

## GENERAL DESCRIPTION

The **EchoTREK** high performance level transmitters are based on **NIVELCO's** more than 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, **EchoTREK** 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 **EchoTREK** is an intelligent compact ultrasonic level transmitter with 4 – 20 mA output offering HART® protocol as option. Local reading is ensured by a plug-in display which can be removed if displaying is not needed. Four keys provide for programming, both display and keys are located under a removable cover. The unit is tank-top mountable only.

The level transmitters can be used in multi-drop systems connected to **NIVELCO's MultiCONT** process controller / display, or to a PC with the help of the **UNICOMM** HART®-USB / RS485 modem or similar. **EchoTREK** are available with measurement ranges up to 25 m providing wide application possibilities. The ultrasonic level transmitters are using **NIVELCO's** established SenSonic range transducers with a full beam angle of 5 to 7 degrees connected to the intelligent electronics featuring the **QUEST+** advanced signal processing algorithm.

## MAIN FEATURES

- 2- /4-wire compact level transmitters
- Non-contact level measurement
- Maximum 25 m measuring range
- Narrow (5°) beam angle
- Full temperature compensation
- IP67 rated
- Plug-in display unit
- HART communication
- Ex version

## CERTIFICATIONS

- ATEX (Ex ia)
- INMETRO

## 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



SG□-380-4  
(2-wire)



SB□-480-4  
(4-wire)

## TRANSDUCERS

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

## PROPERTIES

| Functions                  | EchoTREK    |           |
|----------------------------|-------------|-----------|
|                            | SE / SG-300 | ST/SB-400 |
| Relay                      | ■           | ■         |
| HART®                      | ■           | ■         |
| IrDA                       | ■           | ■         |
| Logger                     | ■           | ■         |
| Ex ia (Intrinsically safe) | ■           | –         |
| Display                    | SAP-200     |           |

## OPERATION

The ultrasonic level metering technology is based on the principle of measuring the time required for the ultrasound pulses to cover the distance from the sensor to the level to be measured and back. The echoes bounced back from the surface of the medium to be measured reach the sensor surface after the time of flight of the ultrasonic impulse. The time of flight of the reflected signal is measured and processed by the electronics, and then this is converted to distance, level, volume or flow proportional data with the help of the customizable tank dimensions or the pre-programmed flume / weir parameters. The intelligent **QUEST+** process adaptive signal processing software system ensures that the electronics identifies and validates the liquid surface signal, giving reliable level monitoring.

## TECHNICAL DATA

| Type                               |                       | EchoTREK SE / SG-300   | EchoTREK ST / SB-400                                   |
|------------------------------------|-----------------------|--|--|
| System                             |                       | 2-wire   | 4-wire   |
| Accuracy <sup>(1)</sup>            |                       | $\pm (0.2\% \text{ of measured distance} + 0.05\% \text{ of range})$   |  |
| Resolution                         |                       | Depending on the measured distance: <2 m: 1 mm; 2 – 5 m: 2 mm;<br>5 – 10 m: 5 mm; >10 m: 10 mm   |  |
| Output                             | Analogue              | 4 – 20 mA  |  |
|                                    | Relay <sup>(2)</sup>  | SPDT, 30 V DC, 1 A DC  | #1 SPDT, 250 V AC, 3 A AC1<br>#2 SPDT, 30 V DC, 1 A DC |
|                                    | Display               | SAP-200: 6-digit plug-in LCD display   |  |
|                                    | Digital communication | HART®  |  |
| Ambient temperature                |                       | With plastic housing: -25 °C ... +70 °C,<br>with metal housing: -30 °C ... +70 °C,<br>with display: -25 °C ... +70 °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 <sup>(3)</sup> (absolute) |                       | 0.05 – 0.3 MPa (0.5 – 3 bar),<br>with stainless steel transducer: 0.09 – 0.11 MPa (0.9 – 1.1 bar)  |  |
| Power supply                       |                       | 12 <sup>(4)</sup> – 36 V DC / 48 – 720 mW  | 85 – 255 V AC / 2 VA<br>20 – 28 V AC/DC / 3 VA / 3 W   |
| Electrical protection              |                       | In case of DC power supply: Class III  |  |
|                                    |                       | In case of AC power supply:<br>with metal housing: Class I<br>with plastic housing: Class II   |  |
| Housing                            |                       | Plastic (PBT), paint coated aluminium or stainless steel   | Plastic (PBT), paint coated aluminium                  |
| Sealing                            |                       | In case of PP transducer: EPDM; all the other transducers: FPM (Viton)   |  |
| Electrical connection              |                       | 2x M20x1.5 cable glands + internal thread for 2x ½" NPT cable protective pipe, cable outer diameter: Ø6 – 12 mm,<br>wire cross section: maximum 1.5 mm²<br>Ex version: See: „Special data for Ex certified models“ table |  |
| Ingress protection                 |                       | Transducer: IP68, Housing: IP67  |  |
| Explosion protection               |                       | See: „Special data for Ex certified models“ table  | –  |
| Mass                               |                       | 1.3 – 2.3 kg   |  |

<sup>(1)</sup> Under optimum conditions and stabilized transducer temperature      <sup>(2)</sup> The 4-wire EchoTREK transmitters have two parallel operating relays

<sup>(3)</sup> For pressure less than 0.5 bar please consult with your NIVELCO representative

<sup>(4)</sup> Only partial operation is provided. Reliable operation without any restrictions is guaranteed at >13.4 V terminal voltage.

## SPECIAL DATA FOR Ex CERTIFIED MODELS

| Type                    | EchoTREK SE / SG-300   |
|-------------------------|--|
| Protection type         | Intrinsically safe   |
| Ex marking (ATEX)       | Ⓔ II 1 G Ex ia IIB T6...T4 Ga  |
| Intrinsically safe data | Ci ≤ 15 nF, Li ≤ 200 µH, Ui ≤ 30 V, Ii ≤ 140 mA, Pi ≤ 1 W  |
| Ambient temperature     | With plastic housing: -20 °C ... +70 °C,<br>with metal housing: -30 °C ... +70 °C,<br>with display: -25 °C ... +70 °C  |
| Process temperature     | With PP transducer: -20 °C ... +70 °C, with PVDF transducer: -20 °C ... +80 °C, with PTFE transducer: -30 °C ... +90 °C<br>With stainless steel transducer: -30 °C ... +100 °C |
| Electrical connection   | 2x M20x1.5 metal cable glands  |

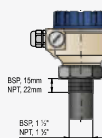
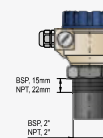
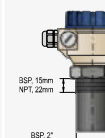
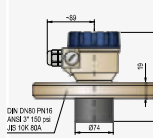
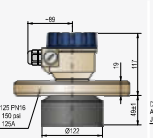
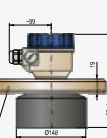
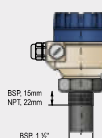
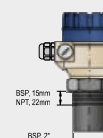
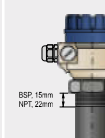
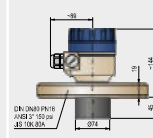
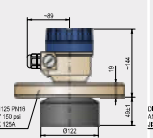
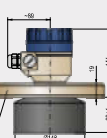


SEV-390-8Ex  
+ SFA-3□6



SAP-200  
Display

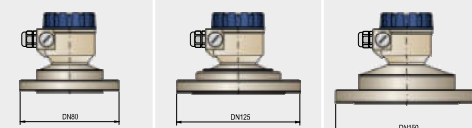
## SPECIAL DATA OF THE TRANSDUCERS

| Transducer type                        | 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<br>2-wire             |  |  |  |  |  |  |
| EchoTREK ST / SB<br>4-wire             |  |  |  |  |  |  |
| Process connection                     | 1½" BSP / NPT   | 2" BSP / NPT  |   | DN 80 flange   | DN 125 flange   | DN 150 flange   |
| Maximum measuring range <sup>(1)</sup> | 4 m   | 6 m   | 8 m   | 10 m   | 15 m  | 25 m  |
| Minimum 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              |     |        | Stainless steel                                     |        |        |
|--|-------------------|-----|--------|---|--------|--------|
| Maximum measuring range <sup>(1)</sup> | 3 m               | 5 m | 6 m    | 7 m   | 12 m   | 15 m   |
| Minimum measuring range <sup>(1)</sup> | 0.25 m            |     | 0.35 m | 0.4 m   | 0.55 m | 0.65 m |
| Process temperature                    | -30 °C ... +90 °C |     |        | -30 °C ... +100 °C<br>(CIP 120 °C for max. 2 hours) |        |        |

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

EchoTREK S□S / S□M  
2-wire



EchoTREK S□S / S□M  
4-wire



SGP-370-8Ex



SGB-325-4

# EchoTREK S-49/48/47

5 years

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

## Range / Frequency / Process connection

|                         |  |
|-------------------------|--|
| S ■ ■ ■ - 4 ■ ■ ■ - ■ ■ |  |
| 9                       | 0.2-4 m (80 kHz, Process connection: 1 1/2") |
| 8                       | 0.25-6 m (80 kHz, Process connection: 2")    |
| 7                       | 0.35-8 m (60 kHz, Process connection: 2")    |

## Programmer and local indicator (SAP-200)

|                         |              |
|-------------------------|--------------|
| S ■ ■ ■ - 4 ■ ■ ■ - ■ ■ |              |
| T                       | Not included |
| B                       | Included     |

## Housing / Transducer material

|                         |   |
|-------------------------|---|
| S ■ ■ ■ - 4 ■ ■ ■ - ■ ■ |   |
| P                       | Plastic, PBT, glass fibre reinforced / Polypropylene (PP) |
| V                       | Plastic, PBT, glass fibre reinforced / PVDF               |
| F                       | Plastic, PBT, glass fibre reinforced / PTFE               |
| A                       | Aluminium (paint coated) / Polypropylene (PP)             |
| B                       | Aluminium (paint coated) / PVDF                           |
| T                       | Aluminium (paint coated) / PTFE                           |

## Mounting

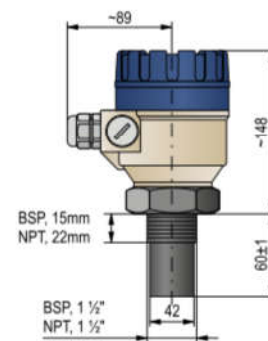
|                         |            |
|-------------------------|------------|
| S ■ ■ ■ - 4 ■ ■ ■ - ■ ■ |            |
| 0                       | BSP thread |
| N                       | NPT thread |

## Power supply / Output

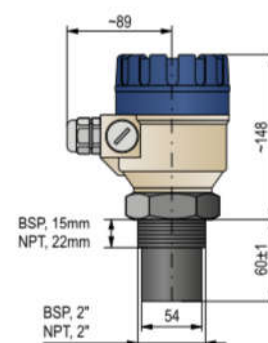
|                         |  |
|-------------------------|--|
| S ■ ■ ■ - 4 ■ ■ ■ - ■ ■ |  |
| 1                       | 85-255 V AC / 4-20 mA + DPDT Relay                               |
| 3                       | 85-255 V AC / 4-20 mA + HART + DPDT Relay                        |
| G                       | 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 to order (see relevant page for details)

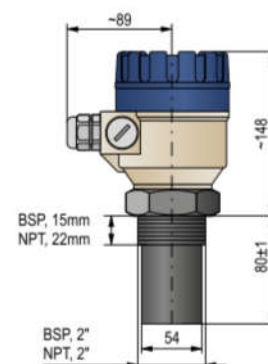
|                       |                                   |
|-----------------------|-----------------------------------|
| S A P - 2 0 0 - 0     | Plug-in programmer/display module |
| S A T - 3 0 4 - 0     | HART-USB modem                    |
| S A T - 5 0 4 - ■ ■   | HART-USB/Bluetooth modem  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



STD-49□



STD-48□



STD-47□

## NIV 24

SAP-200-0

SAT-304-0

SAA-107-0

SAA-108-0

## EchoTREK S-46/44/42

5 years

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

### Range / Frequency / Process connection

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)  |

### Programmer and local indicator (SAP-200)

S ■ ■ ■ - 4 ■ ■ ■ - ■

|   |              |
|---|--------------|
| T | Not included |
| B | Included     |

### Housing / Transducer material

S ■ ■ ■ - 4 ■ ■ ■ - ■

|   |   |
|---|---|
| P | Plastic, PBT, glass fibre reinforced / Polypropylene (PP) |
| V | Plastic, PBT, glass fibre reinforced / PVDF               |
| A | Aluminium (paint coated) / Polypropylene (PP)             |
| B | Aluminium (paint coated) / PVDF                           |

### Mounting

S ■ ■ ■ - 4 ■ ■ ■ - ■

DIN flanges: Polypropylene (PP), drilled like PN16

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

FF ANSI flanges: Polypropylene (PP), drilled like 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), drilled like 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, paint coated steel |
| L | 500 mm mounting bracket, paint coated steel |
| M | 700 mm mounting bracket, paint coated steel |

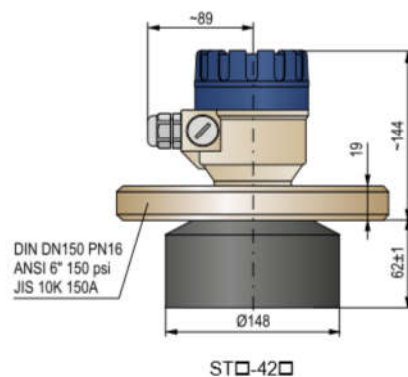
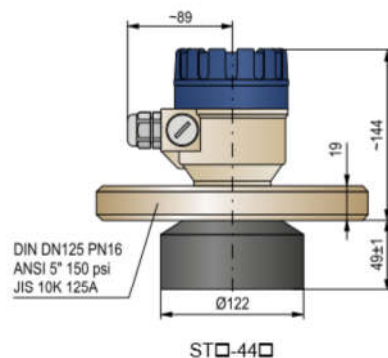
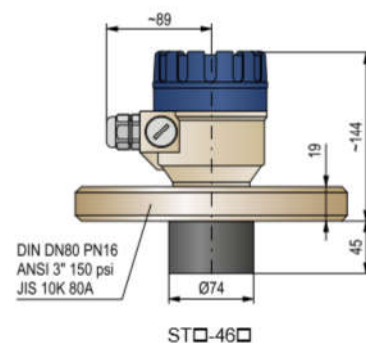
### Power supply / Output

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 to order (see relevant page for details)

|                   |                                   |
|-------------------|-----------------------------------|
| S A P - 2 0 0 - 0 | Plug-in programmer/display module |
| 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              |





# EchoTREK S-46/44/42 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 / Process connection

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

## Programmer and local indicator (SAP-200)

|   |   |              |
|---|---|--------------|
| S | T | Not included |
| S | B | Included     |

## Housing / Transducer material

|   |   |   |
|---|---|---|
| S | M | Plastic, PBT, glass fibre reinforced / Stainless Steel (AISI SS316Ti, DIN 1.4571) |
| S | S | Aluminium (paint coated) / Stainless Steel (AISI SS316Ti, DIN 1.4571)             |

## Mounting / Material

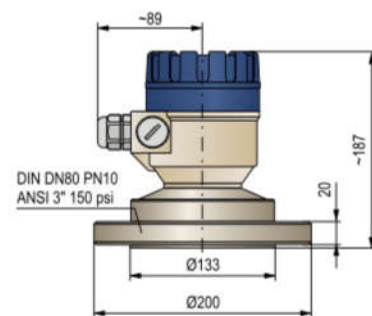
|   |   |   |
|---|---|---|
| S | 2 | DN80 PN16 (only for S-46), PP coated steel  |
| S | 4 | DN125 PN16 (only for S-44), PP coated steel |
| S | 5 | DN150 PN16 (only for S-42), PP coated steel |

## Power supply / Output

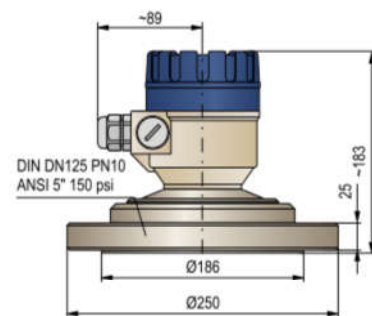
|   |   |  |
|---|---|--|
| S | 1 | 85-255 V AC / 4-20 mA + DPDT                               |
| S | 3 | 85-255 V AC / 4-20 mA + HART + DPDT                        |
| S | G | 85-255 V AC / 4-20 mA + HART + DPDT + Data logging feature |
| S | K | 85-255 V AC / 4-20 mA + DPDT + Data logging feature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

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

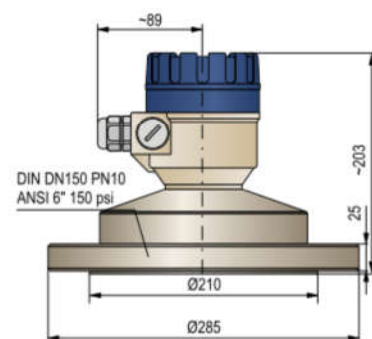
|                   |                                   |
|-------------------|-----------------------------------|
| S A P - 2 0 0 - 0 | Plug-in programmer/display module |
| S A T - 3 0 4 - 0 | HART-USB modem                    |
| S A T - 5 0 4 -   | HART-USB/Bluetooth modem          |
| S A K - 3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



STM / STS-462



STM / STS-444



STM / STS-425

# EchoTREK S-39/38/37

5 years

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

## Range / Frequency / Process connection

|                       |  |
|-----------------------|--|
| S ■ ■ ■ - 3 ■ ■ ■ - ■ |  |
| 9                     | 0.2-4 m (80 kHz, Process connection: 1 1/2") |
| 8                     | 0.25-6 m (80 kHz, Process connection: 2")    |
| 7                     | 0.35-8 m (60 kHz, Process connection: 2")    |

## Programmer and local indicator (SAP-200)

|                       |              |
|-----------------------|--------------|
| S ■ ■ ■ - 3 ■ ■ ■ - ■ |              |
| E                     | Not included |
| G                     | Included     |

## Housing / Transducer material

|                       |   |
|-----------------------|---|
| S ■ ■ ■ - 3 ■ ■ ■ - ■ |   |
| P                     | Plastic, PBT, glass fibre reinforced / Polypropylene (PP) |
| V                     | Plastic, PBT, glass fibre reinforced / PVDF               |
| F                     | Plastic, PBT, glass fibre reinforced / PTFE               |
| A                     | Aluminium (paint coated) / Polypropylene (PP)             |
| B                     | Aluminium (paint coated) / PVDF                           |
| T                     | Aluminium (paint coated) / PTFE                           |
| K                     | Stainless steel / Polypropylene (PP)                      |
| W                     | Stainless steel / PVDF                                    |
| L                     | Stainless steel / PTFE                                    |

## Mounting

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

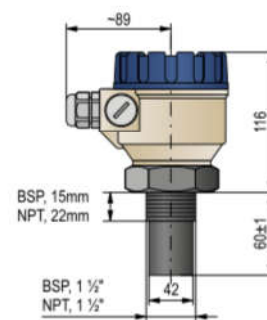
## Output / Approval

|                       |   |
|-----------------------|---|
| 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           |
| 6                     | 4-20 mA / Ex                                  |
| 7                     | 4-20 mA + HART + Data logging feature / Ex    |
| 8                     | 4-20 mA + HART / Ex                           |
| 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                        |
| P                     | PROFIBUS                                      |
| E *                   | PROFIBUS / Ex                                 |

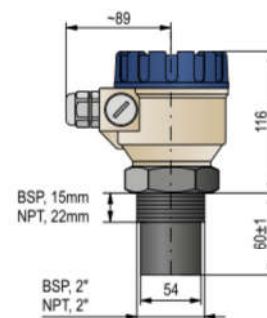
\* Under development

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

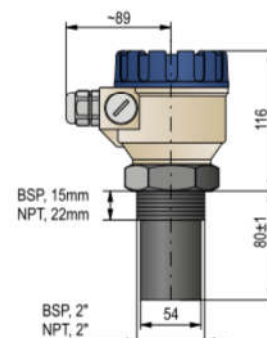
|                     |                                   |
|---------------------|-----------------------------------|
| S F A - 3 ■ ■ ■ - 0 | Flanges                           |
| S A P - 2 0 0 - 0   | Plug-in programmer/display module |
| S A T - 3 0 4 - 0   | HART-USB modem                    |
| 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                 |



SEP-39□



SEP-38□



SEP-37□

## NIV24

SEP-380-2

SAP-200-0

SAT-304-0

SAA-107-0

SAA-108-0

## EchoTREK S-36/34/32

5 years

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

### Range / Frequency / Process connection

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)  |

### Programmer and local indicator (SAP-200)

S ■ ■ ■ - 3 ■ ■ ■ - ■

|   |              |
|---|--------------|
| E | Not included |
| G | Included     |

### Housing / Transducer material

S ■ ■ ■ - 3 ■ ■ ■ - ■

|   |   |
|---|---|
| P | Plastic, PBT, glass fibre reinforced / Polypropylene (PP) |
| V | Plastic, PBT, glass fibre reinforced / PVDF               |
| A | Aluminium (paint coated) / Polypropylene (PP)             |
| B | Aluminium (paint coated) / PVDF                           |
| K | Stainless steel / Polypropylene (PP)                      |
| W | Stainless steel / PVDF                                    |

### Mounting

S ■ ■ ■ - 3 ■ ■ ■ - ■

DIN flanges: Polypropylene (PP), drilled like PN16

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

FF ANSI flanges: Polypropylene (PP), drilled like 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), drilled like 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, paint coated steel |
| L | 500 mm mounting bracket, paint coated steel |
| M | 700 mm mounting bracket, paint coated steel |

### Output / Approval

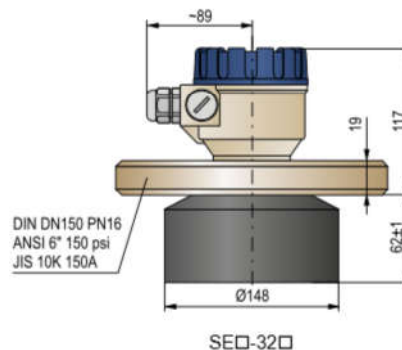
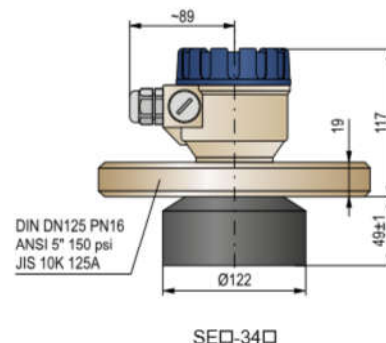
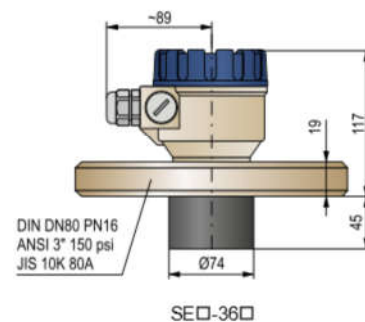
S ■ ■ ■ - 3 ■ ■ ■ - ■

|     |   |
|-----|---|
| 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           |
| 6   | 4-20 mA / Ex                                  |
| 7   | 4-20 mA + HART + Data logging feature / Ex    |
| 8   | 4-20 mA + HART / Ex                           |
| 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                        |
| P   | PROFIBUS                                      |
| E * | PROFIBUS / Ex                                 |

\* Under development

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

|                   |                                   |
|-------------------|-----------------------------------|
| S A P - 2 0 0 - 0 | Plug-in programmer/display module |
| 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      |





# EchoTREK S-36/34/32 with stainless steel transducer

5 years

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

## Range / Frequency / Process connection

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) |

## Programmer and local indicator (SAP-200)

S ■ ■ ■ - 3 ■ ■ ■ - ■

|   |              |
|---|--------------|
| E | Not included |
| G | Included     |

## Housing / Transducer material

S ■ ■ ■ - 3 ■ ■ ■ - ■

|   |   |
|---|---|
| M | Plastic, PBT, glass fibre reinforced / Stainless Steel (AISI SS316Ti, DIN 1.4571) |
| S | Aluminium (paint coated) / Stainless Steel (AISI SS316Ti, DIN 1.4571)             |
| N | Stainless Steel / Stainless Steel (AISI SS316Ti, DIN 1.4571)                      |

## Mounting / 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 / Approval

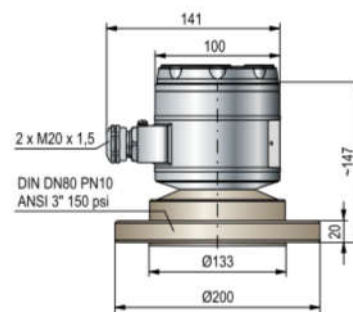
S ■ ■ ■ - 3 ■ ■ ■ - ■

|     |   |
|-----|---|
| 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           |
| 6   | 4-20 mA / Ex                                  |
| 7   | 4-20 mA + HART + Data logging feature / Ex    |
| 8   | 4-20 mA + HART / Ex                           |
| 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                        |
| P   | PROFIBUS                                      |
| E * | PROFIBUS / Ex                                 |

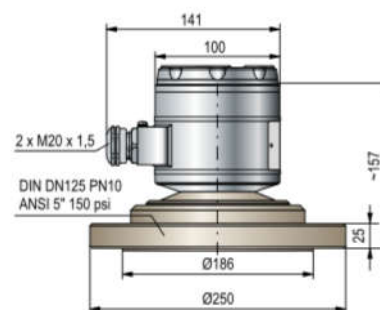
\* Under development

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

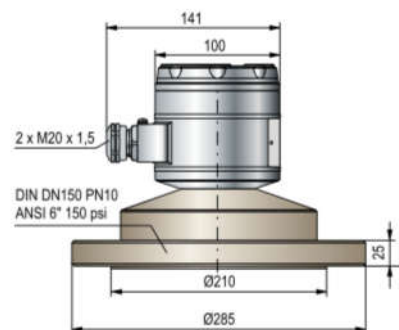
|                   |                                   |
|-------------------|-----------------------------------|
| S A P - 2 0 0 - 0 | Plug-in programmer/display module |
| S A T - 3 0 4 - 0 | HART-USB modem                    |
| S A T - 5 0 4 - ■ | HART-USB/Bluetooth modem          |
| S A K - 3 0 5 - 2 | HART-USB/RS485 modem              |
| S A K - 3 0 5 - 6 | HART-USB/RS485 modem / Ex ia      |



SEN-362



SEN-344



SEN-325