

Remote Radar Level Monitor

The HiLo LS1-R is a versatile radar-based level monitor designed for remote applications. It is compact, standalone, and battery-powered with in-built connectivity. Onboard level detection is optimised to function across a variety of installations including, turbulent/flat water, high-humidity and cluttered environments. Example applications include open/closed drains, weirs, waterways, stormwater, and sewer networks.

NOTE: for the IECEx Zone 0 rated version please see the LS1-R PLUS model

Water and UV resistant.

Suited for chemical applications⁶

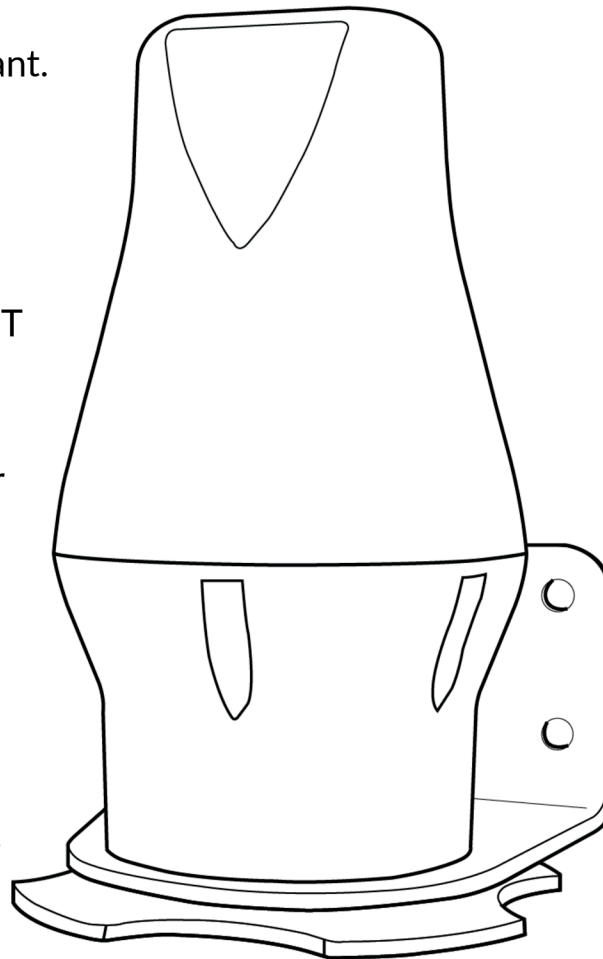
4G LTE-M and NB-IoT network coverage.

Support for customer SIM cards and self hosting⁵

SMS and email notifications

Data export from the cloud

Accuracy 0.2% of measurement range



External and internal antenna variants

Time synchronised measurements across multiple monitors

Battery life 3-10 years based on your selected radar scan & reporting rate

Measurement range up to 12m (LS1-R PLUS)

A range of mounting brackets available

Onboard intelligent radar algorithms

LS1-R

Technical Specifications

CONNECTION OPTIONS

Bluetooth Low Energy	2.4/2.483GHz:0dB
LTE Cat M/NB-IoT	LTE Bands 3,5,8,28:<24dB ¹

ENVIRONMENT

Water resistance	IP68 - 4 meters for 4 days
Operational temperature	-20°C to +55°C ²
Recommended storage temperature	+15°C to +25°C

BATTERY

Life	3-10 years ³
Type	3.6v Lithium primary
Capacity	19Ah

MEASUREMENT

Technology	60GHz radar
Measurement range	7m or 12m
Accuracy	0.2% of measurement range
Resolution	1mm
Beam pattern	8° HPBW

PHYSICAL CHARACTERISTICS

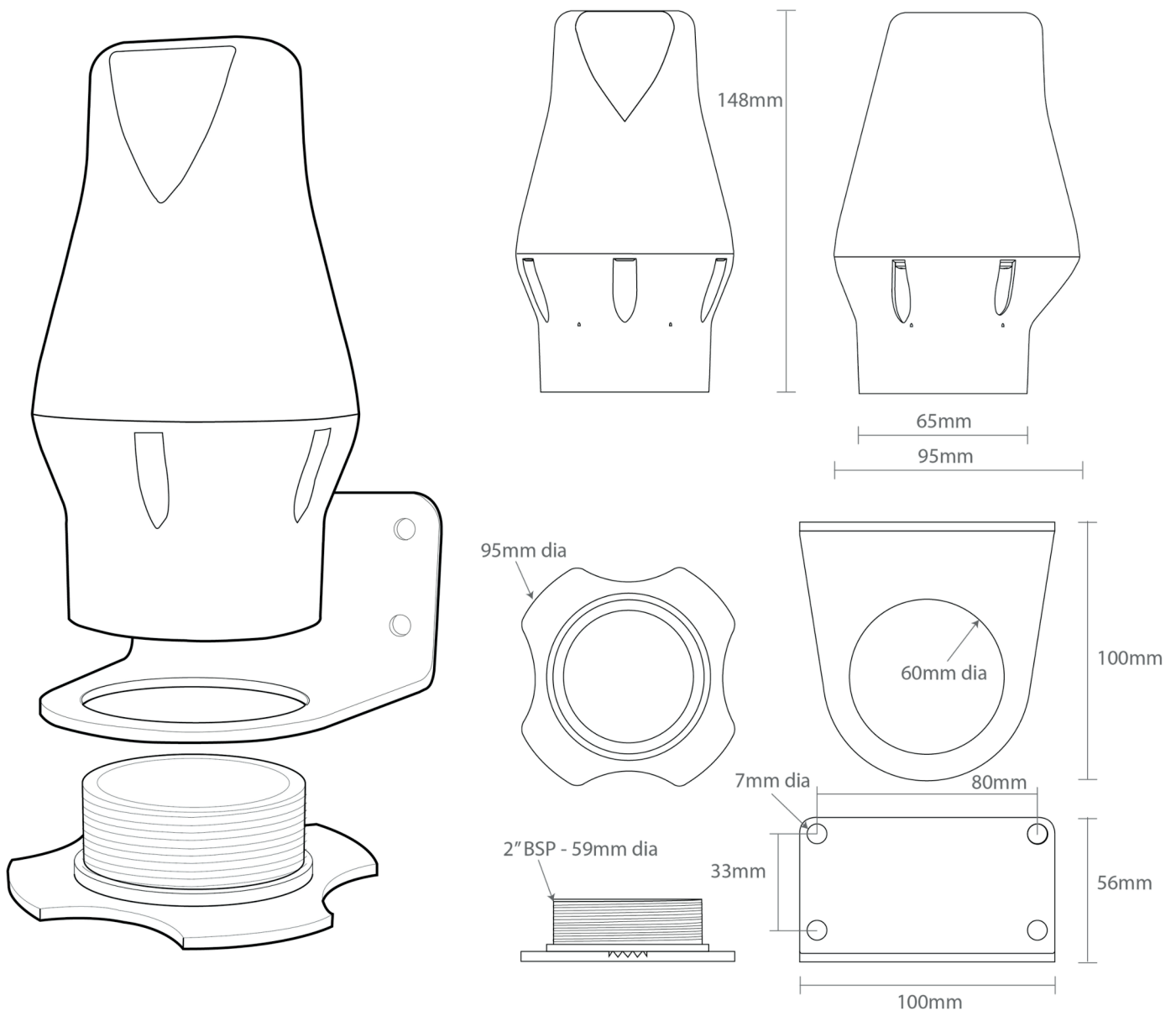
Dimensions	148x95mm
Weight	500g
Enclosure material	PC + PBT
Mounting	2 inch BSP

<http://hilomonitoring.com>

HiLo Level Monitoring LTD,
94 Crawford St, Dunedin, 9016, New Zealand.
Phone NZ: +64 3 477 2779
Phone AU: +61 7 5300 2959

info@hilomonitoring.com

LS1-R



PART ASSEMBLY FEATURES

Vertical hand-removable 2-inch BSP mount factory assembled.

Replaceable battery using a screwdriver.

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LS1-R

SKU DESCRIPTOR

Model [LS1]:	Scientific Level Monitor
Radio option [CEL]:	Cellular 4g M/NBLoT
Measurement Tech [R]:	Radar
External antenna [EXT]:	SMA Female 304SS ⁴
Intrinsic Safety [IS]:	Explosive Rating

MODEL NAME & (SKU)

LS1-R (LS1-CEL-R):	Not for Ex Zones
LS1-R PLUS (LS1-CEL-R-IS):	IECEX Zone 0 Certified
LS1-R PLUS EA (LS1-CEL-EXT-R-IS):	IECEX Zone 0 Certified

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LS1-R

DATASHEET HISTORY

	DATE
Initial release	10/04/23
SCADA information added	30/01/24
Remove LS1-WIFI-R product reference	24/06/25
Identify LS1-R PLUS for 12m range and IECEX	

PART HISTORY

	VARIANT/DATE
LS1R brand change from Waterwatch to Hilo, Plastic change. PC + PBT	10/04/23
SCADA/MQTT product variant released	01/02/24
Discontinue LS1-WIFI-R models	24/06/25
Product release LS1-R PLUS	

FOOTNOTES

- 1: NB-IoT restricted to bands 28,3 in APAC countries where available.
- 2: Zone 0 rating requires this Ta rating to be observed.
- 3: Battery life varies based on the coverage signal strength and user-programmed device settings.
- 4: SS316 available to order.
- 5: Self hosted variant requires users to host a MQTT broker and NTP server and use a customer SIM for device connection (enterprise sales only).
- 6: PH range 3-9 @ Ta 23°C

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