≥0,66	20	2000	1910	1.2

RELATED PRODUCTS

omni-LC
Evaluation electronics with backlit LCD, current output, and two electronic limit switches, parametrisable via setting ring gauge

NOMENCLATURE

Example:

Flex-LC	45M	250	I	L	P	T	R	I
A	B	C	D	E	F	G	H	I

A sensor family:

Flex-LC	level sensors, reed chain, Flex system	●

B connection size:

45M	screw-in thread, G1A, brass - spansil float	●
44M	screw-in thread, G1 1/2 A, brass - spansil float	●
52K	screw-in thread, G2A, stainless steel	●

C pipe length:

0250	L = 250mm	●
0500	L = 500mm	●
1250	L = 750mm	●
1500	L = 1000mm	●
1750	L = 1500mm	●
2000	L = 2000mm	●

D analogue output:

I	current output 4..20 mA	●
U	voltage output 0..10 V	●
K	no analogue output	●

E the analogue output is actuated by the following:

L	level	●
T	temperature	●

F switching output:

P	switching output PNP	●
N	switching output NPN	●
m	switching output NPN (open collector)	❍
K	no switching output	●

G the switching output is actuated by the following:

L	level	●
T	temperature	❍

H switching signal:

L	minimum switch	●
H	maximum switch	❍
R	frequency output	●
K	no switching output	●

I inversion of output:

O	standard output	●
I	inverted output	●

Options:

special measurement range, temperature:
maximum 120°C (standard = 70°C) ☐☐☐ °C

minimum -20°C (standard = 0°C) ☐☐☐ °C

end frequency (max. 2000 Hz) ☐☐☐☐ Hz

turn-on delay (from alarm to OK) ☐☐ s

turn-off delay (from OK to alarm) ☐☐ s

power-on delay ☐☐ s
(time after the supply is created; in this time the switching output is not activated)

switching output with permanent setting ☐☐☐☐ cm °C

special hysteresis ☐☐ %
(standard = 2% F.S.)

goose-neck ☐
(recommended for application temperatures over 70°C)

In case of empty fields, the standard setting will be selected automatically.

ACCESSORIES

Locking plug M12x1

K	PU-	02	S	G	S		basic type / specification
K						●	assembled
KB04						●	self makable cable 4-pole
	PU-					●	material PUR
		02				●	length 2 m
		05				●	length 5 m
		10				●	length 10 m
			S			●	moulded-on plug
				G		●	straight plug
				W		●	angled plug 90°
					S	●	shielded

All technical changes reserved

●BASIC Standard ❍BASIC Programme option ❑VARIO Special option ⊕ PLUS Accessories ✗not recommendable