



PRODUCTS & APPLICATIONS



ABOUT US

100+

R&D personnel

RETTAR is a global leader in providing radar-based solutions for industrial applications. Headquartered in Beijing, our team consists of talented individuals from diverse backgrounds, bringing unique perspectives and expertise to our work.

180+

Intellectual Property
and Certification

At RETTAR, we enable informed decision-making through our innovative "Dr. Silo", which provides valuable data and visual support. By leveraging advanced technology and industrial measurement applications, we assist our customers in advancing their markets, reducing costs, and enhancing employee working conditions safety.

We are more than just a technology company. We are a passionate group of individuals committed to exceeding expectations and providing personalized attention to our valued customers. With our industrial geek spirit, we are always there, even in challenging conditions.

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LANDMARKS

2007

Launch of CPR6500 series, the first-generation radar level meter by RETTAR



2011

Launch of the 26GHz radar level meter with dual-core design, significantly improving measurement stability



2009

Launch of one of the earliest guided wave radar level meters with interface measurement capabilities in the world



2012

Launch of the dual-core radar and HART communicator

At RETTAR, our goal is to drive industry innovation through the use of advanced technology. We offer a range of high-quality and efficient radar products, including the earliest guided wave radars with interface measurement capabilities in world, as well as the advanced radar level scanners launched in 2020. However, our commitment goes beyond that. We are dedicated to providing customized solutions designed to meet the specific requirements of our customers, helping them advance in their respective markets.

2016

Customization of the
Multi-Point average sensor

**2019**

Start of the new business segment:
High-Frequency FMCW radar level meter
(80GHz and 140GHz)

**2018**

Launch of the Microwave level
switch and Doppler level switch

2020

Launch of the 3DPro scanner family



ONE-STOP RADAR SOLUTIONS

By combining RETTAR's 16 years of experience in industrial measurement and incorporating global customer field application scenarios, we can introduce cutting-edge technologies like big data and AI into our solutions. This enables us to deliver intelligent and visually-enhanced industry solutions to our customers.

Instruments

- Radar Level Meters
- Guided Wave Radar Level Meters
- Switches
- Density Meters
- Nuclear Instruments

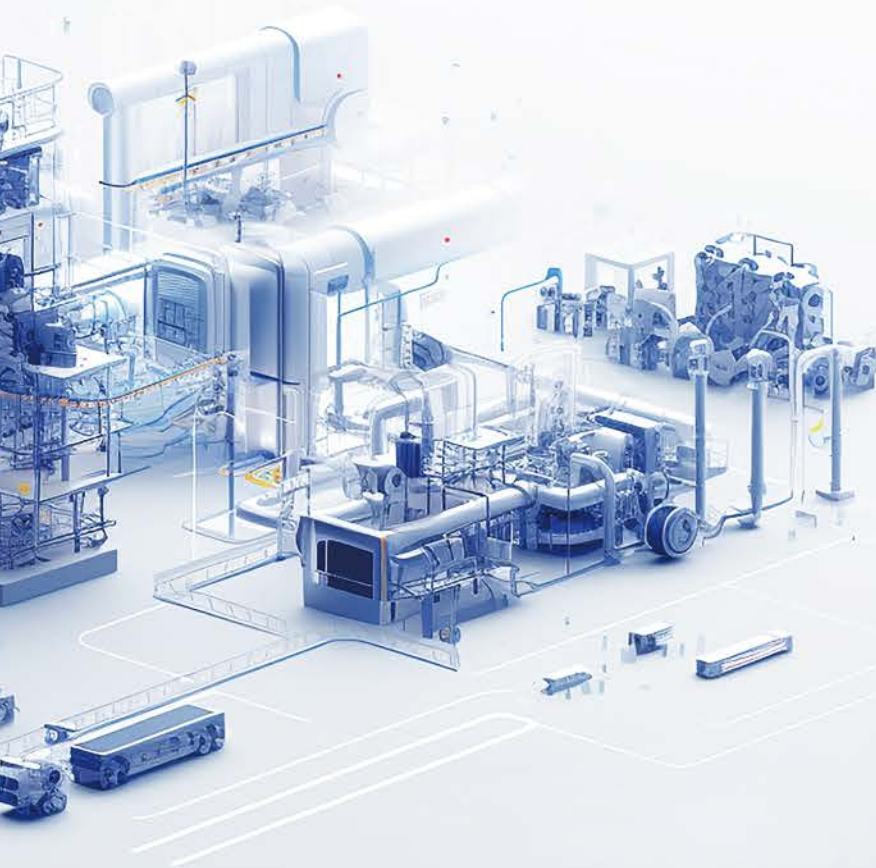
Industrial measurement management software

- Data Visualization Solutions
- LEVELWARE upper computer software
- Large Screen Management Software



Industry-specific applications

- Intelligent Mining Solutions
- Intelligent Grain Storage Solutions
- LNG Tank Monitoring



Industrial measurement systems

- Pro Inventory Material Management System

PRODUCTS

3DPro Series Radar Scanner

The 3Dpro series products are extensively utilized for measuring solid materials in different storage locations, particularly well-suited for ultra large diameter silos, containers, bulk solid material warehouses, and open-air material yards.

These applications include clinker silos, homogenization silos in cement plants, coal silos, coal raw material yards, limestone silos, metal smelting blast furnaces, dry quenching coke ovens, mining ore and raw material piles, grain and feed silos, among others.

3DPro2300 Radar Scanner



2DPro2100 Radar Scanner



3DPro2500 Laser Scanner



3DPro2500 Mini Laser Scanner



3DPro2300 Radar Scanner



The 3DPro2300 radar scanner accurately detects the 3D information of solid materials and buildup on silo walls. It integrates image processing technology, big data analysis, artificial intelligence, machine learning, 3D point cloud conversion, 3D modeling, and cloud storage. This integration solves critical issues in material storage and level measurement, making material management intelligent and visible.

The 3DPro2300 radar scanner brings customers Faster, Safer, and Smarter process control.

Not affected by complex working conditions

Using terahertz radar signals, it can function normally in environments with dust, rain, and fog. It enables automated inventory and measurement 24/7, replacing manual measurement, improving measurement speed and accuracy, and providing real-time inventory information.

Different data formats for user decision-making

One example of such a format is the three-dimensional image display. It allows users to view material quality, volume, and level data information simultaneously. This format provides the necessary information for procurement, finance, and warehousing departments.

High measurement accuracy, no blind spots

With a high-frequency microwave of 140GHz, this system enables 180°×360° omnidirectional measurement without any blind spots. It provides high angular resolution and up to 16,200 measurement points, guaranteeing precise three-dimensional modeling.

Inventory management only requires a phone

Cloud processing technology enables the transmission of measurement data to cloud servers for real-time data collection and monitoring. Users can access and control devices remotely from multiple terminals, allowing on-site maintenance without physical access.

Silo Management-Pro Inventory



Pro Inventory is a powerful inventory management software developed independently by RETTAR. It is specifically designed for 3DPro and 2DPro series products

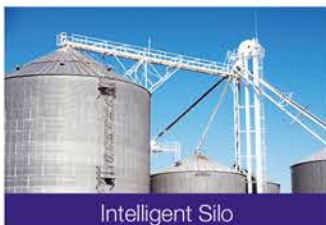
The Pro Inventory system features a comprehensive architecture, excellent compatibility, and user-friendly operation. When using the system, you only need to input the silo and material parameters to retrieve information such as the volume, weight, and level of the inventory materials in the silo.



Intelligent Tank



Intelligent Tank Farm



Intelligent Silo



Intelligent Stock Yard



Algorithm Adaptation

Users have the option to configure different container shapes and sizes, such as horizontal silos, split silos, and non-linear silos, to obtain more accurate material inventory information based on the actual situation on site.



Data Interoperability

The system can connect with other software, like ERP, to give users real-time 3D material information, accurate inventory and usage data, and display 3D visualization images and reports. This allows for complete closed-loop management, including benefit analysis, procurement, and inventory control.









Standardized Management

By combining Pro Inventory with an automatic feeding and discharging system, factories can achieve fully automatic feeding and discharging management. This helps to automate and standardize factory operations.

Instrument Overview

FMCW Radar Level Meters (80GHz and 140GHz available)

Applications		Max. Range*	Process Temperature	Protection Rating	Certification
CPR6400 Liquid Rod Radar Level Meter Corrosive liquid in small container, with simple process conditions		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CPR6400 Liquid Integrated Radar Level Meter Mildly corrosive liquids with complex process conditions		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CPR6400 Process Sealed Radar Level Meter Strong corrosive liquid, complex process conditions		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CPR6400 Hygienic Radar Level Meter Liquid measurement in the food and pharmaceutical industry		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CPR6900 Solid Plastic Horn Radar Level Meter Bulk material and powder material measurement, simple process conditions		125m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb, Ex iaD tD A21 IP67 T80°C/T290°C; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)

CPR6900 Solid Integrated Radar Level Meter Bulk material and powder material measurement, complex process conditions		125m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb, Ex iaD tD A21 IP67 T80°C/T290°C; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CPR6900 Solid Swiveling Holder Level Meter Bulk material and powder material measurement, complex process conditions		125m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb, Ex iaD tD A21 IP67 T80°C/T290°C; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CFR6400 Liquid Rod Radar Level Meter Corrosive liquid in small container, with simple process conditions		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db
CFR6400 Liquid Integrated Radar Level Meter Mildly corrosive liquids with complex process conditions		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db
CFR6400 Hygienic Radar Level Meter Liquid measurement in the food and pharmaceutical industry		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db
CFR6400 Process Sealed Radar Level Meter Strong corrosive liquid, complex process conditions		50m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db





CFR6900 Solid Rod Radar Level Meter Bulk material and powder material measurement, simple process conditions		125m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db
CFR6900 Solid Integrated Radar Level Meter Bulk material and powder material measurement, complex process conditions		125m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db
CFR6900 Solid Swiveling Holder Level Meter Bulk material and powder material measurement, complex process conditions		125m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80°C/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80°C /T290°C Db

Compact Radar Level Meters





Applications		Range	Process Temperature	Protection Rating	Certification
CPR1100 Compact Radar Level Meter Liquid measurement, simple process conditions		35m	-40°C...+80°C	IP68	Ex ia IIC T6/T2 Ga, Ex d ia IIC T6/T2 Gb
CPR1200 Compact Solid Radar Level Meter Bulk material measurement, simple process conditions		35m	-40°C...+80°C	IP68	Ex ia IIC T6/T2 Ga, Ex d ia IIC T6/T2 Gb

CFR2100 Compact Radar Level Meter Liquid/Solid Measurement, Simple Process Conditions		35m	-40°C...+200°C	IP67	Ex ia IIC T6/T2 Ga, Ex d ia IIC T6/T2 Gb
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26GHz Radar Level Meters

Applications		Range	Process Temperature	Protection Rating	Certification
CPR6100 Liquid Rod Radar Level Meter Corrosive liquid in small container, with simple process conditions		35m	-40°C...+130°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb
CPR6200 Liquid Horn Radar Level Meter Storage containers or process containers, complex process conditions		70m	-40°C...+1000°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb
CPR6300 Liquid Corrosion Cone Type Radar Level Meter Corrosive media, highly complex process conditions		70m	-40°C...+130°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb
CPR6800 Solid Parabolic Radar Level Meter Block, granule, and powder solid measurement		70m	-60°C...+1000°C	IP67	Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb

Guided Wave Radar Level Meters

Applications		Range	Process Temperature	Protection Rating	Certification
CGR8100 Level and Interface Meter Liquid measurement		30m	VITON Fluororubber: -40°C...+80°C VITON Fluororubber: -40°C...+150°C KALREZ Perfluoroether Rubber: -20°C...+200°C	IP67	Ex ia IIC T6 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CGR8200 Level and Interface Meter Solid measurement		30m	-40°C...+200°C	IP67	Ex ia IIC T6 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CGR8300 Level and Interface Meter Corrosive liquid measurement		30m	-40°C...+130°C	IP67	Ex ia IIC T6 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)
CGR8600 Level and Interface Meter High temperature and high pressure liquid measurement		30m	-196°C...+450°C	IP67	Ex ia IIC T6 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb; CU-TR 012COC Certificate, CU-TR 020 DOC Certificate, Russian PAC Certificate, ATEX, IECEx (in progress)

Portable Level Sensor

Applications		Com Distance	Process Temperature	Protection Rating	Signal Output
Portable Level Sensor Point level measurement of bulk solids		≥ 200m(on-site) ≥ 800m(open)	-40°C...+80°C	IP65	switch signal, 4...20mA current signal, RS485 signal, wireless signal

Density Meters

Applications		Range	Process Temperature	Protection Rating	Radiation Source Activity
Na²² Density Meter Density, level measurement, and level alarm		0...3000kg/m ³ (The distance between the meter and receiver affects the range.)	-40°C...+200°C (customizable)	IP68	Na ²² ≤ 27 uCi or 1000 KBq (exempt level)
Tuning Fork Density Meter Real-time online density monitoring		0-3g/cm ³ or 0-3000kg/m ³ (customizable)	-50°C...+185°C	IP65/IP67 (customizable)	-40°C...+85°C

Multi-Point Average Sensor

Applications		Range	Process Temperature	Protection Rating	Certification
Multi-Point Average Sensor Measurement of Crude Oil and Refined Oil Tanks		-40°C...+75°C	-200°C...+235°C	IP67	Ex ia IIB T4

Tank Side

Applications		Rated Power	Communication Distance	Ambient Temperature	Certification
CTS5700 Tank Side Indicator Hazardous area on-site display instrument		<6mW Ultra Low Power Consumption	1000m	-20°C...+70°C	Exd IIC T6/T2 Gb

CTS5900 Tank Side Controller

Read instrument data on-site and transmit it to the control room



<10w

HART: 1000m
MODBUS: 1300m

-40°C...+60°C

Exd [ia] IIB T4

UMD1100 Tank Side Indicator

Non-explosion-proof area RETTAR CPR and CFR series radar level meter and CGR series guided wave debugging and data display



Please reach out to the RETTAR sales representative in your area for details regarding parameters.

HART Communicator

Perform parameter debugging and display measurement results for instruments that use the HART protocol



Please reach out to the RETTAR sales representative in your area for details regarding parameters.

Level Switches

Applications	Beam Angle	Process Temperature	Protection Rating	Certification
Microwave Level Switch Measurement of solid material levels, as well as the detection of blockages in conveyor belts	 ±30°	-40°C...+120°C (Temperature adapter up to 500°C)	IP67	Exd IIC T6 Gb, Ex tD A21 IP67 T80°C
Applications	Min. Flow Rate	Process Temperature	Protection Rating	Frequency Range
Doppler Level Switch Monitoring the flow, stoppage, or blockage of materials inside pipelines	 0.1 m/s	-40°C...+220°C	IP67	24-26GHz

Applications		Power	Process Temperature	Protection Rating	Vibrational Frequency
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Tuning Fork Level Switch

Detect the levels of liquid and solid substances



Max.10VA

-40°C...+130°C

IP65

355Hz-365Hz

Applications		Sensitivity	Ambient Temperature	Protection Rating	Process Pressure
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The RF Admittance Level Switch

Liquid, paste, solid, particles, and interface monitoring



0.3PF

-40°C...+70°C

IP65

Vacuum...20bar

Applications		Process Connection	Process Temperature	Protection Rating	Vibrational Frequency
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The Vibrating Rod Level Switch

Detect the levels of liquid and solid substances



G1" or 1"NPT

-40°C...+130°C

IP65

365Hz...405Hz

Applications		Response Time	Process Temperature	Protection Rating	Beam Angle
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Impedance Spectrum Switch

Monitoring the dielectric constant of solids and liquids with a value of ≥ 1.5



0.15s

-40°C...+120°C
(with adapter up to 400°C)

IP67

$\pm 20^\circ$

Applications		Process Pressure	Ambient Temperature	Protection Rating	Output
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Resistance Rotary Switch

Automatic detection and control of the maximum level in material silos




Max 0.2MPa




-20°C...+60°C

IP65

Microswitch
(5A/250VAC or 3A/30VDC)

Applications		Power Supply	Ambient Temperature	Protection Rating	Process Connection
Capacitive Switch To prevent overflow or idle running, it can also detect oil-water interfaces or foam		DC 24V/AC 220V/110V	-20°C...+60°C	IP65	R1 Customizable according to requirements>25mm

Interface Meters

Applications		Range	Process Temperature	Type	Service Life
Oil-water Interface Meter Oil-water interface monitoring for petrochemical, pharmaceutical, food, environmental protection, and pharmaceutical industries		Please reach out to the RETTAR sales representative in your area for details regarding parameters.			
SLD1100 Immersive Mud Layer Interface Meter Measurement of settlement tank interface		30m (Vertical height of settlement tank)	-50°C...+150°C (detection probe and cable) -40°C...+80°C(host)	Immersive	10 years or more
CNJ9100 Non-Contact Mud Layer Interface Meter measurement of alumina settlement tank interface		30m (Select different quantities of measurement units based on customer needs)	-50°C...+150°C (measurement unit) -40°C...+70°C (measurement host)	Non-Contact	10 years or more

If not specified, the parameters listed in the table are the standard version parameters. For version parameters such as extension version, please consult your RETTAR sales representative.

*The actual measurement distance is influenced by the measurement environment and operating conditions at the site.

APPLICATIONS



Ready for Tomorrow's Challenges

At RETTAR, we are committed to delivering precise and reliable instrument products that meet the measurement requirements of various industries. Our innovative and customized solutions are designed to serve industries such as grain, feed, chemicals, oil and gas, hydrological water treatment, and building materials.

In 2020, our R&D team introduced a groundbreaking 3D silo solution using radar level scanners. This innovative technology has revolutionized our instruments by providing users with numerical information and insights, as well as visualizing the shape of the material within the silo. With this valuable data, our customers can make informed decisions on-site, leading to improved efficiency and productivity.



Oil & Gas Solutions

Midstream

Storage

- Measurement of the liquid level in oil storage tanks
- Measurement of the liquid level of a floating roof tanks

LNG

- Measurement of the liquid level in horizontal storage tanks
- Measurement of the liquid level, temperature, and density in LNG and LPG storage tanks



Downstream

Refinery

- Measurement of the three-phase separator
- Measurement of the coke tower level
- Measurement of the oil refining distillation tower level
- Measurement of the oil density

Petrochemical

- Measurement of the asphalt level



Oil & Gas

Key Product Portfolio

CGR8600 Guided Wave Radar Liquid Level Meter

One of the earliest guided wave radars with interface measurement capabilities in the world, it can be used to measure water level, oil-water interface, and operate in high-pressure environments on-site. This makes it suitable for use in three-phase separators in oil fields, refineries, and oil production plants. Additionally, the product can be connected to a remote debugging unit, allowing for easy installation and maintenance-free operation.

Specifications:

- Measuring range: 30m
- Process Temperature: -196°C...+450°C
- Process Pressure: Vacuum...+400bar
- Accuracy: ±2mm
- Protection rating: IP67
- Explosion-proof certification: Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb



Na²² Density Meter

The Na²² Density Meter is an innovative product that utilizes an exempt Na²² radioactive source. It offers an eco-friendly and pollution-free solution for level measurement, particularly in situations where perforation is not feasible, such as on the side of a coke tower. This meter provides accurate and efficient level measurement in challenging environments.

Specifications:

- Radioisotope type: Na²²
- Radiation type: Gamma rays
- Radiation angle: 2π
- Radiation source activity: Na²² ≤ 27 uCi or 1000 KBq (exempt level)
- Process temperature: -40°C...+200°C (customizable)
- Radiation device casing material: lead + stainless steel



Tuning Fork Density Meter

The Tuning Fork Density Meter is capable of measuring liquid density, temperature, concentration, Brix, and more simultaneously. It offers a sensitive response and high detection accuracy, reaching up to ten thousandths. This device is suitable for demanding measurement environments as it is unaffected by viscosity and pressure. It meets the requirements for measuring oil density.

Specifications:

- Accuracy (specific range): $\pm 0.0001 \text{ g/cm}^3$ to $\pm 0.0005 \text{ g/cm}^3$
- Accuracy (calibration range): $\pm 0.001 \text{ g/cm}^3$ to $0.6\text{--}1.80 \text{ g/cm}^3$ ($600\text{--}1800 \text{ kg/m}^3$)
- Range: $0\text{--}3 \text{ g/cm}^3$ or $0\text{--}3000 \text{ Kg/m}^3$ (selectable)
- Maximum working pressure: 1.6MPa (customizable)
- Ambient temperature: $-40^\circ\text{C}\dots +85^\circ\text{C}$
- Protection rating: IP65/IP67 (customizable)



Multi-Point Average Sensor

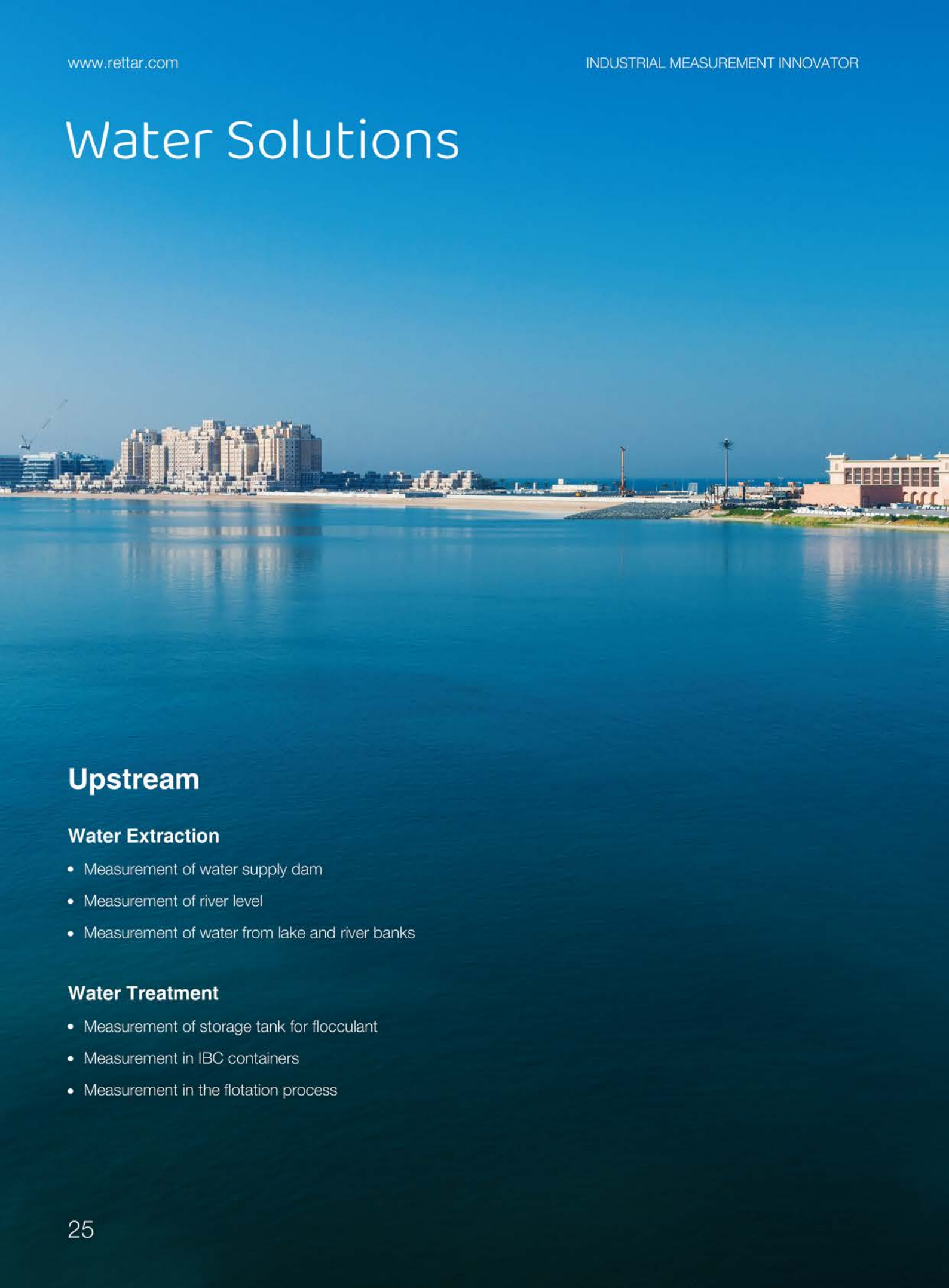
For the temperature measurement requirements of crude oil and finished oil storage tanks, numerical sensors are used for multi-point temperature measurement. This device calculates and provides the average temperature, allowing for monitoring of up to 30 temperature points. It is ideal for high-precision measurement.

Specifications:

- Accuracy: $\pm 0.1^\circ\text{C}$
- Process temperature range: $-200^\circ\text{C}\dots +235^\circ\text{C}$
- Process pressure range: $-1 \dots 2\text{MPa}$
- Protection rating: IP67
- Signal output: MODBUS/HART
- Explosion-proof certification: Ex ia IIB T4



Water Solutions



Upstream

Water Extraction

- Measurement of water supply dam
- Measurement of river level
- Measurement of water from lake and river banks

Water Treatment

- Measurement of storage tank for flocculant
- Measurement in IBC containers
- Measurement in the flotation process



Midstream

Drink Water Supply

- Measurement of elevated storage tanks
- Measurement of drinking water pipeline
- Measurement of water storage tanks

Downstream

Wastewater Treatment

- Measurement of sewer network
- Measurement of screen raking
- Measurement of receiving watercourses

Sludge Treatment

- Measurement of biogas tank level
- Measurement of digester

Water

Key Product Portfolio

Compact Radar Level Meter

The Compact Radar Level Meter is an excellent choice for monitoring dams and wastewater treatment plants, as it is unaffected by wet environments. It utilizes RETTAR's patented dual-channel technology to ensure precise measurement of small containers, eliminating blind spots in the near range. This radar level meter is specifically designed for liquid level measurement in the hydrology industry, offering wireless communication and battery-powered operation.

Specifications:

- Range: 35m
- Beam angle: 8°
- Process temperature: -40°C...+80°C
- Accuracy: $\pm 2\text{mm}$
- Display and debugging: Tank-side processor, mobile phone (Bluetooth), PC software (RS485)
- Protection rating: IP68



UMD1100 Tank Side Indicator

The field display instrument is used to display data and remotely debug. It can be used with RETTAR CPR and CFR series radar level meters and CGR series guided wave radars. It can set parameters for radar level meters, display real-time measurement values and curves, and is suitable for application scenarios where on-site settings for elevated storage tanks are inconvenient.



Immersive Static Pressure level meter

The immersive static pressure level meter is easy to install and use. It offers a high protection level and can be customized according to customer needs. It has a solid-state structure with no moving parts, resulting in high reliability and a long service life. The meter is unaffected by media foaming and deposition, making it suitable for on-site measurement in waterworks and sewage treatment plants. Additionally, it has good anti-interference and lightning protection capabilities. The use of new materials ensures resistance to fatigue, wear, vibration, impact, and overload.

Specifications:

- Range: 0...200m water column
- Pressure type: Liquid static pressure
- Accuracy: 0.3%FS (full scale)
- Protection Rating: Sensor IP68, wiring section IP65
- Process temperature: -20°C...+60°C
- Sealing material: FKM



CUS6100 Ultrasonic Level Meter

The CUS6100 Ultrasonic Level Meter is designed for easy installation and user-friendly operation. It is an ideal choice for level monitoring in the water and wastewater treatment industry, chemical storage tanks, and small bulk material hoppers. The transmitter communicates via HART for easy communication. It utilizes intelligent processing technology and automatic false echo suppression technology to avoid fixed obstacles, ensuring accurate measurement results.

Specifications:

- Range: 40m
- Process temperature: -40°C...+80°C
- Process pressure: 1...3bar
- Protection rating: IP67
- Resolution: 1mm
- Signal output: 4...20 mA/HART/RS485



Chemical solutions

Upstream

Storage

- Measurement of bulk storage tanks
- Measurement of steam boiler
- Measurement of small storage and buffer tanks

Midstream

Reaction Processes

- Measurement of reaction vessel
- Measurement of separator vessel tank for recovery of raw materials

Downstream

Storage

- Measurement of storage tanks for toxic liquids
- Measurement of propane sphere tanks

Chemical Products

- Measurement in the discharge chute of the belt dryer
- Measurement of filling silo for color pigment





Chemical

Key Product Portfolio

CFR6400 Process Sealed Radar Level Meter

The CFR6400 Process Sealed Radar Level Meter is a radar level meter that operates at a frequency of 140GHz. It utilizes terahertz electromagnetic waves and FMCW (Frequency Modulated Continuous Wave) modulation technology. With a minimum beam angle of 0.7°, it offers high focus and is suitable for installation in containers with obstacles such as stirrers, heating pipes, and ladders. This makes it ideal for accurately measuring liquid levels in reaction vessels. The narrow beam angle helps the beam avoid internal obstacles, eliminating interference echoes and ensuring precise measurements.

Specifications:

- Max. Range*: 50m
- Process Temperature: -40°C...+200°C
- Process Pressure: -1...16bar
- Accuracy: ±2mm
- Protection rating: IP67
- Explosion-proof certification: Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] II C T6/T2 Gb, Ex tb [ia Da] IIIC T80oC/T290°C Db, Ex db ia[ia Ga] IIC T6/T2 Gb, Ex tb [ia Da]IIIC T80oC/T290°C Db



CGR8600 Guided Wave Radar Liquid Level Meter

One of the earliest guided wave radars with interface measurement capabilities in the world, it can be used to measure water level, oil-water interface, and operate in high-pressure environments on-site. This makes it suitable for use in three-phase separators in oil fields, refineries, and oil production plants. Additionally, the product can be connected to a remote debugging unit, allowing for easy installation and maintenance-free operation.

Specifications:

- Measuring range: 30m
- Process Temperature: -196°C...+450°C
- Process Pressure: Vacuum...+400bar
- Accuracy: ±2mm
- Protection rating: IP67
- Explosion-proof certification: Ex ia IIC T6/T2 Ga, Ex db ia [ia Ga] IIC T6/T2 Gb



Na²² Density Meter

The Na²² Density Meter is an innovative product that utilizes an exempt Na²² radioactive source. It offers an eco-friendly and pollution-free solution for level measurement, particularly in situations where perforation is not feasible, such as on the side of a coke tower. This meter provides accurate and efficient level measurement in challenging environments.

Specifications:

- Radioisotope type: Na²²
- Radiation type: Gamma rays
- Radiation angle: 2π
- Radiation source activity: $\text{Na}^{22} \leq 27 \text{ uCi}$ or 1000 KBq (exempt level)
- Process temperature: $-40^{\circ}\text{C} \dots +200^{\circ}\text{C}$ (customizable)
- Radiation device casing material: lead + stainless steel



CTS5700 Tank Side Indicator

The CTS5700 Tank Side Indicator is a field display instrument designed for use in hazardous areas. It provides support for remote debugging and measurement result display for RETTAR CPR, CFR and CGR series products. Additionally, it can be integrated into the 4...20mA loop of the field instrument. By setting 4mA and 20mA to correspond to desired values, it can linearly convert the 4...20mA current signal into corresponding level, temperature, and pressure values for display.

Specifications:

- Communication distance: 1000m
- Accuracy level: 0.1%
- Power supply: $<3.4\text{V}$
- Rated power: $<6\text{mW}$ (ultra-low power consumption)
- Temperature range: $-20^{\circ}\text{C} \dots +70^{\circ}\text{C}$
- Explosion-proof certification: Exd IIC T6 Gb, Exd IIC T2 Gb



Building Materials Solutions



Upstream

Production

- Measurement of coal silo / limestone silo
- Measurement of clinker cooler
- Measurement of crusher

Midstream

Transportation

- Measurement of conveyor belt transfer station
- Measurement of truck loading

Downstream

Storage

- Measurement of raw meal silo
- Measurement of stacker



Building Materials

Key Product Portfolio

3DPro2500 Laser Scanner

The 3DPro2500 laser scanner utilizes laser ranging technology to accurately measure the three-dimensional information of materials. It provides fast and precise results, operating automatically and continuously 24 hours a day. With its ability to quickly measure and obtain real-time accurate three-dimensional information, it enables the acquisition of data on material inventory and the three-dimensional distribution of materials. This scanner also facilitates intelligent management, digitalization, accuracy, visualization, and transparency of field management, ultimately leading to unmanned automation on-site.

Specifications:

- Range: 0.7m-80m (depending on the material reflectivity)
- Working temperature: -30°C...+60°C
- Ambient temperature: -40°C...+75°C
- Output signal: 4...20mA, RS485, MODBUS, TCP, OPC, WebAPI
- Protection rating: IP67
- Working pressure: -1...2bar



CPR6800 Solid Parabolic Radar Level Meter

CPR6800 Solid Parabolic Radar Level Meter is designed for measuring solid materials in the building materials industry. It has a dual-core design for stable and reliable measurement. Multiple echo tracking technology ensures accurate measurement even with interference. The instrument stores echo curves for easy debugging, maintenance, and diagnostics. It supports tank-side debugging with echo curve display. Remote diagnostics are available, and there is an option for a remote echo diagnostic instrument. The meter complies with IV-level electromagnetic compatibility standards and includes a pulse suppression circuit and surge protector for enhanced protection.

Specifications:

- Range: 70m
- Process Temperature: -60°C...1000°C
- Process Pressure: -1...16bar
- Protection Rating: IP67
- Process Connection: Flange
- Signal Output: 4...20 mA/HART



3DPro2300 Radar Scanner

The 3DPro2300 Radar Scanner utilizes microwave technology to accurately measure materials in crushers or storage bins. It operates at a frequency of 140GHz and generates real-time 3D images and measurement data, such as level and quality, through its built-in material management system. It has strong anti-interference and anti-dust capabilities, supports 24/7 operation, and can be remotely controlled via mobile phones. It is widely used for measuring and monitoring materials in different storage locations, as well as for inventorying and monitoring solid materials.

Specifications:

- Range: 0.6m-90m
- Beam Angle: 1.5°
- Horizontal Rotation Angle Range: 0°-360°
- Output Signal: 4...20mA, RS485, MODBUS TCP, OPC, WebAPI
- Protection Rating: IP6
- Working Temperature: -40°C...+75°C (Adapter available for high-temperature applications)



CMS210 Microwave Switch Series

The CMS210 Microwave Switch Series includes a digital display that shows the energy value, making it convenient to monitor the performance of the switches. It offers multiple channel outputs, allowing each pair of switches to be individually configured with microwave signal frequencies. This prevents interference caused by the close proximity of multiple microwave switches.

In addition, it has a self-check function that continuously detects the operational status of the switches, preventing false alarms due to decreased energy values.

Specifications:

- Range: 0m-200m
- Power supply: 24VDC / 220VAC
- Ambient temperature: -40°C...+70°C
- Process pressure: 4bar (pressure adapter can go up to 40bar)
- Protection rating: IP67
- Explosion-proof certification: Flameproof Ex d II CT6 Gb, Dust explosion-proof Ex tD A21 IP67 T80 °C



Food & Feed Solutions

Food Processing

Upstream

- Measurement of grain silo
- Measurement of raw material silo

Midstream

- Measurement of ingredient silo
- Measurement of liquid silo

Downstream

- Measurement of flour silo
- Measurement of finished product storage silo



Feed Factory

Upstream

- Measurement of raw material silo

Downstream

- Measurement of finished product storage yard

Midstream

- Measurement of ingredient mixing silo
- Measurement of ingredient hoppers
- Measurement of liquid silo



Food & Feed

Key Product Portfolio

3DPro2300 Radar Scanner

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Specifications:

- Range: 0.6m-90m
- Beam Angle: 1.5°
- Horizontal Rotation Angle Range: 0°-360°
- Output Signal: 4...20mA, RS485, MODBUS TCP, OPC, WebAPI
- Protection Rating: IP6
- Working Temperature: -40°C...+75°C (Adapter available for high-temperature applications)



CPR6400 Hygienic Radar Level Meter

The CPR6400 Hygienic Radar Level Meter utilizes FMCW (Frequency-Modulated Continuous Wave) technology with an 80 GHz radar level meter. This advanced technology enables simultaneous measurement of multiple echoes and analysis of their position changes, ensuring accurate echo detection. The product incorporates RETTAR patented technology and features a sandwich-designed antenna, which enhances its resistance to condensation. Additionally, it boasts powerful self-diagnostic capabilities and can record various information, including fluctuation curves and external power supply voltage measurements.

Specifications:

- Max. Range*: 50m
- Process temperature: -40°C...+200°C
- Signal output: 4...20 mA/HART
- Protection rating: IP67
- Explosion-proof certification: Ex ia IIC T6/T2 Ga, Exd ia IIC T6/T2 Gb



CMS210 Microwave Switch Series

The CMS210 Microwave Switch Series includes a digital display that shows the energy value, making it convenient to monitor the performance of the switches. It offers multiple channel outputs, allowing each pair of switches to be individually configured with microwave signal frequencies. This prevents interference caused by the close proximity of multiple microwave switches.

In addition, it has a self-check function that continuously detects the operational status of the switches, preventing false alarms due to decreased energy values.

Specifications:

- Range: 0m-200m
- Power supply: 24VDC / 220VAC
- Ambient temperature: -40°C...+70°C
- Process pressure: 4bar (pressure adapter can go up to 40bar)
- Protection rating: IP67
- Explosion-proof certification: Flameproof Ex d II CT6 Gb, Dust explosion-proof Ex tD A21 IP67 T80 °C



CPR6900 Solid Swiveling Holder Level Meter

The CPR6900 Solid Swiveling Holder Level Meter is designed to meet the measurement requirements of solid materials in the grain processing, food processing, and feed industries. It is capable of measuring bulk materials and powders even in complex process conditions. This product features RETTAR's patented antenna design with a sandwich structure, which enhances its anti-condensation effect. Being a "3-core 4-wire product," it offers enhanced processing capability and powerful computational ability. The overall system is more stable, reliable, and includes a strong self-diagnostic capability.

Specifications:

- Max. Range*: 125m
- Process Temperature: -40°C...+200°C
- Process Pressure: -1...3bar
- Protection Rating: IP67
- Beam Angle: 3°
- Signal Output: 4...20 mA/HART



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