

## GENERAL DESCRIPTION

The **EasyTREK** high performance level transmitters are based on NIVELCO's 35 years of experience with ultrasonic level measurement. Whether for liquid level measurement in sumps or tanks, for tank contents measurement, or open channel flow measurement, **EasyTREK** transmitters provide the answer. Installed on the tank roof, or above the liquid surface to be measured, the transmitters give analogue output proportional to liquid level or transmit HART® digital data.

The **EasyTREK** is an integrated, blind transmitter with equal measuring performance as the **EchoTREK** but readable and programmable remotely only through HART® protocol coming as standard. The two mounting options of the **EasyTREK**: 1½" and 2" process connections as its bottom or flanges for a mounting on the top of the tank. Its 1" threaded neck facilitates suspending it above the medium, a typical water / wastewater application.

## MAIN FEATURES

- 2-wire integrated level transmitters
- Non-contact level measurement
- Maximum 25 m measuring range
- Narrow (5°) beam angle
- Full temperature compensation
- IP68 protection
- HART communication
- Ex version

## APPLICATIONS

- For most liquids, including flammable liquids
- Open channel flow metering
- Wide application area from wastewater to aggressive chemicals
- Level measurement in basins, wells, sumps, lift-stations
- Suitable for level measurement of hydrocarbons, acids, aggressive liquids, any water based medium

## CERTIFICATES

- ATEX (Ex ia)
- INMETRO

## PROGRAMMING

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.



SPA-380-4

## TRANSDUCERS

Transducer material	EasyTREK
	SP-300
PP	■
PVDF	■
PTFE	■

## PROPERTIES

Functions	EasyTREK
	SP-300
Relay	■
HART®	■
IrDA	■
Logger	■
Intrinsically safe	■

### Programmable features via HART® communication:

- Assign 4 mA to low level
- Assign 20 mA to high level
- Error indication output current value
- Power relay switch points
- Damping time
- Measurement configuration (Units, function, close-end blocking)
- Measurement optimisation (Damping, tracking speed, sound velocity correction)
- Tank contents profiles: 14 different shapes
- Open Channel Flow Metering: 21 different profiles
- Relay functions (differential, flow pulse etc.)
- 32 point linearization, measurement simulation
- Information / diagnostics (Echo map and signal / noise)

## TECHNICAL DATA

Type		EasyTREK SP-300
System		2-wire
Accuracy <sup>(1)</sup>		± (0.2% of measured distance +0.05% of range)
Resolution		Depending on the measured distance: <2 m: 1 mm; 2 – 5 m: 2 mm; 5 – 10 m: 5 mm; >10 m: 10 mm
Output	Analogue	4 – 20 mA
	Relay	SPDT, 30 V DC, 1 A DC
	Digital Communication	HART®
Ambient temperature		-30 °C ... +80 °C
		Ex version: see "Special data for Ex certified models" table
Process temperature		See: "Special data of the transducers" table, Ex version: see "Special data for Ex certified models" table
Pressure (absolute)		0.05 – 0.3 MPa (0.5 – 3 bar)
Power supply		12 – 36 V DC / 48 – 720 mW
Electrical protection		Class III
Housing		Polypropylene (PP) or (PVDF) same as the transducer material; In case of Teflon (PTFE) transducer the housing material is PP
Sealing		In case of PP transducer: EPDM; all the other transducers: FPM (Viton®)
Electrical connection		LiYCY 6x 0.5 mm <sup>2</sup> shielded Ø6 mm cable; standard cable length: 5 m (can be ordered up to 30 m)
Ingress protection		IP68
Explosion protection		See: "Special data for Ex certified models" table
Mass		1.2 – 2 kg

<sup>(1)</sup> Under optimum conditions and stabilized transducer temperature

## SPECIAL DATA FOR Ex CERTIFIED MODELS






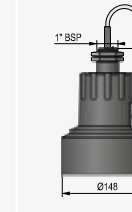
Type		EasyTREK SP-300
Protection type		Intrinsically safe
Ex marking		II 1 G Ex ia IIB T6...T5 Ga
Intrinsically safe data		Ci ≤ 28 nF, Li ≤ 200 µH, Ui ≤ 30 V, Ii ≤ 140 mA, Pi ≤ 1 W
Ambient temperature		-20 °C ... +70 °C
Process temperature		With PP transducer: -20 °C ... +70 °C, with PVDF transducer: -20 °C ... +80 °C Temperature class T6; with PTFE transducer: -30 °C ... +90 °C Temperature class T5
Electrical connection		6x 0.5 mm <sup>2</sup> shielded Ø6 mm cable

## ULTRASONIC LEVEL TRANSMITTERS IN HART® MULTIDROP LOOP

The **MultiCONT** processes and displays measurement data supplied by **NIVELCO's** HART® equipped transmitters connected to a Multidrop loop. Up to 15 transmitters (also mixed models) can be connected and remote programming can be also performed through the **MultiCONT**. Re-transmission of the data is possible via RS485 communication line to a PC or PLC when needed.



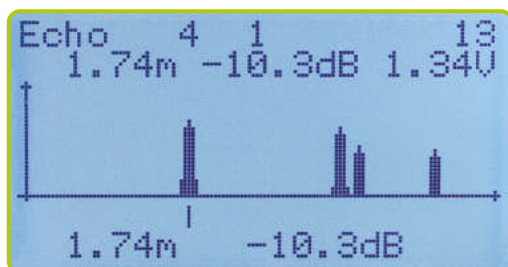
## SPECIAL DATA OF THE TRANSDUCERS

Transducer type	SP□-39 / 49	SP□-38 / 48	SP□-37 / 47	SP□-36 / 46	SP□-34 / 44	SP□-32 / 42
Beam angle	6°	5°	7°	5°		7°
Transducer material	PP or PVDF					
EasyTREK SP 2-wire						
Upper process connection	1" BSP					
Lower process connection	1½" BSP / NPT	2" BSP / NPT		—		
Max. measuring range <sup>(1)</sup>	4 m	6 m	8 m	10 m	15 m	25 m
Min. measuring range <sup>(1)</sup>	0,2 m	0,25 m	0,35 m		0,45 m	0,6 m
Process temperature	-30 °C ... +90 °C					
Recommended applications	Small vessels with 1½" or 2" process connection			Small vessels with flange	Mid-size vessels with flange	Tall vessels with flange

Transducer material	PTFE		
Max. measuring range <sup>(1)</sup>	3 m	5 m	6 m
Min. measuring range <sup>(1)</sup>	0.25 m		0.35 m
Process temperature	-30 °C ... +90 °C		

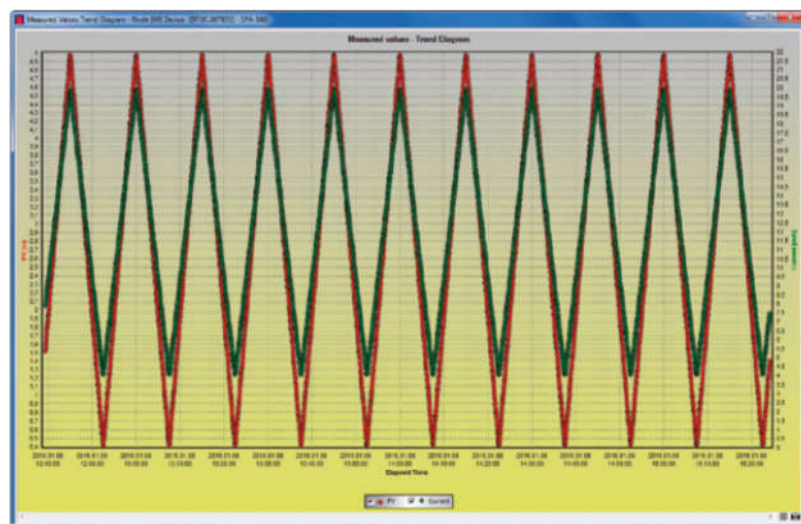
<sup>(1)</sup> Under optimum conditions and stabilized transducer temperature

## ECHO MAP WITH MultiCONT



SPA-360-4

## DISPLAY MEASUREMENT VALUE WITH EView2



SPA-340-4

## EasyTREK SP-39/38/37/36/34/32

5 years

2-wire integrated compact ultrasonic level transmitters for liquids with PP, PVDF or PTFE transducer; Ingress protection: IP68

### Range / Frequency / Process connection

SP - 3 - -

9	0.2-4 m (80 kHz, 1" or 1 1/2" mounting)
8	0.25-6 m (80 kHz, 1" or 2" mounting)
7	0.35-8 m (60 kHz, 1" or 2" mounting)
6	0.35-10 m (60 kHz, 1" mounting)
4	0.45-15 m (40 kHz, 1" mounting)
2	0.6-25 m (20 kHz, 1" mounting)

### Transducer material

SP - 3 - -

A	PP
B	PVDF
T	PTFE (only for SP-39/38/37)

### Mounting

SP - 3 - -

0	BSP thread
N	1 1/2" or 2" NPT and 1" BSP (only for SP-39/38/37)

### Output / Approval

SP - 3 - -

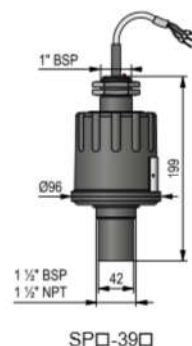
3	4-20 mA + HART + Data logging feature
4	4-20 mA + HART
7	4-20 mA + HART + Data logging feature / Ex ia
8	4-20 mA + HART / Ex ia
A	4-20 mA + HART + Data logging feature + Relay
H	4-20 mA + HART + Relay

### Cable

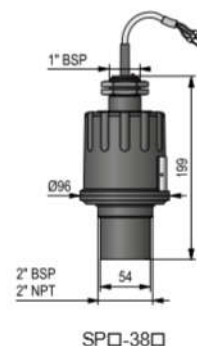
Maximum length 30 m; each started 1 m over the standard 5 m

### Accessories to order (see relevant page for details)

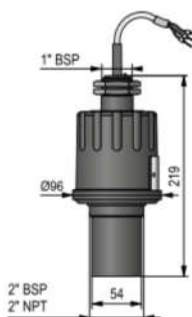
S F A - 3 - - 0	Flanges
S A T - 3 0 4 - 0	HART-USB modem
S A T - 5 0 4 -	HART-USB/Bluetooth modem
S A K - 3 0 5 - 2	HART-USB/RS485 modem
S A K - 3 0 5 - 6	HART-USB/RS485 modem / Ex ia
S A A - 1 0 -	Mounting brackets
S A A - 1 0 1 - 0	Fast connecting gland for pipe mounting devices with 1" process connection, PP
S A A - 1 0 6 - 0	Damping gland for mounting SP devices to thin metal roofs, PP



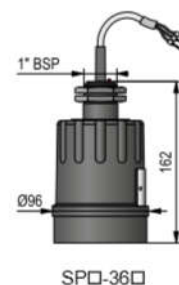
SPQ-39Q



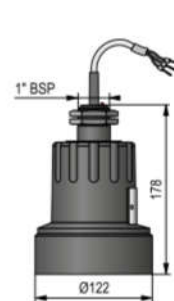
SPQ-38Q



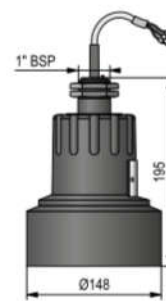
SPQ-37Q



SPQ-36Q



SPQ-34Q



SPQ-32Q

### NIV24

SPA-380-4

SPA-360-4

SPA-340-4

SAT-304-0

SAA-107-0

SAA-108-0