

CAPACITANCE TYPE LEVEL TRANSMITTER



ELTRAN

ELTRAN 701 ABS	: CONDUCTING LIQUID
ELTRAN 702 ABS	: NONCONDUCTING LIQUID
ELTRAN 703 ALUMINIUM	: CONDUCTING LIQUID
ELTRAN 704 ALUMINIUM	: NONCONDUCTING LIQUID



TECHNICAL SPECIFICATION

MEASURING RANGE	: 50 TO 2000 mm RUGGEDPROBE 2000 TO 10000 mm FLEXPBROBE
TRANSMITTER TYPE	: LOOP POWERED
SUPPLY VOLTAGE	: 12 TO 30 V DC
OUT PUT	: 4-20mA CONSTANT CURRENT
MAXIMUM LOAD RESISTANCE	: <u>SUPPLY VOLTAGE - 12 V Ω</u> 0.02 A
PRESSURE RATING	: 6 Kg/cm ²
TEMPERATURE	: -20 TO 100°C
ENCLOSURE	: DIE CAST ALUMINIUM DULY APPROVED FLAME PROOF ABS DULY APPROVED FOR IP 65/ 67
RESOLUTION	: 0.1mm
ACCURACY	: ± 0.25 % FSR

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SPINK CONTROLS®

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DIESEL LEVEL TRANSMITTER

IT IS SPECIALLY DESIGNED FOR DIESEL LEVEL MEASUREMENT. IT IS THE ONLY TRANSMITTER IN ITS CLASS WHICH MEASURES MINIMUM HEIGHT AS LOW AS 65 mm WITH AN ACCURACY OF 0.5 mm. THIS IS DIRECTLY MOUNTED ON ANY DIESEL GENERATOR FUEL TANK. THIS PRODUCT IS SPECIALLY DESIGNED FOR MOBILE TOWER MANAGEMENT SYSTEM AND HAS GOT PROVEN TRACK RECORD AT MANY LOCATIONS.

ELTRAN 705 ABS : DIESEL

TECHNICAL SPECIFICATION

MEASURING RANGE	: FROM 65 mm AND ABOVE
TRANSMITTER TYPE	: LOOP POWERED
SUPPLY VOLTAGE	: 6 TO 30 V DC
OUT PUT	: 4-20mA CONSTANT CURRENT
MAXIMUM LOAD RESISTANCE	: $\frac{\text{SUPPLY VOLTAGE} - 6 \text{ V}}{0.02 \text{ A}} \Omega$
TEMPERATURE	: -20 TO 100° C
ENCLOSURE	: ABS, DULY APPROVED FOR IP 65/ 67, WITH MOUNTING PLATE
SENSOR	: ALUMINIUM
RESOLUTION	: 0.1MM
ACCURACY	: $\pm 0.25 \%$ FSR
OPTIONAL	: RS 485 OUTPUT AVAILABLE



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Gauger420

Loop powered ultrasonic continuous level meter for liquids and solids

Markets

Water and wastewater
Chemical processes

Petrochemicals
Food and beverage industries

Applications

- Liquid targets, solids (grains) and Open Channel Flow (OCF).
- Storage vessels, process tanks and outdoor piles.
- Wastewater, water desalination, water treatment plants.
- Petrochemical, chemical, food and agriculture industries.
- OEM models and kit parts are available to partners.

Advanced ultrasonic performance

- Extremely short dead-zone of 15 cm / 6" (50KHz: 35cm/14").
- Range up to 8 meter / 26' (50KHz: 9.5m/31').
- Tracking rate up to 10 meters per minute.
- PVDF sensor.
- Measuring distance, level, volume and temperature.
- Automatic, dual sensor temperature compensation.
- One size fits all tank shapes and dimensions.
- Direct installation - 1.5" opening (50KHz: 2").
- USB interface for cloning and firmware upgrades.



Gauger420

Parameter	Specifications ⁽¹⁾			
Type	Mono-block ultrasonic level meter loop powered and 4-20 output.			
Maximum range for liquids ⁽²⁾ for solids ⁽²⁾	8 meters (26')		Minimum range (dead zone)	15 cm (6")
Measurement accuracy	±1.5 mm / 0.3% of range / 0.2% of max range.		Resolution	1 mm
Tracking rate	Up to 10 meters per minute / 33' per minute.			
Reported measured values	Distance, Level, Volume, Temperature, Operating hours.			
4-20 Characteristics	Accuracy	±20µA	Error indications	3.6mA, 22mA, Hold Last Value
	HART option	4 variables /address	Representation	Level, Distance, Volume, OCF, Fixed
Additional interfaces	RS485 for digital monitoring and USB for setup, cloning and firmware upgrade.			
Temperature compensation	Automatic. Internal and external temperature sensors .			
Open channel flow	Support for 18 flumes/weirs / Manning flow formula.			
Display	Graphic LCD 64X128, viewing window 50X25mm ² .			
Sensor ⁽²⁾	75 KHz Full PVDF material 1.5" BSP / NPT threads			
Power supply	24VDC or 18-33VDC on ports. Loop circuit load 950Ω at 33 VDC.			
Operating temperature	-30°C to +70°C (-22°F to 158°F) (min with display: -20°C / -4°F).			
Mechanical	Material of enclosure - Plastic PC/ABS+UV protection Weight is 0.96 Kg Maximal external dimensions: Ø105 X 28 cm ² + two glands			
Certifications	CE EMC, CE Safety, FCC part 15, Intrinsic Safe – Pending Seal rating IP68 (Immersed in 1 meter water for 1 hour).			

⁽¹⁾ All specification are subject to change without notice. Specifications are defined at controlled laboratory tests.

⁽²⁾ 50KHz model available for range to 9.5 meter (liquid) and dead zone of 35cm.

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Gauger485

Ultrasonic continuous level meter for liquids and solids with digital output

Markets

Water and wastewater
Chemical processes

Petrochemicals
Food and beverage industries

Applications

- Liquid targets, solids (grains) and Open Channel Flow (OCF).
- Storage vessels, process tanks and outdoor piles.
- Wastewater, water desalination, water treatment plants.
- Petrochemical, chemical, food and agriculture industries.
- OEM models and kit parts are available to partners.

Advanced ultrasonic performance

- Tracking rate up to 10 meters per minute.
- Measuring distance, level, volume, OCF and temperature.
- Automatic, dual sensor temperature compensation.
- Direct installation - 1.5" opening (50KHz: 2").
- USB interface for cloning and firmware upgrades.

Gauger485 is a perfect solution for applications interfacing an external modem, PLC or laptop. The use of serial string-based output is simple, reliable and more accurate than 4-20 analog interface. May be viewed directly on a PC or laptop, no custom software is required.




SOLID
Applied Technologies Ltd.

Gauger485

Parameter	Specifications ⁽¹⁾		
Type	Mono-block ultrasonic level meter loop powered and digital RS485 output.		
Maximum range for liquids ⁽²⁾ for solids ⁽²⁾	8 meters (26') 5 meters (16')	Minimum range (dead zone)	15 cm (6")
Measurement accuracy	±1.5 mm / 0.3% of range / 0.2% of max range.	Resolution	1 mm
Tracking rate	Up to 10 meters per minute / 33' per minute.		
Reported measured values	Distance, Level, Volume, Temperature, Operating hours.		
RS485	One string record per second reporting distance, level, volume, flow, temperature (internal and external).		
Additional interfaces	USB port for setup, cloning and firmware upgrade.		
Temperature compensation	Automatic. Internal and external temperature sensors .		
Open channel flow	Support for 18 flumes/weirs / Manning flow formula.		
Volume calculation	Cubical tanks, cylindrical vertical tanks, cylindrical horizontal tanks with or without curved sides.		
Display	Graphic LCD 64X128, viewing window 50X25mm ² .		
Sensor ⁽²⁾	75 KHz Full PVDF material 1.5" BSP / NPT threads		
Power supply	10.8 to 33VDC on Gauger ports.		
Operating temperature	-30°C to +70°C (-22°F to 158°F) (min with display: -20°C / -4°F).		
Mechanical	Material of enclosure - Plastic PC/ABS+UV protection Weight is 0.96 Kg Maximal external dimensions: Ø105 X 28 cm ² + two glands		
Certifications	CE EMC, CE Safety, FCC part 15, Seal rating IP68 (Immersed in 1 meter water for 1 hour).		

⁽¹⁾ All specification are subject to change without notice. Specifications are defined at controlled laboratory tests.

⁽²⁾ 50KHz model available for range to 9.5 meter (liquid) and dead zone of 35cm.



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Level sensor with integrated GSM modem

Applications

Remote fuel tank monitoring

- Detect and alert for fuel theft
- Identify refueling process and report quantities
- Track fuel inventory in large tank farms

Urban wastewater monitoring

- Detect, pinpoint and warn against sewer blockage and overflows
- Battery powered for years of operation
- Minimal maintenance, no moving parts
- Simple installation, no road digging

Water reservoirs and rivers

- Detect and warn against flood conditions
- Prevent premature reservoirs dry-out

Benefits

- A complete, compact and unified solution
- No on-going fees for control software
- Rapid return on the investment –measured in months
- Fit for any site where SMS or GPRS is available
- Customized alerts and monitoring reports



GaugerGSM



Parameter	Specifications
Type	Mono-block ultrasonic level meter with embedded cellular modem
Maximum range for liquids for solids	8 meters 6 meters
Minimum range (dead zone)	15 cm
Measurement accuracy	±0.5 cm or 0.2% of maximum range
Measured values	Distance, Level, Volume, Temperature, Operating hours Absolute and percentage
Temperature compensation	Automatic. Internal and external temperature sensors for rapid temperature tracking
Display	Graphic LCD 64X128, viewing window 50X25mm ² , resolution of 1 mm.
Sensor	75 KHz, full PVDF material, 1.5" BSP or 1.5" NPT threads
Communication interfaces	Cellular GSM Quad Band / SMS with 1 mm resolution USB for setup, local monitoring and firmware upgrade
Additional interfaces	SPDT relay output Drycontact digital input RS485 Analog input
SMS reports and alerts	Periodic (programmable interval), Full, Empty, intermediate levels, over-consumption, refilling process
Power supply	8 to 33 VDC, optional low power mode for batteries
Operating temperature	-30°C to +70°C (-20°C to +70°C with display option)
Mechanical	Plastic PC/ABS+UV, IP68 (96 hours @ depth of 1.8 meter water, weight 960 gram)
Certifications	CE EMC, CE Safety, FCC part 15

(*) All specifications are subject to change without notice



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MonoScanTM

**Ultrasonic Continuous Level Measurement
of Liquids and Solids**



Radar-like Performance at an affordable price

Automatic adaptation to virtually all environments

World smallest ultrasonic Open Channel Flow gauge

Superior reliability and accuracy under extremely harsh conditions

SolidScan

You Can Measure the Solid Benefits

MonoScan™

Patented

No More Compromises

Now You Can

Self-adjustments to Virtually All Of Conditions

Affordable Solutions for a Range of Process Control and Storage Applications

Radar-Like Performance

Superior Reliability and Accuracy

You Know the Problem

Current Ultrasonic Level Measurements Device just aren't accurate enough, Attempts to compensate for changing atmospheric conditions and temperature variations within tanks have not been successful. Sound wave remains in conditions and signal transmission and reception are unsynchronized. Even the most sophisticated and more expensive device, do not achieve the repeatability and linearity vital for accurate measurements, when translated into dollars and cents, the price of these uncertainties is too high.

The Solution: Full Compensation in Virtually All Environments

SolidScan a family of non-contact, Ultrasonic instruments for continuous level measurements of liquids and solids, offers industry experts and engineers the accuracy and reliability they have been seeking at prices they can afford. Based on breakthrough, patented technology in ultrasonic level measurements, SolidScan achieves what other instruments just can't match. It delivers full compensation in virtually all environments, vapours, gases, temperature variations, wind, pressure, etc, to provide the highest accuracy especially under extremely harsh conditions. This is radar-like performance at Ultrasonic prices.

No Calibrations, No Maintenance Required

No Calibrations, No Maintenance Required

Requiring neither calibration nor maintenance, self-contained SolidScan instruments are easy to install and operate. SolidScan instruments are reasonably priced and they deliver cost-effective Ultrasonic level measurements for such "tough" industries as hydrocarbon processing.

Patented Technology Delivers Superior Resolutions and Linearity

SolidScan Technology employs unique modules integrating hardware and software. Each instrument incorporates several of the modules according to a specific application.

technologies

Have it All!

● **Standing wave control module**

The innovative technology incorporated into SolidScan transmits a fixed pulse and frequency at constant voltage, enabling SolidScan to receive a similarly controlled oscillation where each wave is identifiable. This provides a highly reliable signal at maximum amplitude for attaining an extremely high level of accuracy, resolution, repeatability and linearity. By measuring energy loss as a function of the speed of sound, SolidScan can cope with even the most difficult environment. This module, in effect, enables complete control over energy.

● **Dynamic and Static Echo Control**

An innovative algorithm enables automatic (dynamic) identification, learning and storage in memory of disturbances and noises without human intervention. The "Scan distance function" locates disturbances and noises in the tanks and provides appropriate compensation. Alternatively, it permits intervention and manual input of echo when necessary.

● **Temperature control Module**

The Module rapidly compensates for changes in temperature and corrects the reading accordingly. It is particularly suitable for process installation where there are extreme changes in environment's temperature or in where there are rapid temperature fluctuations, the dynamic compensation ensures that the instrument maintains optimal accuracy at all times.

Gain Control Module

This special Module's algorithm enables full monitoring of signal amplification received from the sensor. It ensures an accurate and reliable reading even in the presence of gases or vapours. It also adapts the amplification to an optimized level when the liquid surface has waves and is turbulent. This algorithm has also proven to be especially effective for the measurements of powder and other solids. This module weakens the strong signals, and strengthens the weak signals for improvements of the signal to noise ratios.

Applications

Chemical Processes Acids, bases, Different Chemicals and reagents in buffer tanks inventory storage tanks Benefit From improved performance in the presence of foam, gases, water vapour.

Silos bulky powders, fertilizer, ores, solids, stones. Benefit from improved longer-range and reliable signals. Petrochemicals most hydrocarbons, Benefit from improved performance in environments of volatile gases and CO₂ Inventory tanks gauging with accuracy down to 3mm.

Food and Beverage beer, Juice, slurries in blending and mixing tanks, Grains, powder, flour in silos and more Benefit from improved accuracy and new implementations.

Water and Waste Water: water storage towers Accurate Open Channel flow measurements. Sludge and Slurries in waste water plants. Pump stations. Benefit from low cost and High Performance.

Pharmaceuticals: Fine Powders, aseptic, liquids, pastes. Benefit from a wide range of new applications. Pulp liquor, bleaching agents Benefit from superior performance, accuracy and reliability at an affordable price.

Plastic Granulated, Powders, Solvents Benefit from new solutions for the plastics industry.

MonoScan, MonoScan485

MonoScan is an Ultrasonic Level Measuring instrument for Direct Installations on Tanks vessels and reactors. It is a Loop Powered 4-20 mA device with integral LCD display. Constructed of a ABS body. Its features a sensor with a diameter of just 2 inch. MonoScan is an excellent choice for measuring the level of Liquids and solids at ranges of up to 15 meters, with a 0.25% accuracy of measured range.

The MonoScan 485 includes all of MonoScan 's Features Plus communication on an RS-485 bus with modbus protocol remote monitoring via PC and compatibility to HART protocol. Additionally the MonoScan 485 offer 3 SPDT relay control that provides a complete solution for process tanks in stand alone application and a Fast Dynamic Response (FDR) algorithm That excellent performance.



Extremely high levels of accuracy and reliability

Automatic adaptation to extreme conditions

Worldwide distributor network

Hot line service and application assistance

Specifications

Measuring Range

MonoScan L for LIQUIDS: Short Range: 0.2m (0.6-6ft)
Standard-Range: 0.6-15m (1.9-49 ft)

MonoScan S for SOLIS: Short-Range: 0.2-5 m (0.6-16 ft)
Standard-Range: 0.6-8.5m (1.9-28 ft)

MonoScan O for FLOW: Short-Range: 0.2-5m (0.6-16ft)
Standard-Range: 0.6-15m (1.9-49 ft)

Accuracy

0.25% of Measuring Range
Resolution: 3 mm (0.12 inch)
Ambient Temperature compensation: Automatic

Mechanical

Enclosure: IP 65, Monoblock construction, Plastic.
Wetted Part: Sensor Body: PP, Stainless Steel 316 or Aluminum
*Optional PVDF
Operating Temperature: -40deg C to 70deg C (-40deg F to +158deg F)
Mounting: 2" NPT or 2" BSP
Operating Pressure: Atmospheric
Dimensions: 289 x 107 x 85 mm (11.4 x 4.2 x 3.35 inch)
Weight : Approx 1.5Kg (3.3lb)

Electrical

Display: Integral LCD 4 digits, 7 Segments
Loop Current: 4-20mA, 750 Ohm@28VDC
Supply: 12-28 VDC (0.1A Surge)
Transducer: 25 Khz
Certificate: CE-EMC
ATEX: EX is IIC T4
FM: Class I Division 1 Group A T4
CSA Class I, II, III, Group A,B,C,D,E,F and G

MonoScan 485 Additional Features

Interface

Bi-Directional RS-485 output Supported by Modbus RTU

External Adapter

3 Independent SPDT Relays
6 Trigger Points
Compatibility with HART Protocol*
*Consul Factory



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