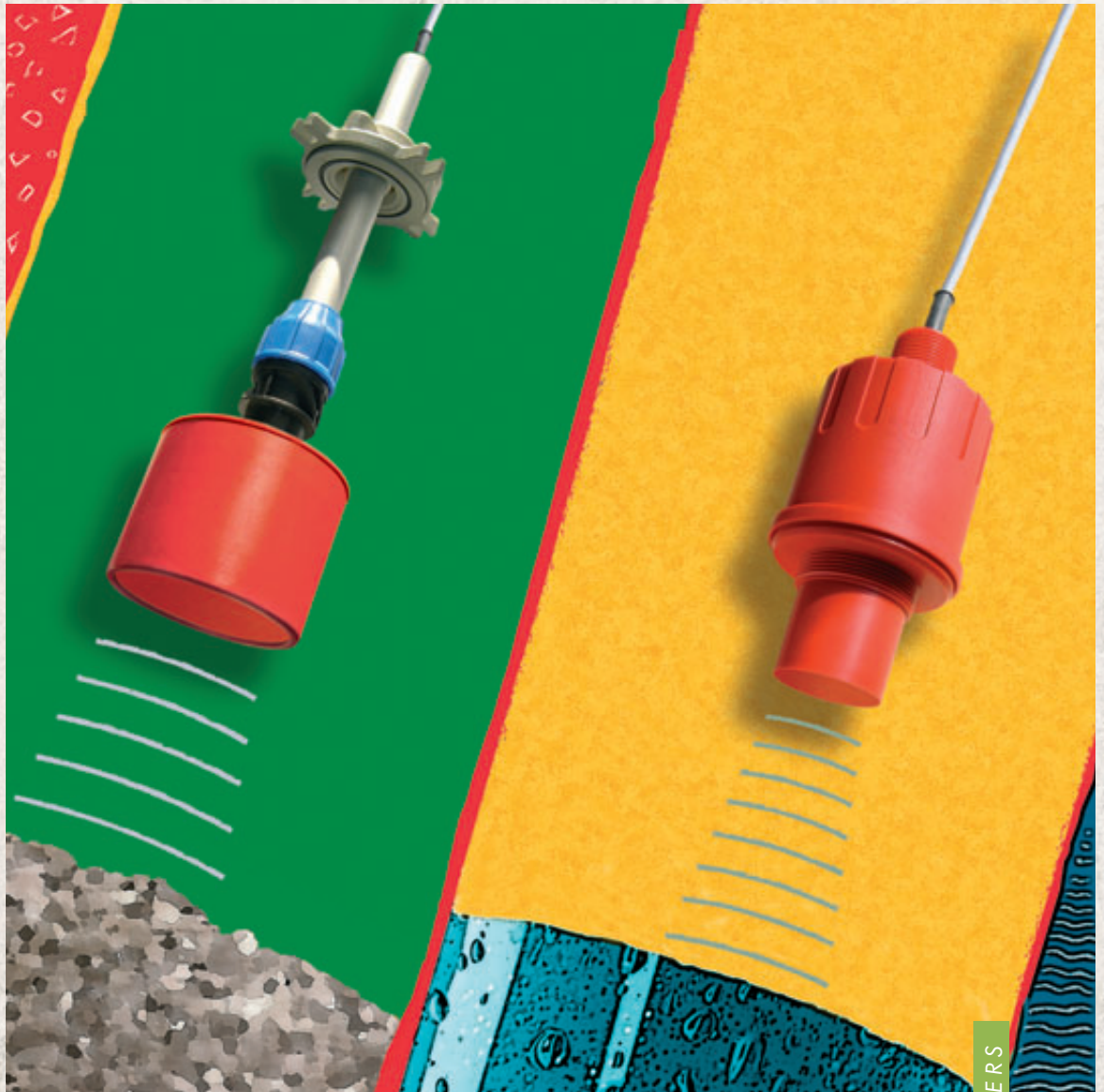


For liquids and solids

EasyTREK

THE COST SAVER

ULTRASONIC LEVEL TRANSMITTERS



LEVEL TRANSMITTERS

30 YEARS

PIVOTAL



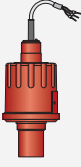
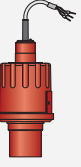
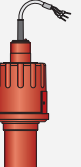
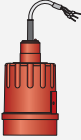
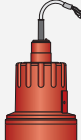
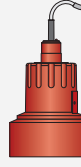
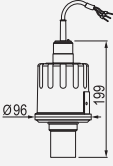
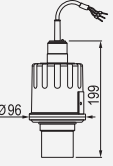
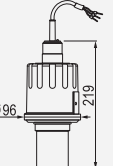
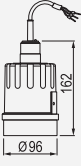



OUR PROFESSION IS YOUR LEVEL

EasyTREK – THE COST SAVER FOR LIQUIDS METERING

EasyTREK is a rugged, high performance ultrasonic level measurement transmitter, having transducer and processing electronics incorporated in one single housing. EasyTREK SAVES COSTS – EasyTREK is a low cost transmitter unit from NIVELCO: it has all the sophisticated echo detection features of the well accepted EchoTREK measurement systems, packaged into the 2 or 4 wire EasyTREK sensor housing.

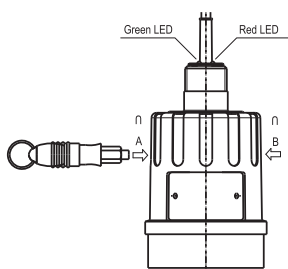
If mains powering is an issue and power relay is needed the 4-wire version provides a simple transmitter. As the simplest of programming this unit can be also set up using a magnetic key. If powered by DC and low power switching capability is sufficient, 2-wire transmitters are recommended. 2-wire transmitters are best applicable for multiple tank applications using HART multi-drop systems linked to NIVELCO's MultiCONT controller, or a modem plus PC. Both styles of transmitter can be programmed via HART. The 2-wire EasyTREKs come with HART protocol as standard.

LIQUID MEASUREMENT – whether for liquid level measurement in sumps or tanks, for tank contents measurement, or open channel flow measurement, EasyTREK transmitters provide the answer. All EasyTREK transmitters use the same processing electronics and communications, the transducer itself varies only to give different range.

EasyTREK level transmitters for liquids						
4-wire series	–	SC□-38□	–	SC□-36□	SC□-34□	–
2-wire series	SP□-39□	SP□-38□	SP□-37□	SP□-36□	SP□-34□	SP□-32□
Dimensions (mm)						
Range (m / feet)	0.2...4 / 0.65...13 *	0.25...6 / 0.8...20 *	0.35...8 / 1.2...26 *	0.35...10 / 1.2...33 *	0.45...15 / 1.5...50 *	0.6...25 / 2...82 *
Total beam angle	6°	5°	7°	5°	5°	5°
Ambient temperature	SP: -30 °C ... +80 °C (-22 °F ... +176 °F); SC: -30 °C ... +60 °C (-22 °F ... +140 °F)					
Process pressure (absolute)	0.03 ... 0.3 MPa (7.5 ... 43.5 psig)					
Process connection	1" or 1 1/2" BSP / NPT	1" or 2" BSP / NPT	1" or 2" BSP / NPT	1" BSP	1" BSP	1" BSP
Materials ¹	Housing: PP or PVDF; transducer: PP, PVDF or PTFE; cable sealing: EPDM, cable isolation: PVC					
Accuracy ²	± (0.2 % of measured distance + 0.05 % of range)					
Resolution (dep. on distance)	<2 m (6.5 feet): 1 mm (0.04 inch); 2 ... 5 m (6.5 ... 16.5 feet): 2 mm (0.075 inch); 5 ... 10 m (16.5 ... 33 feet): 5 mm (0.2 inch); >10m (33 feet): 10 mm (0.4 inch)					
Ingress protection	IP 68					
Ex marking	ATEX  II 1 G EEx ia II B T6 (available for 2-wire SP series only!)					
Outputs	2-wire	Standard: 4-20 mA +HART, max. 600 Ohm, Relay (SPDT, 30 V / 1 A DC; 48 V / 0.5 A AC)				
	4-wire	Standard: 4-20 mA +HART, max. 600 Ohm, Relay (SPST, 48 V / 5 A AC)				
Power supply	2-wire	12 ... 36 V DC / 44 ... 800 mW				
	4-wire	11.4 ... 40 V DC / 3.6 W 11.4 ... 28 V AC / 4 VA				
Connecting cable	2-wire	LIYCY type 2 x 0.5 mm ² (AWG 20) shielded cable, Ø 6 mm (0.25 inch); standard length 5 m (16.5 feet) (can be ordered max. 30 m (100 feet))				
	4-wire	LIYCY type 6 x 0.5 mm ² (AWG 20) shielded cable, Ø 7.5 mm (0.3 inch); standard length 5 m (16.5 feet) (can be ordered max. 30 m (100 feet))				

¹ PTFE transducer is available for 2-wire SP series only ² Under optimal circumstances of reflection and stabilised transducer temperature

Technical features: All the NIVELCO experience over many years of design and manufacture of over 100,000 ultrasonic sensors is built in to the EasyTREK. This includes the narrow beam angle SenSonic technique pulse echo transducer, and QUEST+ software, using process adaptive signal processing, temperature compensation and secondary lightning protection.



Programming the 4-wire unit via magnetic key:

- Assign 4 mA to low level
- Assign 20 mA to high level
- Error indication output current value
- Power relay switch points
- Damping time

Programmable features via HART communication:

- All features listed available with the magnetic key
- Relay functions (differential, flow pulse etc)
- Measurement configuration (Units, function, close-end blocking)
- Measurement optimisation (Damping, tracking speed, sound velocity correction etc)
- Tank contents profiles: 14 different shapes
- Open Channel Flow Metering: 21 different profiles
- 32 point linearisation, measurement simulation
- Information/diagnostics (Echo map and signal/noise)

EasyTREK – THE COST SAVER FOR SOLIDS METERING

NIVELCO, the experts in solids level measurement, now presents EasyTREK, their COMPACT integrated transmitter for solids. EasyTREK for solids includes all the capabilities and technology offered by the higher cost EchoTREK range. The high efficiency SenSonic transducer, with its superb signal transmission, as well as the advanced QUEST+ process adaptive signal processing software are all parts of the EasyTREK range for solids level metering. QUEST+ allows reliable echo monitoring to overcome filling noise, dusting and irregular surface formation. All transmitters are HART capable, and are particularly cost effective when applied to multi-drop systems, using MultiCONT or other HART based systems.



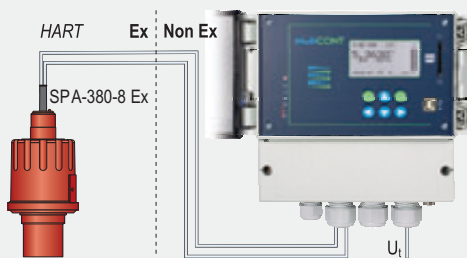
Programmable functions:

- Assign 4 mA to low level
- Assign 20 mA to high level
- Error indication output current value
- Power relay switch points
- Measurement configuration (measurement mode, engineering units, rounding, close-end and far-end blocking)
- Measurement optimisation (Damping, dome tank compensation, angel repose, target tracking speed, level elevation / descent rate, echo selection within the window, manual echo selection, blocking out of disturbing object)
- Tank content measurement
- Relay functions
- 32-point linearisation, access code
- Informational parameters (echo map, noise/signal ratio)

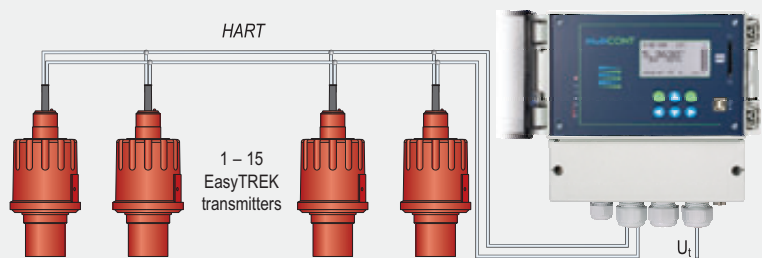
EasyTREK level transmitters for solids			
4-wire	SCD-34□	SCD-33□	SCD-31□
Dimensions (mm)			
Range (m / feet)	0.6...15 / 2...50 *	0.6...30 / 2...100 *	1.2...60 / 4...200 *
Total beam angle	5°		
Ambient temp.	-30 °C...+60 °C (-22 °F...+140 °F); Ex version: -20 °C...+60 °C (-4 °F...+140 °F)		
Process pressure	Atmospheric		
Process connection	1" BSP or flange with aimer		
Materials	Housing: PP or aluminium, facing: polyurethane foam cable sealing: EPDM, cable isolation: PVC		
Accuracy *	± (0.2 % of measured distance + 0.1 % of range)		
Resolution (dep. on distance)	<2 m (6.5 feet): 1 mm (0.04 inch), 2 ... 5 m (6.5 ... 16.5 feet): 2 mm (0.075 inch), 5 ... 10 m (16.5 ... 33 feet): 5 mm (0.2 inch) >10m (33 feet): 10 mm (0.4 inch)		
Ingress protection	IP 6X		
Ex marking	ATEX II 1 D IP68 T130°C		
Outputs	4-20 mA max. 600 Ohm, Relay (SPST, 48VAC, 5A AC12), HART		
Power supply	11.4 ... 40 V DC / 4.7 W 11.4 ... 28 V AC / 5.2 VA		
Connecting cable	LIYCY type 7 x 0.5 mm ² (AWG 20) shielded cable, Ø 7.5 mm (0.275 inch); standard length: 5 m (16.5 feet) (can be ordered up to 30 m (100 feet))		

* Under optimal circumstances of reflection and stabilised transducer temperature

EasyTREK IN SYSTEMS WITH MultiCONT



MultiCONT powering an EasyTREK in a hazardous area



Multiple transmitters monitored with MultiCONT

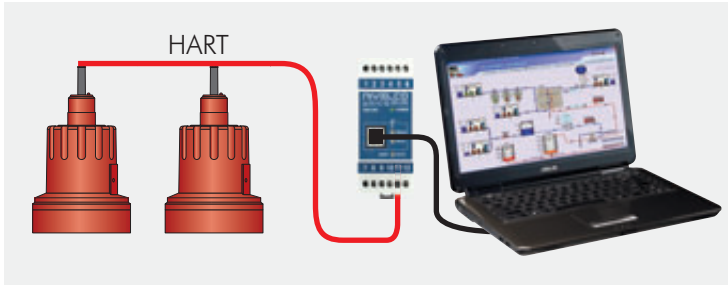
The MultiCONT multichannel process controller can be used to power, program and display measurement values of 1 to 15 EasyTREK transmitters. The MultiCONT is a mains powered unit featuring RS485 serial communication ports and power relays and is intended for use in the operations control room. The MultiCONT uses the HART digital communications capability in the two wire transmitters. With Ex certified transmitters in a hazardous area, the maximum number of transmitters in the loop is reduced to 4 units. The 4-wire EasyTREK models with the output relay capability require a separate power source.

Number of transmitters	Length of cable (meter / yard)			
	65 pF / m	95 pF / m	160 pF / m	225 pF / m
1	2800 / 3000	2000 / 2185	1300 / 1420	1000 / 1095
5	2500 / 2735	1800 / 1970	1100 / 1200	900 / 985
10	2200 / 2400	1600 / 1750	1000 / 1095	800 / 875
15	1900 / 2075	1400 / 1530	900 / 985	700 / 765

For a HART based multi-drop system the use of a shielded twisted pair cable is recommended. The maximum cable length allowable is dependant on the number of devices attached, and the cable capacitance, as shown in the table.

EasyTREK IN SYSTEMS WITH PC

Multichannel application with HART MODEM and PC

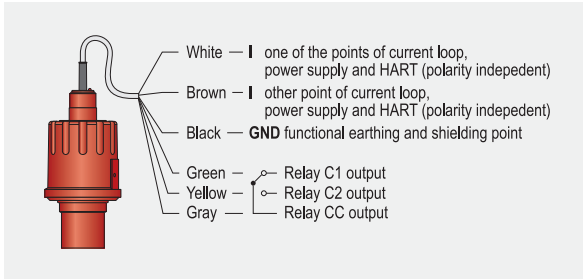


Using a PC and UNICOMM HART Modem, it is possible to create your own multi-drop HART network, where the PC displays all EasyTREK measurement data and also allows reprogramming of the units as necessary. In this way the outputs derived from the displayed data can be programmed via the PC, which acts as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

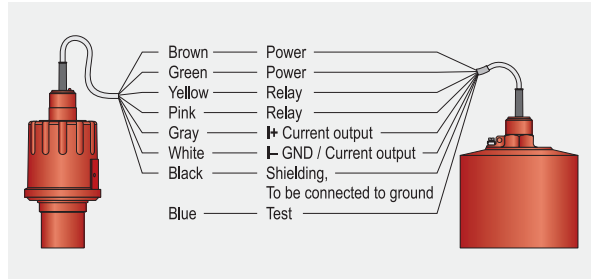
EasyTREK selection chart

EasyTREK	Liquids		Solids
	2 wire	4 wire	4 wire
Magnetic progr.	-	●	-
Relay	●	●	●
HART	●	●	●
Ex ia	●	-	-
Dust Ex	-	-	●

Wiring of the 2-wire EasyTREK



Wiring of the 4-wire EasyTREK



ORDER CODE (NOT ALL COMBINATIONS AVAILABLE)

EasyTREK integrated transmitters for liquids

EasyTREK S ■ ■ - 3 ■ ■ - ■ Ex ⁽¹⁾

Model	Code	Material	Code	Range	Code	Process conn.	Code	Output / Ex (2-wire)	Code
4-wire	C	PP	A	25 m (82 feet)	2 ⁽²⁾	1" BSP	0	4 - 20 mA+HART+Logger	3
2-wire	P	PVDF	B	15 m (50 feet)	4	1 1/2" or 2" NPT and 1" BSP	N	4 - 20 mA+HART	4
		PTFE	T	10 m (33 feet)	6			4 - 20 mA+HART+Logger/Ex	7
				8 m (26 feet)	7 ⁽³⁾			4 - 20 mA+HART/Ex	8
				6 m (20 feet)	8 ⁽⁴⁾			4 - 20 mA+Relay+HART	H
				4 m (13 feet)	9 ⁽⁵⁾			4 - 20 mA+Relay+HART+Logger	A

- (1) The order code of an Ex version should end in 'Ex'
- (2) Ex version is not available
- (3) with PTFE sensor: 6 m
- (4) with PTFE sensor: 5 m
- (5) with PTFE sensor: 3 m

Accessories for order:

- 2 pcs of 1" or 2" hexagonal nuts
- Magnetic key (only for the 4-wire units)
- Sealing (O-ring): EPDM for PP transducers VITON for PVDF or PTFE transducers
- SAA-110: Transparent gland brackets
- SAA-10□: Mounting brackets
- SFA-□□□: Flanges

To be discontinued in 2012!
4-wire SC-300 series for liquids are only available while stocks last!

Output (4-wire)	Code
4 - 20 mA+Relay	2
4 - 20 mA+HART+Relay	4

EasyTREK integrated transmitters for solids

EasyTREK S ■ D - 3 ■ ■ - ■ Ex ⁽¹⁾

Model	Code	Range	Code	Process conn.	Code	Output / Ex	Code
4-wire	C	60 m (200 feet)	1	1" BSP	0	4 - 20 mA+HART+Relay	4
		30 m (100 feet)	3	Aimer	J	4 - 20 mA+HART+Relay/Ex	8
		15 m (50 feet)	4				

- (1) The order code of an Ex version should end in 'Ex'

Accessories for order:

- SAA-110: Transparent gland
- SFA-□□□: Flanges
- SAA-102: Aimer
- SAA-101: Fast connection gland