COLTRACO
Ultrasonics | since 1987

PORTATANK®

The Handheld Ultrasonic Industrial Tank Liquid Level Indicator

Made in the UK.

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INTRODUCING THE PORTATANK®

The Portatank® is a versatile, handheld, portable ultrasonic liquid level indicator for fast and reliable measurements. Powered by a battery, it provides a non-invasive way to measure the liquid level within tanks, making it ideal for industrial and commercial applications.

The device can accurately measure liquid levels in vessels ranging from 0.5 meters to 15 meters in diameter. Whether working with metal, plastic, or glass tanks, the Portatank® ensures consistent results across various materials.

- **Type** – Ultrasonic Liquid Level Indicator
- **P/N** – 3141184-TANK
- **CAGE code:** KD983 – COLTRACO LIMITED

APPLICATIONS ACROSS MARKETS

The Portatank® is commonly used to assess liquid levels in vessels such as transformers, refrigerants and switchgears and is used in many industries such as:

- Fire safety engineering
- Food and beverage processing
- Pharmeceuticals
- Energy and Power Generation
- Water treatment Facilities
- Chemicals
- Petrochemicals
- Transformer Oil Level

Unison Contracting Services Limited, trialled the **Portatank®** to improve oil level inspections in Long & Crawford (L&C) switchgear and ABB SD Series switchgear units. The company found that non-invasive methods for verifying oil levels in switchgears offered a safer, faster, and **more efficient alternative to traditional methods**.

Dipsticks require physical access and interpretation, which can be prone to human error, while sight glasses may become dirty, obscured, or inaccurate over time. → Non-invasive ultrasonic devices provide instant, precise, and repeatable measurements, significantly improving accuracy and reducing maintenance downtime.

Switchgear is often located in confined spaces or high-voltage areas, making physical inspections challenging. → A non-invasive approach allows operators to measure oil levels externally, reducing the need for specialized training or equipment shutdowns.

KEY BENEFITS OF USING PORTATANK®

- ✓ Non-invasive
- ✓ Zero downtime
- ✓ Used in various sizes (0.5m to 15m diameters)
- ✓ Accurate measurements of +/- 10mm
- ✓ Easy to operate
- ✓ Works effectively with different materials and thicknesses
- ✓ Broad liquid compatibility
- ✓ LED light indication for easy interpretation

MULTISECTORAL APPLICATIONS - CASE STUDIES

Food Processing

A UK based food processing factory used our **Portatank®** to accurately measure the contents of their mayonnaise vat which was 2.2m high with stainless steel walls approximately 5mm thick. Previously using a visual inspection method, the implementation of our non-invasive liquid level indicator enabled the plant to run more efficiently and reduced risks by allowing staff to accurately monitor the contents without opening the container.

Pharmaceutical Manufacturing

One of the largest pharmaceutical manufacturing companies in the world, used our **Portatank®** to monitor the ammonia and water levels in an IBC. The fumes given off by the ammonia create a health risk for their engineers who were previously utilising a physical dipstick to monitor the contents. Moreover, opening the top valve during this process risked contaminating the ammonia. By switching to non-invasive testing methods the company reduces costs whilst protecting personnel.

Steel Production

A steel production facility used our instrumentation to inspect oil levels in their transformers (33kV to 6.6kV and 6.6kV to 440V). There were concerns about the accuracy and reliability of the existing built-in level meters so to assess levels they had to shut the transformer down and open the covers, resulting in significant downtime in the power distribution network in the production facility. By using the **Portatank®** the company was able to externally inspect the oil levels on 'live' transformers resulting in a more efficient assessment.

PORTATANK® IN ACTION

Problem:
Nichibou, Co. Ltd, an industry leader in the packaging and distribution of Specialty Gases, had a standing tank of 30T Freon liquefied gas, erected vertically which they which they wanted to know the accuracy of their pressure based quantity gauge. Freons are colourless, odourless, nonflammable, noncorrosive gases or liquids of low toxicity that were introduced as refrigerants in the 1930s. The customer was looking for a non-invasive instrument to be able to understand the liquid level of the Freon.

Solution:
The **Portatank®** was used to inspect the liquid level of the Freon liquid gas. By adjusting the holdoff time and gain on the ultrasonic tank level indicator, Nichibou, Co. Ltd was able to confidently find the liquid level of the Freon with an accuracy of ±5cm. The customer was satisfied by the result.

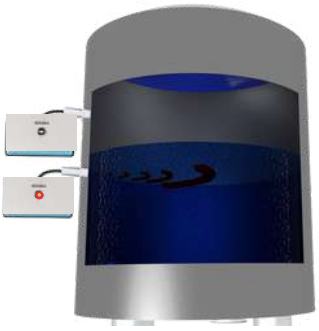
WHAT'S IN THE BOX?

- Portatank®: Main Unit
- Portatank® Sensor: 500KHz
- Handheld Oscilloscope: To Verify Measurement Accuracy
- 2 x BNC Cables : For Sensor and Oscilloscope Connectivity
- Micro USB Cable: To Connect The Oscilloscope
- Ultrasonic Couplant: Ensures Good Sensor Contact
- User Manual: Guidance On How To Use The Equipment
- Calibration Certificate: Verifies Unit Functionality And Calibration On Dispatch
- Robust Carrying Case: To Store The Equipment

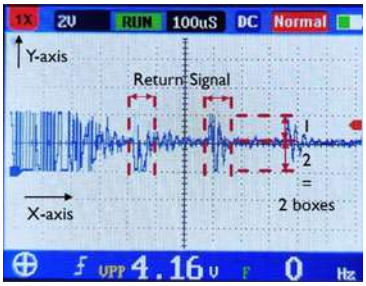
PORTATANK® TRANSFORMER APPLICATION

RELEVANT INSTRUMENTS:

Portatank® main unit



No liquid: LED OFF
Liquid: LED ON

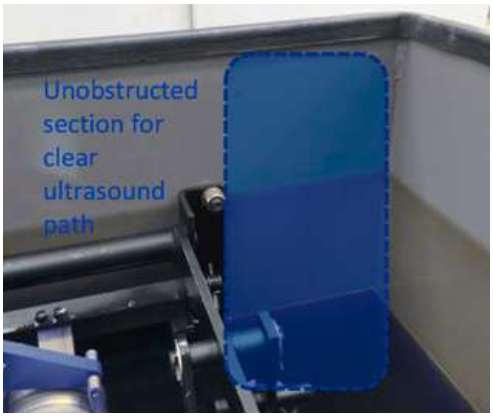


Oscilloscope provided to view return signals for confirmation and added accuracy

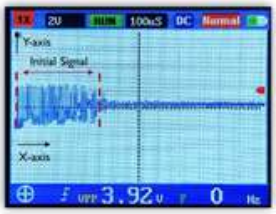
Tested on Single-Phase and Three-Phase transformers (multiple kVA ratings applicable i.e. 19.9, 25, 50, 75, 100 kVA etc.)

Up to tank width 15 metres

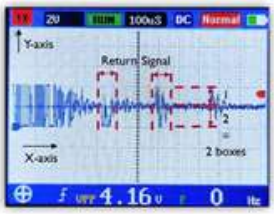
APPLICATION SPOTLIGHT:



Sensor Above
No Liquid
LED OFF



Sensor Below
Liquid Present
LED ON



- Non-invasive
- Transformers can remain “live” during measurement
- Portatank® already in service in multiple energy utility companies for inspecting transformer oil levels

*Oscilloscope to assist only, not required during measurement

TECHNICAL DATA

DIMENSIONS	**Main Unit: 168mm (L) x 80mm (W) x 45mm (D)**
WEIGHT	**Main Unit: 520g**
VERIFIABLE AGENTS	**Water, fuels, oils and most clean liquids**
WALL MATERIAL	**Single-skinned only, works on most metals, plastics, and glass, etc.**
POWER SUPPLY	**4 x 1.5V AA batteries**
BATTERY LIFE	**6 hours continuous use**
SENSOR TYPE	**25mm diameter 500KHz sensor (2MHz option available)**
SENSOR CONNECTIVITY	**1m BNC Coaxial Cable**
SENSOR FREQUENCY	**Standard Sensor: 500 kHz Other Options: 200KHz, 1 MHz, 2 MHz**
OPERATING TEMPERATURE	**-20°C to +70°C (-4°F to 158°F)**
DISPLAY	**Visual LED indication**
TANK WORKING RANGE	**0.5 metres – 15+ metres**
ACCURACY	**+/- 10mm**
REGISTRATIONS AND APPROVALS	**UKCA, CE, Coltraco is ISO 9001:2015 and ISO 14001 registered**
WARRENTY	**Main unit – 3 Year Warranty Sensor – 1 Year Warranty Technical Support – Lifetime of the unit**

OUR THROUGH-LIFE COMMITMENT TO YOU

We look after our customers throughout the lifetime of your equipment.

Every main unit is supplied with **3 years warranty** and **1 year warranty on its sensors and accessories.**

We are proud to offer free lifetime technical support and online training is available on request with a range of solutions designed to meet your calibration requirements:

Onshore Calibration

- This can be done in our UK laboratory or in one of our 11 ODA Service Centres present globally
- We also support 1-1 exchanges with a pre-calibrated unit to reduce processing time
- We also offer a unit collection service for customers who are not used to sending equipment out of their respective countries.

ABOUT COLTRACO ULTRASONICS

Coltraco is ISO 9001:2015 and ISO 14001 approved

Our organisation comprises:

- Our **Company**
- Our **Laboratory**, co-located with the Centre for Advanced Instrumentation at Durham University
- Our **Research Organisations**, the Durham Institute of Research, Development & Invention (DIRDI)
- Our **Centre for Underwater Acoustic Analysis** (CUAA)

"To see the sounds that others cannot hear"

"To measure the hitherto unmeasurable"

Engaged in Research, Design, Development, Manufacture, Integration & Sustainment of high-exporting advanced technology systems, products and services.

We monitor and measure an array of specialised environments to deliver the Safesite™ on land and the Safeship™ at sea.

BY BEING SCIENCE-LED:

We identify and nurture brilliant minds, creating a unique research environment at Durham University, which is a globally outstanding centre of teaching and research excellence.

In our research at DIRDI, we undertake fundamental research into the physical laws of the universe, alongside applied research in Physics, Mathematics, Engineering and Computer Science in acoustics, electromagnetism and information engineering.

It is this research and manufacturing excellence, and our enduring commitment to the sustainment of our technologies in the field, that makes Coltraco Ultrasonics the partner of choice for customers and distributors in 120 countries.

We deliver genuine value for our customers through our scientific and institutional values, and the global quality of our commercial and technical services.

Safeship™

Today our instruments are aboard 20% of the world's 60,000 ships, preventing ships' catastrophic failure, by monitoring watertight integrity on the one hand, and the safe contents of fire extinguishing gases such as CO2, on the other. These are the basic principles by which we became a Safeship™ company in the maritime sector.

Safesite™

Our instruments serve over 20 market sectors, to ensure that safety-critical systems, such as gaseous fire suppression systems, sprinkler systems, process control equipment, and ventilation systems in high-value assets always work effectively. In the Built Environment, we provide the ability to locate and measure airflow so that buildings are energy efficient and healthy for occupants and for our planet.

Contact and support

Coltraco Ultrasonics
NETPark Research Institute
Joseph Swan Road
Sedgefield
TS21 3FB
United Kingdom

sales@coltraco.co.uk
+44 20 7629 8475
www.coltraco.com

British manufacturer of ultrasonic technologies, exporting to 120 countries and twice winners of The Queen's Award 2019 and 2022.