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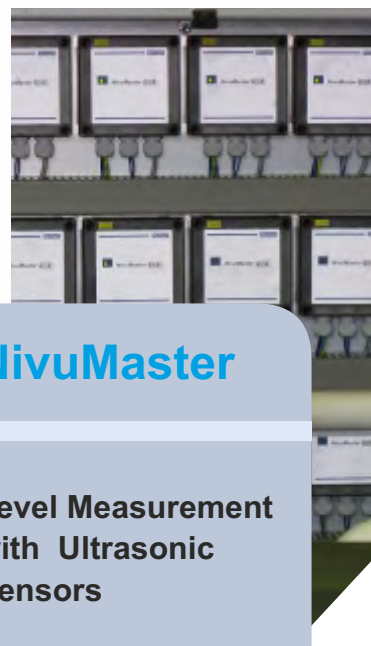
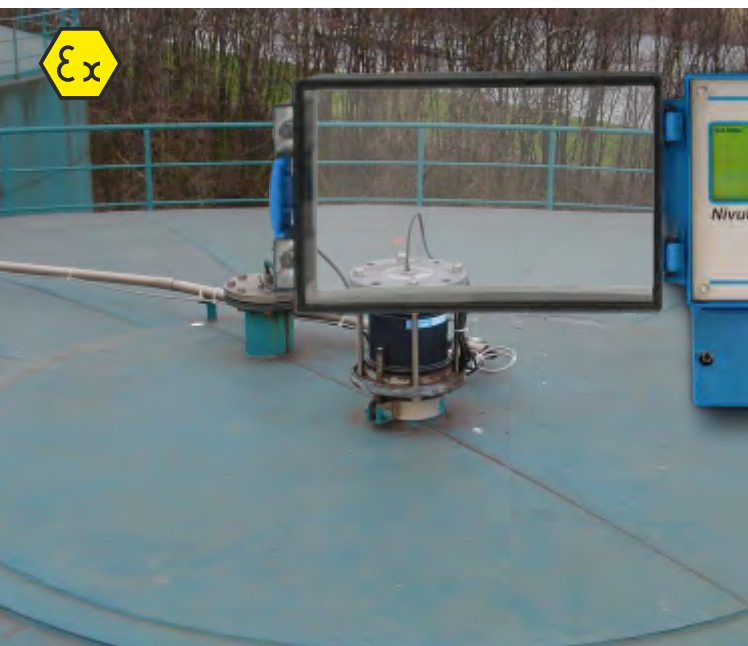
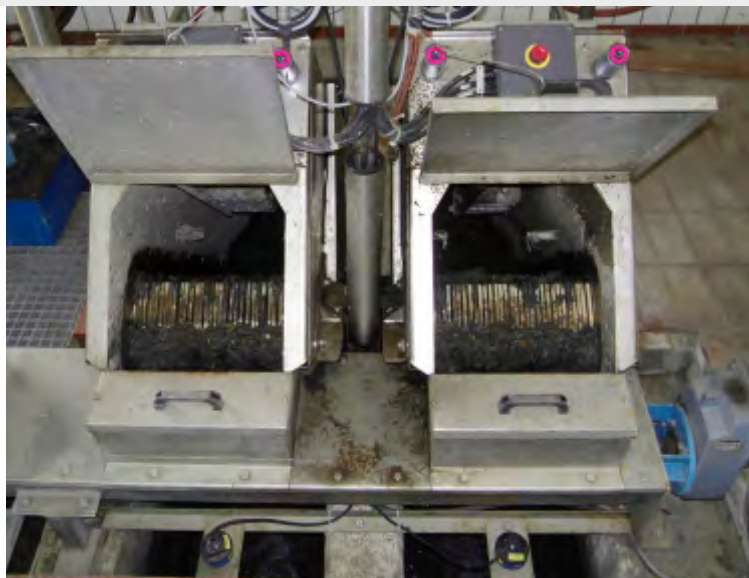
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**NivuMaster**

**Level Measurement  
with Ultrasonic  
Sensors**

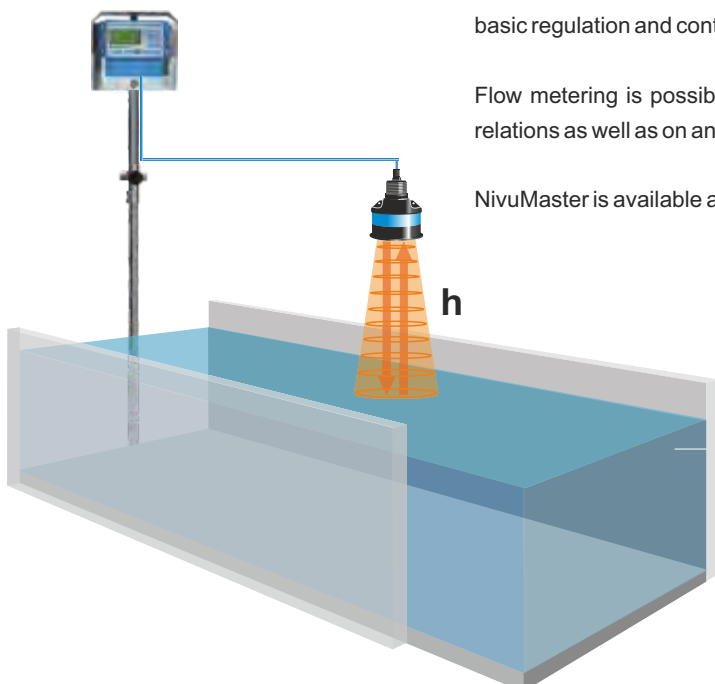


## NivuMaster - optimum Level Measurement

NivuMaster-Series transmitters supply connected P-Series sensors, process the measurement values and indicate the readings. The NivuMaster units are ideally suited for basic regulation and control tasks in level measurement applications.

Flow metering is possible without any problems in open channels using Venturi or Q/h relations as well as on any kind of weirs or overflow sills.

NivuMaster is available as wall mount enclosure, 19" plug-in or panel mount version.



### Non-Contact Ultrasonic Level Measurement

*The sensor continuously transmits ultrasonic impulses which are reflected from the surface of the liquid. The reflected waves are detected by the sensor again. Level, distance or volume are calculated depending on the sound transit time.*













**P-Series sensors are suitable for continuous level measurement in the water and wastewater area. For connection to NivuMaster-Series evaluation units. Suitable for harsh environmental conditions.**

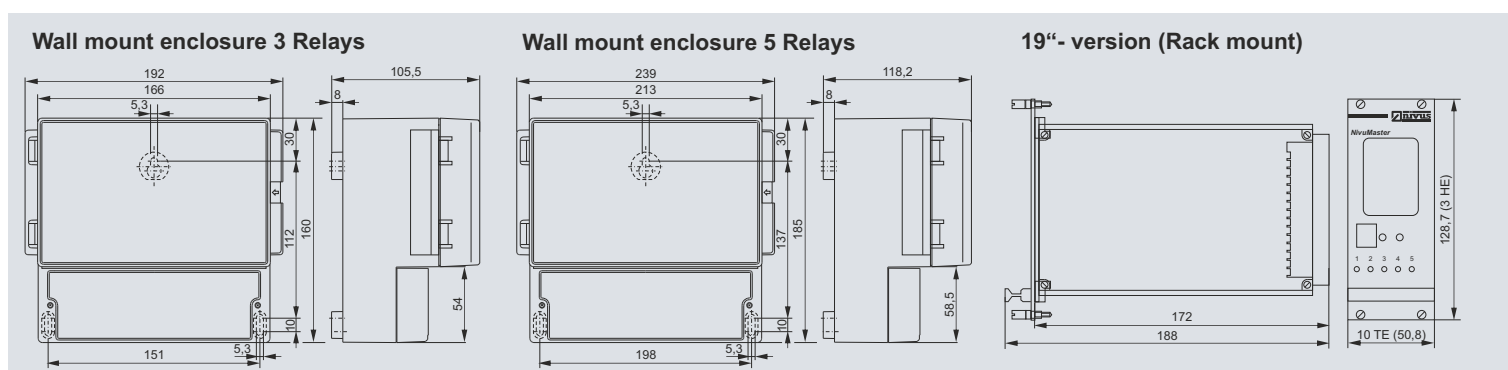
- Very low maintenance due to contactless measurement
- Extremely versatile due to measurement ranges from 0.07 m to 40 m
- Protection rating IP 68
- ATEX approval for Ex zones 0 and 1
- Alarm output in case of flood possible
- Resistant to moisture, aggressive environments and heavy fluctuations in temperature

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## The NivuMaster Transmitters: always the right solution

	NivuMaster L-2	NivuMaster 3 Relays	NivuMaster 5 Relays	NivuMaster LD-5:2	
					
Level measurement/ distance measurement		+	+	+	
Volumetric measurement/ empty space measurement		+	+	+	
Pump control/ slide valve control		-	+	+	
Volume measurement		-	+	+	
Comparative measurement		-	-	+	
Measurement on stormwater overflow tanks		-	+	+	
<b>Operation</b>					
Display	optional	+	+	+	
Keys	optional	+	+	+	
<b>Inputs</b>					
Sensors / optional 4-20 mA / digital	1 / - / -	1 / - / -	2 / optional 4-20 mA / -	2 / - / -	
<b>Outputs</b>					
Relays / mA-output	2 / 1	3 / 1	5 / 1	5 / 2	
RS232 interface	1	1	1	1	
<b>Construction</b>					
Wall mount IP65 / DIN rail mounting	IP66/ -	+ / +	+ / +	+ / +	
19" version (rack mount)	-	+	+	+	
Panel mount	-	+	+	+	
Ex approval according to ATEX	Zone 0, 1 and 2	Zone 0, 1 and 2	Zone 0, 1 and 2	Zone 0, 1 and 2	
	Compact standard model with 2 relays for measurement of level and volume.	For measurement of distance, level and volumes as well as for pump control and extended control tasks.	Extended NivuMaster 3 Relays model with additional control options.	Model for 2 sensors, particularly designed for comparative screen measurements. For measurement and output of difference and level.	

### Dimensions

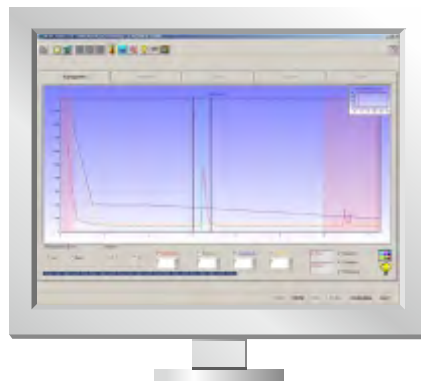


## NivuMaster Plus



- Measurement of level, distance, volume, difference and flow
- Alarm output in case of flood possible
- Energy and cost-efficient pump control due to intelligent pump management
- High measurement reliability through integrated agitator avoidance
- Connection of maintenance-free and Ex-protected ultrasonic sensors
- Up to 6 relays and galvanically isolated mA outputs
- Easy echo analysis and setting of parameters using free PC software
- Integrated emergency power switchover
- Easy operation in dialog mode using back-lit graphic display

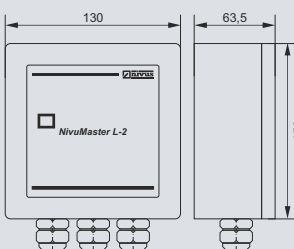
	+	+
	+	+
	1 / - / -	2 / opt. 4-20 mA / 7 dig.
	5 / 2	6 / 1
	1	1
	+	-
	+	-
	+	+
	Zone 0, 1 and 2	Zone 0, 1 and 2
	Particularly designed for stormwater treatment plants. For independent measurement and output of tank level and overflow volume with only one sensor.	Particularly designed for pump management. For comfortable control of up to 5 pumps and output of errors.



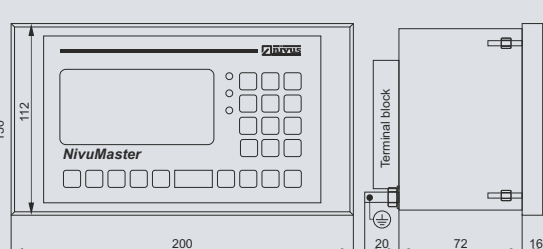
No matter if high accuracy of flow measurements, interference-proof digital echo analysis or difficult measurements – the NivuMaster can handle all tasks. The few parameters required for measuring can be easily entered using the plain text dialog, the backlit display and the keypad. Moreover the serial interface allows to evaluate the readings using the "PC Software Suite".

### Convenient evaluation of measurement data on PC

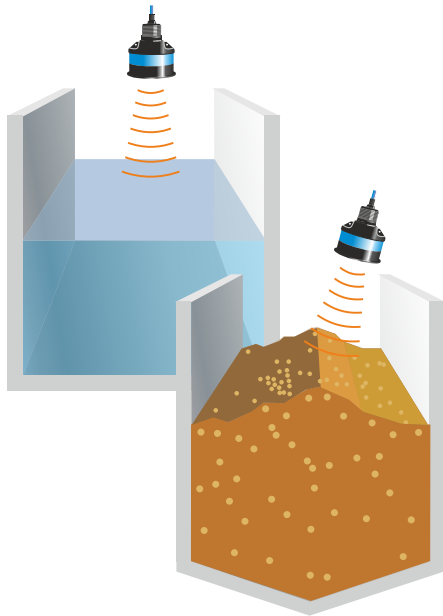
### Wall mount enclosure NivuMaster L-2



### Panel mount enclosure

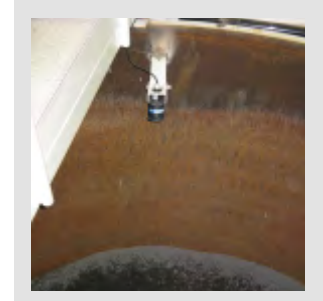


## NivuMaster: Versatility is its strength



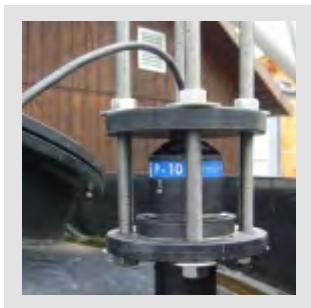
### Level measurements

Contactless, maintenance-free level control and measurement in liquids and solids play an important role in the industrial and municipal areas. The high precision and operational safety is of importance in fulfilling these standards. The NivuMaster is an efficient measurement device that meets all these modern requirements for accurate measurements.



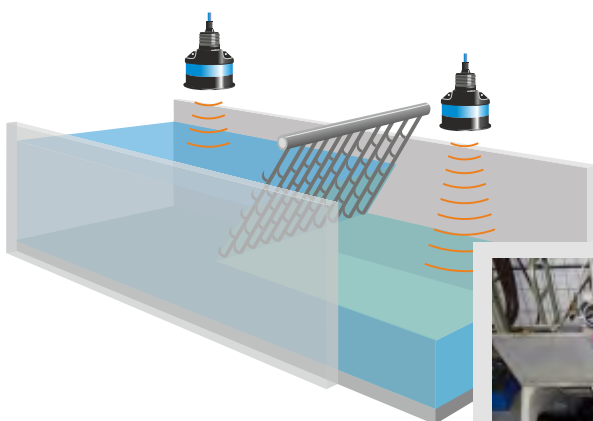
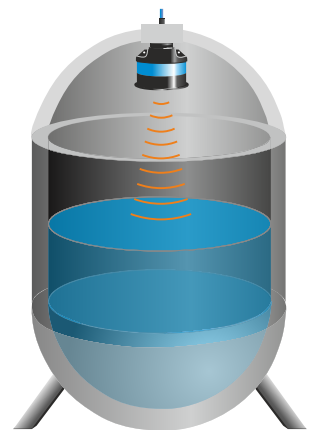
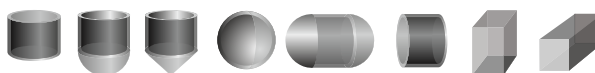
### Distance measurements

The NivuMaster measures the distance from the contactless sensor to the object. The performance and capability of the NivuMaster is diverse. Its versatility allows for various applications from loop regulation, roll thickness and water level measurements over time, positions, grates and crushers to determination of filter cake thickness, activated sludge blankets and mine tailings.



### Volumetric measurements

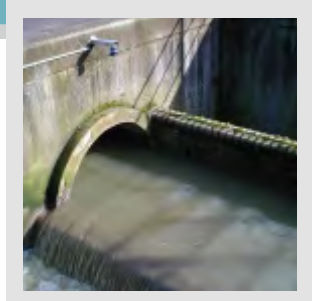
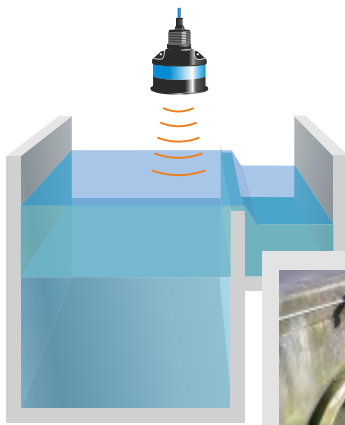
No matter what container size or shape, the NivuMaster can convert the level measurement into volume with the ability to store standard pre-programmed vessel shapes. Also, a non-standard shape can be freely programmed with custom linearisation capability in the NivuMaster.



### Comparative measurements

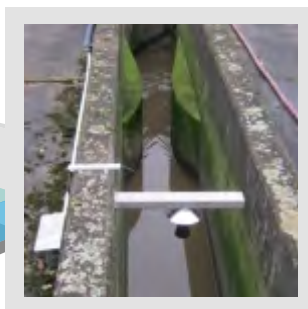
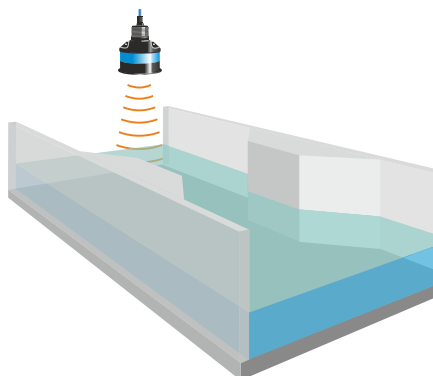
Differential measurements of water levels at the high and low levels at WWTP gates and screens using 2 ultrasonic sensors can be accomplished with the NivuMaster LD-5:2. All standards of differential measurements are possible with the NivuMaster. The NivuMaster combines all standards required to meet the requirements of modern comparative measurement.





### Overflow measurement

No matter if basin fill level, overfall volume or trend – the NivuMaster can do it all. Specially designed for storm control applications, the NivuMaster LF-5:2 is available. One sensor measures height and volume. With the trend monitoring capability, the stormbasin/ overflow chamber can be efficiently controlled and performance optimized.

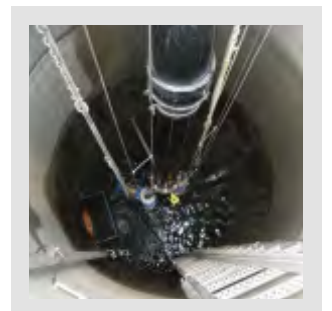
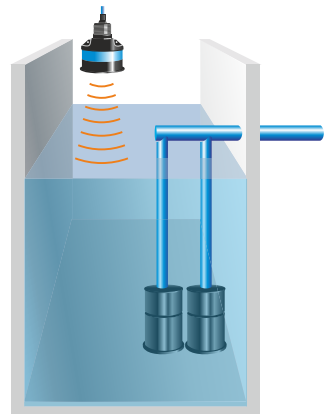


### Pump control

Comprehensive pump control of up to 6 pumps with special features as standard is possible with the NivuMaster pump manager. Two groups of pumps can be chosen. What previously was possible only by using additional devices can now be easily handled by the NivuMaster. Due to a runtime-based control it is possible to equally share the operation times of pumps as well as to optimize maintenance intervals. Even "grease rims" are no problem for the NivuMaster.

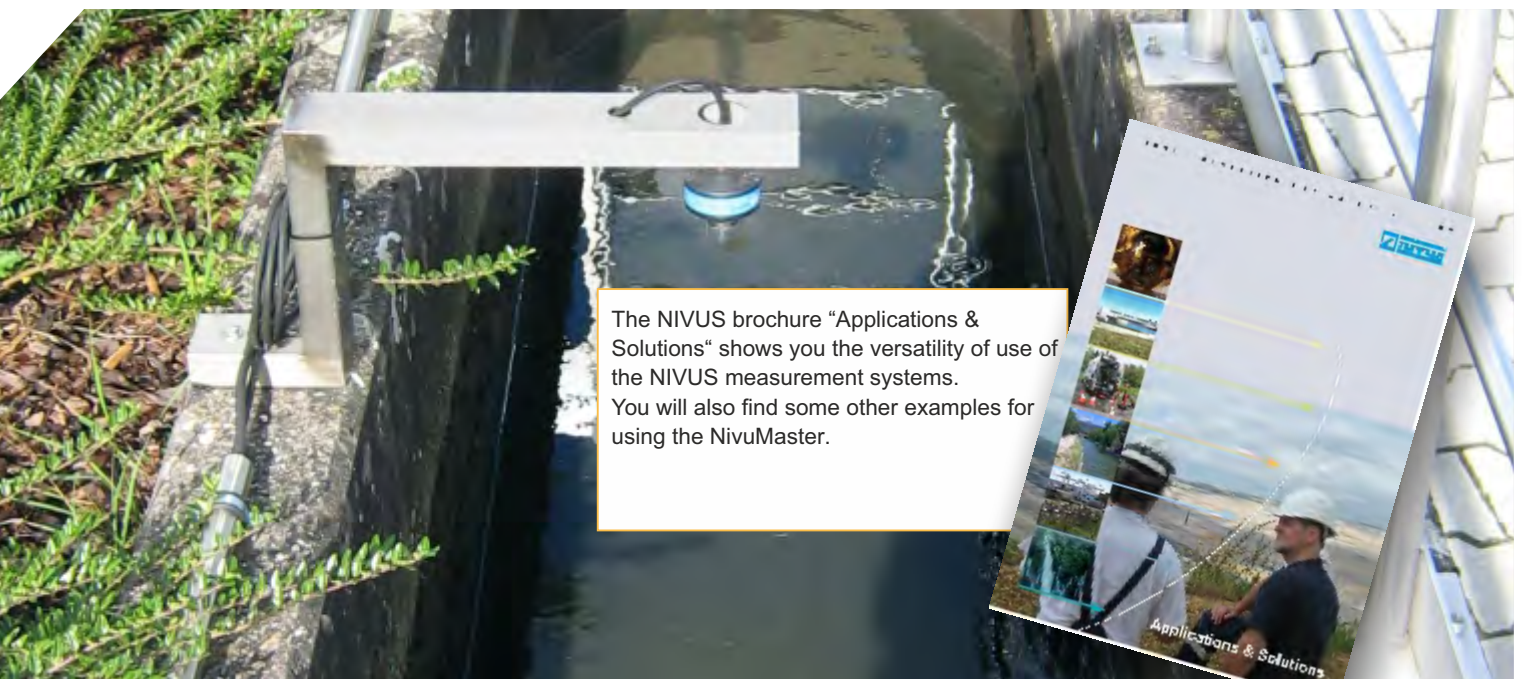
By programming pump switching points as area, the development of deposits on vessel walls is reduced strongly.

All the pump cycles can be programmed individually, no matter what type of pump exchanges exist.

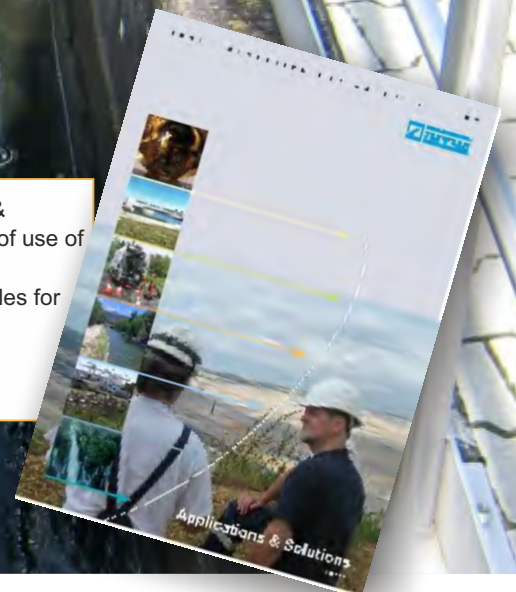


### Volume measurement

The NivuMaster measures flow in channels and overflow structures with highest precision. The most common standard channels and weir forms are integrated into the device and can be easily programmed. Furthermore, a linearisation curve can be set up easily. The graphic display shows the flow readings in the desired units.



The NIVUS brochure "Applications & Solutions" shows you the versatility of use of the NIVUS measurement systems. You will also find some other examples for using the NivuMaster.

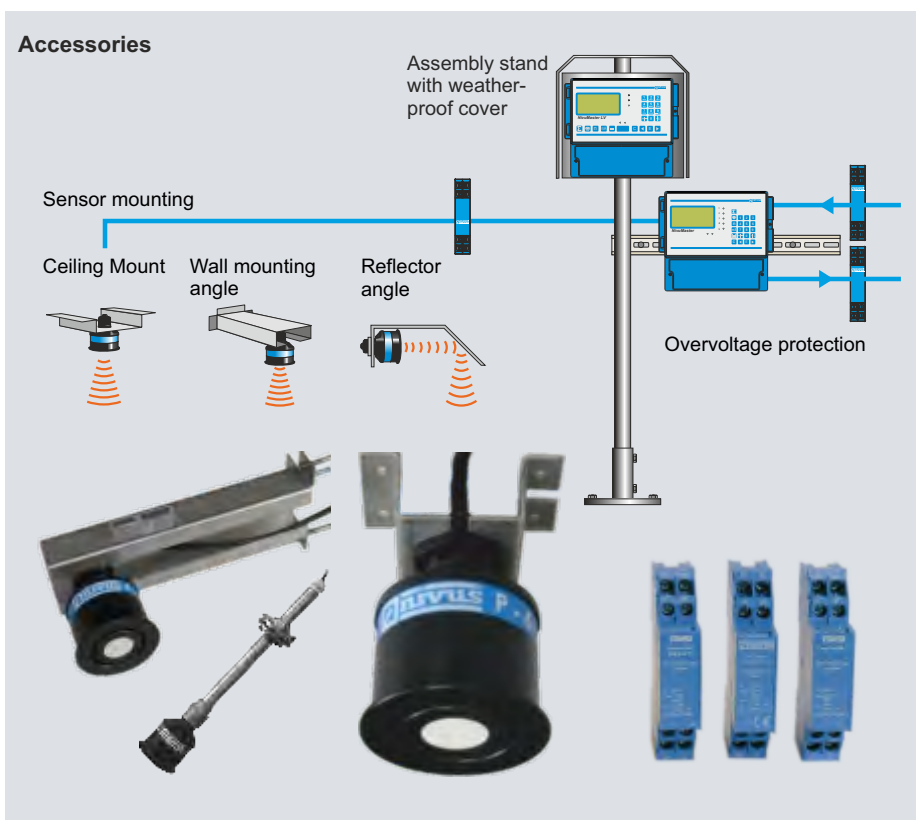
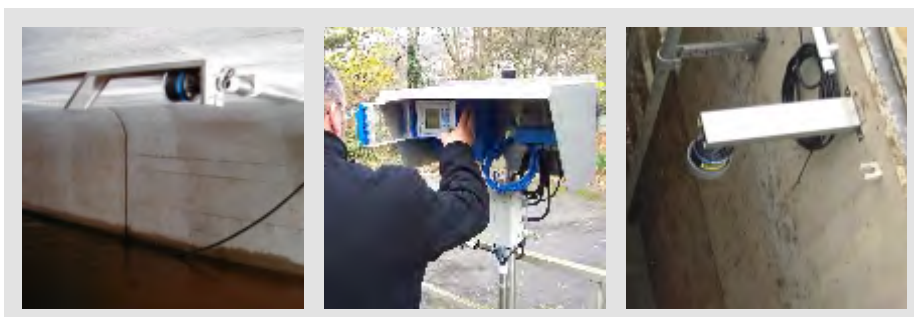


# Accessories Ultrasonic Sensors

The mounting accessories allow quick and easy installation of ultrasonic level sensors.

- Easy installation of level sensors
- Robust construction made of stainless steel
- Includes all fastening materials

The robust, high-quality accessories are made of stainless steel (1.4571) and are suitable for indoor and outdoor installation. All accessories are shipped completely including the required fastening materials which enables easy installation of sensors on ceiling or wall.



Specifications subject to change. 01.03.2017

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