

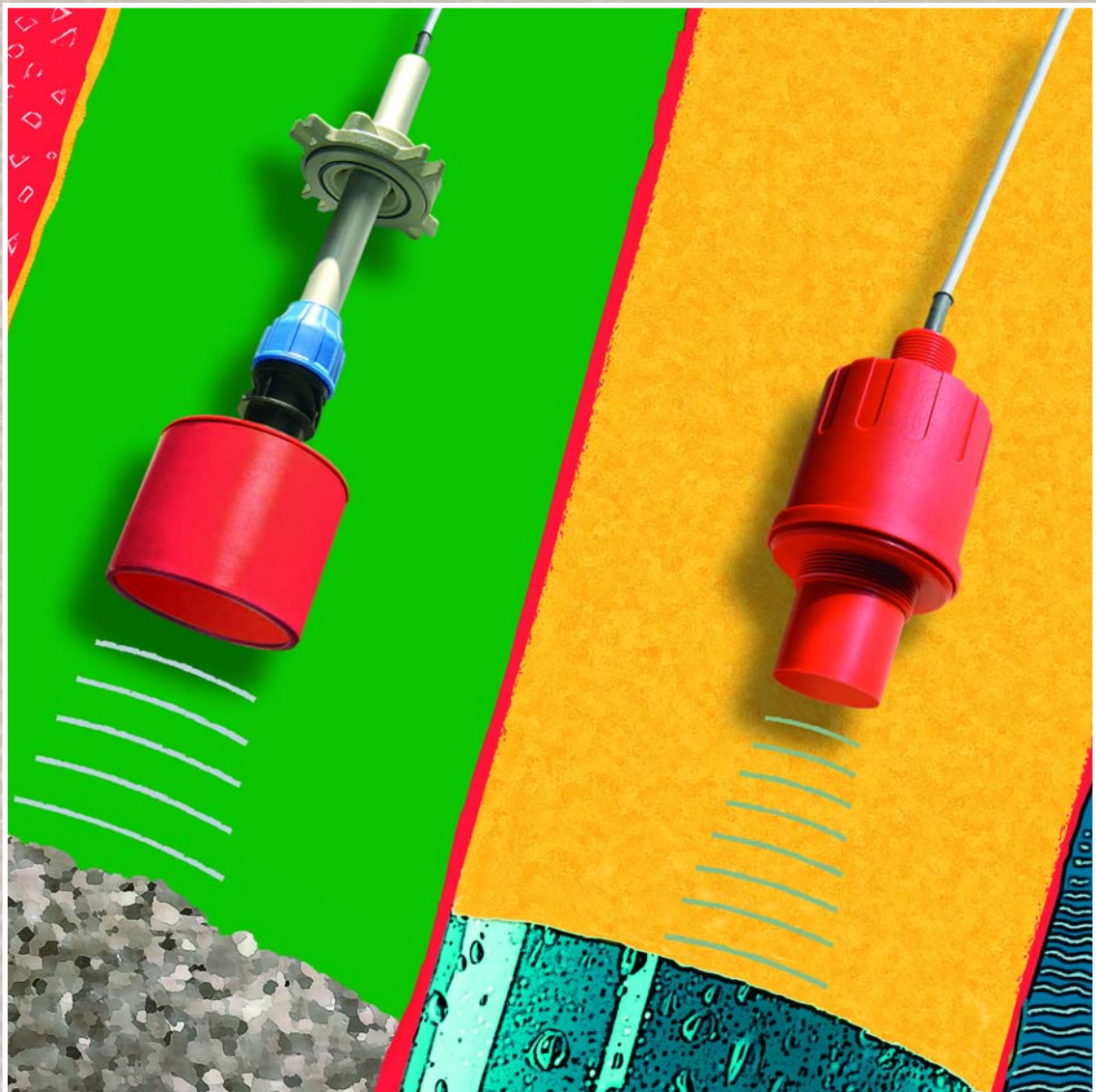
Level Transmitters for  
Liquids and Solids



# EasyTREK

THE COST SAVER

ULTRASONIC LEVEL TRANSMITTERS



OUR PROFESSION IS YOUR LEVEL

## EasyTREK – THE COST SAVER FOR LIQUIDS METERING

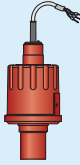
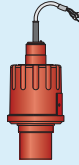
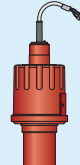
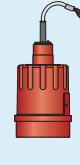
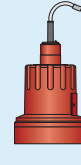
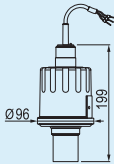
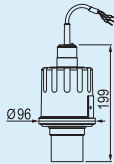
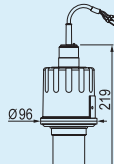
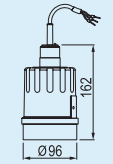
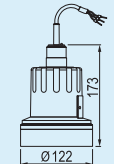

**EasyTREK** is a rugged, high performance ultrasonic level measurement transmitter, having transducer and processing electronics incorporated in one single housing.

**EasyTREK SAVES COSTS** – EasyTREK is a new, 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.

For single tank applications the 4-wire version provides a simple transmitter, with a power relay set of contacts: this can be programmed using a magnetic key. For multiple tank applications 2-wire transmitters are recommended using HART multi-drop systems linked to the Nivelco Multicont controller, or a modem plus PC. Both styles of transmitter can be programmed via HART.

**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.

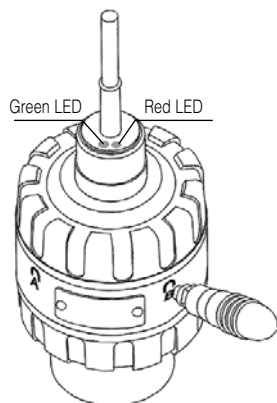
All EasyTREK transmitters use the same processing electronics and communications, the transducer itself varies only to give different range. All 5 models are available in 2-wire and 3 models come as 4-wire (relay equipped) versions.

EasyTREK level transmitters for liquids					
	3 / 4-wire series	n. a.	SC□-38□	n. a.	SC□-36□
2-wire series	SP□-39□	SP□-38□	SP□-37□	SP□-36□	SP□-34□
Dimensions (mm)					
Range (m / feet)	0.2...4 / 0.65...13 *	0.25...6 / 0.82...20 *	0.35...8 / 1.2...26 *	0.35...10 / 1.2...33 *	0.45...15 / 1.5...49 *
Total beam angle	6°	5°	7°	5°	5°
Ambient temperature	SP: -30 °C ... +80 °C ; SC: -30 °C ... +60 °C				
Process pressure (absolute)	0.03 ... 0.3 MPa (0.3 ... 3 bar)				
Process connection	1 1/2" BSP / NPT	1" or 2" BSP / NPT	2" BSP / NPT	1" BSP	1" BSP
Materials	Housing: PP or PVDF, cable sealing: EPDM, cable isolation: PVC				
Accuracy *	± (0.2 % of measured distance +0.05 % of range)				
Resolution (depends on distance)	<2 m: 1 mm    2 ... 5 m: 2 mm    5 ... 10 m: 5 mm				
Ingress protection	IP 68				
ATEX approval **	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			
	3/4-wire	Standard: 4–20 mA +HART, max. 600 ohm, Relay (SPST), Option: HART, RS485 [instead of 4–20 mA]			
Power supply	2-wire	11.4 ... 36 V DC / 44 ... 800 mW			
	3/4-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 <sup>2</sup> shielded cable, Ø 6 mm ; standard length 3 m (can be ordered 30 m)			
	3/4-wire	LIYCY type 6 x 0,5 mm <sup>2</sup> shielded cable, Ø 7.5 mm ; standard length 3 m (can be ordered 30 m)			

\* Under optimal circumstances of reflection and stabilised transducer temperature

\*\* Pending

Technical features: All the Nivelco experience over many years of design and manufacture of over 50,000 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. The physical appearance of the 4-wire and 2-wire sensors with the same frequency is the same: all are positioned above the liquid surface to be measured.



### Programming the 4-wire unit via the magnetic key:

- ◆ Set level for 4mA output
- ◆ Set level for 20mA output
- ◆ Error indication output current value
- ◆ Power relay switch points
- ◆ Damping

Programming the 3 / 4-wire EasyTREK via the magnetic key.

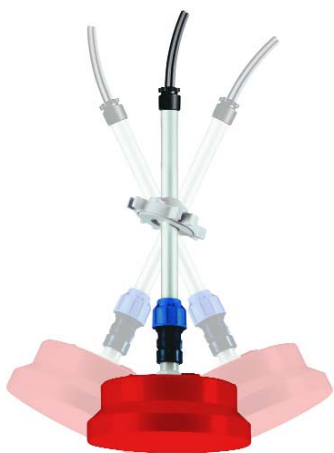
### Programmable features via HART communications:

#### via HART communications:

- ◆ All features listed available with the magnetic key
- ◆ Relay functions on 4-wire unit (differential, flow pulse etc)
- ◆ Measurement configuration (Units, function, blanking ranges)
- ◆ Measurement optimisation (Damping, tracking speed, ignoring stirrers etc)
- ◆ Tank contents profiles: 14 different shapes
- ◆ Open Channel Flow Metering: 21 different profiles
- ◆ 32 point linearisation
- ◆ Information/diagnostics (Echo map and signal/noise)

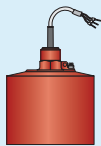
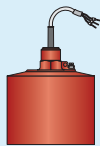
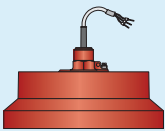
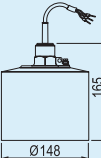
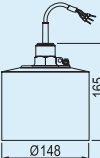
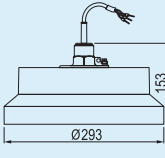
## EasyTREK – THE COST SAVER FOR SOLIDS METERING

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 of higher costs separated units, such as the high efficiency SenSonic transducer, with its superb signal transmission, as well as the advanced QUEST+ process adaptive signal processing software. 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:

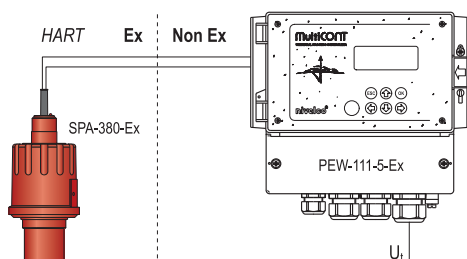
- ◆ Set level for 4mA output
- ◆ Set level for 20mA output
- ◆ Error indication output current value
- ◆ Power relay switch points
- ◆ Measurement configuration (measurement mode, engineering units, rounding, close-end and far-end blocking)
- ◆ Measurement optimisation (Damping, dome tank compensation, 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			
3/4-wire	SCD-34□	SCD-33□	SCD-31□
Dimensions (mm)			
Range (m / feet)	0.6...15 / 2...49 *	0.6...30 / 2...98 *	1.2...60 / 4...196 *
Total beam angle	5°		
Ambient temperature	-30 °C ... +60 °C		
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 (depends on distance)	<2 m: 1 mm	2 ... 5 m: 2 mm	5 ... 10 m: 5 mm
Ingress protection	IP 65		
ATEX Approval **	ATEX II 1/2 D		
Outputs	4–20 mA max. 600 ohm, Relay (SPST), HART, Option: RS485		
Power supply	11.4 ... 40 V DC / 4.1 W		11.4 ... 28 V AC / 4.6 VA
Connecting cables	LIYCY type 6x0,5 mm <sup>2</sup> shielded cable, Ø 7.5 mm; standard length: 3 m (can be ordered up to 30)		

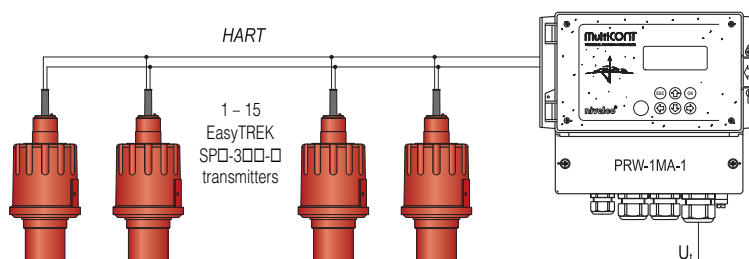
\* Under optimal circumstances of reflection and stabilised transducer temperature

\*\* Pending

## EasyTREK IN SYSTEMS WITH Multicont



Multicont powering an EasyTREK in a hazardous area



Multiple transmitters monitored with Multicont

The Nivelco Multicont controller/display can be used to power, programme and display measurement values from between 1 and 15 EasyTREK transmitters. The Multicont is a mains powered unit featuring RS485 and RS232 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 (m)			
	65 pF / m	95 pF / m	160 pF / m	225 pF / m
1	2800	2000	1300	1000
5	2500	1800	1100	900
10	2200	1600	1000	800
15	1850	1400	900	700

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 SELECTION CHART

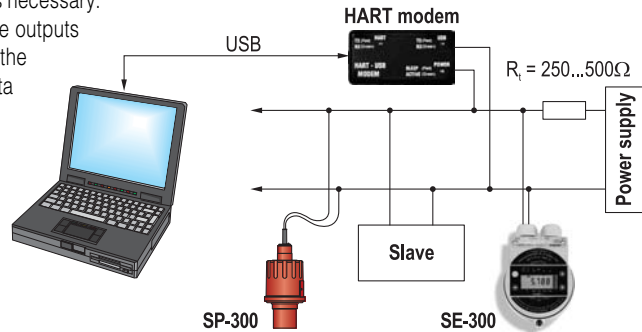
EasyTREK	Liquids		Solids
	2 wire	3 / 4 wire	3 / 4 wire
Magnetic progr.	-	standard	-
Relay	-	standard	standard
HART	standard	option	standard
RS485	-	option	option
Exi	option	-	-
Ex(D)	-	-	option

### EasyTREK IN SYSTEMS WITH PC

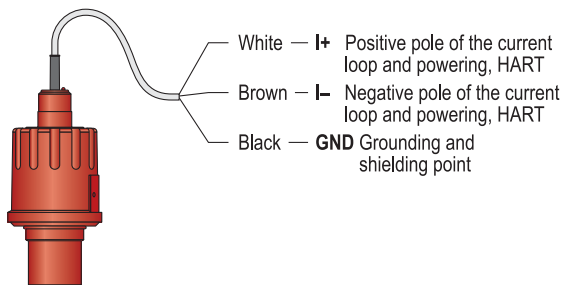
#### Multichannel application with MODEM and PC

Using a PC and HART Modem, it is possible to create your own multi-drop HART network, where the PC displays all EasyTREK measurement data and also allows re-programming of the units as necessary.

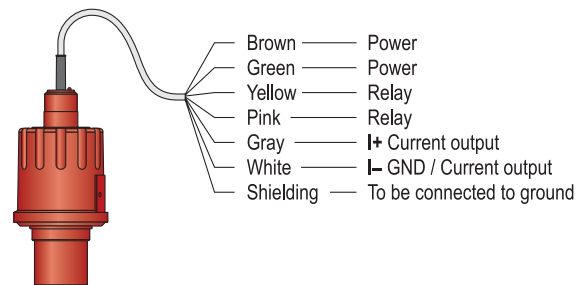
In this way the outputs derived from the displayed data can be programmed via the PC, which acts as the master.



### CONNECTIONS OF THE 2-WIRE EasyTREK



### CONNECTIONS OF THE 4-WIRE EasyTREK



### ORDER CODE (NOT ALL COMBINATION AVAILABLE)

#### TRANSMITTERS FOR LIQUIDS

EasyTREK S [ ] - 3 [ ] - [ ] Ex\*

MODEL	CODE	MATERIAL	CODE	RANGE	CODE	PROCESS CONNECTION	CODE	OUTPUT / EX	CODE
3 / 4-wire	C	PP	A	15 m	4	1" BSP	0	4...20 mA	2
2-wire	P	PVDF	B	10 m	6	2" NPT 1" BSP	N	4...20 mA / HART	4
				8 m	7	Fast connecting gland	F	4...20 mA / HART / Ex	8
				6 m	8	200 mm bracket	K	RS485	B
				4 m	9	500 mm bracket	L		
						700 mm bracket	M		

#### Accessories for order:

- ◆ 2 pcs of 1" hexagonal nuts
- ◆ Magnetic key (only for the 4-wire units)
- ◆ EPDM sealing 2" (only for the SCA-38™ with BSP process connection)
- ◆ SAA-110: transparent gland
- ◆ Mounting brackets

\* The order code of Ex rated transmitters must include the Ex sign

#### TRANSMITTERS FOR SOLIDS

EasyTREK S [ ] D - 3 [ ] - [ ] Ex\*

MODEL	CODE	RANGE	CODE	PROCESS CONNECTION	CODE	OUTPUT / EX	CODE
3 / 4-wire	C	60 m	1	1" BSP menet	0	4...20 mA / HART	4
		30 m	3	Aimer	J	4...20 mA / HART / Ex	8
		15 m	4			RS485	B
						RS485 / Ex	F

#### Accessories for order:

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

\* The order code of Ex rated transmitters must include the Ex sign

Technical specification may be changed without notice

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