

Deep Well Level Probe

Model: LMP633-NLN · Piezoresistive Silicon · High Range

Compact 28 mm Ø submersible level probe based on a piezoresistive silicon pressure sensor with SUS316 stainless steel isolated diaphragm. Eight selectable pressure ranges cover 0–20 kPa up to 0–3.5 MPa (≈ 0–204 m H₂O). Available with 4–20 mA, 4–20 mA + HART, or 0.5–4.5 VDC outputs. Rated IP68 with optional intrinsic safety certification (ExiallCT4). Custom PUR or PTFE cable lengths up to 200 m.



i GAUGE PRESSURE (VENTED CABLE) VERSION

This model measures pressure relative to atmosphere via a vent tube in the cable. For sealed (non-vented) cable deployments — such as long-term submersion in wells where a vent tube could trap moisture — see the **Deep Well Level Probe (Absolute Pressure)** model.

PRESSURE RANGE	ACCURACY	PROBE Ø	PROTECTION	MEDIA TEMP	CERTIFICATIONS
20 kPa – 3.5 MPa	±0.2% URL	28 mm	IP68	–10 to +70 °C	CE · IS · RoHS

SENSOR & CONSTRUCTION

PARAMETER	VALUE
Sensor type	Piezoresistive silicon pressure sensor
Pressure type	Gauge pressure
Isolated diaphragm	Stainless steel SUS316
Filling fluid	Silicone oil (–45 to 205 °C process range)
Sensor seal options	O-ring FKM (–20 to 200 °C) or stainless steel welding
Probe housing	SS304 (code 4) or SS316 (code 6) — select at order
Probe diameter	28 mm (≈ 1.10 in)

ENVIRONMENTAL

PARAMETER	VALUE
Ambient working temperature	–10 to +70 °C
Media temperature	–10 to +70 °C
Storage temperature	–30 to +80 °C
Protection class	IP68
IS explosion-proof	ExiallCT4 (4–20 mA output only) · NEPSI GYB16.1963X



MEASURING RANGES — SELECT AT ORDER

ORDER CODE	NOMINAL URL	MEASUREMENT RANGE	WATER DEPTH EQUIV.	OVERLOAD LIMIT
L203G	20 kPa	0 – 20 kPa	≈ 0 – 2 m H ₂ O	30 kPa
L353G	35 kPa	0 – 35 kPa	≈ 0 – 3.6 m H ₂ O	52.5 kPa
L104G	100 kPa	0 – 100 kPa	≈ 0 – 10.2 m H ₂ O	150 kPa
L204G	200 kPa	0 – 200 kPa	≈ 0 – 20.4 m H ₂ O	300 kPa
L704G	700 kPa	0 – 700 kPa	≈ 0 – 71.4 m H ₂ O	1050 kPa
L105G	1 MPa	0 – 1 MPa	≈ 0 – 102 m H ₂ O	1.5 MPa
L175G	1.7 MPa	0 – 1.7 MPa	≈ 0 – 173 m H ₂ O	2.55 MPa
L355G	3.5 MPa	0 – 3.5 MPa	≈ 0 – 204 m H ₂ O ¹	5.25 MPa

¹ Water depth equivalents calculated at 4 °C (1 MPa = 102 m H₂O). · All ranges are gauge pressure.

OUTPUT SIGNALS & ELECTRICAL — SELECT AT ORDER

ORDER CODE	OUTPUT SIGNAL	WIRING	POWER SUPPLY	MAX CURRENT / LOAD	LOAD RESISTANCE
F	4–20 mA	2-wire	10–30 VDC	≤20.8 mA	< (U – 10) / 0.0208 Ω
H	4–20 mA + HART	2-wire	16.5–55 VDC	≤20.8 mA	250–600 Ω (HART)
5	0.5–4.5 VDC	3-wire	6–15 VDC	≤3.5 mA	≥5 kΩ (100 kΩ recommended)
6	0.5–4.5 VDC ratiometric	3-wire	5 VDC	≤3.5 mA	≥5 kΩ (100 kΩ recommended)



PERFORMANCE

PARAMETER	VALUE
Reference accuracy (linear output)	±0.2% URL typical · ±0.5% URL max
HART output accuracy	±0.1% URL
Long-term stability	±0.2% URL / year
Ambient temperature effect	±0.2% URL / 10 K (over -20 to +80 °C)
Vibration resistance	20 g, 5–2000 Hz (per IEC 61298-3)
Pressure cycle durability	10 million cycles @ 25 °C
Damping (adjustable)	0–100 s
Max sampling rate	Sub-second (user-configurable)
Insulation resistance	≥20 MΩ @ 100 VDC

WIRE COLOUR CODING

	Red	Power + (supply positive)
	Black	Power – (supply negative / common)
	Blue	Signal + (3-wire outputs only)
	Yellow	Signal – (3-wire outputs only)

PHYSICAL & CABLE

PARAMETER	VALUE
Probe diameter	28 mm (H28 · ≈ 1.10 in)
Weight (without cable)	340 g
Cable pressure reference	Vented — atmospheric reference via vent tube in cable
Cable length	Custom — specify at order (5 m to 200 m)

BLUCCLOUD COMPATIBILITY

✓ DIRECT BLUCCLOUD INTEGRATION

Output codes 5 and 6 (0.5–4.5 VDC, 3-wire) connect directly to the BluCloud Unit's 0–5 V analog input — no signal conditioning required.

Output code F (4–20 mA, 2-wire) is compatible with the BluCloud Unit's 4–20 mA analog input.

Output code H (4–20 mA + HART) provides the same current loop signal as code F, with the HART layer available for advanced configuration via a HART communicator.

ORDERING — MODEL CODE STRUCTURE

LMP633 SERIES	NLN VARIANT	L203G ... L355G RANGE CODE	F / H / 5 / 6 OUTPUT CODE	4 / 6 HOUSING MATERIAL	N1 / N2 CABLE TYPE	L5 ... L200 CABLE LENGTH (M)	P1-P4 / — ACCESSORIES
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Housing codes: **4** = SS304 · **6** = SS316. Cable: **N1** = PUR · **N2** = PTFE. Accessories: **P1** = Counter weight · **P2** = Cable clamp · **P3** = G1-1/2 SS304 thread connector · **P4** = M22×1 SS304 thread connector. Contact BluCloud to confirm full model string and availability.

CERTIFICATIONS & STANDARDS

- CE
- IS EXIICT4
- ISO 9001
- ROHS

CERTIFICATION	DETAILS
CE	ISCT · Reg. IT021353LG161207 · EN 61326-1:2013
Intrinsic Safety	ExialICT4 · NEPSI GYB16.1963X Amb. temp: -40 to +60 °C Max input: 28 VDC / 100 mA / 0.7 W (4-20 mA output code F only)
ISO 9001:2008	Intertek · Reg. 110804039
RoHS	Confirmed

TYPICAL APPLICATIONS

- Groundwater & Well Monitoring
- Water Supply Tanks & Reservoirs
- Wastewater & Drainage Systems
- Industrial Process Liquid Level
- River, Lake & Open Water
- Irrigation & Agricultural Water

DEPLOYMENT NOTE

The 28 mm (≈ 1.10 in) probe diameter fits standard 2 in (50 mm) well casings with adequate annular clearance for the cable and counter weight. Use accessory P2 (cable clamp) to secure the cable at the wellhead and prevent strain on the sensor.