Remote level data directly from your silos and tanks, using self-powered, low-energy and contactless Terabee technology.

Key product features

— **Non-intrusive** measurements using LED ToF technology

— Optimal for **small to large silos** (0.5 to 60 m range)

— **Battery-powered.** Years of autonomy

— Low-power, wireless communication **(LoRa WAN)**

— Minimal installation efforts. **Zero cables needed**

— Comes with **software for easy setup** on Windows / Linux / Mac OS

— **IP65 enclosure** for all weather protection
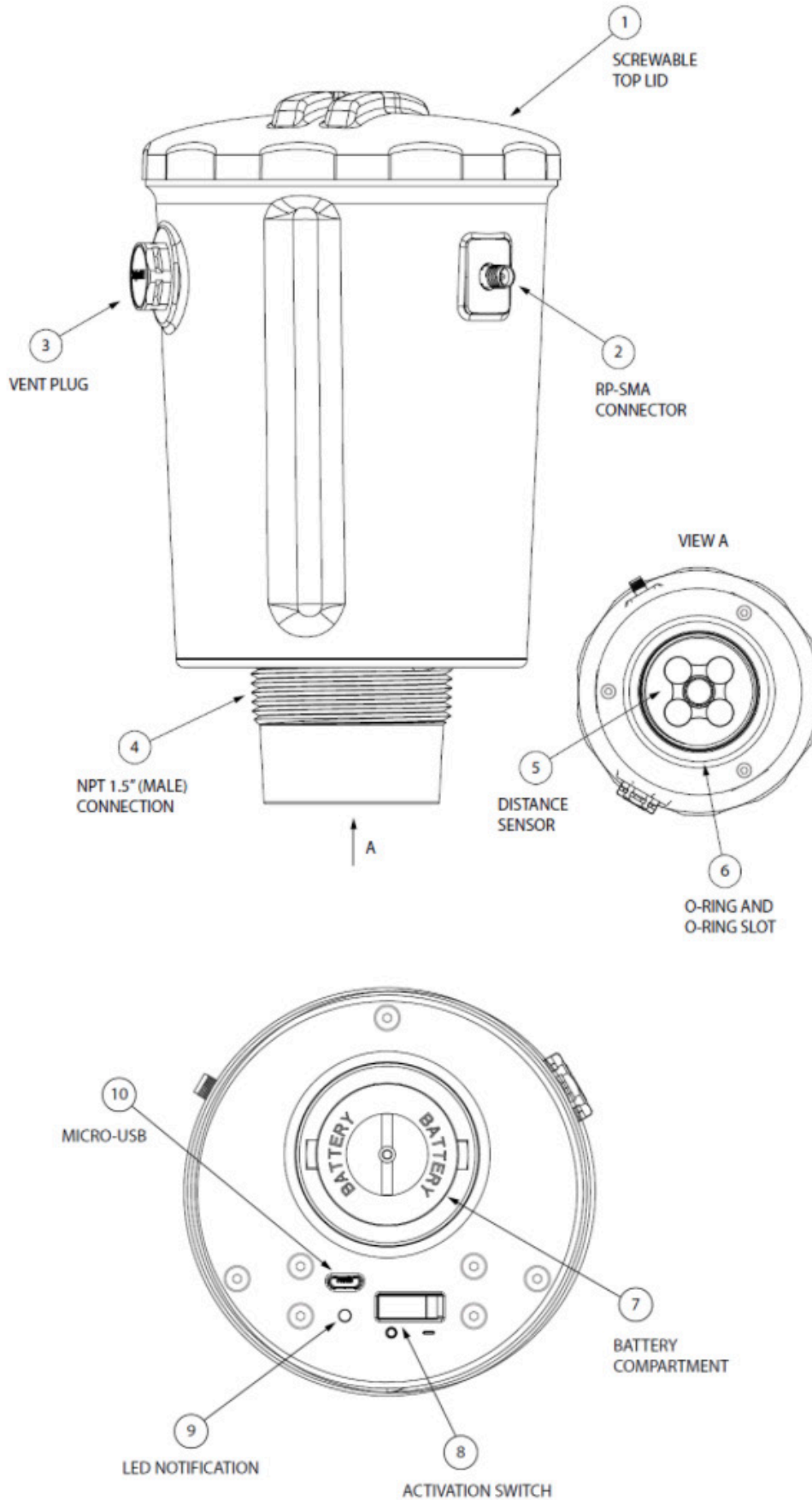
Technical specifications

Distance Sensor	
Detection Principle	Infrared Time-of-Flight
Sensor Field of View	Approx. 2°
Measured Detection Area	40 × 40 cm @ 10 m range
Measurement Range[1]	0.5 m up to 60 m
Accuracy[1]	Distance: ±4 cm in the first 14 m, and ±1.5 % beyond 14 m Level: Depending on application conditions
Output Distance Resolution	5 mm

Data, Interfaces	
Data Output	Distance (in millimeters) Fill level (in percentage) Battery status (voltage)
Measurement and Transmission Intervals (selectable)	1 reading / 1 day 1 reading / 6 hours 1 reading / 1 hour 1 reading / 15 mins
Communication Interface	LoRaWAN (class A device) USB 2.0, Micro-B
Configuration Interface	USB 2.0, Micro-B (under sealed cover)
Antenna Options (supported LoRaWAN frequencies)	(1) EU 868 MHz (2) US 915 MHz
LoRaWAN Activation methods	OTAA, ABP
Antenna Specifications	+2dBi, IP67, hinged (3 positions)
Visual Notification	1 x multicolor LED (under sealed cover)
Activation Switch	Yes (under sealed cover)

Electronics	
Power Source	(1) Internal battery, replaceable (2) USB 2.0, Micro-B (5V DC ±5%)
Battery Type	Standard Type D, Lithium Thionyl Chloride, 3.6V, 19Ah
Battery Lifetime Estimate[2]	6 years @ 1 reading / 1 hour [3]

Mechanics	
Dimensions	170 mm x Ø 107 mm
Weight	405 g
Housing Material	Polycarbonate, ABS
Housing Protection	IP65
Ambient Operating Temperature	-20˚C to 65˚C
Installation	Supports various installation methods (onboard NPT 1.5 thread connection, flat surface attachment using flange accessory, installation at various angles using adjustable bracket accessory)

Other	
Use Environment	non-hazardous environments
Supporting Software	Terabee Configuration GUI (compatible with Windows, Linux, Mac OS)
Certification (Pending)	CE RoHS IP65 (CEI EN 60529) Vibration and Bumps (EN 60068-2)

(1) Specifications are derived from tests in controlled conditions (target with 80% diffuse reflectivity, indoor fluorescent lighting, ambient temperature around 25°C).
Please note that bright sunlight, target surface reflectivity, and large amounts of dust can affect sensor performance
(2) The battery life can vary depending on a number of factors, including selected transmission frequency, measured distance by the ToF sensor, ambient temperature & humidity, LoRa network strength, and other factors.
(3) Battery lifetime calculations are based on operation conditions at +25 °C temperature, 10m measuring range (white target, 80% reflectivity), network configuration using spreading factor (SF) 7.

Onboard features and controls

1 SCREWABLE TOP LID

3 VENT PLUG

2 RP-SMA CONNECTOR

4 NPT 1.5" (MALE) CONNECTION

A

VIEW A

5 DISTANCE SENSOR

6 O-RING AND O-RING SLOT

10 MICRO-USB

9 LED NOTIFICATION

8 ACTIVATION SWITCH

7 BATTERY COMPARTMENT

BATTERY BATTERY

Inside the package

Component	Note
Terabee LoRa Level Monitoring XL	
LoRa antenna	Available in two versions : 868 MHz 915 MHz
Standard Type D battery, 3.6V, 19 AH (replaceable)	*Shipped inside the level device.*
USB 2.0 Micro-B cable	Allows device connection to PC and access to Terabee Configuration Software. 50cm length.
O-ring	Ensures IP65 sealing between the Terabee device and installation point (e.g Terabee flange accessory)

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