

Fill-level Sensor with IO-Link

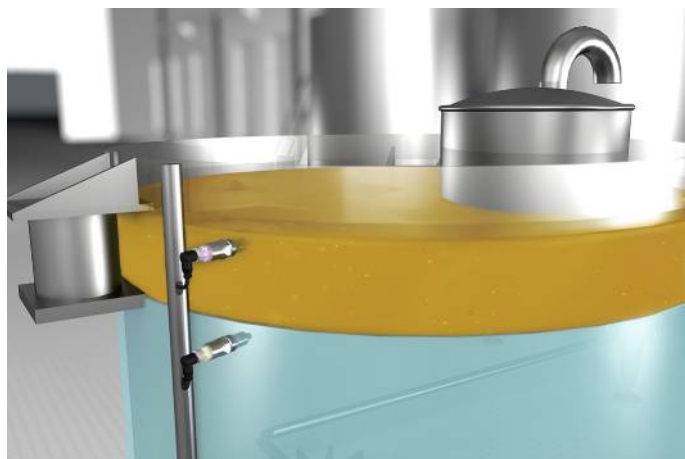
FXSL002

Part Number



- Fill-level measurement in all media: liquid, pasty, sticky or solid
- Process optimization with IO-Link 1.1
- Quick sensor replacement with data storage
- Two adjustable switching outputs

LevelTech fill-level sensors work in accordance with the innovative frequency sweep principle. With the help of this functional principle, the sensors detect any desired medium on the basis of the measured resonant frequency. With their two adjustable switching outputs, the sensors are capable of differentiating between foam and liquid or two different media. Sensor parameters, as well as filter and output functions, can be individually configured via IO-Link. The stainless steel housing is FDA compliant and can be installed in the tightest of spaces thanks to its compact design.



Technical Data

Sensor-specific data

Measuring principle	Frequency sweep
Measuring Range > DK***	1,5
Medium	Liquids, granulate, powder
Response Time	0,04 s

Environmental conditions

Media temperature TM (TU < 50 °C)	-40...115 °C**
Media temperature TM brief (TU < 50 °C, t < 1 h)	-40...130 °C
Ambient temperature	-40...85 °C
Storage temperature	-40...85 °C
Pressure Resistance	100 bar
EMC	DIN EN 61326 *
Vibration resistance per DIN IEC 60068-2-6	1,6 mm p-p (2...25 Hz), 4 g (25...100 Hz)

Electrical Data

Supply Voltage	8...36 V DC
Current Consumption (Ub = 24 V)	< 35 mA
Number of Switching Outputs	2
Power-up Time	< 3 s
Switching Output/Switching Current	100 mA
Switching Output Voltage Drop	< 0,7 V
Signal source	Change of medium
Leakage Current	< 100 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Interface	IO-Link V1.1

Mechanical Data

Setting Method	IO-Link
Housing Material	1.4404
Material in contact with media	PEEK Natura 1.4404
Degree of Protection	IP67/IP69K
Connection	M12 × 1; 4-pin
Connector Plug Material	Stainless Steel
Process Connection	1/2" NPT

Safety-relevant Data

MTTFd (EN ISO 13849-1)	686 a
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Function

Attenuation (adjustable)	0...10 s
Selective fill-level measurement	yes

Switchable to NC/NO	●
IO-Link	●
Push-Pull	●

Connection Diagram No.	704
Suitable Connection Equipment No.	2

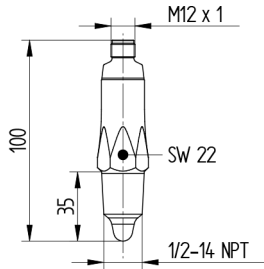
* mounted in closed metal tank

** TM= temperature of medium; TU= ambient temperature

*** The relative dielectric constant of the medium to be detected must be greater than 1.5. (DC = dielectric constant)

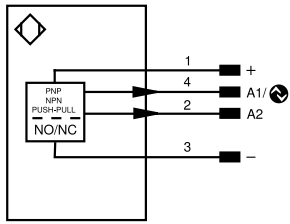
Complementary Products

IO-Link Master
Software



All dimensions in mm (1 mm = 0.03937 Inch)

704



Legend

+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted	ENB	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ä	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	AOK	Digital output OK
Ÿ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	Amv	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	±	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BL_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
ENo RS422	Encoder 0-pulse 0/Ü (TTL)	EDM	Contact Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENARs422	Encoder A/A (TTL)		