

Model LT1050 series

OEM Submersible Level Transmitter
Flat membrane structure
Mass production, automated calibration

Materontek
Sensing and Internet of Things

The LT1050 submersible level transmitter has been designed for level measurement in contact with the medium in harsh operating conditions. It offers an accuracy of 0.5 %FS and with an ingress protection of IP68, is suitable for permanent level measurements up to 120 m water column.

Features

- ❑ Measuring ranges from 2mH₂O to 120 mH₂O
- ❑ IP68, Submersible level measurement
- ❑ Flat membrane structure
- ❑ Accuracy: ±0.25%FSO(Typ.)
- ❑ Calibrated and temperature compensated
- ❑ Stainless steel pressure sensor
- ❑ Output 4...20mA, DC1...5V, DC 0.5...4.5V, MODBUS RTU



Application

- ❑ Drinking water systems
- ❑ Ground water monitoring
- ❑ Domestic water tanks
- ❑ Rain spillway basin

Technical data

Measuring range

Nominal pressure [mH ₂ O]	2	4	5	8	10	12	15	20	25	30	40	50	60	80	100	120
Overpressure [mH ₂ O]	3	6	7	12	15	15	20	30	35	40	50	60	70	100	110	130

Performance

Accuracy*	0.25%FS@25°C(Typ.) 0.5%FS@25°C(Max.)	*Linearity (best straight line) + Hysteresis + Repeatability
Operating Temperature	-10 to 50°C	
Compensated Temperature Range	-10 to 50°C	
Temp. coeff - Zero	±0.75[Typ.], ±1.5[Max.]	
Temp. coeff - Span	±0.75[Typ.], ±1.5[Max.]	
Vibration	20 g RMS(20 to 2000Hz)	
Shock	100 g(10ms)	
Cycles	10x10 ⁵	
Long Term Stability	0.2 %FS	

Electrical @25°C

Output signal / Supply	2-wire 4...20mA / V _S = 9... 30VDC
	2-wire HART+4...20mA / V _S = 12... 30VDC
	3-wire 1...5VDC / V _S = 9... 30VDC
	3-wire 0.5...4.5VDC / V _S = 9... 30VDC
	3-wire 0...10VDC / V _S = 15... 30VDC
	3-wire 0.5...4.5VDC / V _S = 5VDC
	4-wire I2C / V _S = 3.3...5VDC
	4-wire MODBUS RTU / V _S = 9...30VDC
Insulation Resistance	100 MΩ@100VDC
EMC Test	IEC61000-6-2/IEC61000-6-3
Reverse polarity protection	No damage - no function

Physical Specifications

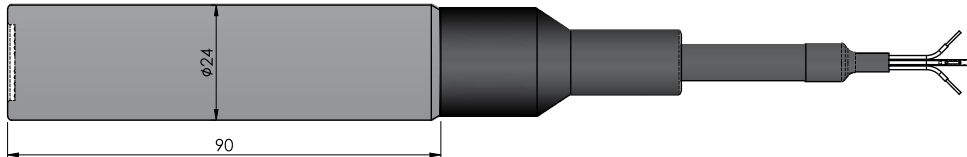
Housing	316 stainless steel
Diaphragm	316L stainless steel/ Ceramic 96%Al ₂ O ₃
Protection cap	Stainless steel, POM-C
Cable sheath	PUR, PE, PTFE
Oil Filling	Silicone oil
Protection	IP68
Weight	~250g (without cable)

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Dimensions (All dimensions in mm)



Electrical connections

Cable outlet	4...20mA 2-wire	1...5VDC 3-wire	0.5...4.5VDC 3-wire	RS485 4-wire
+Vcc	Red	Red	Red	Red
OUT/RS485A/SDA	Green	Yellow	Yellow	Yellow
GND	NA	Green	Green	Green
RS485 B/SCL				Blue

Ordering code

Model	Range	Type	Output	Cable	Cable length	Diaphragm
LT1050	01 2mH ₂ O	G Gauge	42 4...20mA	C1 PUR	XXX Cable length in m	S SUS316LStainless steel
	02 4mH ₂ O		15 DC1...5V	C2 PE		C Ceramic 96%Al ₂ O ₃
	03 5mH ₂ O		04 DC0.5...4.5V	C3 PTFE		
	04 8mH ₂ O		25 DC0.5...2.5V			
	05 10mH ₂ O		05 DC0...5V			
	06 12mH ₂ O		01 DC0...10V			
	07 15mH ₂ O		10 DC1...10V			
	08 20mH ₂ O		H2 4...20mA+HART			
	09 25mH ₂ O		IC I2C interface			
	10 30mH ₂ O		R4 MODBUS RTU			
	11 40mH ₂ O					
	12 50mH ₂ O					
	13 60mH ₂ O					
	14 80mH ₂ O					
	15 100mH ₂ O					
	16 120mH ₂ O					

Accuracy	Label
A1 0.1%FS	S Standard
A2 0.25%FS	N Neutral packing
A3 0.5%FS(Standard)	C Custom label

Accessory

Code A1: Cable strain relief clamp

