

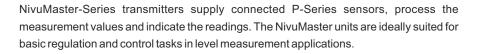






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NivuMaster - optimum Level Measurement



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:

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.

The ultrasonic sensors with integrated temperature compensation are for connection to NivuMaster-Series evaluation units and provide numerous metering options for liquids. No matter what measurement range or application, the sensors always provide accurate and reliable measurements even in narrow containers. False echoes from certain components do not affect the measurements since they will be avoided automatically. The sensors are available in 1"- threaded connection or as DIN flange version and are assembled for easy mounting.

- 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

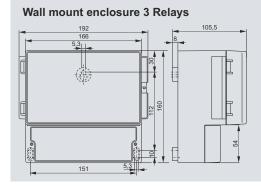
Туре	P-M3	P-03	P-S6	P-06	P-10	P-15	P-25	P-40	
	1	+	-					- 21000 (-0 -0	
Range	0.07 to 2.4 m	0.125 to 3 m	0.2 to 6 m	0.3 to 6 m	0.3 to 10 m	0.5 to 15 m	0.6 to 25 m	1.2 to 40 m	
Resolution	+/- 0.5 mm	n +/- 2 mm							
Meas. Uncertainty	1 mm 0.25 %								
Frequency	125	125 kHz		кНz	50 kHz	41 kHz	30 kHz	20 kHz	
Ambient Pressure	-0.5 to +5.0 bar								
Temperature	-30°C t (Ex -30°C	o 95°C to 75°C)	-40°C to 95°C (-40°C to 75°C if operated in Ex zone)						
Beam Angle ∛	12°		12°		10°	9°	10°	7°	
Ex Approval	II 2GD Ex m II T6 (II 1GD Ex ia IIC T6 also available, only in connection with intrinsically safe transmitter (ia))						fe transmitter (ia))		
Enclosure	Material: Valox 357 (PBT) / Protection: IP68								
Cable Length	5 m, 10 m, 20 m, 30 m, 50 m and 100 m; special lengths upon request						quest		
Option There are many extensions	Weatherproof cover & flood protection head incl. Flood Protection Head (SUB) not av				ailable				
optionally available which are not particularly mentioned in the list, e.g. soft foam coatings or various flange versions	not available		PVDF enclosure for agg media up to max. 70			not available		ailable	
Dimensions	BSP/ NPT 1* BSP/ NPT 1*	27	BSP/ NPT 1*		BSP/ NPT 1 20 0 0 0 0 0 0 0	BSP/ NPT 1-	BSP/ NPT 1-	BSP/ NPT 1- 917 e205	

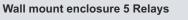


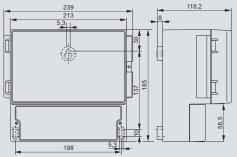
The NivuMaster Transmitters: always the right solution

	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	-	• •	••	+	
Operation					
Display	optional	+	+	+	
Keys	optional	+	+	+	
Inputs					
Sensors / optional 4-20 mA / digital	1/-/-	1/-/-	2 / optional 4-20 mA / -	2/-/-	
Outputs	0.14	0.14	E 14	5.10	
Relays / mA-output RS232 interface	2/1	3/1	5/1	5/2	
Construction	1		1	1	
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.	

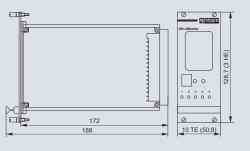
Dimensions







19"- version (Rack mount)





NivuMaster LF-5:2	NivuMaster Plus
+	++
+	•
+	+ +
**	•
-	* *
**	+
+	+
 +	+
1/-/-	2 / opt. 4-20 mA / 7 dig.
5/2	6 / 1 1
I	1
+ / +	-/-
+	-
 +	+
 Zone 0, 1 and 2	Zone 0, 1 and 2
Particularly designed for stormwater treat- ment plants. For inde- pendent 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.



- 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 mnagement
- 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

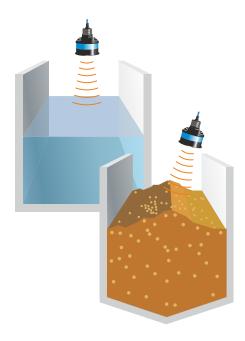


No matter if high accuracy of flow measurements, interference-proof digital echo analysis or difficult measurements – the NivuMaster can handle all tasks. The few parameters required for measuring can be easily entered using the plain text dialog, the backlit display and the keypad. Moreover the serial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

Convenient evaluation of measurement data on PC



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.



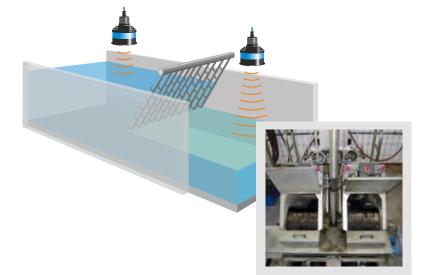
Volumetric measurements

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.





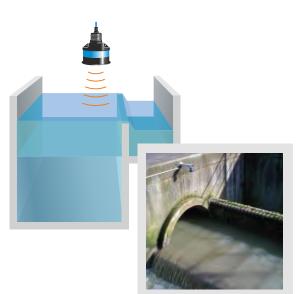


Comparative measurements

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

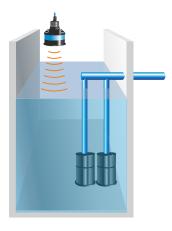
No matter if basin fill level, overfall volume or trend – the NivuMaster can do it all. Specially designed for storm control applications, the NivuMaster LF-5:2 is available. One sensor measures height and volume. With the trend monitoring capability, the stormbasin/ overflow chamber can be efficiently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

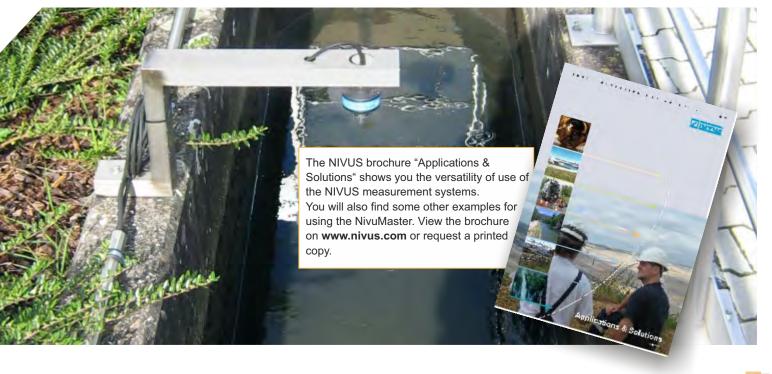






Volume measurement

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.





NIVUS GmbH

Im Taele 2 75031 Eppingen, Germany Phone: +49 (0)7262 9191-0 Fax: +49 (0)7262 9191-999 info@nivus.com www.nivus.com

NIVUS AG

Burgstrasse 28 8750 Glarus, Switzerland Phone: +41 (0)55 6452066 Fax: +41 (0)55 6452014 swiss@nivus.com www.nivus.com

NIVUS Austria

Mühlbergstraße 33B 3382 Loosdorf, Austria Phone: +43 (0)2754 567 63 21 Fax: +43 (0)2754 567 63 20 austria@nivus.com www.nivus.com

NIVUS Sp. z o.o.

ul. Hutnicza 3 / B-18 81-212 Gdynia, Poland Phone: +48 (0)58 7602015 Fax: +48 (0)58 7602014 poland@nivus.com www.nivus.pl

NIVUS France

14, rue de la Paix 67770 Sessenheim, France Phone: +33 (0)3 88071696 Fax: +33 (0)3 88071697 france@nivus.com www.nivus.fr

NIVUS Ltd.

Head office UK: Wedgewood Rugby Road Weston under Wetherley Royal Leamington Spa CV33 9BW, Warwickshire, UK Phone: +44(0)7834658512 david.miles@nivus.com Sales office: Southampton, Hampshire, SO30 2RD Phone: +44(0)770375 3411 andy.kenworthy@nivus.com www.nivus.com

NIVUS Middle East (FZE) Building Q 1-1, ap. 055 P.O. Box: 9217 Sharjah Airport International Free Zone Phone: +971 6 55 78 224 Fax: +971 6 55 78 225 middle-east@nivus.com www.nivus.com

NIVUS Korea Co. Ltd. #2502, M Dong, Technopark IT Center 32 Song-do-gwa-hak-ro, Yeon-su-gu, INCHEON, Korea 21984 Phone: +82 32 209 8588 Fax: +82 32 209 8590 korea@nivus.com www.nivus.com

NIVUS Vietnam 21 Pho Duc Chinh, Ba Dinh, Hanoi, Vietnam Phone: +84 12 0446 7724 vietnam@nivus.com www.nivus.com

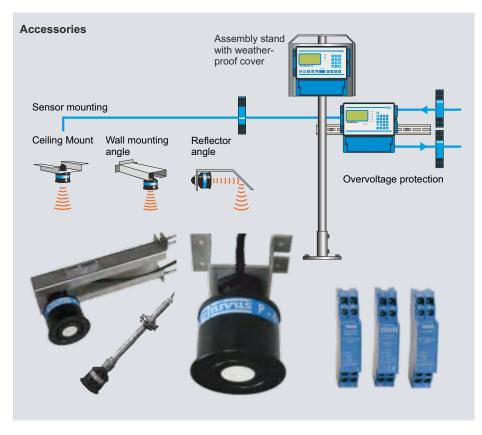
Accessories Ultrasonic Sensors

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 stainles 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.





You can find more accessories and more information in the according manuals or on www.nivus.com