

DensiCheck TX

In-line liquid concentration transmitter

DensiCheck TX is an economic answer to the problem of monitoring liquid concentration and density in a wide variety of applications.

Available as an in-line transmitter in both Non-invasive and invasive formats.

DensiCheck TX provides a continuous output of concentration to enable processes to be optimised.

The result - reduced rework, improved quality and lower costs.

Approved for ATEX installations.

On applications where a non-invasive instrument is required, Canongate can supply you with a custom designed sensor. These sensors are typically fitted on a flanged or opened spool piece with a remote connection to the electronics.



Applications

DensiCheck TX is being used in many different industries to measure the concentration of numerous different liquids including:

- Acetic Acid
- Beer
- Ethanol
- Glycol
- Hydrogen Peroxide
- Nitric Acid
- Sodium Hydroxide
- Sucrose
- Acetone
- Calcium Chloride
- Ethylene Chloride
- Hydrofluoric Acid
- Isopropyl Alcohol
- Phosphoric Acid
- Soft Drinks
- Sulphuric Acid
- Ammonium Hydroxide
- Chromic Acid
- Ferric Chloride
- Hydrogen Chloride
- Methanol
- Sodium Chloride
- Spirits
- Wort

Features

DensiCheck TX's many features include:

- Non-invasive and invasive process connections
- Zero drift and no-recalibration
- High accuracy and repeatability
- ATEX Hazardous area approval
- No moving parts

Benefits

DensiCheck TX simplifies liquid concentration measurement bringing countless benefits of ownership such as:

- Lower installation and maintenance costs
- High reliability
- Low ownership costs
- Increased process efficiency
- Improved quality monitoring

Working Principle

DensiCheck TX uses the established principal that sound velocity in a liquid is related to its concentration. Ultrasound pulses are transmitted through the liquid and reflected to their source. The time of transmission is measured using advanced highspeed electronics, and the variation is converted by the on-board microprocessor to a signal representing the liquid concentration. Temperature is automatically compensated for by an integral sensor, and the resulting value of transmitted via an analogue or digital signal to a suitable display or host controller.

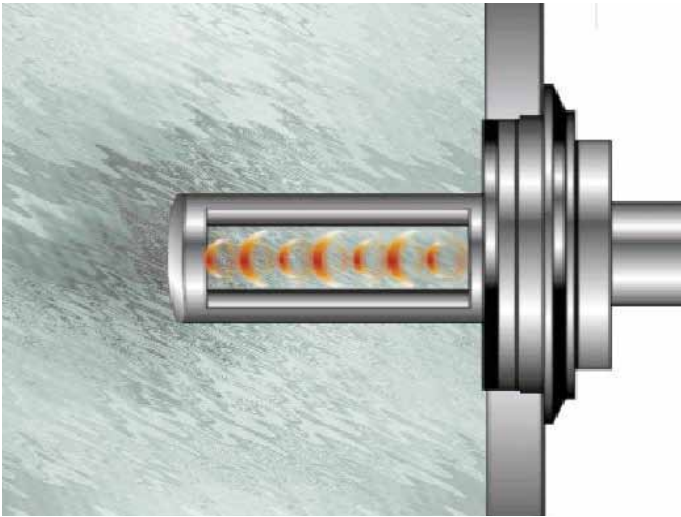
Mode of Operation

DensiCheck TX is designed to hold a two pre-loaded calibration for measuring two liquid types at a single process point. For multi-line or multi-product applications, DensiCheck TX can be combined with a separate Display/Control unit to form a DensiCheck 2000 System capable of monitoring up to four lines with 32 different calibrations.

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Sensor Options



There are also intrusive options with integral temperature sensor.

Specifications

General	
Rating	IP65
Accuracy	Typically +/- 0.1%
Repeatability	+/- 0.01 m/s, +/- 0.02°C
Response Time	< 1 second
Update	Every 2 seconds
Stability	No drift
Calibrations	Two
Supply	24Vdc, 250 mA
Output	0..5V or 4..20 mA (Active) Maximum -Loop resistance 500 Ω Non-isolated Two digital for hi/lo alarm open collector
Input	One digital for flow indication
Electronics Approval	⊕ II 2G EExd II B T5 (-20°C ≤ Ta ≤ 60°C) DEMC: 03 ATEX 135596X
Serial Communications	RS485, Modbus RTU / ASCII Comm2

Ultrasonic Transducer	
Rating	⊕ II 2G Exmb II CT5 GB (-20°C ≤ Ta ≤ 60°C)
Temperature	-10 to +110°C (continuous) (14° to 230°F) 150°C (5 min intermittently) (302°F)
Process Connections	
DensiCheck TX can be supplied with various process connections, including:	
<ul style="list-style-type: none"> • Non-invasive strap-on / Min. dia 50mm (2") • Varivent - Probe depth 63 mm • Tri-clamp (2 1/2") - Probe depth 81mm • Flanged (2 1/2") - Probe depth 133 mm • DIN 50 - Probe depth 63 mm 	

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