LEVEL. UP TO THE M.

APPROVED QUALITY

LEVEL MEASUREMENT AT THE HIGHEST LEVEL

TECHNOLOGY. PERFORMANCE. PARTNERSHIP.

LEVEL. UP TO THE MAX.

UWT GmbH in Betzigau is the expert in level measurement technology and a reliable, world leading solution provider for the safe and accurate detection of levels and limit values in silos and material processing across a wide variety of industries. Whether for bulk goods, liquids, pastes or foams - UWT, with product lines such as Rotonivo®, Vibranivo® and NivoBob®, is synonymous with the perfect measurement technology solution for almost every application.

With production sites in Betzigau and in Malta, as well as further locations in the USA, Great Britain, China, India, Brazil and Mexico, more than a million applications have now been put into practice. UWT stands for level measurement at the highest level worldwide. The whole enterprise is based on the three strong pillars of technology, performance and partnership together with collaboration at eye level - with customers, suppliers, partners and close to 200 employees. We have carved out an outstanding and strategic position in the market within the area of limit levels for bulk solids, and set new standards with the rotary paddle switch. In addition, we offer endto-end digitisation: from the latest E-tools,

which enable quick and easy product selection, configuration and commissioning, through easy and intuitive operation to innovative device communication, all of which ensure smooth operation. The high quality and reliability of the UWT products, the robust design, the easy handling and the longevity of the sensors ensure low downtimes, high levels of system availability and thus a high degree of operational security. All made in Germany. The range of products and services has been continuously developed and now also includes monitoring and visualisation systems as well as complete system configuration. Further proof of how unswervingly UWT GmbH is geared towards growth.

As an owner-managed, German, medium-sized company, UWT is ideally positioned with an international sales network in over 90 countries with personal contacts on site, available locally. Open and honest communication with customers and partners alike characterise UWT together with its loyal and satisfied employees. The notable great team spirit ensures that UWT feels like one big family – and that's what counts.

MISSION STATEMENT

Social commitment and social responsibility are essential components of the corporate philosophy at UWT. The focus is on sport, culture and social issues. Environmental protection and responsibility for the future are also very important at UWT. The provision of e-charging stations, durable, resourcesaving products and the use of green electricity underlines this. So it's no wonder that UWT is one of "Germany's Best Employers", is a "Great Place to Work®" and is one of the winning companies in "Best Employers in the Allgäu".

OUR CLIENTS



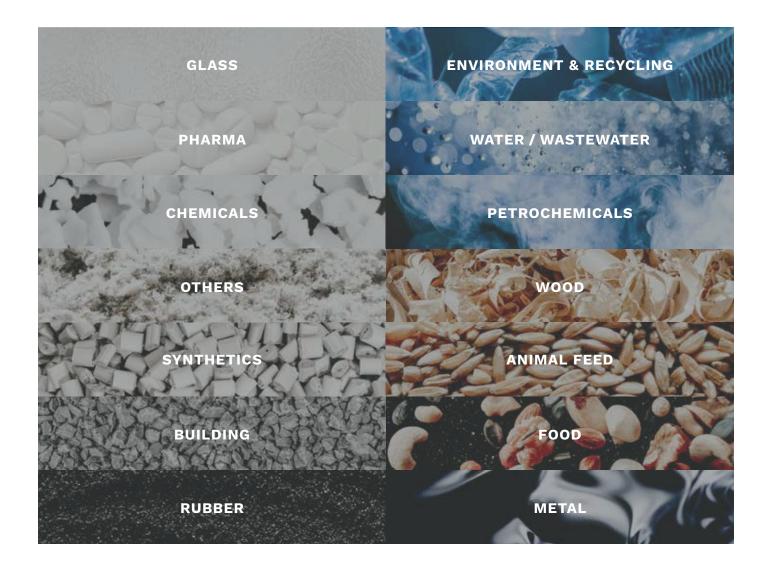
QUALITY CERTIFICATES



APPROVALS WORLDWIDE

APPROVED OF EAL EX Segurança APPROVED OF EAL EX Segurança APPROVED OF EAL EX Segurança

THE LEVEL COMPANY





SOLIDS

UWT is a recognised expert for level measurement of any bulk material in a wide variety of industries and offers solutions across a vast range of applications, including specialist solutions.



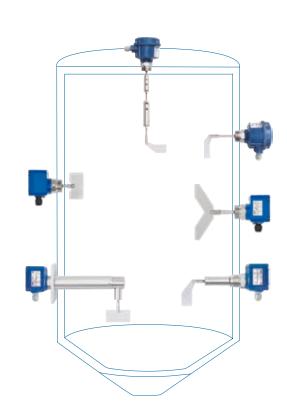
UWT offers a wide range of products for liquids with highly reliable solutions for level and point level measurement.



Rotonivo®

ROTARY PADDLE LEVEL SWITCH FOR SOLIDS

A motor driven shaft causes a vane to rotate. Once the material level reaches the vane, thereby preventing further rotation, switches are activated which result in an output signal and the motor stops. When the vane is free again from material, the output signal is reset and the motor driven shaft rotates again.







RN 3000

RN 4000

RN 6000



SPECIAL FEATURES:

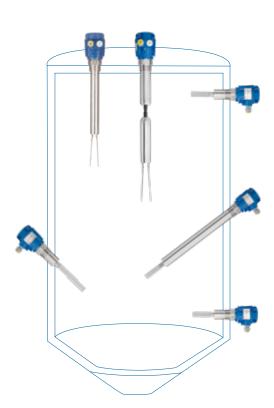
- Universal voltage electronics
- Adjustable sensitivity (≥ 15 g/l)
- Rotation principle unaffected by caking
- Robust aluminum die cast housing
- Protected motor (friction clutch, double bearing)
- Tube and metal rope extension
- Temperature range -40 °C to +1,100 °C
- High quality grade stainless steel (process)
- Long lifespan (brushless synchronised motor)
- RN 6000 is world's first rotating level limit switch compliant to SIL 2

- Strong caking
- Dusty environments
- Abrasive materials
- Over pressure and low pressure environments
- Heavy mechanical loading
- Electrostatic charging
- Variable parameters
- Explosive environments
- Hygienic applications

Vibranivo®

VIBRATING FORK LEVEL SWITCH FOR SOLIDS & SEDIMENTS IN LIQUIDS

Electronically stimulated piezos cause the fork to vibrate. As soon as the sensor is covered with material, the vibration is dampened and the resulting electrical current change causes the output signal to switch. Once the material level falls below the sensor it is free to vibrate again and the output signal is reset.





SPECIAL FEATURES:

- 2-wire technology
- Very high sensitivity (< 5 g/l Vibrasil[®])
- Surface roughness 0.75 µm
- High quality material (SS 316L)
- Suitable for overpressure up to 16 bar
- Temperature range -40 °C to +150 °C
- Extremely robust version
- PFA coating
- NAMUR Standard

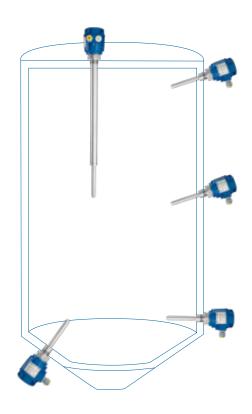
- Extremely light product density
- Pneumatic filling
- Limited space
- Vibration within the vessel
- High reliability requirements
- High hygienic requirements
- Explosive environments
- Sediment levels in liquids

Mononivo®



VIBRATING ROD LEVEL SWITCH FOR SOLIDS

Electronically stimulated piezos cause the single rod probe to vibrate. When the material covers the sensor, this causes the vibration to stop and a voltage change is caused within the piezo elements. This is electronically registered and causes the output signal to switch.





SPECIAL FEATURES:

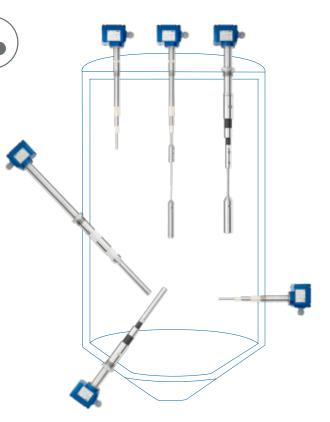
- Compact limit switch with threads from 1"
- Sensitivity adjustable in 4 settings
- High surface quality
- High quality material (SS 316L)
- Heavy mechanical loading
- Robust version for overpressure up to 16 bar
- Temperature range -40 °C to +150 °C
- Tube extension (screwed)

- Light products from 20 g/l
- Powdery material with strong caking properties
- Coarse-grained granulate
- Limited space
- Overfill detection within tubes and shafts
- Vibration within the vessel
- High safety standard
- High hygienic requirements
- Explosive environments

RFnivo®

CAPACITANCE LEVEL SWITCH FOR SOLIDS

The capacitive level limit switch is automatically calibrated to a reference capacitance of an empty vessel. If the probe is covered by the product, the measured capacitance changes through the dielectric and a switching signal is activated. The integrated "Active Shield" technology ensures high reliability even for products that cause caking.





Remote Version



SPECIAL FEATURES:

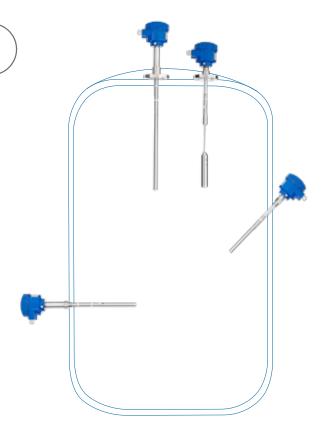
- Very high sensitivity (DK \ge 1.5)
- High mechanical load
- High quality process materials (SS 316L, ceramics, PPS)
- Robust version for overpressure up to 25 bar
- Temperature range -40 °C up to + 500 °C
- RF 3100 PROTECTION PLUS version with anti-corrosive PFA coating

- Heavy materials
- Dusty environments
- Abrasive and aggressive media
- Positive and negative pressure
- Caking material
- Vibration in the vessel
- Hazardous areas
- EHEDG applications

RFnivo[®]

CAPACITANCE LEVEL SWITCH FOR LIQUIDS & INTERFACE

The capacitive measuring limit switch responds to the change in capacitance at the probe, which is detected by the change in the oscillating frequency. The integrated "Active Shield" technology ensures high reliability even for products that cause caking.



RF 8100 Rod









SPECIAL FEATURES:

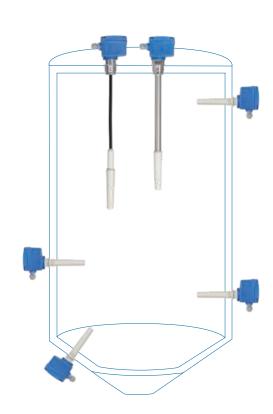
- Functionality independent of silo wall
- Temperature range -40 °C up to + 400 °C
- Robust version for overpressure up to 35 bar
- Digital electronics with Profibus PA, integrated display and operating menu
- Potted electronics
- Very high sensitivity (DK \geq 1.5)
- Rod and metal rope extension (up to 25 m)
- WHG certification
- Certification accord. Lloyd's Register

- All types of liquids
- Applications with condensation
- Very strong caking
- Aggressive materials
- Vibrations within the process
- High safety standard
- Explosive environments
- Interface measurement

Capanivo®

CAPACITANCE LEVEL SWITCH FOR SOLIDS

The electrodes in the sensor form a contact with the sensor, the capacitance changes and the electronics converts it into a switching signal. The integrated "Active Shield" technology allows this system to be used in particularly adhesive materials.





SPECIAL FEATURES:

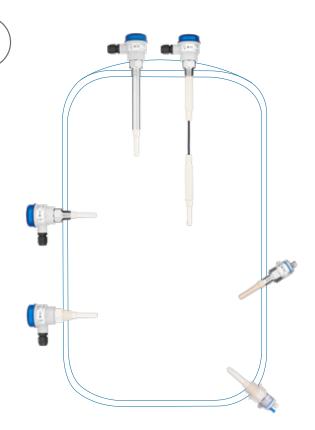
- Very high sensitivity (DK \geq 1.6)
- Functionality independent of silo wall
- Range of process connections
- Adjustable switching delay
- Variety of mechanical versions
- Tube and cable extension
- Overpressure up to 25 bar
- Temperature range -40 °C to +180 °C
- Food compliant version

- Light materials
- Dusty environments
- Pneumatic filling
- Very strong caking
- Aggressive material
- High process temperature
- High safety standard
- Explosive environments

Capanivo®

CAPACITANCE LEVEL SWITCH FOR LIQUIDS & INTERFACE

The electrodes in the sensor form a capacitor. If the product comes into contact with the sensor, the capacitance changes and the electronics converts it into a switching signal. Available as version with stainless steel or synthetic housing. The integrated "Tip Sensitivity" and "Active Shield" technology guarantee a high level of functional reliability even for products that cause caking.





CN 7150 Cable



SPECIAL FEATURES:

- Available with two different housing sizes
- Compact limit switch from 1/2" connection thread
- For use in metallic and non-metallic containers
- Very high sensitivity (DK \geq 1.5)
- Stainless steel and synthetic version available
- Temperature range -40 °C up to +125 °C (CIP suitable up to 150 °C)
- IO-Link with PNP, NPN, push pull signal output
- 8/16 mA or 4...20 mA continuous current output
- WHG and VLAREM certification

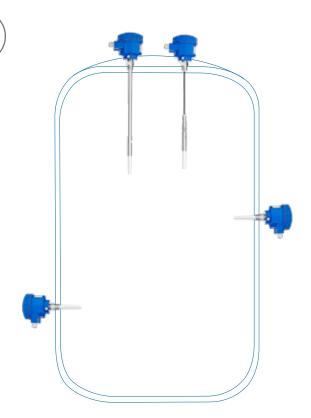
- All types of liquids
- Strong caking
- Limited space
- Aggressive materials
- High safety standard
- High hygiene requirements
- Explosive environments
- Leakage detection
- Interface measurement

Capanivo®

CAPACITANCE LEVEL SWITCH FOR LIQUIDS & INTERFACE

The electrodes in the sensor form a capacitor. If the product comes into contact with the sensor, the capacitance changes and the electronics converts it into a switching signal. The integrated "Tip Sensitivity" technology guarantees a high level of functional reliability even for products that cause caking.





CN 8100





CN 8100 Tube CN 8100 Cable







SPECIAL FEATURES:

- For use in metallic and non-metallic containers
- Very high sensitivity (DK ≥ 1.5)
- Potted electronics
- Digital electronics with Profibus PA, integrated display and operating menu (optional)
- Robust version for overpressure up to 25 bar
- Temperature range -40 °C up to +125 °C
- WHG certification
- Certification accord. Lloyd's Register
- SensGuard cover (optional)

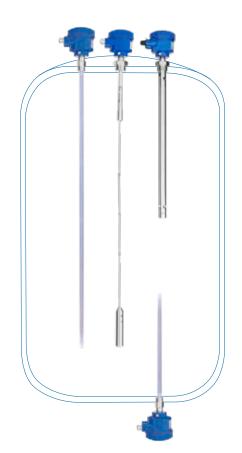
- All types of liquids
- Measurement range of up to 30 m
- Strong caking
- Vibrations within the process
- Aggressive materials
- High safety standard
- Explosive environments
- Leakage detection
- Interface measurement

NivoCapa®



CAPACITANCE LEVEL TRANSMITTER FOR LIQUIDS & INTERFACE

The sensor measures the electrical capacity of the level in the tank. The integrated "Active Shield" technology allows this system to be used in particularly adhesive materials.



NC 8100 Rod NC 8100 Coax NC 8100 Rope







SPECIAL FEATURES:

- For use in metallic and non-metallic containers
- 2-wire technology (output signal 4...20 mA according to NAMUR NE 43)
- Very high sensitivity (DK ≥ 1.5)
- Rod and metal rope extension (up to 25 m)
- Robust version for overpressure up to 35 bar
- Temperature range -40 °C up to +200 °C
- Quick response time
- PFA coating
- Programmable electronics with buttons
- Certification accord. Lloyd's Register

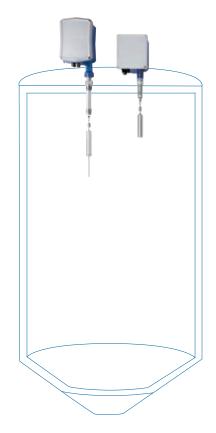
- All types of liquids
- Condensation
- Very strong caking
- Aggressive materials
- High safety standard
- Explosive environments

NivoBob[®]



ELECTROMECHANICAL PLUMB BOB FOR SOLIDS & LIQUIDS & SEDIMENTS IN LIQUIDS

A sensor weight attached to either a metal tape or rope is electromechanically lowered into the vessel. Once the sensor weight rests on the material, the winding direction of the motor changes and the sensor weight is rewound to the upper stop position. As the weight is lowered, the distance is electronically measured. Microprocessors convert the measured distance together with the programmed silo geometry into a volumetric output signal. This signal is updated each time the sensor weight is lowered.







NB 3300



NB 3400





SPECIAL FEATURES:

- High sensitivity (≥ 20 g/l)
- Various sensor weights
- Rope and tape version
- Overpressure version up to 1.7 bar
- Temperature range -40 °C to +250 °C
- Service life up to 500,000 cycles of tape version
- Integrated tape cleaner
- Diagnostics function
- Comm. via Modbus RTU or Profibus DP

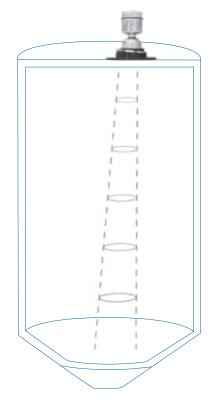
- Strong caking
- Material with changing temperature / humidity
- Measurement range of up to 50 m
- Electrostatic charging
- Heavy material and light solids
- Limited space
- Low dielectric constant
- Explosive environments

NivoRadar[®]



RADAR SENSOR FOR SOLIDS

A high frequency signal is transmitted with a very small beam angle with two-wire technology. The signal is reflected by the bulk material and received back to the sensor. The frequency difference, which is directly proportional to the distance, is then further processed and output as the level signal. The small beam angle makes the use in tall narrow silos possible and facilitates the installation and alignment of the sensor.





NR 3100 Aiming flange





NR 3100

Plug on Display

SPECIAL FEATURES:

- High sensitivity (DK \geq 1.6)
- 78 GHz technology
- 4° narrow beam angle
- Lens antenna and mounting flange are flush
- Integrated lens cleaner
- Robust stainless steel housing IP68
- Aiming flange model up to 10°
- Temperature range -40 °C to +200 °C
- Quick Start Wizard
- Simple, six-step commissioning

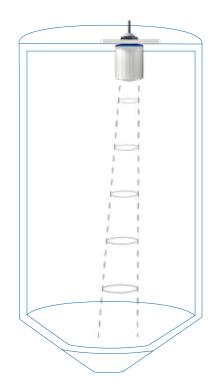
- Very light material
- Dusty environment
- Use within tall, narrow silos of up to 100 m
- Optimum reflections of bulk material with material cone
- Aggressive material
- Perfect positioning
- Explosive environments

NivoRadar[®]



RADAR SENSOR FOR SOLIDS

A high frequency signal is transmitted with a very small beam angle with two-wire technology. The signal is reflected by the bulk material and received back to the sensor. The frequency difference, which is directly proportional to the distance, is then further processed and output as the level signal. Thanks to the high degree of protection for bulk solids applications, the sensor is ideal across all industries. Installation is also possible outdoors on free-standing stockpiles.



NR 4100 Mounting thread Measuring range up to 30 m



NR 4100 Mounting flange Measuring range up to 30 m





UWT LevelApp

SPECIAL FEATURES:

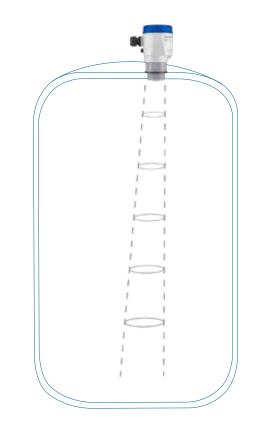
- Compact with 1" connection thread (PVDF)
- Measurement up to antenna tip (no blocking distance)
- High sensitivity (DK value \geq 1.1)
- 80 GHz technology
- 4° narrow beam angle
- Potted PVDF housing, ingress protection IP66/ IP68
- Temperature range -40 °C to +80 °C
- Quick-Start Wizard
- Configuration via UWT LevelApp
- WHG certification

- Lightest and heavy bulk goods
- Dusty environments
- Condensation and strong caking
- Narrow, medium-sized silos up to 30 m
- Optimum reflections of bulk material with material cone
- Aggressive materials
- Potentially explosive areas
- Individual positioning of the sensor

NivoRadar[®]

RADAR SENSOR FOR LIQUIDS

A high frequency signal is transmitted with a very small beam angle with two-wire technology. The signal is reflected by the bulk material and received back to the sensor. The frequency difference, which is directly proportional to the distance, is then further processed and output as the level signal. The sensor is ideal for use in water treatment tanks and, due to its design, is also suitable for acids and alkalis. It is possible for measurement to be made through the tank top of plastic containers.



NR 7100 Without Display Measuring range up to 8 m



NR 7200 Plug on Display









UWT LevelApp

SPECIAL FEATURES:

- Compact with 1 $\frac{1}{2}$ connection thread (PVDF)
- Measurement up to the antenna tip (no blocking distance)
- High sensitivity (DK value ≥ 1.1)
- 80 GHz technology
- 8° narrow beam angle
- Potted electronics, ingress protection IP66/ IP67
- Temperature range -40 °C to +80 °C
- Quick-Start Wizard
- Configuration via UWT LevelApp
- WHG certification

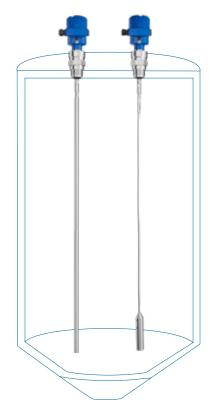
- Highly viscous liquids
- Very strong caking
- Steam, outgassing and condensation
- Optimal reflection of moving surfaces
- Aggressive materials
- Potentially explosive areas
- Individual positioning of the sensor

NivoGuide®



TDR GUIDED WAVE RADAR SENSOR FOR SOLIDS

High-frequency microwave pulses are coupled to a cable or rod and guided along the probe. The emitted pulse is reflected by the product surface. The time difference between the transmitted and reflected pulse is converted to a level.





NG 3100 Rod

NG 3100 Rope



Programming module





Lid with viewing window



SPECIAL FEATURES:

- Adjustable probes (up to 75 m)
- Very high sensitivity (DK \geq 1.5)
- PA-coated rope probe
- Temperature range 40 °C up to +200 °C
- Robust version for overpressure up to 40 bar
- Robust coupling

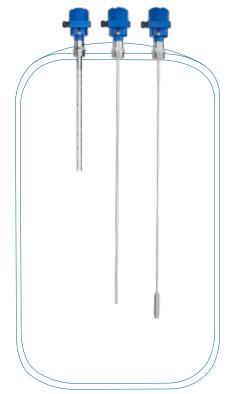
- Bulk materials with strong withdrawal forces
- Strong caking
- Abrasive materials
- Dusty environment
- Explosive environments

NivoGuide[®]



TDR GUIDED WAVE RADAR SENSOR FOR LIQUIDS & INTERFACE

High-frequency microwave pulses are coupled to a cable or rod and guided along the probe. The emitted pulse is reflected by the product surface. The time difference between the transmitted and reflected pulse is converted to a level.





NG 8100 Rod



NG 8100 Rope | NG 8100 Coax |

NG 8200 Rod

NG 8200 Coax | NG 8200 Rope











SPECIAL FEATURES:

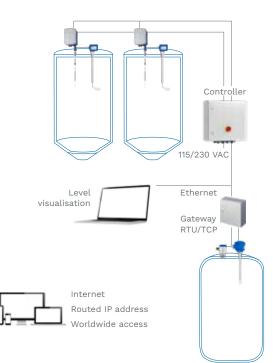
- Adjustable probes (up to 75 m)
- Very high sensitivity (DK ≥ 1.4)
- Temperature range -196 °C up to +450 °C
- For extremely high pressure up to 400 bar
- Condensate cone
- False echo suppression
- Second line of defense (optional)
- Large measuring range (low blocking distance)
- Boiler approval

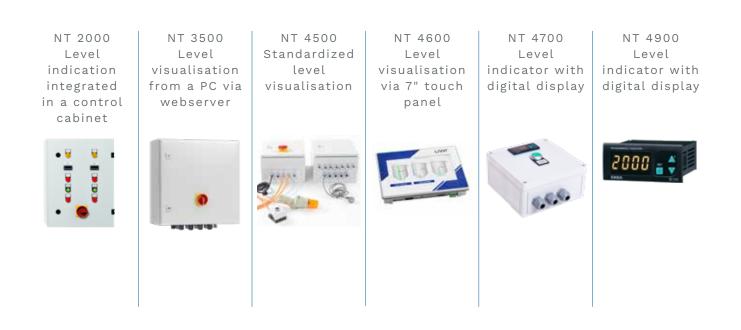
- Liquids with moving surface
- Strong caking
- Small containers with fixtures
- Condensation and foam generation, steam
- Hygiene versions
- Explosive environments
- Measurements within bypass
- Interface measurement

NivoTec[®]

LEVEL MONITORING AND VISUALISATION

Various technologies are available for level indication, which can be configured project-specifically. Simple LED digital displays for the evaluation of a 4-20 mA signal for installation in control cabinets or for wall mounting as well as touch panels and web server modules with visualisation software. The web server solutions meet all the requirements of modern level monitoring.





SPECIAL FEATURES:

- Autonomous system without expensive licenses
- Access via standard browser software
- Transmits levels into the Ethernet, make them transparent and evaluable
- Evaluation of level signal via Modbus RTU, ethernet TCP, 4-20mA any sensor technology or counting pulse
- Worldwide access via remote data query
- Data storage and download with trend query via software
- Individually configurable

- Complete systems for optimized silo/tank management
- Reasonably priced compact systems
- Monitoring up to 50 containers
- Display of levels in weight, height, percent, volume, etc. (programmable)

WEBSHOP

PRODUCT INFORMATION | PRODUCT FINDER & COMPARISON PRODUCT CONFIGURATOR | CASE STUDIES | APPLICATION DATABASE

To access important and latest product information such as technical specifications, international approvals, document downloads and spare parts lists, simply use the website's search facility. Use our product finder to search for the perfect sensor for your application. Compare products and even configure the devices according to your own requirements, from anywhere and at any time.

Should you require assistance in any way, then our expert UWT sales and service team is here, ready to support you.



24/7 ONLINE WEBSHOP Product Information & Downloads available around the clock.



PRODUCT CONFIGURATION Configure products with just a few clicks. Save, edit & share your configurations.



FAST TRACK PRODUCT FINDER Step-by-step to the right sensor for your application.



PRICE INFORMATION Prices are shown according to user role or you can request a quote.



PRODUCT COMPARISON Compare the main features of your chosen products.



FAVOURITES LIST Save your favourites and create individual lists with your configurations.



CASE STUDIES From a variety of applications and industries.



APPLICATION DATABASE

Search for specific examples of level measurement installations from around the world.



uwtgroup.com



UWT SENSORS FOR DEMANDING MEASUREMENT TASKS

Benefit from our experience and you will find a suitable product for all types of application

P S S C	PRODUCT MATRIX SOLIDS		LEVEL LIN	LEVEL LIMIT MEASUREMENT	JREMENT			CONTINU	CONTINUOUS MEASUREMENT	UREMENT	
Ā	Product	Rotonivo [®] RN 3/4/6	Vibranivo® vn 1/2/4/5/6	Mononivo [®] ^{MN 4}	RFnivo [®] RF 3	Capanivo [®] ^{CN 4}	NivoBob [®] NB 3	NivoBob [®] NB 4	NivoRadar [®] NR 3	NivoRadar® NR 4	NivoGuide [®] NG 3
Pr	Measuring principle	Rotation	Vibration	Vibration	Capacitive	Capacitive	Lot System	Lot System	Radar	Radar	Guided Radar (TDR)
SƏ	Granulate / powder	>	>	>	>	>	>	>	>	>	>
roperti	Solids in liquid	I	>	I	I	I	>	I	ı	ı	ı
aterial p	Material prone to caking	>	I	ı	>	•	>	>	•	•	•
sМ	Abrasive material	>	>	>	٠	I	>	>	>	>	•
S	Sensitivity (bulk density / DK)	≥ 15 g/l	< 5 g/l **	≥ 20 g/l	DK≥1,5	DK≥1,6	≥ 20 g/l	≥ 20 g/l	DK≥1,6	DK ≥ 1,1	DK ≥ 1,5
noiti	Process temperature	-401100 °C	-40150 °C	-40150 °C	-40500 °C	-40.180 °C	-40250 °C	-4080 °C	-40200 °C	-4080 °C	-40200 °C
puop	Process pressure	10 bar	16 bar	16 bar	25 bar	25 bar	1,7 bar	0,2 bar	3 bar	3 bar	40 bar
ssəc	High mechanical load	>	•	٠	>	I	•	•	•	>	•
Ριο	High humidity	>	ı	ı	>	>	>	>	•	>	٠
	Vibration in process	•	>	•	>	•	٠	•	>	>	•
*noi:	EHEDG	ī	I	ı	>	ı	ı	I	ı	ı	ı
ifica.	SIL	>	ı	ı	ı	I	ı	I	ī	ī	>
Cert	EX certification	>	>	>	>	>	>	>	>	>	>
	Sensor material	316L	316L	316L	316L / PPS Ceramic	РР	304/303/316	Al/303/316	316L/PEEK	PVDF	316L/PEEK

LI PF	PRODUCT MATRIX LIQUIDS	LEVE	LEVEL LIMIT MEASUREMENT	EMENT	0	CONTINUOUS MEASUREMENT	EASUREMEN	F
Å	Product	Capanivo [®] cn 7	Capanivo [®] cn 8	RFnivo [®] RF 8	NivoBob [®] NB 3	NivoCapa [®] NC 8	NivoRadar [®] NR 7	NivoGuide [®] NG 8
P d	Measuring principle	Capacitive	Capacitive	Capacitive	Lot System	Capacitive	Radar	Guided Radar (TDR)
	Waterbased	>	>	>	>	>	>	>
erties	Oil / viscose media	>	>	>	>	>	>	>
ן brop	Foam	>	>	>	I	>	>	>
Materia	Material prone to caking	>	>	>	>	>	٠	٠
	Interface	>	>	>	>	>	ı	>
	Sensitivity (DK value)	DK≥1,5	DK ≥ 1,5	DK ≥ 1,5	N/A	DK ≥ 1,5	DK ≥ 1,1	DK ≥ 1,4
su	Process temperature	-40125 °C (SIP / CIP150 °C)	-40.125 °C	-40400 °C	-4080 °C	-40200 °C	-4080 °C	-196450 °C
oitib	Process pressure	25 bar	25 bar	35 bar	1,7 bar	35 bar	3 bar	400 bar
uop s:	High mechanical load	٠	•	•	•	•	>	•
Proces	Immersion length (max.)	20 m	30 m	25 m	50 m	25 m	ı.	75 m
	Vibration in process	>	٠	٠	>	•	•	•
	Moving surface	٠	>	>	>	>	>	>
_* U	EHEDG	>		I	I		ı	I
oitec	SIL	ı	>	I	I		ı	>
rtifi	Lloyd's Register	>	>	>	I	>	ı	I
эJ	EX certification	>	>	>	>	>	>	>
	Wetted parts	316L/PPS/ PVDF/PEEK	316L/PPS/PVDF	316L/PFA/PEEK/ Ceramic	301/303/PA/PP	316L/PFA/PEEK	PVDF	316L/PEEK/ Ceramic

** capable of measuring the lightest of material lower than 5 g/l We reserve the right to make changes. The terms and conditions apply (www.uwtgroup.com). * further certificates available on request

• can be used (details to be clarified) - not recommended

perfect choice

GLOBAL PARTNER

As an expert in level measurement technology, UWT is the reliable, global solution provider for the simple, safe and accurate detection of levels and limit levels across a wide variety of industries and applications.







C

uwtgroup.com

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