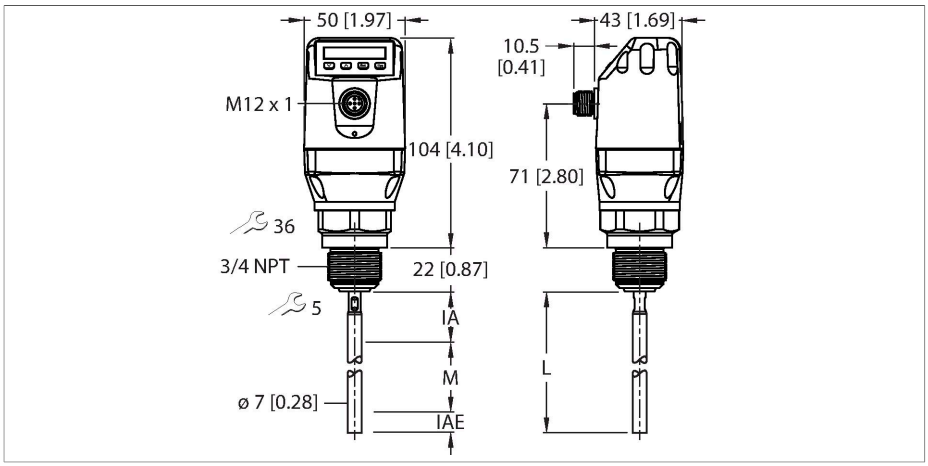
LS-534-0700-LIU22PN8X-H1151
Level Sensor – With Analog Output and 2 × Switching Outputs



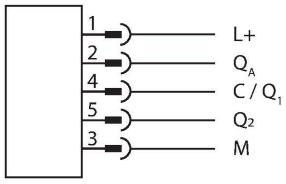
Technical data

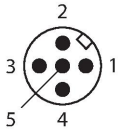
Type	LS-534-0700-LIU22PN8X-H1151
ID	100001869
Remark to product	Attention: Coaxial tubes (accessories) are only available for LS-551 level sensors with process connection G3/4".
Medium temperature	-20…+100 °C
Application area	liquids
Probe length (L)	700 mm
Max. loading of probe	6 Nm
Probe accuracy	± 5 mm
Temperature drift	≤ 0.1
Hysteresis	≥ 2 mm
Reproducibility	≤ 2 mm
Inactive area on process connection (IA)	25 mm
Inactive area at end of probe (IAE)	10 mm
Dielectric constant	≥ 5
Pressure resistance	-1…10 bar
Electrical data	
Operating voltage	12…30 VDC
Current consumption	≤ 100 mA
Short-circuit/reverse polarity protection	yes / yes
Inductive load	< 1 H
Capacitive load	100 nF
Insulation class	III
Outputs	
Output 1	Analog output (current/voltage, automatic switching depending on load)

Features

- Level detection and continuous level measurement
- Easy to service and quick to deploy without calibration
- Very flexible since probes can be shortened
- Easy installation thanks to compact, rotatable housing with display
- Process temperature up to 100 °C
- Process pressure up to 10 bar
- Small blind zones, ideal for small containers
- Coaxial tube available for non-metallic tanks
- IO-Link 1.1
- 12…30 VDC
- 1 × analog output 4… 20 mA/0… 10 V (automatic switchover depending on load)
- 2 × PNP/IO-Link or PNP/NPN transistor outputs, each switchable
- Dielectric constant: ≥ 5 for mono-rod probe/ rope probe or ≥ 1.8 with coaxial tube
- Process connection NPT 3/4" male thread
- Probe length 700 mm

Wiring diagram





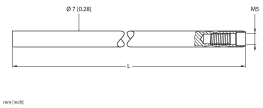
Technical data

Output 2	IO-Link/switching output (PNP)
Output 3	Switching output (PNP/NPN)
Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN, analog output
Analog output	
Current output	4…20 mA
High level signal current	20…20.5 mA
Low level signal current	3.8…4 mA
Load resistance current output	≤ 0.5 kΩ
Voltage output	0…10 V
High level signal voltage	Uv - 2 V
Low-level signal voltage	≤ 2 V
Load resistance voltage output	≥ 0.75 kΩ
Response time typical	< 400 ms
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Transmission physics	COM 2 (38.4 kBaud)
Frame type	2.2
Included in the SIDI GSDML	Yes
Mechanical data	
Housing material	Plastic, PBT
Materials (contact with media)	Stainless steel 1.4404 (AISI 316L), PTFE, FKM
Process connection	3/4" NPT male thread
Sealing material	Aramid fibers, bound with NBR
Electrical connection	Connector, M12 × 1
Protection class	IP67
Environmental conditions	
Ambient temperature	-20…+60 °C
Storage temperature	-40…+80 °C
Tests/approvals	
UL registration number	E356899
Displays/Operating elements	
Display	Digital display
MTTF	194 years

Functional principle

The level sensors of the LS-5 series work according to the principle of the guided microwave. The so-called Time Domain Reflectometry (TDR) is used. This method emits an electromagnetic wave along the probe. When the wave reaches the medium, it is partially reflected due to the dielectric constant compared to air. The electromagnetic wave is picked up again by the sensor and the distance to the liquid can now be determined via the transit time.

Accessories

LSRP-1000	100002197
	Rod probe for screwing into LS-5 level sensors, length 1000 mm