

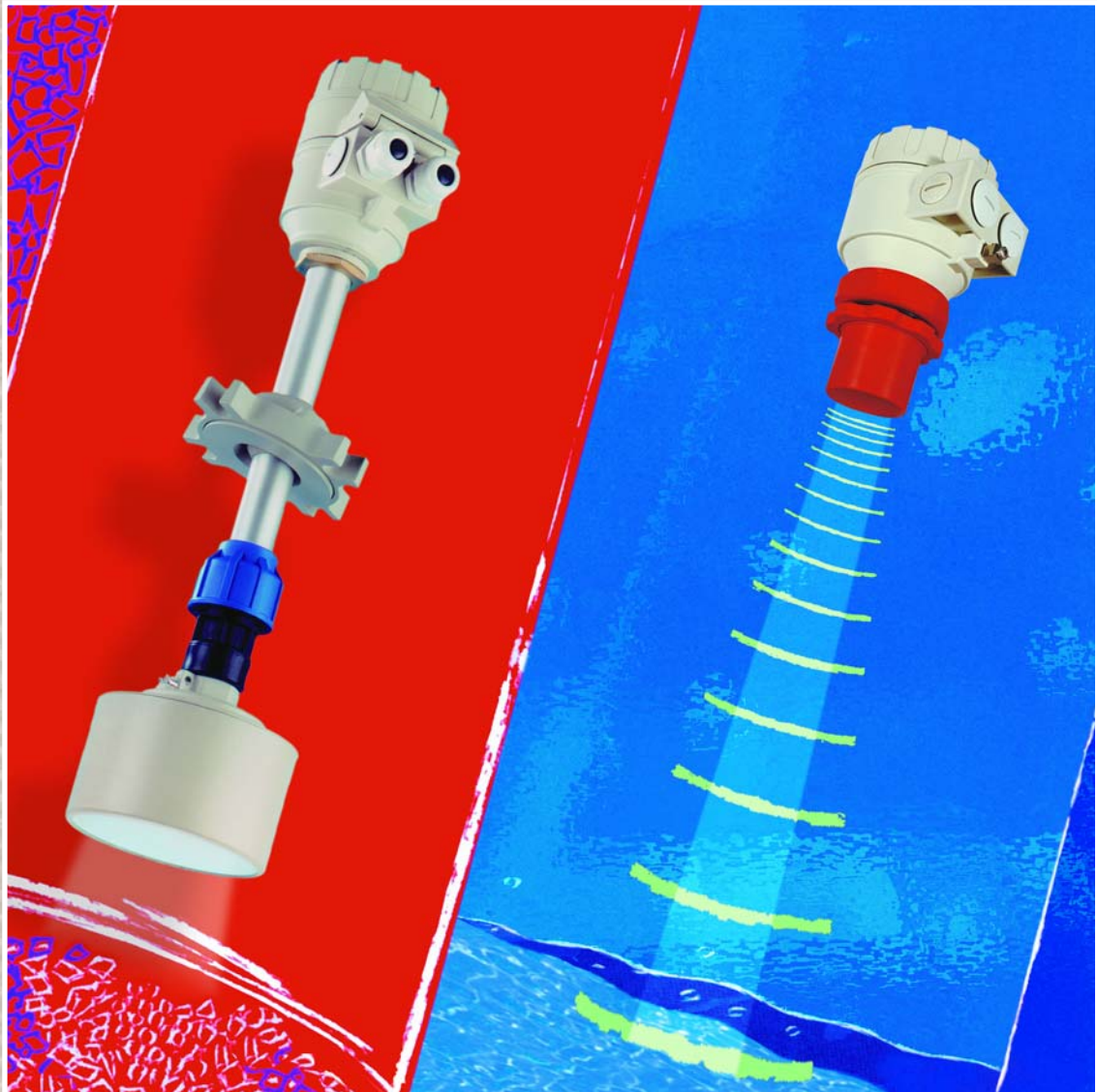
HART-Modbus
built-in Data Logger



EchoTREK

THE NEXT GENERATION

ULTRASONIC LEVEL TRANSMITTERS



OUR PROFESSION IS YOUR LEVEL

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-36□-□	—	—
Range (m / feet)	4 / 13	6 / 20	8 / 26	10 / 33	15 / 49	25 / 82
Dead Band (m / feet)	0.2 / 0.65 / PTFE 0.25	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					

* Under optimal conditions of reflection and stabilised transducer temperature

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 (only four-wire)
- ◆ 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
- ◆ Data-logging facility (only two-wire)

EchoTREK transmitters with stainless steel flush face transducers for Liquids (2 or 4 wire)			
Type	S□S / S□M-36□-□	S□S / S□M-34□-□	S□S / S□M-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 optimal conditions of reflection and stabilised transducer temperature

New feature

The Data Logger incorporated in the two-wire EchoTREK can store 10,000 sets of data. Recording can be triggered by a specific event or by time. The EchoTREK holds data available for downloading it via HART protocol as long as power is on, but retains data without power for one week.



Display module of the two-wire EchoTREK

EchoTREK – THE NEXT GENERATION – FOR SOLIDS

A surprise from Nivelco - the experts in solids level measurement. 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.

- ◆ Relay output for control and alarm
- ◆ Ranges up to 60 m
- ◆ Possibility of metering even during filling
- ◆ Narrow beam, highly efficient transducers
- ◆ Built-in aiming
- ◆ Full temperature compensation
- ◆ Dust-Ex approval



Programming module of the four-wire EchoTREK

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)			
	SBD / STD-34□-□	SBD / STD-33□-□	SBD / STD-31□-□
Type	SBD / STD-34□-□	SBD / STD-33□-□	SBD / STD-31□-□
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 and stabilized transducer temperature

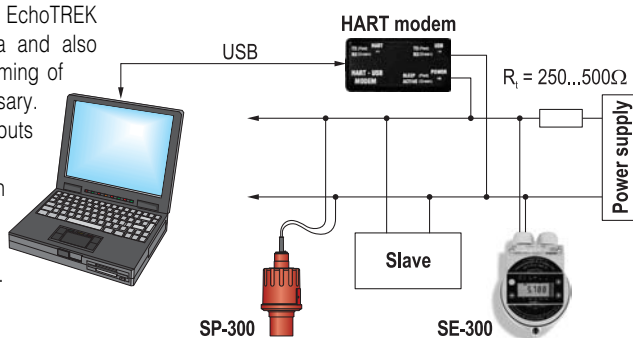
EchoTREK SELECTION CHART

EchoTREK	Liquids		Solids
	2 wire	3 / 4 wire	3 / 4 wire
Magnetic progr.	-	standard	-
Relay	-	standard	standard
HART	option	option	option
RS485	-	option	option
Exi	option	-	-
Ex(D)	-	-	option

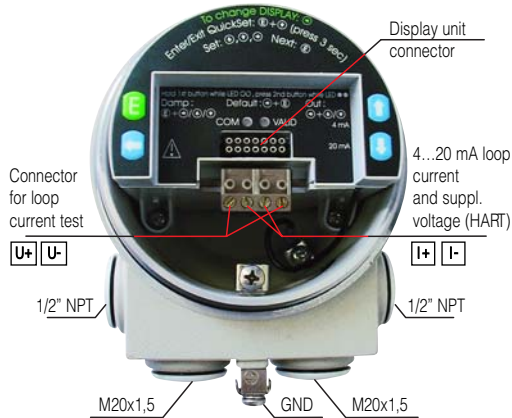
EchoTREK IN SYSTEMS WITH PC

Multichannel application with MODEM and PC

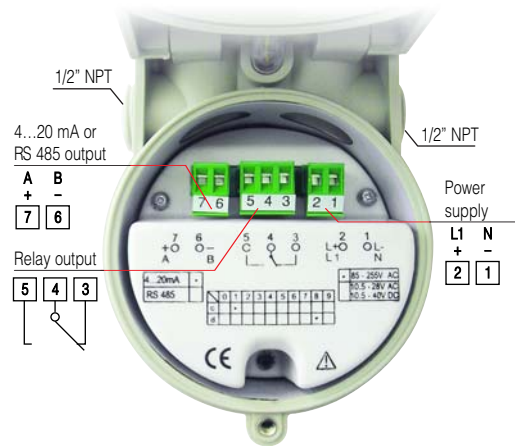
Using a PC and HART Modem, it is possible to create your own multi-drop HART network, where the PC displays all EchoTREK measurement data and also allows re-programming of the units as necessary. In this way the outputs derived from the displayed data can be programmed via the PC, which acts as the master.



CONNECTIONS OF THE 2-WIRE EchoTREK



CONNECTIONS OF THE 4-WIRE EchoTREK



ORDER CODE (NOT ALL COMBINATION AVAILABLE)

2-wire transmitter for liquids

EchoTREK S [] [] - 3 [] [] - []

TYPE	CODE	TRANSDUCER / HOUSING	CODE	MEASURING RANGE	CODE	MOUNTING	CODE	OUTPUT	CODE
Transmitter	E	PP / Aluminium	A	12; 15 m	4	BSP thread	0	4...20 mA / LOGGER	1
Transmitter with local indicator	G	PVDF / Aluminium	B	7; 10 m	6	NPT thread	N	4...20 mA	2
		PTFE / Aluminium	T	6; 8 m	7	DN 80 PN 16 / PP	2	4...20 mA / HART / LOGGER	3
		SS316Ti / Aluminium	S	5; 6 m	8	DN 100 PN 16 / PP	3	4...20 mA / HART	4
		PP / Plastic housing	P	3; 4 m	9	DN 125 PN 16 / PP	4	4...20 mA / LOGGER / Ex	5
		PVDF / Plastic housing	V			DN 150 PN 16 / PP	5	4...20 mA / Ex	6
		PTFE / Plastic housing	F			DN 200 PN 16 / PP	6	4...20 mA / HART / LOGGER / Ex	7
		SS316Ti / Plastic h.	M			200 mm bracket	K	4...20 mA / HART / Ex	8
						500 mm bracket	L		
						700 mm bracket	M		

For measuring ranges of PTFE (teflon) and St.St. (stainless steel) versions, see Technical Data table

Ex certified units will be marked with the „Ex“ mark added to the order code

3/4-wire transmitter for liquids

EchoTREK S [] [] - 3 [] [] - []

TYPE	CODE	TRANSDUCER / HOUSING	CODE	MEASURING RANGE	CODE	MOUNTING	CODE	SUPPLY / OUTPUT	CODE
Transmitter	T	PP / Aluminium	A	25 m	2	BSP thread	0	85 to 265 VAC	
Transmitter with local indicator	B	PVDF / Aluminium	B	15 m	4	NPT thread	N	4...20 mA + Relay	1
		PTFE / Aluminium	T	10 m	6	DN 80	2	4...20 mA + HART + Relay	3
		St. St. / Aluminium	S	8 m	7	DN 100	3	RS485 + Relay	5
		PP / Plastic housing	P	6 m	8	DN 125	4	4...20 mA + Relay (limited pr.)	A
		PVDF / Plastic housing	V	4 m	9	DN 150	5	10.5 to 40 VDC, 10.5 to 28 VAC	
		PTFE / Plastic housing	F			DN 200	6	4...20 mA + Relay	2
		St. St. / Plastic h.	M			200 mm bracket	K	4...20 mA + HART + Relay	4
						500 mm bracket	L	RS485 + Relay	6
						700 mm bracket	M	4...20 mA + Relay (limited pr.)	B

For measuring ranges of PTFE (teflon) and St.St. (stainless steel) versions, see Technical Data table

Process connections: threaded with S...39, 38 and 37, flange or bracket with all other models

3/4-wire transmitter for solids

EchoTREK S [] D - 3 [] J - []

TYPE	CODE	MEASURING RANGE	CODE	POWER SUPPLY / OUTPUT	CODE
Transmitter	T	60 m	1	Version I. 120 to 255 VAC ; 85 to 255 VAC	Std. Ex
Transmitter with local indicator	B	30 m	3	4...20 mA + Relay	1 5
		15 m	4	4...20 mA + Relay + HART	3 7
				RS485 + Relay	A E
				Version II. 10.5 to 40 VDC ; 10.5 to 28 VAC	
				4...20 mA + Relay	2 6
				4...20 mA + Relay + HART	4 8
				RS485 + Relay	B F

Ex certified units will be marked with the „Ex“ mark added to the order code

Technical specification may be changed without notice