

LBFS-01G21.0

Point level detection based on frequency sweep technology

Article number: 11154490

Overview

- Reliable in diverse media
- Wide variety of process connections
- For hygienic and industrial applications
- With marine, WHG and cULus approval
- Process temperatures up to 150 °C



Picture similar

EN 50155

Technical data

Performance characteristics

Measuring principle	CleverLevel level switches (Frequency Sweep)
Hysteresis	± 1 mm
Media characteristics	DC > 1.5
Step response time	0.1 s, typ. 0.2 s, max.
Damping	0 ... 10 s, adjustable
Repeatability	± 1 mm

Process conditions

Process temperature	- 40 ... 150 °C, continuous @ Tamb < 50 °C
Process pressure	- 1 ... 100 bar

Process connection

Connection variants	G 1/2 A ISO 228-1 with cooling neck
Mounting position	Any, top, bottom, side
Wetted parts material	PEEK Natura AISI 316L (1.4404)
Surface roughness wetted parts	Ra ≤ 0.8 µm

Ambient conditions

Operating temperature range	-40 ... 85 °C
Storage temperature range	-40 ... 85 °C
Degree of protection (EN 60529)	IP67, with appropriate cable IP69K, with appropriate cable
Humidity	< 98 % RH, condensing
Vibration (sinusoidal) (EN 60068-2-6)	1.6 mm p-p (2 ... 25 Hz), 4 g (25 ... 100 Hz), 1 octave / min. GL, test 2

Output signal

Output type	PNP
-------------	-----

Output signal

Switching logic	Normally closed (NC) Normally open (NO)
Voltage drop	PNP: (+Vs -1.5 V) ± 0.5 V, Rload = 10 kΩ
Current rating	20 mA, max.
Off leak current	< 100 µA, max.
Status indication	Status indication by bright, blue LED
Short circuit protection	Yes

Housing

Style	Compact transmitter
Overall size	Refer to section "Dimensional drawings"
Material	Stainless steel

Electrical connection

Connector	M12-A, 4-pin, polycarbonate
-----------	-----------------------------

Power supply

Voltage supply range	12 ... 30 V DC
Current consumption (no load)	25 mA, typ. 50 mA, max.
Power-up time	< 2 s
Reverse polarity protection	Yes

Factory settings

Switching range (dielectric constant DC)	< 75.3 %, DC > 2
Range hysteresis	2.4 %
Damping	0.1 s

ATEX II 1D Ex ta IIIC T100 °C Da

Temperature class T100 °C	-40 < Tamb < 85 °C
---------------------------	--------------------

ATEX II 1G Ex ia IIC T4/T5 Ga

Internal capacitance, Ci	43 nF
Temperature class, T1 ... T5	-40 < Tamb < 74 °C

ATEX II 1G Ex ia IIC T4/T5 Ga

Temperature class, T1 ... T5	-40 < Tamb < 74 °C
------------------------------	--------------------

LBFS-01G21.0

Point level detection based on frequency sweep technology

Article number: 11154490

Technical data

Compliance and approvals

EMC Emission	EN 61326, installed in a closed metal tank
EMC Immunity	EN 61326, installed in a closed metal tank
Railway applications	EN 50155

Compliance and approvals

Safety	WHG (overflow, leakage)
Marine	CCS
Pharma	USP Class VI (PEEK material)

Operating conditions

Ordering key	Process connection	BCID	Continuous		Temporary (t < 1 h)	
			Process temperature @ Tamb < 50 °C	Process pressure	Process temperature max. @ Tamb < 50 °C	Process pressure @ Process temperature max.
			(° C)	(bar)	(° C)	(bar)
LBFS-##1##.#	G 1/2 A ISO 228-1 BSC	G07	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##2##.#	G 3/4 A ISO 228-1	G10	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##3##.#	G 1 A ISO 228-1	G11	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##4##.#	G 1/2 A hygienic	A03	-40 ... 115	-1 ... 10	135	-1 ... 5
LBFS-##5##.#	G 1/2 A ISO 228-1 for reverse assembly (in-shell thread)	T10	-40 ... 85	-1 ... 100	N/A	N/A
LBFS-##6##.#	3/4-14 NPT	N03	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##7##.#	M18 × 1 ISO 261 / ISO 965	M11	-40 ... 115	N/A	N/A	N/A
LBFS-##A##.#	G 1/2 A DIN 3852-E, NBR gasket	G51	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##B##.#	G 1/2 A DIN 3852-E, FKM gasket	G51	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##E##.#	G 1/2 A DIN 3852-E, FKM gasket, with cooling neck	G51	-40 ... 150	-1 ... 100	N/A	N/A
LBFS-##G##.#	G 1/2 A ISO 228-1 BSC, with cooling neck, not applicable for mounting with ZPW1-7x1	G07	-40 ... 150	-1 ... 100	N/A	N/A
LBFS-##J##.#	G 1/2 a hygienic gasket, with cooling neck	A03	0 ... 150	-1 ... 10	N/A	N/A
LBFS-##K##.#	G 1/2 A hygienic, length 82 mm	A03	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##L##.#	G 1/2 A hygienic, sliding connection, length 250 mm	A03	-40 ... 150	-1 ... 5	N/A	N/A
LBFS-##M##.#	1/2-14 NPT, with cooling neck	N02	-40 ... 150	-1 ... 100	N/A	N/A
LBFS-##N##.#	1/2-14 NPT	N02	-40 ... 115	-1 ... 100	135	-1 ... 100
LBFS-##S##.#	G 1/2 A hygienic gasket, VMQ70, with cooling neck	A03	-10 ... 150	-1 ... 10	N/A	N/A

For further information on permissible process and ambient temperatures, please refer to the operating instructions.

LBFS-01G21.0

Point level detection based on frequency sweep technology

Article number: 11154490

Compliance and approvals

Ordering key	Process connection	BCID	EN 1935/2004 EN 10/2011 EN 2023/2006	FDA	3-A	EHEDG EL-Class I	USP Class VI	DNV GL	Lloyd's Register	CCS	WHG (overfill, leakage)
LBFS-##1##.#	G 1/2 A ISO 228-1 BSC	G07					■	■	■	■	■
LBFS-##2##.#	G 3/4 A ISO 228-1	G10					■	■	■	■	■
LBFS-##3##.#	G 1 A ISO 228-1	G11					■	■	■	■	■
LBFS-##4##.#	G 1/2 A hygienic	A03	■	■	■	■	■	■	■	■	■
LBFS-##5##.#	G 1/2 A ISO 228-1 for reverse assembly (in-shell thread)	T10					■	■	■	■	■
LBFS-##6##.#	3/4-14 NPT	N03					■	■	■	■	■
LBFS-##7##.#	M18 × 1 ISO 261 / ISO 965	M11					■	■	■	■	■
LBFS-##A##.#	G 1/2 A DIN 3852-E, NBR gasket	G51					■	■	■	■	■
LBFS-##B##.#	G 1/2 A DIN 3852-E, FKM gasket	G51					■	■	■	■	■
LBFS-##E##.#	G 1/2 A DIN 3852-E, FKM gasket, with cooling neck	G51					■			■	■
LBFS-##G##.#	G 1/2 A ISO 228-1 BSC, with cooling neck	G07					■			■	■
LBFS-##J##.#	G 1/2 A hygienic gasket, with cooling neck	A03	■	■	■					■	
LBFS-##K##.#	G 1/2 A hygienic, length 82 mm	A03	■	■						■	■
LBFS-##L##.#	G 1/2 A hygienic, sliding connection, length 250 mm	A03	■	■		■				■	■
LBFS-##M##.#	1/2-14 NPT, with cooling neck	N02								■	■
LBFS-##N##.#	1/2-14 NPT	N02						■	■	■	■
LBFS-##S##.#	G 1/2 A hygienic gasket, VMQ70, with cooling neck	A03	■	■	■	■				■	

Information on product characteristics may relate to defined product options.

The requirements of the respective 3-A Sanitary Standard will be only fulfilled in combination with appropriate mounting accessories. Those are marked with the 3-A logo.

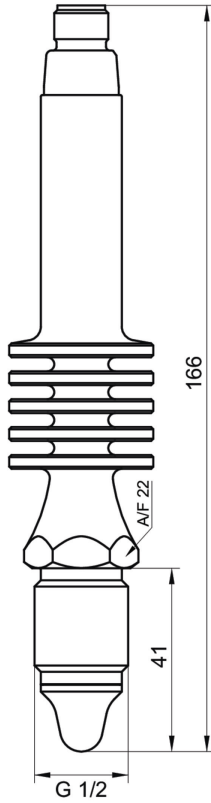
The EHEDG certification is only valid in combination with appropriate mounting accessories. Those are marked with the "EHEDG Certified" logo.

LBFS-01G21.0

Point level detection based on frequency sweep technology

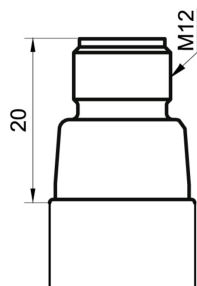
Article number: 11154490

Dimensional drawings (mm)



G 1/2 A ISO 228-1 BSC with cooling neck
(BCID: G07)

Housing

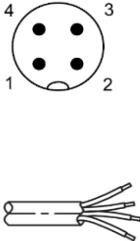
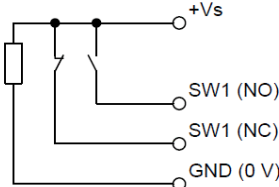
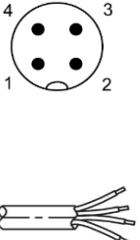
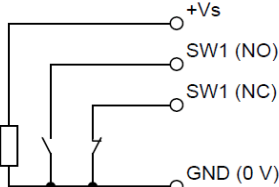


Connector M12-A, 4-pin, polycarbonate (with
LED)

LBFS-01G21.0

Point level detection based on frequency sweep technology
Article number: 11154490

Electrical connection

Output type	Electrical connection	Equivalent circuit	Function	Pin assignment
PNP			+Vs	1
			SW1, Normally open (NO)	4
			SW1, Normally closed (NC)	2
			GND (0 V)	3
			+Vs	BN
			SW1, Normally open (NO)	BK
NPN			+Vs	1
			SW1, Normally open (NO)	4
			SW1, Normally closed (NC)	2
			GND (0 V)	3
			+Vs	BN
			SW1, Normally open (NO)	BK
			SW1, Normally closed (NC)	WH
			GND (0 V)	BU