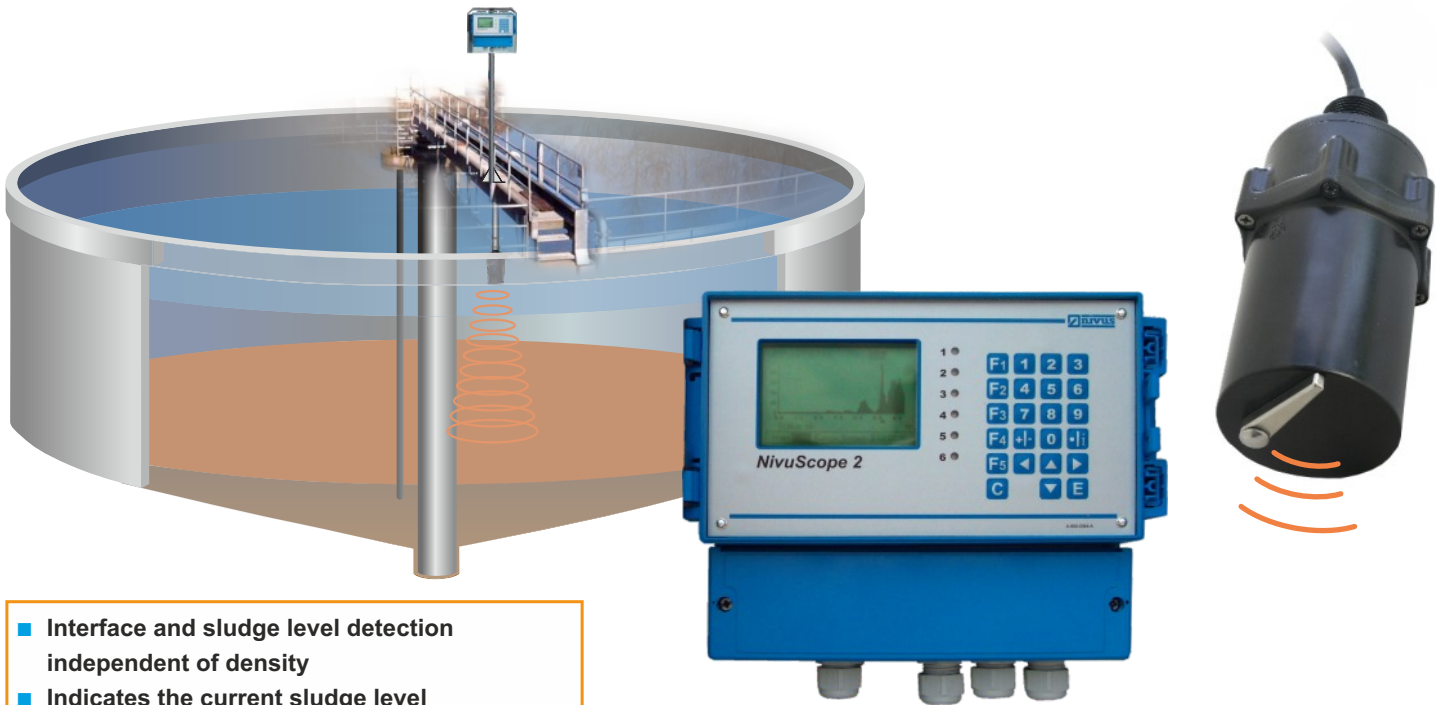




## NivuScope 2

Everything Under Control:

Sludge Interface  
Sludge Level  
Sludge Profile



- Interface and sludge level detection independent of density
- Indicates the current sludge level
- Programming on site via dialog mode or per RS232 via PC software
- No readjustment required
- Sensor-integrated fully automatic cleaning equipment for extreme requirements

*The integrated wiper is to avoid incrustation and algae growth on the sensor face. Wiping cycles can be set freely.*

## NivuScope 2 makes your tanks and basins transparent.

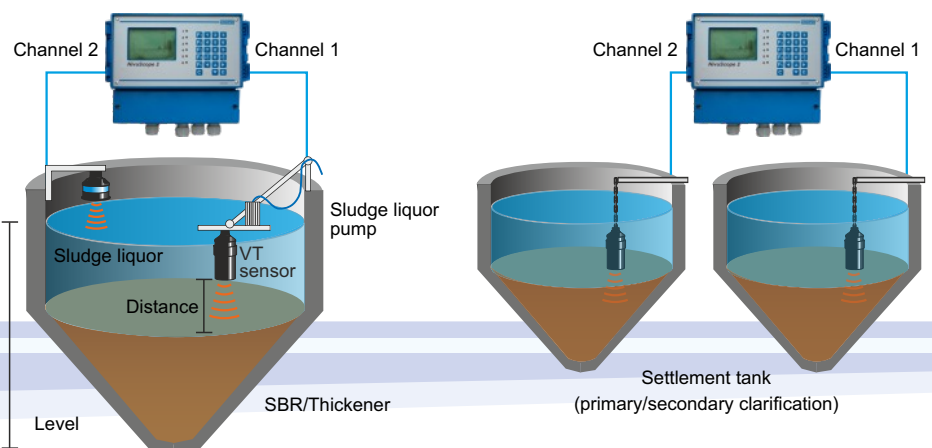
### The Measurement Method

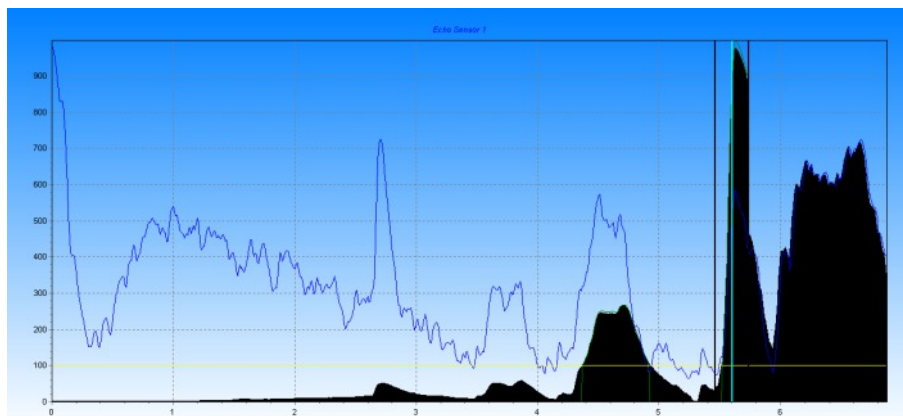
The NivuScope 2 is particularly suitable for use in:

- **Wastewater treatment plants**  
Primary and secondary clarification tanks, thickeners
- **Fresh water treatment facilities**  
Sludge sedimentation tanks
- **Industry/Chemical**  
Sedimentation monitoring  
Thickeners general

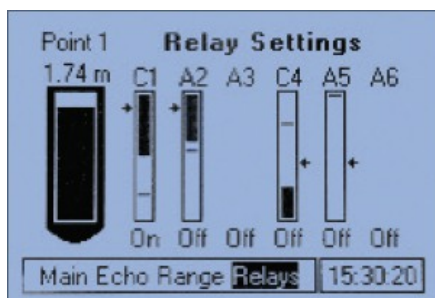
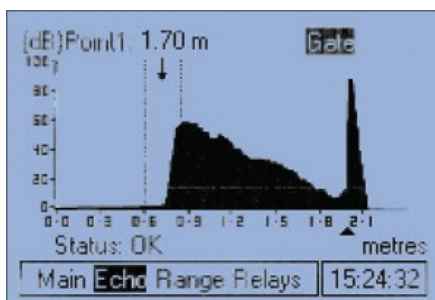
The sensor emits directed high frequency impulses into the liquid. For that purpose, the sensor must be immersed into the liquid to be measured for a few centimetres. However it necessarily shall be positioned always above the topmost interface to be measured. Solid particles or sludge contained in the

liquid will reflect the sound waves back to the sensor, which subsequently converts the acoustic signals into electric signals. The intensity of the received signal depending on the ultrasonic transit time is evaluated and will be indicated as a graph on the display.



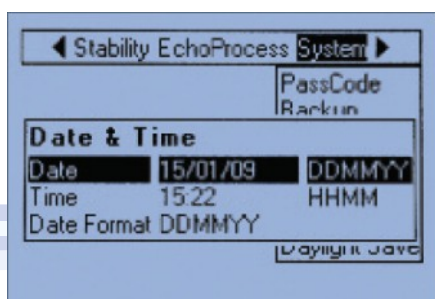


Echo image representation on PC



## Initial Start-Up

The NivusScope 2 can be programmed very easy either by using the front-side keypad or via the RS232 interface utilizing the PC software.



## Features

The NivusScope 2 has two separate measuring channels to connect type VT or type P air-ultrasound sludge level sensors (see reverse). Hence it is possible to monitor two hy-draulically separated sedimentation tanks by using two sludge level sensors. Combining a sludge level sensor and an air-ultrasound sensor furthermore allows to control sludge water discharge.

In contrast to electro-mechanical / optical measurement systems, NivusScope 2 detects interfaces or density changes independent from the absolute density. This allows to e.g. safely avoid the topmost interface in the secondary clarification stage. The same applies for the sludge storage in the secondary clarification tank,

where the sludge level must not fall below the minimum.

## Evaluation

NivusScope 2 is equipped with a back-lit graphic display for information and adjustment purposes. Screens indicated can be easily interpreted without the need for expert knowledge and the best suitable evaluation algorithm for the respective application can be selected from four presets. The settings are largely completed as soon as the tank depth or the measurement range has been entered additionally. Anything else is done by the NivusScope 2.

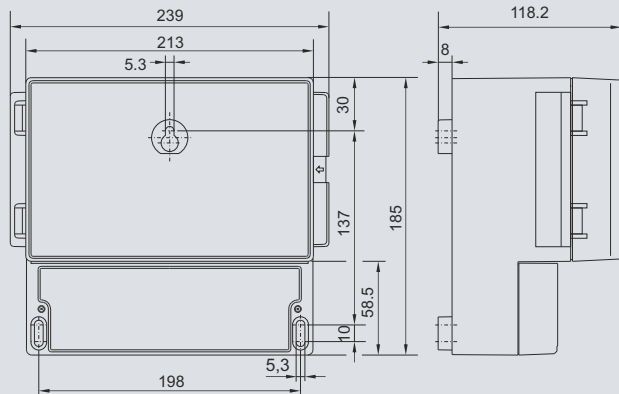
The display indicates multiple parameters such as sludge level, relay conditions and echo profiles.





# Specifications

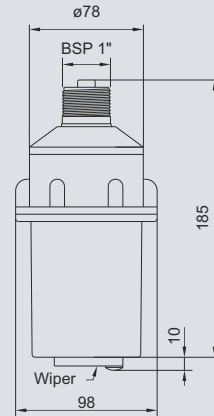
## Enclosure dimensions



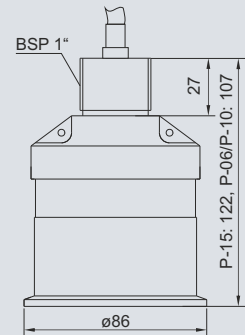
Enclosure also suitable for DIN rail mounting.

Dimensions in mm

## Sensor dimensions type VT



## Sensor dimensions type P



Specifications subject to change - 02/2017

## Transmitter

Supply power	<ul style="list-style-type: none"> <li>• 100 to 240 V AC, 50/60 Hz or</li> <li>• 22 to 28 V DC</li> </ul>
Power consumption	20 Watt (14 Watt typical)
Enclosure	wall mount enclosure, also suitable for DIN rail mounting <ul style="list-style-type: none"> <li>• material: Polycarbonate</li> <li>• weight: approx. 1200 g</li> <li>• protection: IP65</li> </ul>
Operating temperature	-20 °C to +50 °C
Display	full graphic back-lit LCD, 192 x 128 Pixel
Interface	RS232 / RS485 (Modbus, Profibus optional)
Outputs	<ul style="list-style-type: none"> <li>• 2 x 4 - 20 mA, galvanically isolated, 1000 Ohm max. load</li> <li>12 bit resolution, deviation 0.1 %</li> <li>• 6 relays, function: alarms/limit values/timer (all contacts as SPDT, max. 5A at max. 240 V AC)</li> </ul>
Software (optional)	for echo evaluation and parameter settings as well as data backups

## Accessories

<b>Wall mounting bracket AE</b>	for easy sensor removal, incl. fastening material
<b>Flexible arm sensor assembly SE</b>	for installation in tanks with skimming equipment, incl. fastening material
<b>Upright column, base mount, weatherproof cover</b>	for safe transmitter installation on-site

Please find more accessories in our price list.

## Sensors

Type	Ultrasonic Sensor VT
Measurement range	0.3 to 10 m not measurable zones min. 30 cm underneath of sensor and approx. 5 cm above tank bottom
Resolution	3 cm
Beam angle	6 °
Enclosure	protection: IP68 material: Valox 357 and stainless steel 1.4401 fastening: BSP 1" outer thread includes a wiper for sensor face cleaning
Cable length	10 m, 20 m or 30 m extendable to max. 200 m
Operating temperature	-20 °C to +60 °C
Type	Ultrasonic Sensor P-Series
Measurement range	P-06: 0.3 to 6 m, P-10: 0.3 to 10 m, P-15: 0.5 to 15 m
Beam angle	P-06: 12°, P-10: 10°, P-15: 9°
Enclosure	protection: IP68 material: Valox 357 fastening: BSP 1" outer thread
Cable length	5, 10, 20, 30, 50 and 100 m special lengths upon request
Operating temperature	-40 °C to +95 °C

You can find more specifications in the respective manuals or on [www.nivus.com](http://www.nivus.com)

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