



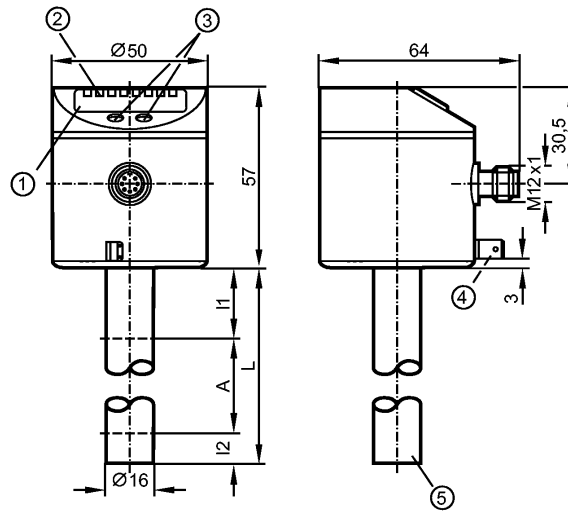
LL8023

LL0472B-B-00KVPKG/US



Level sensors

Please note the wiring of the sensor and the sockets (see data sheet) as for 8-pole sockets the core colours are not standardised.



- 1: 4-digit alphanumeric display
- 2: status LEDs
- 3: Programming buttons
- 4: Housing connection (flat-pin connector 6.3 mm following DIN 46244)
- 5: Position of the temperature measuring element



Product characteristics

Electronic level sensor with leakage monitoring

Quick disconnect

4 switching outputs:

1 operating output

1 output sudden leakage

and minimum level alarm

1 output progressive leakage

1 overflow output

Temperature indication

-10...100 °C

4-digit alphanumeric display

Probe length: L = 472 mm

4-digit alphanumeric display

Application

Application	Hydrous coolants, oils, water, media similar to water	
Cannot be used for:	extremely conductive and adhering media, granulates and bulk materials, acids and alkalis, food and electroplating applications	
Dielectric constant medium	> 2	
Medium temperature oil		
- Continuous	[°C]	0...70
- Short time	[°C]	0...90
Medium temperature water and hydrous media	[°C]	0...35 (LL8023 + E43101: 0...60) **
Medium temperature coolant emulsions	[°C]	0...35 (LL8023 + E43101: 0...60) **



LL8023

LL0472B-B-00KVPKG/US



Level sensors

Maximum speed of the change of level [mm/s]	200
---	-----

Electrical data

Electrical design	DC PNP
Operating voltage [V]	18...30 DC 1)
Current consumption [mA]	< 60
Protection class	III
Reverse polarity protection	yes

Outputs

Output function	4 x normally open / closed programmable
Current rating [mA]	200
Voltage drop [V]	< 2.5
Short-circuit protection	thermal, pulsed
Overload protection	yes

Measuring / setting range

Probe length L [mm]	472
Active range A [mm]	390
Inactive range I1 / I2 [mm]	53 / 30
Setting range	
Set point, SP [mm]	40...390
Reset point, rP [mm]	35...385
in steps of [mm]	5
Hysteresis [mm]	5
Overflow switch point OP [mm]	139 - 163 - 188 - 212 - 236 - 261 - 285 - 310 - 334 - 358 - 383 - 407
Hysteresis OP [mm]	3

Accuracy / deviations

Deviations (% of value of measuring range)	
Switch point accuracy	± 5
Repeatability	± 2

Reaction times

Power-on delay time [s]	3
-------------------------	---

Software / programming

Programming options	hysteresis / window function; N.O. / N.C; position of SP/rP; position of OP; OP adjustment; medium adjustment; offset; display unit; settings for leakage monitoring
---------------------	--

Environment

Ambient temperature [°C]	0...60
Storage temperature [°C]	-25...80
Maximum vessel pressure [bar]	0.5 (mounted with mounting accessories E43001 - E43007)
Protection	IP 67

Tests / approvals

EMC	EN 61000-4-2 ESD:	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated:	10 V/m
	EN 61000-4-4 Burst:	2 kV
	EN 61000-4-6 HF conducted:	10 V
Shock resistance	DIN EN 60068-2-29:	15 g (11 ms)



LL8023

LL0472B-B-00KVPKG/US



Level sensors

Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz)
----------------------	------------------	--------------------

MTTF [Years]	202	
--------------	-----	--

Mechanical data

Materials (wetted parts)	PP	
--------------------------	----	--

Housing materials	stainless steel (304S15); FKM; NBR; PBT; PC; PEI; PP; TPE / V	
-------------------	---	--

Weight [kg]	0.424	
-------------	-------	--

Displays / operating elements

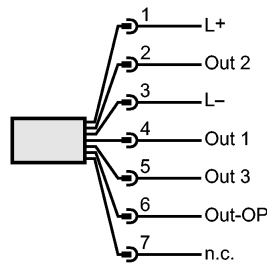
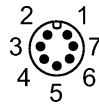
Display	Display unit / status	4 x LED green
	Switching status	4 x LED yellow
	Level	4-digit alphanumeric display
	Programming	4-digit alphanumeric display

Electrical connection

Connection	M12 connector (according to EN 61076-2-101); gold-plated contacts	
------------	---	--

Wiring

OUT1 = operating output
 OUT2 = output sudden leakage / minimum level alarm
 OUT3 = output progressive leakage
 OUT-OP = overflow output
 n.c. = not connected



Remarks

Remarks	<p>¹⁾ cULus - Class 2 source required ^{**)} for water and hydrous media with temperatures > 35 °C install the unit into a climatic tube (order no. E43101)</p>
---------	--

Pack quantity [piece]	1	
-----------------------	---	--

ifm efector, inc. • 1100 Atwater Drive • Malvern • PA 19355 — We reserve the right to make technical alterations without prior notice. — US — LL8023 — 28.05.2015

Please note the wiring of the sensor and the sockets (see data sheet) as for 8-pole sockets the core colours are not standardised.