EasyTREK SP–300

INTEGRATED ULTRASONIC LEVEL TRANSMITTERS
FOR LIQUIDS

5 YEARS WARRANTY

NIVELCO

LEVEL TRANSMITTERS

EasyTREK high-performance level transmitters embody four decades of NIVELCO's experience in ultrasonic level measurement. Whether measuring the level of sump tanks or open-channel flows, EasyTREK transmitters are the best choice. Installed on the tank's roof or above the liquid's surface, the transmitter produces produces an output signal *(analog or HART® digital)* proportional to the liquid level.

The **EasyTREK** is an integrated blind transmitter with equal measuring performance to that of EchoTREK; it is also readable and programmable remotely through HART® protocol. There are two mounting options for **EasyTREK**: a 1½" and a 2" process connection. Its 1" threaded neck facilitates suspending it above the medium, a typical water/wastewater application.

FEATURES

- 2-wire integrated level transmitter
- Non-contact level measurement
- Maximum 25 m (82 ft) measuring range
- Narrow (5°) beam angle
- Full temperature compensation
- IP68
- HART® communication
- Ex version
- 5 years warranty

SPA-380-4

APPLICATIONS

- For most liquids, including flammable liquids
- Open-channel flow metering
- Wide application range from wastewater to aggressive chemicals
- Level measurement in basins, wells, sumps, lift-stations
- Measuring hydrocarbons, acids, aggressive liquids, any water-based mediums

CERTIFICATES

- ATEX (Ex ia G)
- INMETRO (Ex ia G)
- UKCA Ex (Ex ia G)

PROGRAMMING

Instruments with HART® output can be connected to a PC using a **UNICOMM** HART–USB modem. All measured values can be visualized on the PC screen, and the instruments can be programmed remotely via HART® modem. Up to 15 *(non-Ex)* instruments can be connected to a single HART® loop. Applicable software: **EView2** configuration software or **NIVISION** process visualization software.

Programmable features via HART® communication

- Assign 4 mA to low level
- Assign 20 mA to high level
- Error indication on current value output
- Power relay switch points
- Damping time
- Measurement configuration
  (Units, function, close-end blocking)
- Measurement optimization
  (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)*

SPA–340–4

SPA–360–4

TECHNICAL DATA

		EasyTREK SP-300
System		2-wire
Accuracy[1]		± (0.2% of measured distance +0.05% of range)
Resolution		Depending on measured distance: <2 m (6.5 ft): 1 mm (0.04"); 2…5 m (6.5…16.5 ft): 2 mm (0.075"); 5…10 m (16.5…33 ft): 5 mm (0.2"); >10 m (33 ft): 10 mm (0.4")
Output	Analog	4…20 mA
	Relay	SPDT, 30 V DC, 1 A DC
	Digital Communication	HART®
Ambient temperature		–30…+80 °C (–22…+176 °F)
		Ex version: see "Ex Information"
Process temperature		See Transducer Details, Ex version: see "Ex Information"
Pressure (absolute)		0.5…3 bar (7.5…43.5 psi)
Supply voltage		12…36 V DC / 48…720 mW
Electrical protection		Class III
Housing		Polypropylene (PP) or (PVDF) same as the transducer material; PTFE transducer housing is made of PP;
Seal		PP transducers: EPDM; all other transducers: FPM (Viton®)
Electrical connection		LiYCY 6× 0.5 mm² (AWG20) shielded Ø6 (Ø0.25") mm cable; standard cable length: 5 m (16.5 ft) *(available up to 30 m [98.5 ft])*
Ingress protection		IP68
Explosion protection		See "Ex Information"
Weight		1.2…2 kg (2.65…4.4 lb)

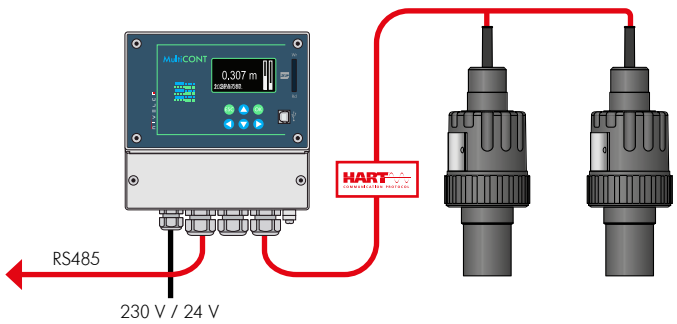
[1] Under optimal conditions and constant transducer temperature

Ex INFORMATION

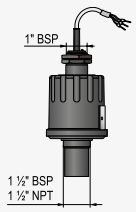
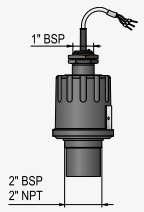
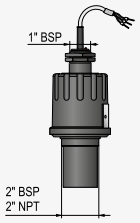
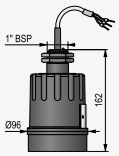
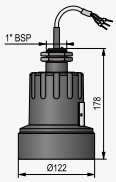
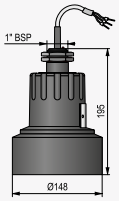
	EasyTREK SP-300
Protection	Intrinsic safety
Ex marking	Ⓔx II 1 G Ex ia IIB T6…T5 Ga
Intrinsic safety data	C_i ≤ 28 nF, L_i ≤ 200 µH, U_i ≤ 30 V, I_i ≤ 140 mA, P_i ≤ 1 W
Ambient temperature	–20…+70 °C (–4…+158 °F)
Process temperature	With PP transducer: –20…+70 °C (–4…+158 °F), with PVDF transducer: –20…+80 °C (–4…+176 °F) Temperature class T6; with PTFE transducer: –30…+90 °C (–22…+194 °F) Temperature class T5
Electrical connection	6× 0.5 mm² (AWG20) shielded Ø6 mm (Ø0.25") cable

HART® MULTIDROP LOOP

MultiCONT Multichannel Process Controllers process and display measurement data supplied by **NIVELCO**'s HART® equipped transmitters in a Multidrop loop. Connected transmitters can be programmed through **MultiCONT**, and it can also perform data logging tasks. Processed data may be sent to a computer via RS485 and displayed in **NIVISON**.



TRANSDUCER DETAILS

	SP□–39	SP□–38	SP□–37	SP□–36	SP□–34	SP□–32
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[1]	4 m (13 ft)	6 m (20 ft)	8 m (26 ft)	10 m (33 ft)	15 m (50 ft)	25 m (82 ft)
Min. measuring range[1]	0.2 m (0.65 ft)	0.25 m (0.82 ft)	0.35 m (1.15 ft)		0.45 m (1.5 ft)	0.6 m (2 ft)
Process temperature	–30… +90 °C (–22… +194 °F)					
Recommended applications	Small vessels with 1½" or 2" process connection			Small vessels with flange	Medium-sized vessels with flange	Tall vessels with flange

Transducer material	**PTFE**		
Max. measuring range[1]	3 m (10 ft)	5 m (16.5 ft)	6 m (20 ft)
Min. measuring range[1]	0.25 m (0.82 ft)		0.35 m (1.15 ft)
Process temperature	–30… +90 °C (–22… +194 °F)		

[1] Under optimal conditions and constant transducer temperature.

ORDER CODES *(NOT ALL COMBINATIONS AVAILABLE)*

EasyTREK integrated ultrasonic level transmitters for liquids

EasyTREK S P ■ – 3 ■ ■ – ■ [2]

Transducer material	Code
PP	A
PVDF	B
PTFE[3]	T

Range / Frequency	Code
0.2…4 m (0.65…13 ft) / 80 kHz[4]	9
0.25…6 m (0.82…20 ft) / 80 kHz[5]	8
0.35…8 m (1.15…26 ft) / 60 kHz[5]	7
0.35…10 m (1.15…33 ft) / 60 kHz[6]	6
0.45…15 m (1.5…50 ft) / 40 kHz[6]	4
0.6…25 m (2…82 ft) / 20 kHz[6]	2

Process connection	Code
BSP thread	0
1½" or 2" NPT and 1" BSP[3]	N

Output / Certificates			Code
Without Logger	4…20 mA + HART®	–	4
		Ex ia G	8
		Relay	H
With Logger		–	3
		Ex ia G	7
		Relay	A

[2] The order code of an Ex version product should end in "Ex"
[3] Only for SP□–39/–38/–37□–□ types.
[4] Only for 1" or 1½" process connection.
[5] Only for 1" or 2" process connection.
[6] Only for 1" process connection.

ACCESSORIES

Description	Order Code
NIVOSONAR PP flanges	SFA–3■■–0
UNICOMM HART®–USB modem	SAT–304–0
UNICOMM HART®–USB/Bluetooth® modem	SAT–504–■
UNICOMM HART®–USB/RS485 modem	SAK–305–■
NIVOSONAR Mounting brackets	SAA–10■–■
NIVOSONAR Quick-connect gland for pipe-mounting devices with 1" process connection, PP	SAA–101–0
NIVOSONAR Damping gland for mounting SP devices to thin metal roofs, PP	SAA–106–0

#NivelcoDevices

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