



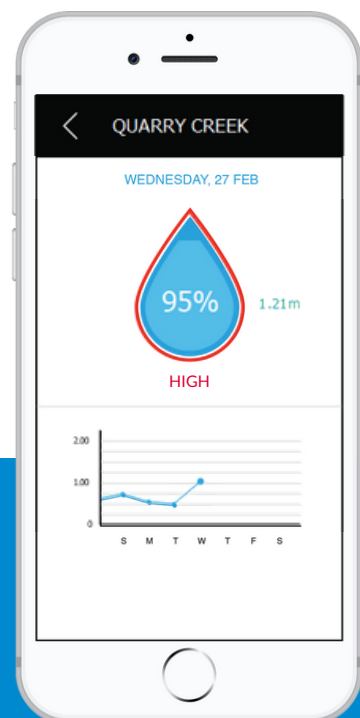
Radar Level Sensor

- Waterwatch's highest accuracy level sensor with built in telemetry
- Can be used in open or confined spaces
- No temperature, humidity or foaming issues
- Reduce wasted time travelling to check levels

Internet Connected

- Remote access from your smartphone, tablet, or computer
- Receive notifications for high, low, and rapidly changing levels
- Manage multiple sensors and share access with others

Easy installation using the handy Waterwatch mobile app



Radar Level Sensor Features

The LS1-R is a highly configurable radar based level sensor. Designed for remote installation the LS1-R is ideal for open channel measurements. Trusted by water utilities, city councils, regional governments and home owners around the world. The LS1-R is Waterwatch's flagship high accuracy sensor designed to effortlessly monitor rivers and streams ensuring your property is protected from the unpredictability of these natural waterways.

Waterproof and UV resistant

Widest network coverage available - works on Spark, Vodafone, Telstra and Sigfox networks

SMS and email notifications

Accuracy 0.2%



No antenna, solar panel or cables required

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

Maximum range 7m

<http://waterwatch.io>

Waterwatch is a Tussock Innovation brand.
Tussock Innovation 2013 Ltd,
94B Crawford St, Dunedin, 9016, New Zealand.
Tel: +64 3 477 2779

info@waterwatch.io

Technical Specifications

RADIO

Bluetooth Low Energy	2.4/2.483GHz:0dB
Sigfox RC4	920-923MHz:<24dB
LTE Cat M/NB-IoT	700MHz:<24dB

ENVIRONMENT

Protection	IP68
Operation temperature	-40°C to +85°C
Recommended storage temperature	+15°C to +25°C

BATTERY

Life	3-10 years
Type	3.6v Lithium primary
Capacity	7Ah

SENSOR PARAMETERS

Technology	60GHz pulsed radar
Measurement range	0.2 to 7m
Accuracy	0.2%
Resolution	1mm
Beam pattern	10° HPBW

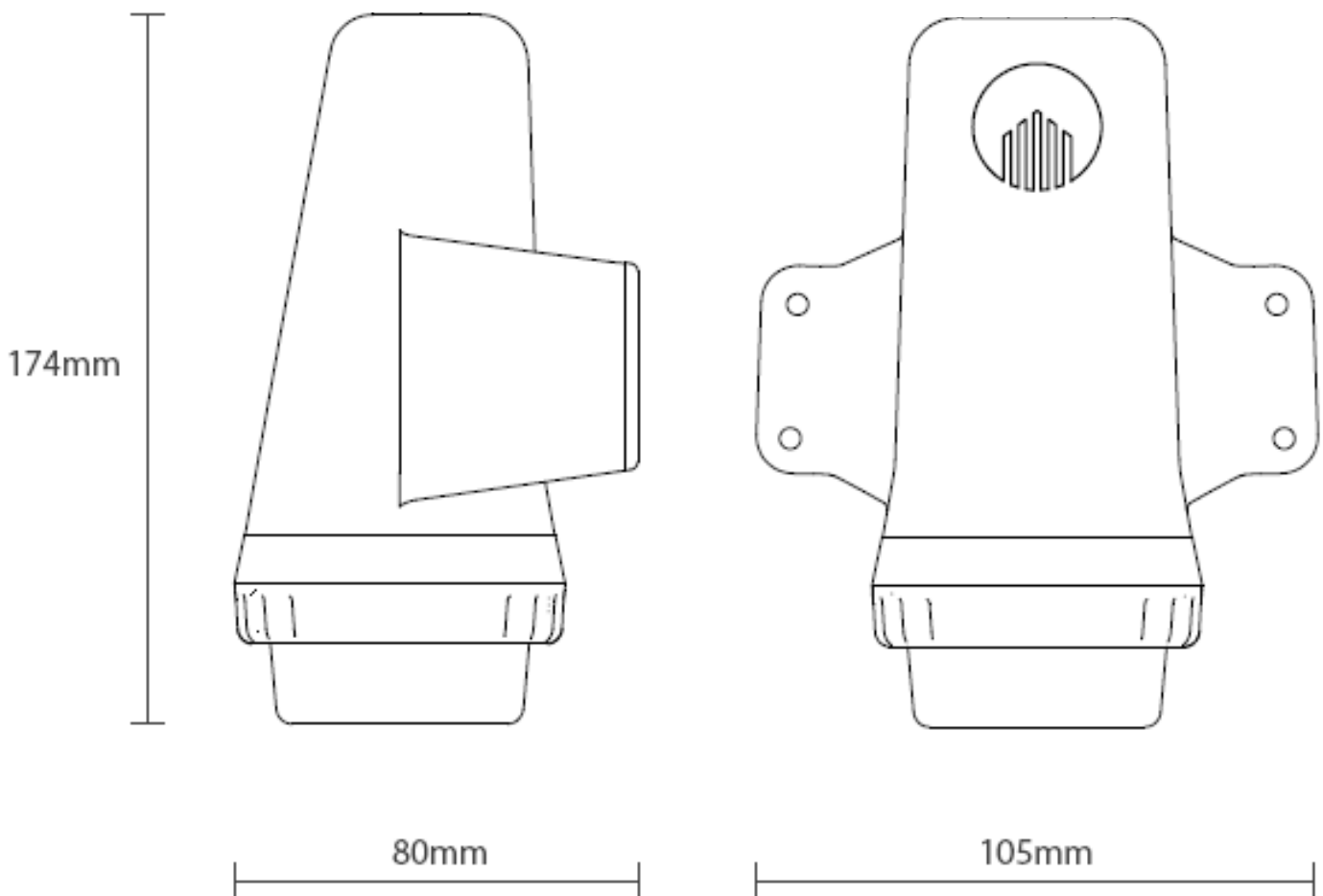
PHYSICAL CHARACTERISTICS

Dimensions	174x105x80mm
Weight	240g
Enclosure material	Polycarbonate + PBT
Mounting	M4 screw

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PART NUMBER DESCRIPTOR

LS1-RCZ4-R

Model [LS1]

Radio option [RCZ4]

Sensor technology and range [R7]

level sensor
Sigfox region 4
60GHz pulsed radar 7m range

AVAILABLE PART VARIANTS

LS1-RCZ4-R7

LS1-CEL-R7

Sigfox region 4
LTE M/NB-IoT band 28

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DATASHEET HISTORY

	DATE
initial release	10/09/19
update to production	15/03/20
introduce document history	18/06/20

PART HISTORY

	VARIANT/DATE
engineering release	LS1-CEL-R-PRE 10/09/19
production release	LS1-xxx-R 15/03/20



ABOUT WATERWATCH

Waterwatch is a Tussock Innovation brand dedicated to providing tools for better management of precious water resources, and helping society adapt to a changing environment. The Waterwatch system generates insights for scientists, farmers and municipalities via a blend of elegant, functional, and robust hardware and software.

Launched in September 2019 the LS1-R radar level sensor is the most recent product in the Waterwatch portfolio and is the first IoT based product of its type globally. Designed for long term field deployment the LS1-R tracks level changes with a highly accurate 60GHz radar. This non-invasive, non-corrodible sensor allows the LS1-R to be deployed in a broad range of installation types from water and other liquids to solids. User control of the LS1-R is provided via native iOS, Android and Web apps. Sensor data is communicated directly to the web, and used to provide time critical alerts and level storage information. The Waterwatch system enables third party vendors to provide value added insights like delivery requests and vehicle route optimisation via secure third party API and Webhook access.

