

EasyTREK / EchoTREK

ULTRASONIC LEVEL TRANSMITTERS FOR LIQUIDS



5 YEARS WARRANTY

NIVELCO

LEVEL TRANSMITTERS

The EasyTREK SP-500 Pro series level transmitters embody four decades of NIVELCO's experience in ultrasonic level measurement. EasyTREK devices are IP68 rated, their transducer and processing electronics are incorporated into a single unit. EasyTREK transmitters utilize HART® 7 communication, they can be used in multidrop systems connected to MultiCONT process controller/display, or a PC via a UNICOMM HART®-USB modem or similar. Transmitters can be programmed remotely with Handheld Field Communicator as well; they can be connected wirelessly to a computer via an SAT-504 Bluetooth® HART® modem. The EasyTREK SP-500 Pro devices are smaller in size, their maximum measuring range has been extended, and their minimum measuring range decreased.

FEATURES

- 2-wire integrated transmitter
- Non-contact level measurement
- Can be powered by a 12 V battery
- Maximum 18 m measuring range
- Narrow (5°) beam angle
- Temperature compensation
- HART® 7
- PACTware™ compatible
- Handheld compatibility
- Advanced threshold management
- Quick start mode
- Faster measurement cycle
- IP68 protection
- PP, PVDF transducer
- Service Interface
- 5 years warranty

TECHNICAL DATA

EasyTREK SP-500 Pro		
System	2-wire	
Supply voltage	12...36 V DC	
Accuracy ⁽¹⁾	± (0.1% of measured distance + 0.025% of range) or ± (0.05% of range), whichever is greater	
Resolution	Depending on measured distance: < 2 m: 1 mm, 2...5 m: 2 mm, 5...10 m: 5 mm, >10 m: 10 mm	
Output	Analog	4...20 mA
	Relay	SPDT, 30 V DC, 1 A DC
	Digital communication	HART® 7
Ambient temperature	-30...+80 °C	
Process temperature	PP, PVDF transducers -30...+90 °C	
Pressure (absolute)	0.5...3 bar	
Housing	PP or PVDF same as the transducer material	
Electrical connection	4 × 0.5 mm ² (relay version: 7 × 0.5 mm ²) shielded Ø6 mm cable; standard cable length: 5 m (available up to 30 m)	
Electrical protection	Class III	
Ingress protection	IP68	
Seal	PP transducers: EPDM; all other transducers: FPM (Viton®)	

⁽¹⁾ Under optimal conditions and constant transducer temperature.

APPLICATIONS

- For liquid level measurement, open-channel flow metering
- Wide application area from wastewater to aggressive chemicals
- Level measurement in basins, wells, sumps, lift-stations
- Measuring of hydrocarbons, acids, water-based liquids

TRANSDUCER DETAILS

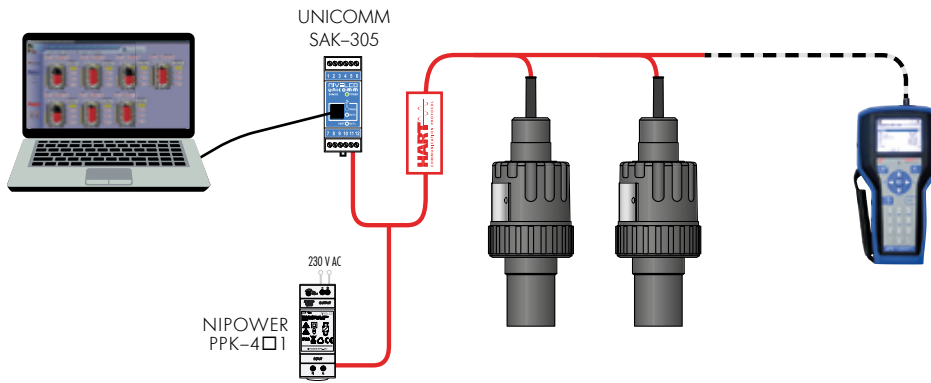
	SP□-					
	5A□-□	59□-□	58□-□	57□-□	56□-□	54□-□
Beam angle	5°	6°	5°	7°	5°	5°
Transducer material	PP, PVDF					
Upper process connection	1" BSP					
Lower process connection	1" BSP / NPT	1½" BSP / NPT	2" BSP / NPT		-	
Maximum measuring range ⁽¹⁾	3 m	5 m	8 m	10 m	12 m	18 m
Minimum measuring range ⁽¹⁾	0.15 m	0.18 m	0.2 m	0.25 m	0.25 m	0.35 m

⁽¹⁾ Under optimal conditions and constant transducer temperature.



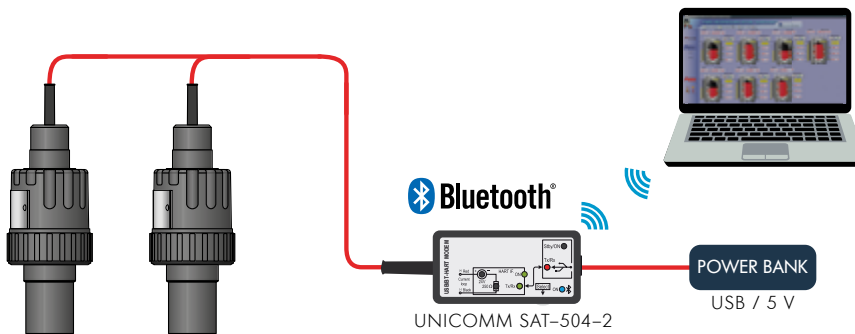
SPA-590

PC CONNECTION



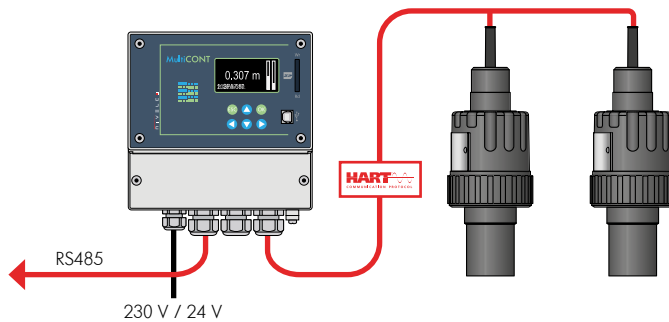
Devices with HART® connectivity can be linked to a PC using a **UNICOMM SAK-305** HART®-USB modem. All measured values of **EasyTREK** level transmitters can be visualized, and the devices can be remotely programmed via HART®. Applicable software for PC: **EView2** configuration tool or **NIVISION** process visualization program.

Bluetooth® CONNECTIVITY



Devices with HART® connectivity can be linked to a PC via Bluetooth® using a **UNICOMM HART®-USB/Bluetooth®** modem (SAT-504). The USB power bank connected to the **UNICOMM** modem can power the entire setup.

HART® MULTIDROP LOOP



MultiCONT Multichannel Process Controllers process and display measurement data supplied by **NIVELCO**'s HART® compatible 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 **NIVISION**.

EasyTREK SP-500 Pro

5 years

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

Range / Frequency

S P ■ - 5 ■ ■ - ■ ■	
A	0.15...3 m / 120 kHz (only for 1" process connection)
9	0.18...5 m / 80 kHz (only for 1" or 1½" process connection)
8	0.2...8 m / 80 kHz (only for 1" or 2" process connection)
7	0.25...10 m / 60 kHz (only for 1" or 2" process connection)
6	0.25...12 m / 60 kHz (only for 1" process connection)
4	0.35...18 m / 40 kHz (only for 1" process connection)

Transducer material

S P ■ - 5 ■ ■ ■ - ■ ■	
A	PP
B	PVDF

Process connection

S P ■ - 5 ■ ■ ■ - ■ ■	
0	BSP thread
N	1", 1½", 2" NPT and 1" BSP (only for SP-5A/59/58/57)

Output

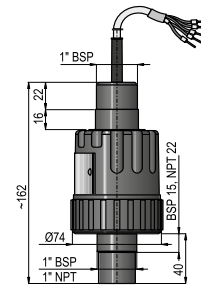
S P ■ - 5 ■ ■ ■ - ■ ■	
4	4...20 mA + HART®
H	4...20 mA + HART® + Relay

Cable

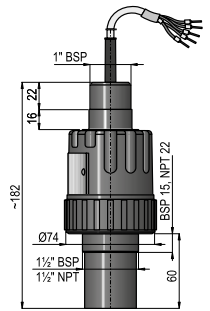
Maximum length 30 m; sold by the meter over the standard 5 m

Accessories sold separately; see relevant page for details

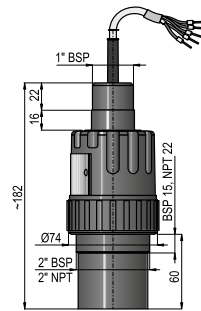
S F A - 3 ■ ■ ■ - 0	Flanges
S A T - 5 0 4 - ■ ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■ ■	HART®-USB/RS485 modem
S A A - 1 0 ■ ■ - ■ ■	Mounting brackets
S A A - 1 0 1 - 0	Quick-connect gland for pipe-mounting devices with 1" process connection, PP
S A A - 1 0 6 - 0	Damping gland for mounting SP devices to thin metal roofs, PP
P F - ■ 1 ■ ■ - ■ ■	Smart Field Display and Data Logger
P F - ■ 0 1 - ■ ■	Loop Display



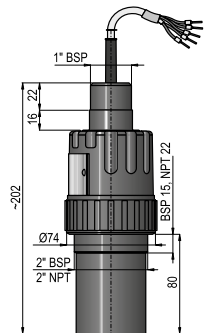
SP□-5A□



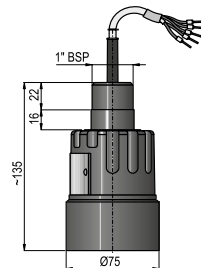
SP□-59□



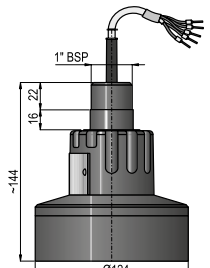
SP□-58□



SP□-57□



SP□-56□



SP□-54□

NIV24

SPA-5A0-4
SPA-590-4
SPA-580-4
SPA-540-4
SAA-107-0
SAA-108-0

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 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 measuring range
- Narrow (5°) beam angle
- Full temperature compensation
- IP68
- HART® communication
- Ex version
- 5 years warranty

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

Devices 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 devices can be programmed remotely via HART® modem. Up to 15 (non-Ex) devices can be connected to a single HART® loop. Applicable software: EView2 configuration software or NIVISION process visualization software.



SPA-380-4

TRANSDUCERS

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

PROPERTIES

Functions	EasyTREK
	SP-300
Relay	■
HART®	■
IrDA	■
Logger	■
Intrinsic safety	■

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)

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: 1 mm; 2...5 m: 2 mm; 5...10 m: 5 mm; >10 m: 10 mm
Output	Analog	4...20 mA
	Relay	SPDT, 30 V DC, 1 A DC
	Digital Communication	HART®
Ambient temperature		-30...+80 °C Ex version: see "Ex Information"
Process temperature		See Transducer Details, Ex version: see "Ex Information"
Pressure (absolute)		0.5...3 bar
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 mm ² shielded Ø6 mm cable; standard cable length: 5 m (available up to 30 m)
Ingress protection		IP68
Explosion protection		See "Ex Information"
Weight		1.2...2 kg

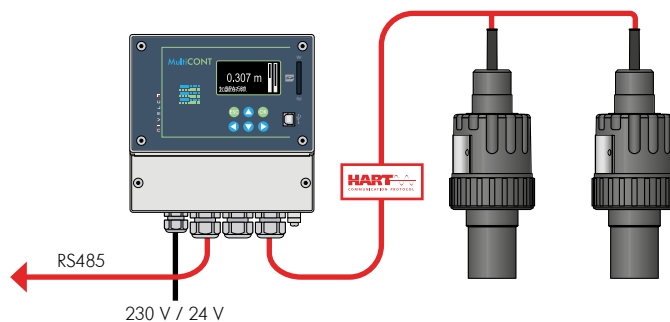
⁽¹⁾ Under optimal conditions and constant transducer temperature

Ex INFORMATION

		EasyTREK SP-300
Protection		Intrinsic safety
Ex marking		II 1 G Ex ia IIB T6...T5 Ga
Intrinsic safety data		$C_i \leq 28 \text{ nF}$, $L_i \leq 200 \text{ }\mu\text{H}$, $U_i \leq 30 \text{ V}$, $I_i \leq 140 \text{ mA}$, $P_i \leq 1 \text{ W}$
Ambient temperature		-20...+70 °C
Process temperature		With PP transducer: -20...+70 °C, with PVDF transducer: -20...+80 °C Temperature class T6; with PTFE transducer: -30...+90 °C Temperature class T5
Electrical connection		6× 0.5 mm ² shielded Ø6 mm 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.



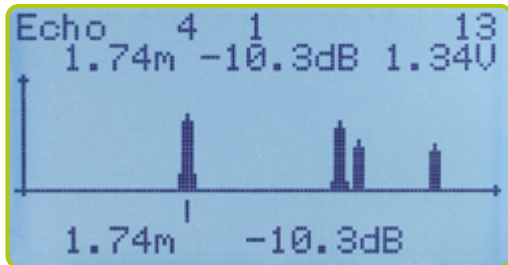
TRANSDUCER DETAILS

	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	1 1/2" BSP / NPT	2" BSP / NPT		-		
Max. measuring range ⁽¹⁾	4 m	6 m	8 m	10 m	15 m	25 m
Min. measuring range ⁽¹⁾	0.2 m	0.25 m	0.35 m		0.45 m	0.6 m
Process temperature	-30... +90 °C					
Recommended applications	Small vessels with 1 1/2" 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	5 m	6 m
Min. measuring range ⁽¹⁾	0.25 m		0.35 m
Process temperature	-30...+90 °C		

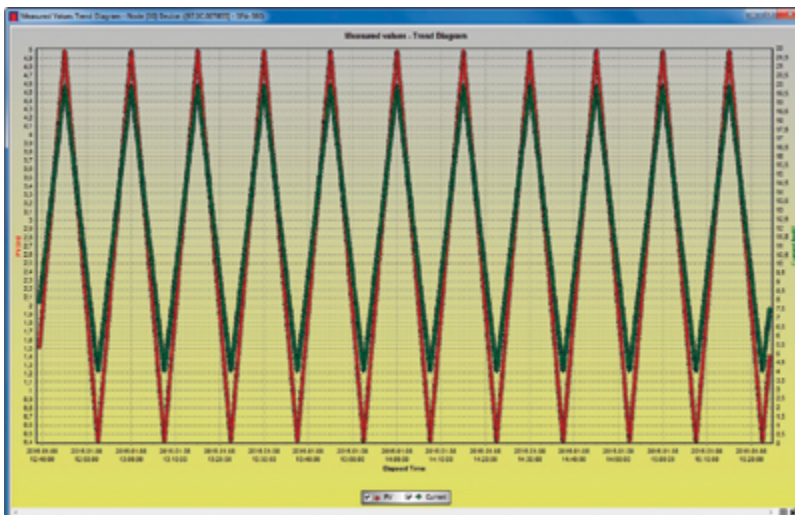
⁽¹⁾ Under optimal conditions and constant transducer temperature

ECHO MAP IN MultiCONT



SPA-360-4

DISPLAY MEASUREMENT VALUE IN EView2



SPA-340-4

EasyTREK SP-300 5 years

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

Range / Frequency

SP	Range / Frequency
9	0.2...4 m / 80 kHz (only for 1" or 1½" process connection)
8	0.25...6 m / 80 kHz (only for 1" or 2" process connection)
7	0.35...8 m / 60 kHz (only for 1" or 2" process connection)
6	0.35...10 m / 60 kHz (only for 1" process connection)
4	0.45...15 m / 40 kHz (only for 1" process connection)
2	0.6...25 m / 20 kHz (only for 1" process connection)

Transducer material

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

Process connection

SP	Process connection
0	BSP thread
N	1½" or 2" NPT and 1" BSP (only for SP-39/38/37)

Output / Certificates

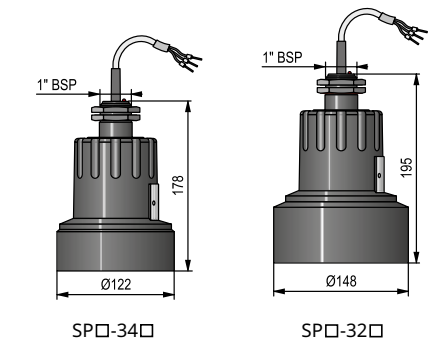
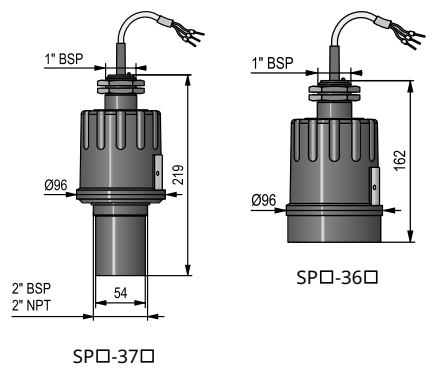
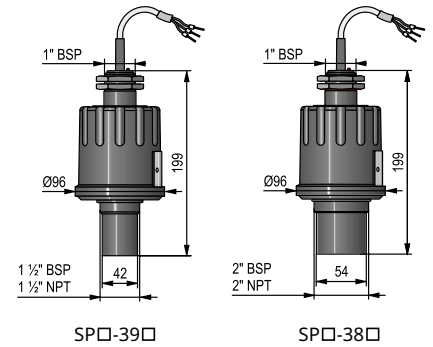
SP	Output / Certificates
3	4...20 mA + HART® + Data logging feature
4	4...20 mA + HART®
7	4...20 mA + HART® + Data logging feature / Ex ia G
8	4...20 mA + HART® / Ex ia G
A	4...20 mA + HART® + Data logging feature + Relay
H	4...20 mA + HART® + Relay

Cable

Maximum length 30 m; sold by the meter over the standard 5 m

Accessories sold separately; see relevant page for details

SFA-3	Flanges
SAT-504	HART®-USB/Bluetooth® modem
SAK-305	HART®-USB/RS485 modem
SAA-10	Mounting brackets
SAA-101-0	Quick-connect gland for pipe-mounting devices with 1" process connection, PP
SAA-106-0	Damping gland for mounting SP devices to thin metal roofs, PP
PF-1	Smart Field Display and Data Logger
PF-01	Loop Display



NIV24

SPA-380-4
SPA-360-4
SPA-340-4
SAA-107-0
SAA-108-0

EchoTREK SE-300 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, EchoTREK transmitters are the best choice. Installed on the tank's roof above the liquid's surface, the transmitter produces an analog signal proportional to the liquid's level, transmitted via HART®. The EchoTREK is an intelligent compact ultrasonic level transmitter with 4...20 mA output and optional HART® protocol. An optional removable plug-in display provides localized reading. Programming is performed via four buttons, both the display and the buttons have a removable cover. EchoTREK transmitters utilize HART® 7 communication, they can be used in multidrop systems connected to MultiCONT process controller/display or a PC via a UNICOMM HART-USB / RS485 modem or similar. EchoTREK transmitters are available with measuring ranges up to 25 meters, making them fit for a wide range of applications. These ultrasonic level transmitters use NIVELCO's SenSonic range transducers with a full beam angle 5...7 degrees, connected to the intelligent electronics featuring QUEST+ advanced signal processing algorithm.

FEATURES

- 2 or 4-wire compact level transmitter
- Non-contact level measurement
- Maximum 25 m measuring distance
- Narrow (5°) beam angle
- Full temperature compensation
- IP67
- Plug-in display unit
- HART® communication
- PACTware™ compatible
- Ex version
- 5 years warranty

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



SG□-380-4
(2-wire)

CERTIFICATES

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

TRANSDUCERS

Transducer material	EchoTREK	
	SE / SG-300	ST / SB-400
PP (Polypropylene)	■	■
PVDF	■	■
PTFE	■	■
1.4571 (316Ti) stainless steel	■	■



SBA-46G-1 (4-wire)

PROPERTIES

Functions	EchoTREK	
	SE / SG-300	ST/SB-400
Relay	■	■
HART®	■	■
IrDA	■	■
Logger	■	■
Ex ia (Intrinsic safety)	■	-
Display	SAP-200	

OPERATION

Ultrasonic level metering is based on the principle of measuring the travel time of ultrasound pulses from the sensor to the measured surface and back. The reflected signal's time of travel is measured and processed by the electronics, then it is converted to data proportional to distance, level, volume, or flow, considering the tank dimensions or the pre-programmed flume/weir parameters. QUEST+ intelligent signal processing software oversees the measurement and ensures reliable level monitoring.

TECHNICAL DATA

		SE / SG-300	ST / SB-400
System		2-wire	4-wire
Accuracy ⁽¹⁾		± (0.2% of measured distance +0.05% of range)	
Resolution		Depending on measured distance: <2 m: 1 mm; 2...5 m: 2 mm; 5...10 m: 5 mm; >10 m: 10 mm	
Output	Analog	4...20 mA	
	Relay ⁽²⁾	SPDT, 30 V DC, 1 A DC	#1 SPDT, 250 V AC, 3 A AC1 #2 SPDT, 30 V DC, 1 A DC
	Display	SAP-200: 6-digit plug-in display	
	Digital communication	HART [®]	
Ambient temperature		With plastic housing: -25...+70 °C with metal housing: -30...+70 °C with display: -25...+70 °C Ex version: see "Ex Information"	
Process temperature		See Transducer Details / Ex version: see "Ex Information"	
Pressure ⁽³⁾ (absolute)		0.5...3 bar (0.05...0.3 MPa), with stainless steel transducer: 0.9...1.1 bar (0.09...0.11 MPa)	
Supply voltage		12 ⁽⁴⁾ ...36 V DC / 48...720 mW	85...255 V AC / 2 VA 20...28 V AC/DC / 3 VA / 3 W
Electrical protection		DC power supply: Class III AC power supply: with metal housing: Class I with plastic housing: Class II	
Housing		Plastic (PBT), painted aluminum or stainless steel	Plastic (PBT), painted aluminum
Seal		In the case of a PP transducer: EPDM; all the other transducers: FPM (Viton [®])	
Electrical connection		2× M20×1.5 cable glands + 2× internally threaded ½" NPT connection, cable outer diameter: Ø6...12 mm (shielded cable is recommended), wire cross section: 0.5...1.5 mm ²	
Ingress protection		Transducer: IP68, Housing: IP67	
Explosion protection		see "Ex Information"	-
Weight		1.3...2.3 kg	

⁽¹⁾ Under optimal conditions and constant transducer temperature ⁽²⁾ 4-wire EchoTREK transmitters have two parallel operating relays

⁽³⁾ For pressures below 0.5 bar, ask NIVELCO.

⁽⁴⁾ At 12 V, only partial operation is possible. For unrestricted, reliable operation, 13.4 V is required.

Ex INFORMATION

SE / SG-300	
Protection	Intrinsic safety
Ex marking (ATEX)	II 1 G Ex ia IIB T6...T4 Ga
Intrinsic safety data	C _i ≤ 15 nF, L _i ≤ 200 µH, U _i ≤ 30 V, I _i ≤ 140 mA, P _i ≤ 1 W
Ambient temperature	With plastic housing: -20...+70 °C with metal housing: -30...+70 °C with display: -25...+70 °C
Process temperature	With PP transducer: -20...+70 °C, with PVDF transducer: -20...+80 °C, with PTFE transducer: -30...+90 °C With Stainless Steel transducer: -30...+100 °C
Electrical connection	2× M20×1.5 metal cable glands



SEV-390-8 Ex
+ SFA-3□6



SAP-200
display

TRANSDUCER DETAILS

	S□□-39 / 49	S□□-38 / 48	S□□-37 / 47	S□□-36 / 46	S□□-34 / 44	S□□-32 / 42
Beam angle	6°	5°	7°	5°		7°
Transducer material	PP or PVDF					
EchoTREK SE / SG 2-wire						
EchoTREK ST / SB 4-wire						
Process connection	1/2" BSP / NPT	2" BSP / NPT		DN80 flange	DN125 flange	DN150 flange
Maximum measuring range ⁽¹⁾	4 m	6 m	8 m	10 m	15 m	25 m
Minimum measuring range ⁽¹⁾	0.2 m	0.25 m	0.35 m		0.45 m	0.6 m
Process temperature	-30...+90 °C					
Recommended applications	Small vessels with 1/2" or 2" process connection			Small vessels with flange	Medium-sized vessels with flange	Tall vessels with flange

Transducer material	PTFE			Stainless steel		
Maximum measuring range ⁽¹⁾	3 m	5 m	6 m	7 m	12 m	15 m
Minimum measuring range ⁽¹⁾	0.25 m		0.35 m	0.4 m	0.55 m	0.65 m
Process temperature	-30...+90 °C			-30...+100 °C (CIP +120 °C for max. 2 hours)		

⁽¹⁾ Under optimal conditions and constant transducer temperature

EchoTREK S□S / S□M 2-wire			
EchoTREK S□S / S□M 4-wire			



SEA-370



SGP-370-8Ex

EchoTREK ST-400 – 4-wire, max. 8 m **5 years**

4-wire compact ultrasonic level transmitters for liquids with 2 relays with PP, PVDF or PTFE transducer; Ingress protection: IP67

Range / Frequency

S ■ ■ - 4 ■ ■ - ■ ■	
9	0.2...4 m / 80 kHz (only for 1½" process connection)
8	0.25...6 m / 80 kHz (only for 2" process connection)
7	0.35...8 m / 60 kHz (only for 2" process connection)

Version

S ■ ■ - 4 ■ ■ - ■ ■	
T	Transmitter
B	Transmitter with plug-in display

Housing / Transducer material

S ■ ■ - 4 ■ ■ - ■ ■	
P	Fiberglass-reinforced plastic (PBT) / Polypropylene (PP)
V	Fiberglass-reinforced plastic (PBT) / PVDF
F	Fiberglass-reinforced plastic (PBT) / PTFE
A	Painted aluminum / Polypropylene (PP)
B	Painted aluminum / PVDF
T	Painted aluminum / PTFE

Process Connection

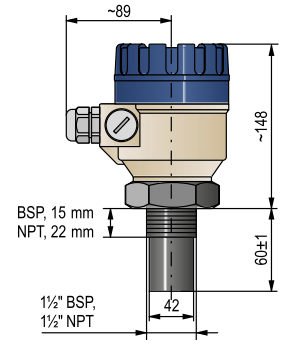
S ■ ■ - 4 ■ ■ - ■ ■	
0	BSP thread
N	NPT thread

Supply voltage / Output

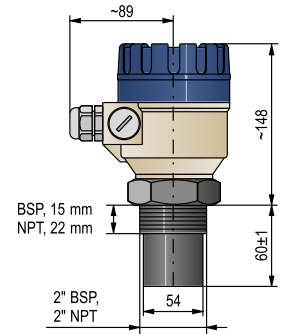
S ■ ■ - 4 ■ ■ - ■ ■	
1	85...255 V AC / 4...20 mA + DPDT Relay
3	85...255 V AC / 4...20 mA + HART® + DPDT Relay
G	85...255 V AC / 4...20 mA + HART® + DPDT Relay + Data logging feature
K	85...255 V AC / 4...20 mA + DPDT + Data logging feature
2	24 V AC/DC / 4...20 mA + DPDT Relay
4	24 V AC/DC / 4...20 mA + HART® + DPDT Relay
H	24 V AC/DC / 4...20 mA + HART® + DPDT Relay + Data logging feature
L	24 V AC/DC / 4...20 mA + DPDT + Data logging feature

Accessories sold separately; see relevant page for details

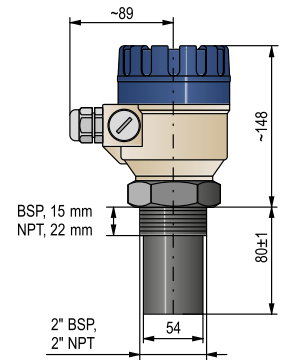
S A P - 2 0 0 - 0	Plug-in programmer/display module
S A T - 5 0 4 - ■ ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■ ■	HART®-USB/RS485 modem
S A A - 1 0 ■ ■ - ■ ■	Mounting brackets



STQ-49Q



STQ-48Q



STQ-47Q

- NIV24
- SAP-200-0
- SAA-107-0
- SAA-108-0

EchoTREK ST-400 - 4-wire, max. 25 m

5 years

4-wire compact ultrasonic level transmitters for liquids with 2 relays with PP or PVDF transducer; Ingress protection: IP67

Range / Frequency

S ■ ■ ■ - 4 ■ ■ ■ - ■ ■

6	0.35...10 m / 60 kHz (Min. required flange size: DN80)
4	0.45...15 m / 40 kHz (Min. required flange size: DN125)
2	0.6...25 m / 20 kHz (Min. required flange size: DN150)

Version

S ■ ■ ■ - 4 ■ ■ ■ - ■ ■

T	Transmitter
B	Transmitter with plug-in display

Housing / Transducer material

S ■ ■ ■ - 4 ■ ■ ■ - ■ ■

P	Fiberglass-reinforced plastic (PBT) / Polypropylene (PP)
V	Fiberglass-reinforced plastic (PBT) / PVDF
A	Painted aluminum / Polypropylene (PP)
B	Painted aluminum / PVDF

Process Connection

S ■ ■ ■ - 4 ■ ■ ■ - ■ ■

DIN flanges: Polypropylene (PP), PN16

2	DN80 PN16
3	DN100 PN16
4	DN125 PN16
5	DN150 PN16
6	DN200 PN16

FF ANSI flanges: Polypropylene (PP), 150 psi

A	3" FF 150 psi
B	4" FF 150 psi
C	5" FF 150 psi
D	6" FF 150 psi
E	8" FF 150 psi

JIS flanges: Polypropylene (PP), 10K

G	80A (as per 10K)
H	100A (as per 10K)
P	125A (as per 10K)
R	150A (as per 10K)
S	200A (as per 10K)

Mounting brackets

K	200 mm mounting bracket, powder-coated steel
L	500 mm mounting bracket, powder-coated steel
M	700 mm mounting bracket, powder-coated steel

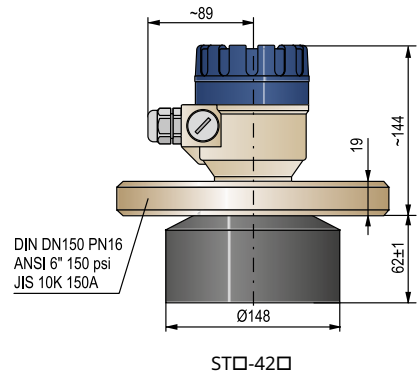
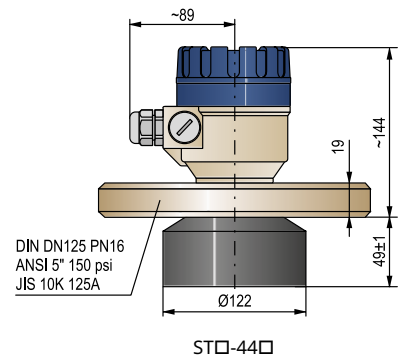
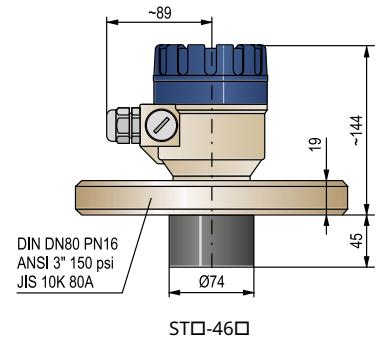
Supply voltage / Output

S ■ ■ ■ - 4 ■ ■ ■ - ■ ■

1	85...255 V AC / 4...20 mA + DPDT
3	85...255 V AC / 4...20 mA + HART® + DPDT
G	85...255 V AC / 4...20 mA + HART® + DPDT + Data logging feature
K	85...255 V AC / 4...20 mA + DPDT + Data logging feature
2	24 V AC/DC / 4...20 mA + DPDT
4	24 V AC/DC / 4...20 mA + HART® + DPDT
H	24 V AC/DC / 4...20 mA + HART® + DPDT + Data logging feature
L	24 V AC/DC / 4...20 mA + DPDT + Data logging feature

Accessories sold separately; see relevant page for details

S A P - 2 0 0 - 0	Plug-in programmer/display module
S A T - 5 0 4 - ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■	HART®-USB/RS485 modem



EchoTREK ST-400 – 4-wire with stainless steel transducer **5 years**

4-wire compact ultrasonic level transmitters for liquids with 2 relays with stainless steel transducer face; Ingress protection: IP67

Range / Frequency

S ■ ■ - 4 ■ ■ - ■ ■		
6	0.4...7 m / 60 kHz (flange size: DN80)	
4	0.55...12 m / 40 kHz (flange size: DN125)	
2	0.65...15 m / 20 kHz (flange size: DN150)	

Version

S ■ ■ - 4 ■ ■ - ■ ■		
T	Transmitter	
B	Transmitter with plug-in display	

Housing / Transducer material

S ■ ■ - 4 ■ ■ - ■ ■		
M	Fiberglass-reinforced plastic (PBT) / stainless steel (AISI SS316Ti, DIN 1.4571)	
S	Painted aluminum / stainless steel (AISI SS316Ti, DIN 1.4571)	

Process Connection / Material

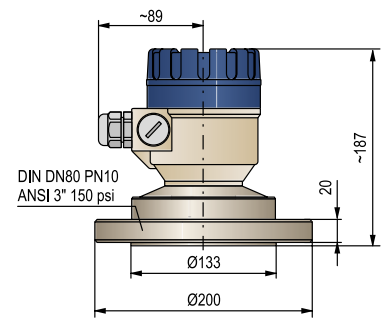
S ■ ■ - 4 ■ ■ - ■ ■		
2	DN80 PN16 (only for S-46), PP-coated steel	
4	DN125 PN16 (only for S-44), PP-coated steel	
5	DN150 PN16 (only for S-42), PP-coated steel	

Supply voltage / Output

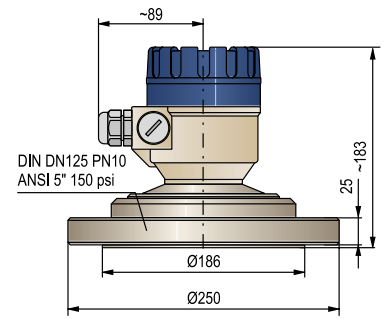
S ■ ■ - 4 ■ ■ - ■ ■		
1	85...255 V AC / 4...20 mA + DPDT	
3	85...255 V AC / 4...20 mA + HART® + DPDT	
G	85...255 V AC / 4...20 mA + HART® + DPDT + Data logging feature	
K	85...255 V AC / 4...20 mA + DPDT + Data logging feature	
2	24 V AC/DC / 4...20 mA + DPDT	
4	24 V AC/DC / 4...20 mA + HART® + DPDT	
H	24 V AC/DC / 4...20 mA + HART® + DPDT + Data logging feature	
L	24 V AC/DC / 4...20 mA + DPDT + Data logging feature	

Accessories sold separately; see relevant page for details

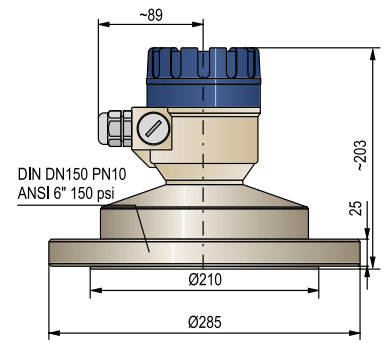
S A P - 2 0 0 - 0	Plug-in programmer/display module
S A T - 5 0 4 - ■ ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■ ■	HART®-USB/RS485 modem



STM / STS-462



STM / STS-444



STM / STS-425

EchoTREK SE-300 – 2-wire, max. 8 m

5 years

2-wire compact ultrasonic level transmitters for liquids with PP, PVDF or PTFE transducer; Ingress protection: IP67

Range / Frequency

S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
9	0.2...4 m / 80 kHz (only for 1½" process connection)
8	0.25...6 m / 80 kHz (only for 2" process connection)
7	0.35...8 m / 60 kHz (only for 2" process connection)

Version

S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
E	Transmitter
G	Transmitter with plug-in display

Housing / Transducer material

S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
P	Fiberglass-reinforced plastic (PBT) / Polypropylene (PP)
V	Fiberglass-reinforced plastic (PBT) / PVDF
F	Fiberglass-reinforced plastic (PBT) / PTFE
A	Painted aluminum / Polypropylene (PP)
B	Painted aluminum / PVDF
T	Painted aluminum / PTFE
K	Stainless steel / Polypropylene (PP)
W	Stainless steel / PVDF
L	Stainless steel / PTFE

Process Connection

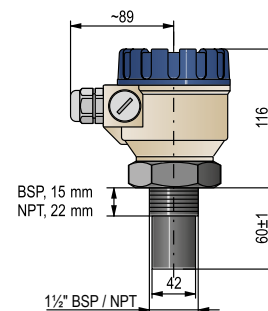
S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
0	BSP thread
N	NPT thread

Output / Certificates

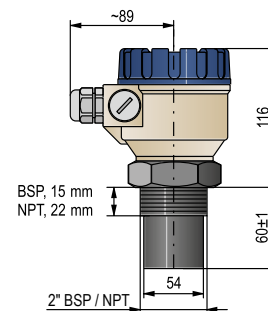
S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
1	4...20 mA + Data logging feature
2	4...20 mA
3	4...20 mA + HART® + Data logging feature
4	4...20 mA + HART®
5	4...20 mA + Data logging feature / Ex ia G
6	4...20 mA / Ex ia G
7	4...20 mA + HART® + Data logging feature / Ex ia G
8	4...20 mA + HART® / Ex ia G
L	4...20 mA + Data logging feature + Relay
R	4...20 mA + Relay
A	4...20 mA + HART® + Data logging feature + Relay
H	4...20 mA + HART® + Relay

Accessories sold separately; see relevant page for details

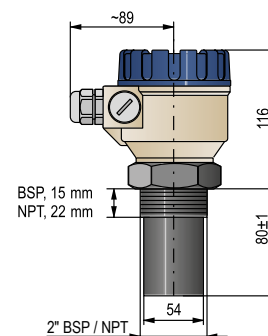
S F A - 3 ■ ■ ■ - 0	Flanges
S A P - 2 0 0 - 0	Plug-in programmer/display module
S A T - 5 0 4 - ■ ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■ ■	HART®-USB/RS485 modem
S A A - 1 0 ■ ■ - ■ ■	Mounting brackets



SE□-39□



SE□-38□



SE□-37□

NIV24

SEP-380-2

SAP-200-0

SAA-107-0

SAA-108-0

EchoTREK SE-300 – 2-wire, max. 25 m **5 years**

2-wire compact ultrasonic level transmitters for liquids with PP or PVDF transducer; Ingress protection: IP67

Range / Frequency

S ■ ■ - 3 ■ ■ - ■ ■	
6	0.35...10 m / 60 kHz (min. required flange size: DN80)
4	0.45...15 m / 40 kHz (min. required flange size: DN125)
2	0.6...25 m / 20 kHz (min. required flange size: DN150)

Version

S ■ ■ - 3 ■ ■ - ■ ■	
E	Transmitter
G	Transmitter with plug-in display

Housing / Transducer material

S ■ ■ - 3 ■ ■ - ■ ■	
P	Fiberglass-reinforced plastic (PBT) / Polypropylene (PP)
V	Fiberglass-reinforced plastic (PBT) / PVDF
A	Painted aluminum / Polypropylene (PP)
B	Painted aluminum / PVDF
K	Stainless steel / Polypropylene (PP)
W	Stainless steel / PVDF

Process Connection

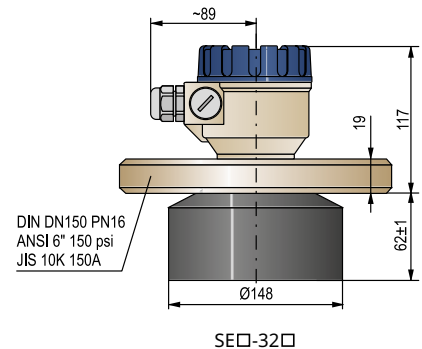
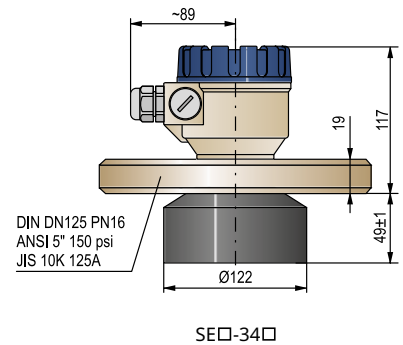
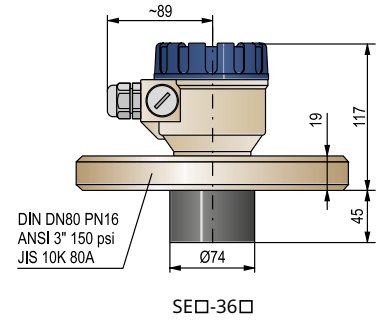
S ■ ■ - 3 ■ ■ - ■ ■	
DIN flanges: Polypropylene (PP), PN16	
2	DN80 PN16
3	DN100 PN16
4	DN125 PN16
5	DN150 PN16
6	DN200 PN16
FF ANSI flanges: Polypropylene (PP), 150 psi	
A	3" FF 150 psi
B	4" FF 150 psi
C	5" FF 150 psi
D	6" FF 150 psi
E	8" FF 150 psi
JIS flanges: Polypropylene (PP), 10K	
G	80A (as per 10K)
H	100A (as per 10K)
P	125A (as per 10K)
R	150A (as per 10K)
S	200A (as per 10K)
Mounting brackets	
K	200 mm mounting bracket, powder-coated steel
L	500 mm mounting bracket, powder-coated steel
M	700 mm mounting bracket, powder-coated steel

Output / Certificates

S ■ ■ - 3 ■ ■ - ■ ■	
1	4...20 mA + Data logging feature
2	4...20 mA
3	4...20 mA + HART® + Data logging feature
4	4...20 mA + HART®
5	4...20 mA + Data logging feature / Ex ia G
6	4...20 mA / Ex ia G
7	4...20 mA + HART + Data logging feature / Ex ia G
8	4...20 mA + HART® / Ex ia G
L	4...20 mA + Data logging feature + Relay
R	4...20 mA + Relay
A	4...20 mA + HART® + Data logging feature + Relay
H	4...20 mA + HART® + Relay

Accessories sold separately; see relevant page for details

S A P - 2 0 0 - 0	Plug-in programmer/display module
S A T - 5 0 4 - ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■	HART®-USB/RS485 modem



EchoTREK SE-300 – 2-wire with stainless steel transducer **5 years**

2-wire compact ultrasonic level transmitters for liquids
with stainless steel transducer face; Ingress protection: IP67

Range / Frequency

S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
6	0.4...7 m / 60 kHz (flange size: DN80)
4	0.55...12 m / 40 kHz (flange size: DN125)
2	0.65...15 m / 20 kHz (flange size: DN150)

Version

S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
E	Transmitter
G	Transmitter with plug-in display

Housing / Transducer material

S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
M	Fiberglass-reinforced plastic (PBT) / stainless steel (AISI SS316Ti, DIN 1.4571)
S	Painted aluminum / stainless steel (AISI SS316Ti, DIN 1.4571)
N	Stainless steel / stainless steel (AISI SS316Ti, DIN 1.4571)

Process Connection / Material

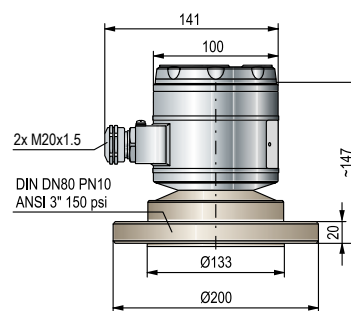
S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
2	DN80 PN16 (only for S-36), PP-coated steel
4	DN125 PN16 (only for S-34), PP-coated steel
5	DN150 PN16 (only for S-32), PP-coated steel

Output / Certificates

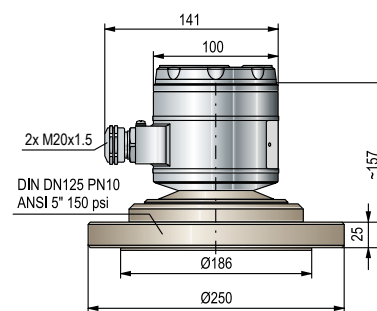
S ■ ■ ■ - 3 ■ ■ ■ - ■ ■	
1	4...20 mA + Data logging feature
2	4...20 mA
3	4...20 mA + HART® + Data logging feature
4	4...20 mA + HART®
5	4...20 mA + Data logging feature / Ex ia G
6	4...20 mA / Ex ia G
7	4...20 mA + HART® + Data logging feature / Ex ia G
8	4...20 mA + HART® / Ex ia G
L	4...20 mA + Data logging feature + Relay
R	4...20 mA + Relay
A	4...20 mA + HART® + Data logging feature + Relay
H	4...20 mA + HART® + Relay

Accessories sold separately; see relevant page for details

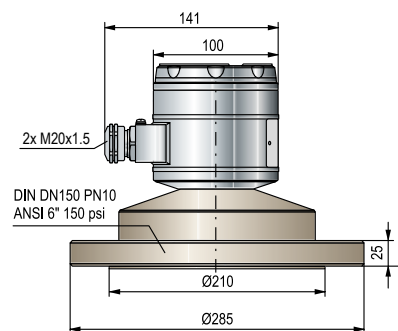
S A P - 2 0 0 - 0	Plug-in programmer/display module
S A T - 5 0 4 - ■ ■	HART®-USB/Bluetooth® modem
S A K - 3 0 5 - ■ ■	HART®-USB/RS485 modem



SEN-362



SEN-344



SEN-325