

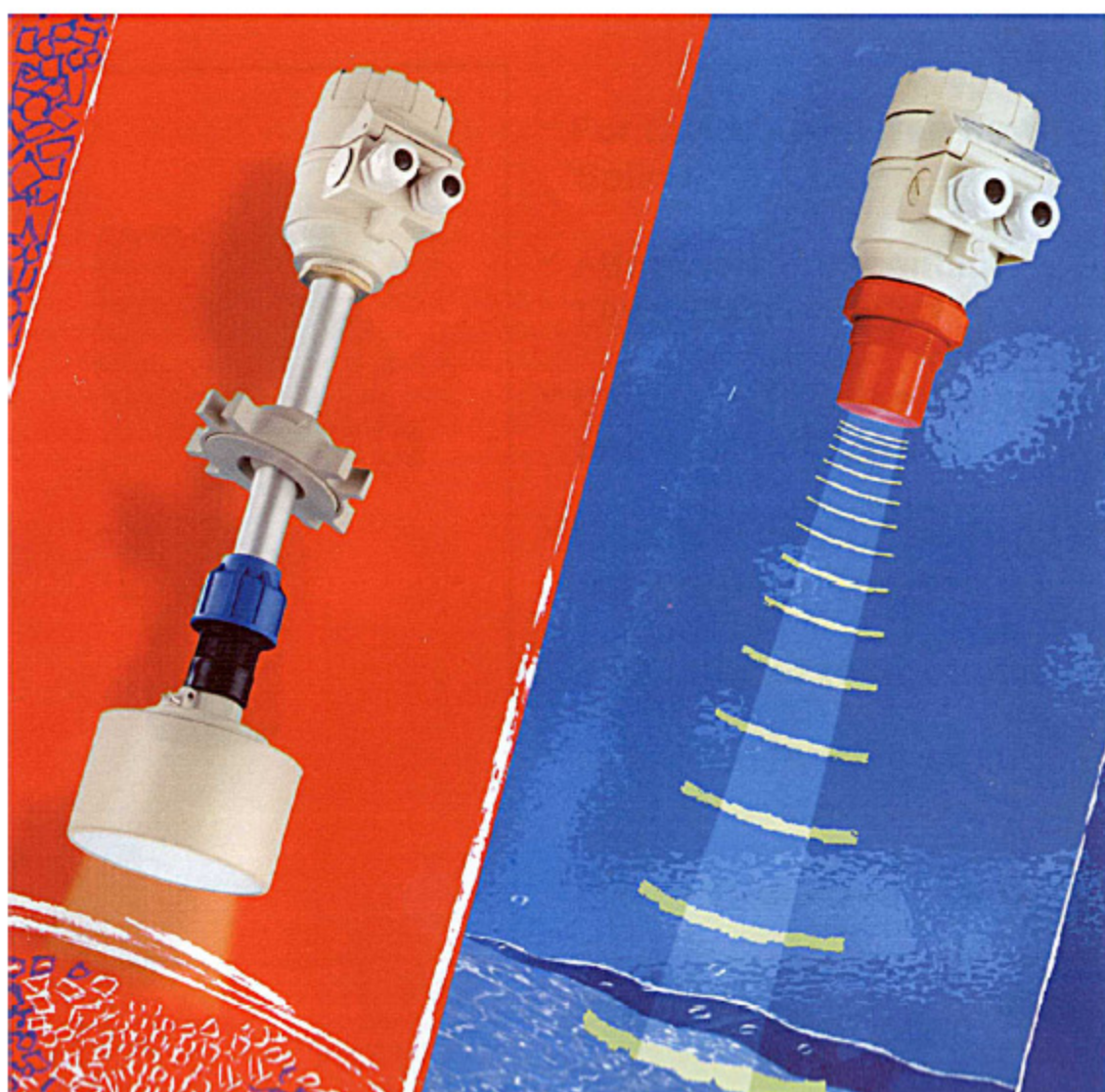
EUROGAUGE

...the level people

EchoTREK













THE NEXT GENERATION

*Compact ULTRASONIC
Level Indicators*



***Excellence in Level Measurement
for Liquids and free-flowing solids***




EchoTREK – THE NEXT GENERATION - FOR LIQUIDS

EchoTREK transmitters with plastic transducers for Liquids Four-wire						
Type	SB / ST-39□-□	SB / ST-38□-□	SB / ST-37□-□	SB / ST-36□-□	SB / ST-34□-□	SB / ST-32□-□
EchoTREK transmitters with plastic transducers for Liquids Two-wire 					—	—
Type	SE / SG-39□-□	SE / SG-38□-□	SE / SG-37□-□	SE / SG-38□-□	—	—
Range (m / feet)	4 / 13	6 / 20	8 / 26	10 / 33	15 / 49	25 / 82
Dead Band (m / feet)	0.2 / 0.65	0.25 / 0.82	0.35 / 1.2	0.35 / 1.2	0.45 / 1.5	0.6 / 2
Total beam angle	6°	5°	7°	5°	5°	7°
Process connection	1 1/2" BSP / NPT	2" BSP / NPT	2" BSP / NPT	Flange	Flange	Flange
Sensor material	PP, PVDF or PTFE			PP or PVDF		
Housing materials	Flame retardant plastic or powder paint coated aluminium					
Accuracy *	± (0.2% of measured distance + 0.05% of range)					
Ingress protection	Sensor: IP 68 Housing: IP 67					
Process temperature	- 30°C ... + 90°C					
Outputs	Two-wire: 4-20 mA max. 600 Ohm, HART Four-wire: 4-20 mA max. 600 Ohm, HART, Relay (SPDT), RS485 (ModBus)					
Power Supply	Two-wire: 11.4 ... 36 V DC / 44 ... 800 mW Four-wire: High V: 85 ... 255 V AC / 6 VA Low V: 10.5 ... 40 V DC / 3.6 W 10.5 ... 28 V AC / 4 VA					
ATEX approval	 II 1 G EEx ia IIB T6 (two-wire only)				—	
Technical Information	DataSheet: Ultrasonics for Liquids Sm30gl2a06_ _a					

EchoTREK ultrasonic transmitters offer the best in liquid level measurement in a compact simple package. Developed using the established SenSonic range of Nivelco narrow beam angle pulse echo transducers, EchoTREK units are available with measurement ranges up to 25 metres - with standard plastic, PTFE or stainless steel sensor faces. Installed on the tank roof, or above the liquid surface to be measured, the transmitter gives an analogue output proportional to liquid level. Initial set-up is achieved using the simple plug-in display module: then the intelligent QUEST+ process adaptive signal processing software system ensures that the electronics identifies and validates the liquid surface signal, giving reliable level monitoring.

- ◆ Relay output for alarm and control
- ◆ Complete open channel flow metering package
- ◆ 32 point linearisation
- ◆ Suitable for wastewater through to chemical industry applications
- ◆ Flush face sensors tolerate CIP cleaning
- ◆ Full temperature compensation
- ◆ Easy set-up, even without the programmer



EchoTREK transmitters with stainless steel flush face transducers for Liquids (four-wire)			
Type	SBS / STS-36□-□	SBS / STS-34□-□	SBS / STS-32□-□
Range (m / feet)	7 / 23	12 / 39	15 / 49
Dead Band (m / feet)	0.4 / 1.3	0.55 / 1.8	0.65 / 2.2
Total beam angle	5°	5°	7°
Process connection	Flange	Flange	Flange
Sensor material	Stainless Steel		
Housing materials	Flame retardant plastic or aluminium		
Accuracy *	± (0.2% of measured distance + 0.05% of range)		
Ingress protection	Sensor: IP 68 Housing: IP 67		
Process temperature	- 30°C ... + 100°C (CIP 120 °C for max. 2 hours)		
Outputs	4-20 mA max. 600 Ohm, HART, Relay (SPDT), RS485 (ModBus)		
Power Supply	High V: 85 ... 255 V AC / 6 VA Low V: 10.5 ... 40 V DC / 3.6 W 10.5 ... 28 V AC / 4 VA		
Technical Information	DataSheet: Ultrasonics for Liquids Sm30gl2a06_ _a		

* Under optimum conditions of reflection and stabilised transducer temperature

EchoTREK – THE NEXT GENERATION - FOR SOLIDS





EchoTREK compact level transmitters featuring SenSonic narrow beam angle transducers are offered for solids level monitoring - where previously only more complex, two part systems have performed. With the high efficiency SenSonic transducers, giving superb signal transmission, plus the QUEST+ software, using advanced process adaptive signal processing for reliable echo monitoring. EchoTREK units overcome filling noise, dusting and irregular surface formations in most cases to give a high performance, compact, powder and solids level measurement transmitter.

- ◆ Ranges up to 50m
- ◆ Possibility of metering during filling
- ◆ Narrow beam highly efficient transducers
- ◆ Built-in aiming
- ◆ Full temperature compensation
- ◆ Dust-Ex approval



EchoTREK measures the level of any powder or free-flowing solid, even under difficult circumstances - such as dust clouds caused by pneumatic filling or constantly varying and uneven material surfaces. Simple to install and commission, a built-in aiming device aids initial setting up on the tank roof. EchoTREK offers a unique cost effective transmitter solution for single as well as multi-vessel applications.



EchoTREK transmitters for solids (Four-wire)			
Type	SBD / STD-34D-D	SBD / STD-33D-D	SBD / STD-31D-D
Range (m / feet) *	15 / 49	30 / 98	60 / 196
Dead Band (m / feet)	0.6 / 2	0.6 / 2	1.2 / 4
Total beam angle	5°		
Process connection	Flange with aimer		
Sensor material	Plastic with plastic foam facing		
Housing materials	Flame retardant plastic or aluminium		
Accuracy *	± (0.2% of measured distance + 0.1% of range)		
Ingress protection	Sensor: IP 65 Housing: IP 67		
ATEX Approval	 II 1/2 D IP 65/66		
Process temperature	-30°C ... +75°C		
Outputs	4-20 mA max. 600 ohm, HART, Relay (SPDT), RS485 (ModBus)		
Power Supply	High V: 85 ... 255 V AC / 6.8 VA Low V: 10.5 ... 40 V DC / 4.1 W 10.5 ... 28 V AC / 4.6 VA		
Technical Information	DataSheet: Ultrasonics for Solids - Sm30gS2a06...a		

* Under optimum conditions

EchoTREK – THE NEXT GENERATION

HARSH PROCESS EXPERIENCE PACKED INTO A SINGLE COMPACT INTELLIGENT TRANSMITTER.

EchoTREK Ultrasonic level meters are excellent instruments for tank level or contents measurement of liquids or bulk solids. Experience gained over decades and 30,000 applications in the harshness of the real process world - this is where EchoTREK excels.

EchoTREK - the next generation level transmitter - combines all this expertise in this new range of compact transmitters. HART and Modbus communications allow for remote data access and total access to the EchoTREK transmitter diagnostics as well as reprogramming, when needed from the control room.

The practical experience behind EchoTREK has not been overlooked. For solids level measurement the sensors incorporate a built-in aiming device, to set up the transmitter at the optimum angle. The plug-in display module allows programming of the transmitter on the tank itself, whilst monitoring the level measurement. The QUEST software includes the capability to suppress interference from a fixed target within the ultrasonic pulse echo beam, where such reflection is unavoidable. All transmitters have a built-in temperature sensor for speed of sound compensation in the ullage space of the tank.

Multi-vessel application

The Eview software package enables HART equipped EchoTREKs to be programmed and monitored remotely.

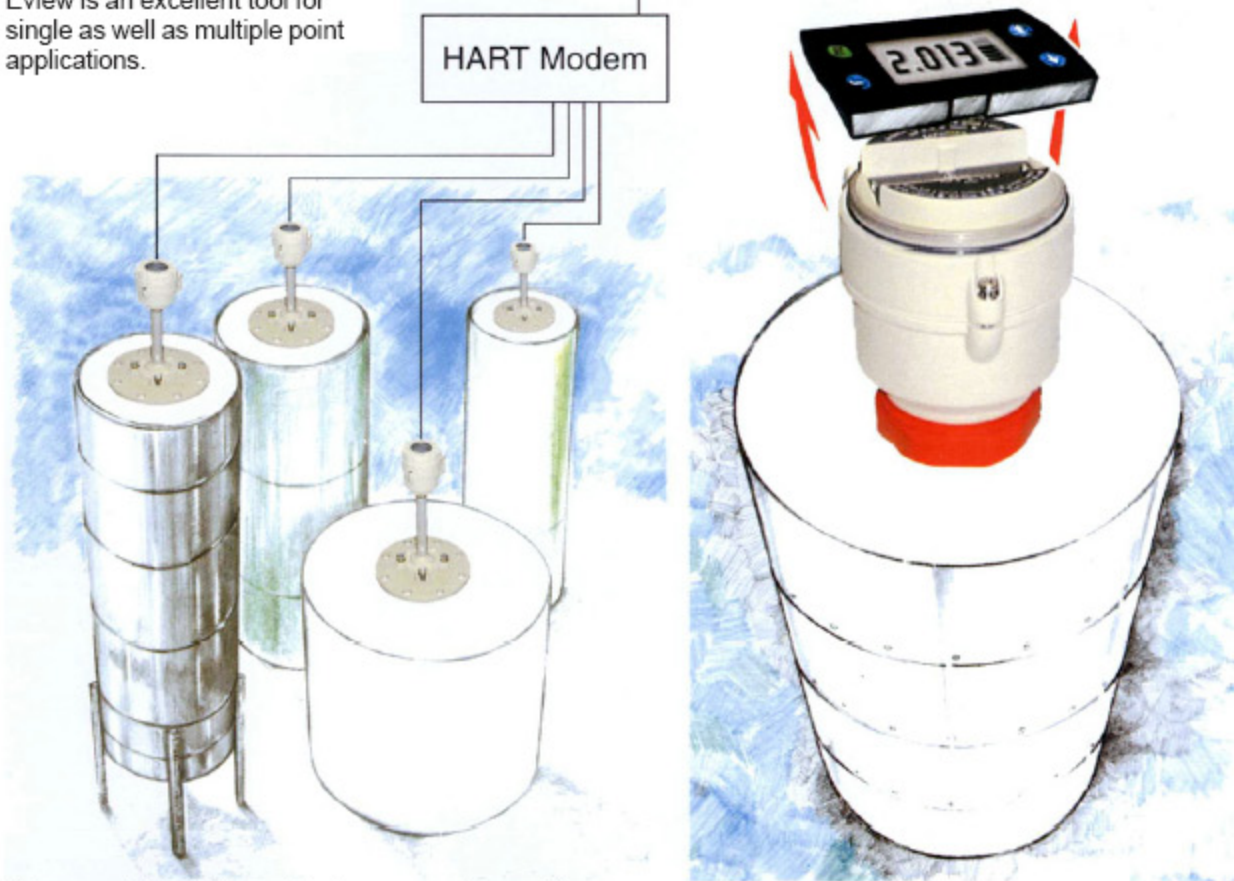
Using a Hart modem, up to 15 EchoTREKs can be hooked up and connected to a computer. Eview is an excellent tool for single as well as multiple point applications.



HART Modem

Single vessel application

The plug-in programming module has a custom LCD display, plus a bar graph indicator, to show the tank level, volume contents, or open channel flow rate, in five digits of identified engineering units.



Please note that all combinations are not possible.



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Afriso Eurogauge Ltd
Imberhorne Lane, East Grinstead
West Sussex. RH19 1RF
Tel: 01342 323641
Fax: 01342 315513
email: sales@eurogauge.co.uk
web site: www.eurogauge.co.uk

EchoTREK

THE NEXT GENERATION

Compact ULTRASONIC Level Indicators



- ✓ For Liquids and free-flowing Solids
- ✓ Affordable non-contact Level Measurement
- ✓ Choice of Process Connections and Sensor Materials
- ✓ Excellent sensor focusing with narrow beam angle
- ✓ 4-20 mA and programmable relay output
- ✓ HART Digital Communication protocol
- ✓ User Friendly plug-in LCD calibrator
- ✓ Maintenance-free, low cost

Excellence in Level Measurement



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EchoTREK THE NEXT GENERATION

SMART electronics for the best ultrasonic level sensors a SMART electronics interface for our established range of ultrasonic liquid level transmitters, using HART, Profibus PA or Modbus protocols. **EchoTREK** compact transmitters include the field proven QUEST+™ advanced, process adaptive signal processing software system to identify and validate the liquid surface signal, for reliable level measurement. **EchoTREK** can be applied to the full range of Nivelco narrow beam ultrasonic sensors, now operating in over 20,000 applications in the harshness of the real process World:

- ✓ HART
- ✓ Profibus PA
- ✓ Modbus

EchoTREK, The Next Generation features:

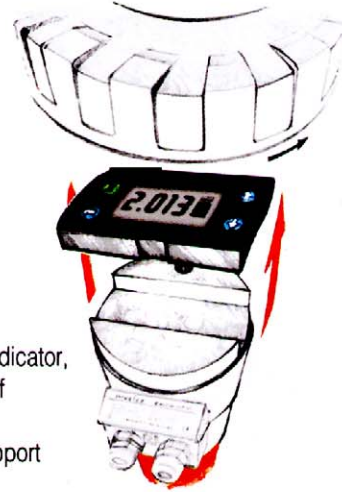
- ◆ Application oriented programming
- ◆ 32-point curve linearisation for tank contents or open channel flow measurement
- ◆ Capability to suppress interference from 2 Fixed targets
- ◆ 4-20mA continuous output plus a fully programmable relay output
- ◆ All transmitters have a built-in temperature sensor for compensation over the full range


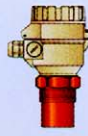
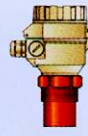
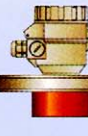
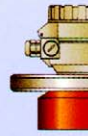
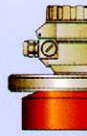
Programming options for EchoTREK:

Simple: For the simplest start up, 4 and 20 mA end points are set using a magnetic key (supplied).

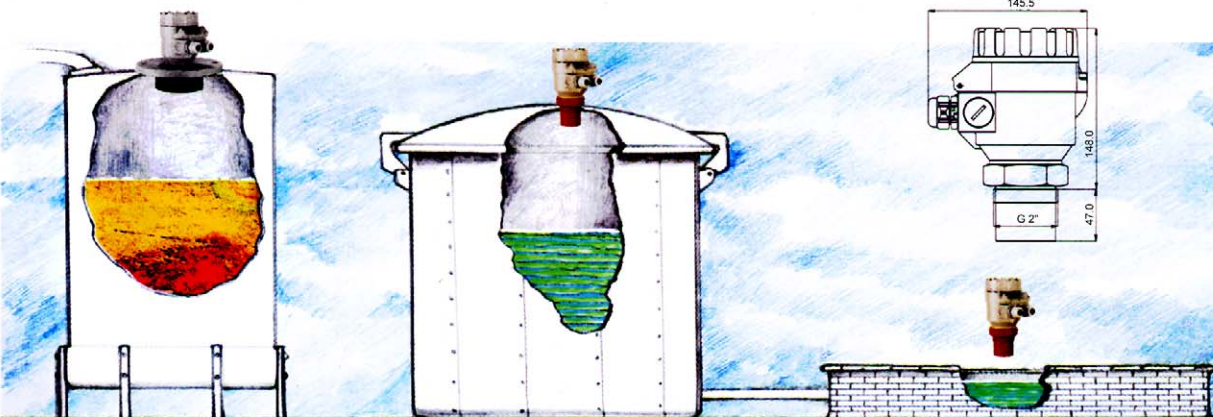
Complete: Using the plug-in programming module, the operator can choose between menu driven "QUICKSET" or full parameter programming. The Plug-in programming module has a custom LCD display, plus a bar graph indicator, to show the tank level, volume contents, or open channel flow rate, in five digits of identified engineering units.

Digital: For remote information transfer and programming, the EchoTREK transmitters support HART, Profibus PA and Modbus as options.



EchoTREK						
Type	SB/ST-39	SB/ST-38	SB/ST-37	SB/ST-36	SB/ST-34	SB/ST-32
Range	4 m	6 m	8 m	10 m	15 m	25 m
Dead band	0.2 m	0.25 m	0.35 m	0.35 m	0.45 m	0.6 m
Total beam angle	6°	5°	6°	5°	5°	6°
Process connection	1 1/2" thread	2" thread	2" thread	Flange	Flange	Flange
Ingress protection	Sensor: IP68, Housing: IP66					
Materials	Sensor: PP, PVDF, PTFE (Teflon) or Stainless steel Housing: Plastic or Powder paint coated die-cast Aluminium					
Process temperature	-30°C to +90°C (flush flange mounting PTFE and St. st. sensors are suitable for CIP cleaning cycles)					
Supply	4-wire versions: 80 to 255 V AC or 24 V AC/DC. 2-wire versions*: 9 to 30 VDC					
Outputs	4/20 mA, RS485, HART*, PROFIBUS PA*, Relay (SPDT)**					

* Under development **The EchoTREK is also available as a compact ultrasonic level switch.



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Afriso Eurogauge Ltd
 Imberhorne Lane, East Grinstead
 West Sussex. RH19 1RF
 Tel: 01342 323641
 Fax: 01342 315513
 email: sales@eurogauge.co.uk
 web site: www.eurogauge.co.uk