FOCUS ON LEVEL MEASUREMENT

PRODUCT CATALOG

PRODUCT CATALOG

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Jun.2025.26

Hebei Huachuang M&C Technology Co.,Ltd

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Company Profile

Hebei Huachuang M&C Technology Co.,Ltd was founded in 2014,located in Fengnan economical area in Tangshan,HCCK is a high-tech enterprise which specialized in level measuring instruments.

Supporting IOT software. And developed a system which integrates automatic control and monitoring according to the customer needs. At present,all products have obtained various of international and domestic patents and certificates.

Products have been sold to more than 30 provinces in China and over 75 countries abroad. It has been widely used in electric power,steel,chemical,pharmaceutical, cement,construction,petroleum and other industries.

After years of unremitting efforts,HCCK has entered the stage of vigorous development. In the future,we will strive for development based on the market and continue to create and innovate. Control quality with more stringent standards,and provide better service for more partners.

HCCK is willing to create and share the glorious future with you together!

Catalog

80G FMCW RADAR LEVEL TRANSMITTER

HCDAR-8X

INTRODUCTION

HCDAR-8x series radar level sensor is one kind of level measuring instrument which uses FMCW special millimeter wave technology, the working frequency is 76-81GHz. The signal output has options: 2-wire 4-20mA, 4-wire 4-20mA or RS485. The max measuring range can reach 120m, and the blind zone of 8cm. The antenna beam angle is about 3°, the outstanding performance makes it workable for the accurate measurement of liquids, solids and powder materials.

WORKING PRINCIPLE

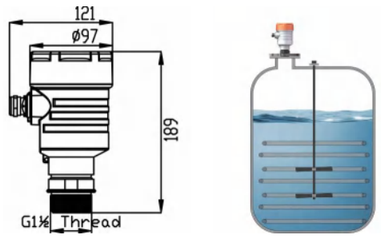
HCDAR-8x series launch a microwave signal frequency changing with the time linearly, the reflected signal and the launched signal are mixed through the "mixer". The difference of frequency is proportional to the distance from radar to the reflection surface and get the distance information required through the FFT transform.

FEATURE

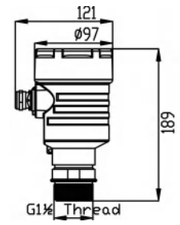
HCDAR-8x is based on the complementary metal-oxide-semiconductor transistor (CMOS) and 5GHz working bandwidth, and it has a higher signal-to-noise ratio and smaller blind zone, higher measurement resolution and accuracy. With 3°beam angle and shorter wavelength, the interference on the influence of the instrument are smaller. Bluetooth wireless debugging is optional.

SELECTION AND APPLICATION

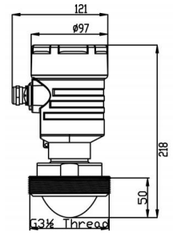
HCDAR-8X



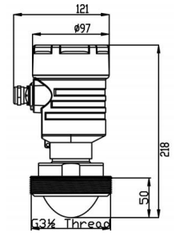
HCDAR-80 is used for liquid measurement. Small antenna beam angle, high accuracy. Max measuring range is 120m.



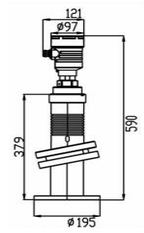
HCDAR-80S is used for liquid measurement. Small antenna beam angle, high accuracy. Max measuring range is 20m.



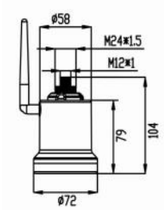
HCDAR-81 is used for solid measurement. Small antenna beam angle, high accuracy. Suitable for high tank with a small diameter. Max measuring range is 120m.



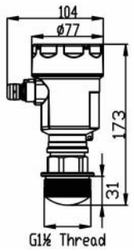
HCDAR-81S is used for liquid and solid measurement. Small antenna beam angle, high accuracy. It is suitable for high tank with a small diameter. Max measuring range is 20m.

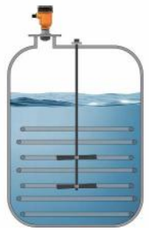


HCDAR-82 adds quartz isolation flange and heat sink, which is used for liquid and solid measurement in high pressure or high temperature places. Max measuring range is 60m.



HCDAR-8H exquisite structure design, plastic alloy material, corrosion resistance, UV protection. It is suitable for hydrological remote monitoring, urban pipeline network monitoring, fire water tank monitoring, etc. Max measuring range is 30m.





HCDAR-8S compact structure design, small size, high precision, for the measurement of liquid media, the maximum range of 15 meters. The sensor adopts PTFE integrated structure with excellent corrosion resistance.

COMPARISON TABLE

HCDAR-8X

	HCDAR-80	HCDAR-80S	HCDAR-81	HCDAR-81S	HCDAR-82	HCDAR-8H	HCDAR-8S
							
APPLICATION	Liquid Measurement	Liquid Measurement	Solid Measurement	Liquid Measurement	Liquid and Solid Measurement	Water Level Measurement	Liquid Level Measurement
MEASURING RANGE	0-120m	0-20m	0-120m	0-20m	0-60m	0-30m	0-15m
CONNECTION PROCESS	Thread/Flange	Thread/ Flange	Thread/Flange	Thread/Flange	Thread/Flange	Thread/Bracket	Thread G1 1/2/flange
MEDIUM TEMPERATURE	(-40-200)℃	(-40-120)℃	(-40-200)℃	(-40-120)℃	(-40-1200)℃	(-40-85)℃	(-40-85)℃
PROCESS PRESSURE	(-0.1-2)MPa	(-0.1-2)MPa	(-0.1-2)MPa	(-0.1-2)MPa	(-0.1-2)MPa (withQuartz Isolation Flange)	(-0.1-0.3)MPa	(-0.1-0.3)MPa
SIGNAL OUTPUT	(4-20)mA HART RS485 MODBUS-RTU 4-20mA + RS485	(4-20)mA HART	(4-20)mA HART RS485 MODBUS-RTU 4-20mA + RS485	(4-20)mA HART	(4-20)mA HART RS485 MODBUS-RTU	(4 - 20) mAHART RS485 MODBUS-RTU LoRa communication Wireless transmission	RS485 MODBUS-RTU Wireless Transmission
ACCURACY	＜2mm	＜2mm	＜2mm	＜2mm	＜2mm	±3mm	±3mm
EXPLOSION-PROOF GRADE	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	/	/	/
PROTECTION GRADE	IP68	IP68	IP68	IP68	IP68	IP67	IP67
FREQUENCY RANGE	(76-81)GHz	(76-81)GHz	(76-81)GHz	(76-81)GHz	(76-81)GHz	(76-81)GHz	(76-81)GHz

26G RADAR LEVEL TRANSMITTER

HCDAR-6X

INTRODUCTION

HCDAR-6x series adopts non-contact measuring method, the output (4-20) mA/RS485 signal, max measuring range is 70m. The antenna structure is further optimized, and the new microprocessor can perform higher-speed signal analysis and processing. The instrument can be used in more complicated working conditions such as reactors or solid silos.

WORKING PRINCIPLE

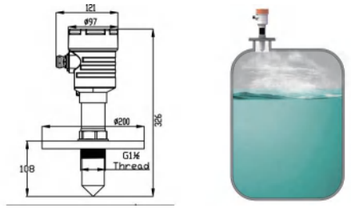
The antenna of HCDAR-6x launches a narrow pulse electromagnetic wave, and electromagnetic wave is reflected back when reach the medium surface and received by the same antenna. According to the two pulse interval, the microprocessor calculates the distance from the antenna to the surface of the measured medium, and convert it into material level signal.

FEATURE

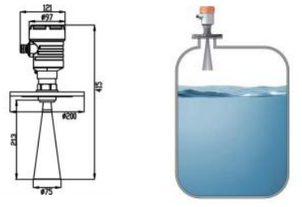
HCDAR-6x series has small beam angles, and strong anti-interference ability, which improves measurement accuracy and reliability. The antenna size is smaller, easy to install. It has small measuring blind zone and shorter wavelength. HCDAR-6X has a good measurement effect for small tanks and small particles. Non-contact measurement, no wear, no pollution. Output option: 2-wire (4-20)mA HART and 4-wire RS485 Modbus.

SELECTION AND APPLICATION

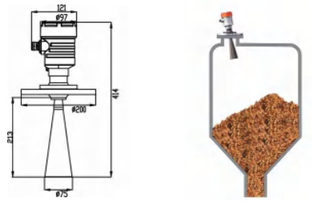
HCDAR-6X



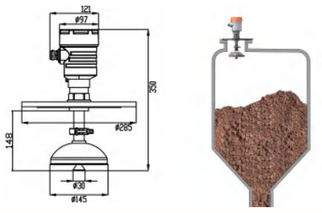
HCDAR-61 with a full PVDF antenna, suitable for the measurement of various strong corrosive liquids, can prevent slight condensation. Max measuring range is 20m.



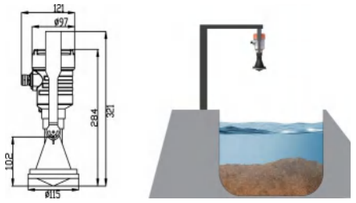
HCDAR-62 with a stainless steel horn antenna, suitable for measuring various liquid slurries, slightly corrosion-resistant. Max measuring range is 70m.



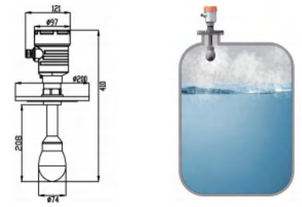
HCDAR-63 is an anti-crystallization and condensation product, with a unique antenna design, suitable for measurement of solid particles, solid powder, and various dust environments. Max measuring range is 70m.



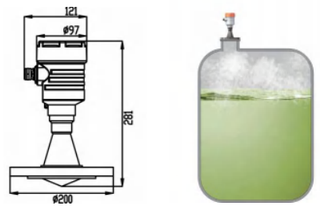
HCDAR-64 has a parabolic antenna and the advantage of a small beam angle. When there are disturbing objects inside the tank, it can work well and will not be affected by ladders and other false echo. Max measuring range is 70m.



HCDAR-65 is a dedicated hydrological sensor, suitable for measuring atmospheric liquids, and can be used in hydrological measurement environments with wireless intelligent radars. It can prevent slight condensation. Max measuring range is 70m.



HCDAR-66 with a drop-type PTFE antenna, used in condensing environments. Max measuring range is 20m.



HCDAR-67 has plate type antenna and PTFE seal structure of bell mouth place. It is mainly used for the measurement of strong corrosion liquid and sanitary liquid. Max measuring is 20m.

COMPARISON TABLE

HCDAR-6X

	HCDAR-61	HCDAR-62	HCDAR-63	HCDAR-64	HCDAR-65	HCDAR-66	HCDAR-67
							
APPLICATION	Corrosive Liquids	Liquid, Slurry	Solid Particle, Solid Powder, All Kinds of Dust Environment	Solid Material, Solid Powder, All kinds of dust environment	River Channel,Reservoir,Lake, Tide	Liquid,Slurry,Dew Occasions	Liquid,Slurry,Steam, Condensation Occasions
MEASURING RANGE	0-20m	0-70m	0-70m	0-70m	0-70m	0-20m	0-20m
CONNECTION PROCESS	Thread/Flange	Thread/Flange	Thread/Flange	Thread/Flange	Stents	Flange	Flange
MEDIUM TEMPERATURE	(-40-120)℃	(-40-250)℃	(-40-250)℃	(-40-250)℃	(-40-120)℃	(-40-150)℃	(-40-150)℃
PROCESS PRESSURE	(-0.1-0.3)MPa	(-0.1-2)MPa	Micropressure	Micropressure	Atmospheric Pressure	(-0.1-2)MPa	(-0.1-0.3)MPa
SIGNAL OUTPUT	(4-20)mA HART RS485 MODBUS	(4-20)mA HART RS485 MODBUS	(4-20)mA HART RS485 MODBUS	(4-20)mA HART RS485 MODBUS	(4-20)mA HART RS485 MODBUS	(4～20)mA HART RS485 MODBUS	(4～20)mA HART RS485 MODBUS
ACCURACY	±5mm	±3mm	±15mm	±15mm	±5mm	±3mm	±5mm
EXPLOSION-PROOF GRADE	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db
PROTECTION GRADE	IP68	IP68	IP68	IP68	IP68	IP68	IP68
FREQUENCY RANGE	26GHz	26GHz	26GHz	26GHz	26GHz	26GHz	26GHz

GUIDED WAVE RADAR LEVEL TRANSMITTER

HCDAR-5X

INTRODUCTION

HCDAR-5x series adopts the contact measurement method and can be used for the continuous level measurement of liquid, solid particles, small size oil storage tanks, offers continuously measurement of the level of conductive and non-conductive liquids, particles and slurries. The measurement won't be affected by medium type, pressure, temperature, inert gas, steam, dust and foam, etc. The accuracy could reach to 3mm, max measuring range can be 30m, high temperature resistance could be 250℃ and high pressure resistance can be 2MPa.

WORKING PRINCIPLE

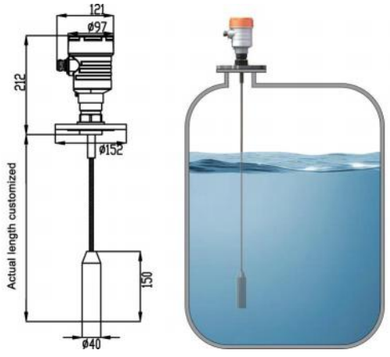
HCDAR-5X series is a level measuring instrument based on time travel principle. The electromagnetic wave emitted by the radar antenna propagates along the cable or rod probe. When the pulse reaches the surface of the material, it is reflected back and received by the antenna. The distance signal is converted to level signal. The distance D to the material surface and the pulse travl time T is proportional: D=C*T/2. Where C is the speed of light, and the level of solid/liquid is obtained.

FEATURE

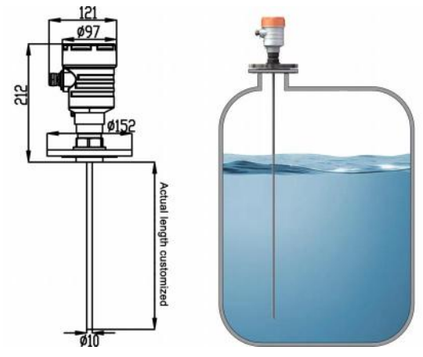
HCDAR-5X guided wave radar level transmitter emit constant electromagnetic wave, and there is no need for on-site calibration and migration to change the range. The installation method is simple and diverse, and the measurement will not be affected by temperature, pressure, density changes. HCDAR-5X series have no moving parts, so there is no mechanical parts damage problem and no need for maintenance. Almost all liquid and solid particle media can be measured.

SELECTION AND APPLICATION

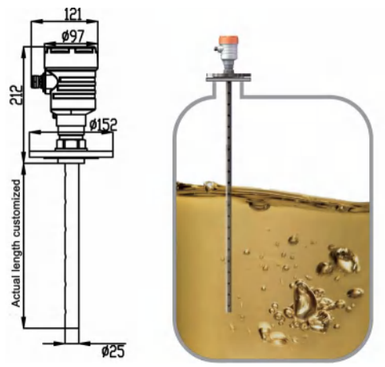
HCDAR-5X



HCDAR-51 is a common cable antenna structure, contact measurement. Max measuring range is 30m.



HCDAR-52 is a common cable antenna structure, contact measurement. Max measuring range is 6m.



HCDAR-56 is a coaxial guided wave antenna structure, which is suitable for measuring liquids with large surface fluctuations. The signal transmission enhancement of the coaxial structure is also suitable for measuring liquids with low dielectric constant. Max measuring range is 3m.

COMPARISON TABLE

HCDAR-5X

	HCDAR-51	HCDAR-52
APPLICATION	Solid Particle,Powder,Liquid	Solid Particle,Powder,Liquid
MEASURING RANGE	0-30m	0-6m
CONNECTION PROCESS	Thread/Flange	Thread/Flange
MEDIUM TEMPERATURE	(-40-250)℃	(-40-250)℃
PROCESS PRESSURE	(-0.1-2)MPa	(-0.1-2)MPa
SIGNAL OUTPUT	(4-20)mA HART	(4-20)mA HART
ACCURACY	±3mm	±3mm
EXPLOSION-PROOF GRADE	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db
PROTECTION GRADE	IP68	IP68
FREQUENCY RANGE	500MHz-1.8GHz	500MHz-1.8GHz

	HCDAR-56
APPLICATION	Low Dielectric Constant Liquid, Surface Fluctuation Liquid
MEASURING RANGE	0-3m
CONNECTION PROCESS	Thread/Flange
MEDIUM TEMPERATURE	(-40-250)℃
PROCESS PRESSURE	(-0.1-2)MPa
SIGNAL OUTPUT	(4-20)mA HART
ACCURACY	±3mm
EXPLOSION-PROOF GRADE	Ex db ia IIC T6 Gb;Ex tb IIIC T80℃ Db
PROTECTION GRADE	IP68
FREQUENCY RANGE	500MHz-1.8GHz

FMCW RADAR LEVEL TRANSMITTER

HCDAR-9X

INTRODUCTION

HCDAR-9x series is terahertz frequency modulated radar level transmitter. Working frequency is 120GHz. The output signal has two options: 2-wire (4-20) mA or 4-wire RS485. The max measuring range is 150m. About 1.2°antenna beam angle ensures the high accuracy for measurement of the liquid, solid and powder.

WORKING PRINCIPLE

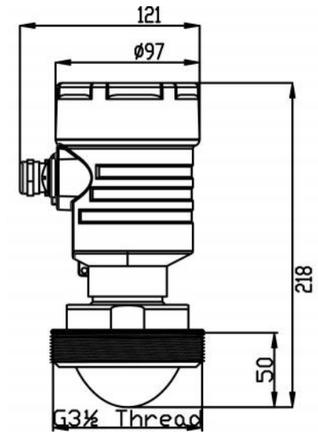
HCDAR-8x series launch a microwave signal frequency changing with the time linearly, the reflected signal and the launched signal are mixed through the "mixer". The difference frequency is proportional to the distance from radar to the reflection surface and get the distance information required through the FFT transform.

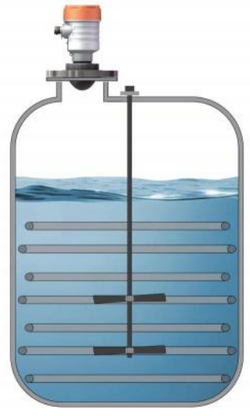
FEATURE

HCDAR-9X using 8GHz working bandwidth, high measurement resolution, high accuracy and without blind zone. With 1.2°antenna beam angle, it is suitable for the measurement in narrow tanks. HCDAR-9X supports remote debugging, remote upgrading and bluetooth debugging.

SELECTION AND APPLICATION

HCDAR-9X





HCDAR-90 is suitable for various medium level measurement. High precision, large range. Without blind zone.

PARAMETER TABLE

HCDAR-9X

APPLICATION	Liquid and Solid Measurement
MEASURING RANGE	0-150m
PROCESS CONNECTION	Thread G3.5 / Flange
BEAM ANGLE	1.2°
RESPONSE TIME	<0.6s(Due to Parameter Setting)
MEDIUM TEMPERATURE	(-40-120) ℃
PROCESS PRESSURE	(-0.1-2)MPa
ACCURACY	±1mm(50m)/±3mm(150m)
OUTPUT SIGNAL	(4～20)mA HART，RS485 MODBUS-RTU
WORKING FREQUENCY	120GHz
PROTECTION GRADE	IP68

ULTRASONIC LEVEL TRANSMITTER

HCUS

INTRODUCTION

Ultrasonic level transmitter is a non-contact, high reliability, cost-effective, easy to install and maintain level measurement instrument. It is a low-cost device for measuring liquids, slurry at industrial sites. It is widely used in water treatment, municipal, chemical, metallurgical and mechanical manufacturing industries.

WORKING PRINCIPLE

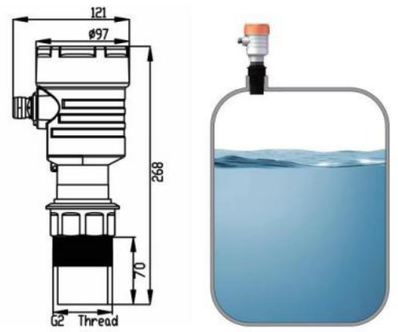
Ultrasonic level transmitter launch more than 20 KHZ sound waves under the control of the electronic components' function towards the object surface to be tested by, the reflection echo wave is received by the probe and converted to electrical signals. The time is proportional to the distance from ultrasonic launch to be received back. By measuring the time, and according to the known velocity to calculate the measured distance, thereby level value is calculated.

FEATURE

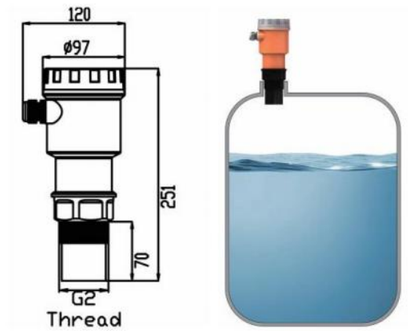
Ultrasonic level transmitter has the characteristics of non-contact continuous measurement, automatic power adjustment, gain control, temperature compensation, etc., combined with advanced detection technology and rich software functions, through a variety of output forms: relay output, high precision (4-20) mA output, RS485 output, to achieve accurate measurement.

SELECTION AND APPLICATION

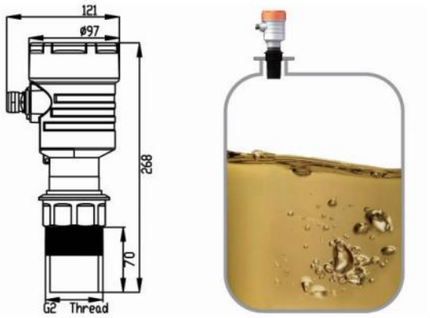
HCUS



HCUS-300 The output signal is (4-20) mA@HART /RS485 MUDBUS-RTU



HCUS-400, standard ultrasonic, output options: 4-20mA 2wire/4wire, RS485, 4-20mA + RS485.



HCUS-500, Explosion-proof type, output options: 4-20mA 2wire/4wire, RS485, 4-20mA + RS485.

COMPARISON TABLE

HCUS

	HCUS-300 Ultrasonic Level Transmitter	HCUS-400 Ultrasonic Level Transmitter - Standard
APPLICATION	Liquid	Liquid
MEASURING RANGE	0-20m	0-20m
CONNECTION PROCESS	Thread	Thread/plastic flange
PROCESS PRESSURE	≤0.3MPa	≤0.3MPa
SIGNAL OUTPUT	(4-20) mA@HART /RS485 MUD-BUS-RTU	4-20mA /RS485 Modbus
ACCURACY	0.5%	0.5%-1.0%
EXPLOSION-PROOF GRADE	/	/
PROTECTION GRADE	Display IP67/Probe IP68	Probe IP68

	HCUS-500 Ultrasonic Level Transmitter - Explosion proof
APPLICATION	Liquid
MEASURING RANGE	0-20m
CONNECTION PROCESS	Thread/plastic flange
PROCESS PRESSURE	≤0.3MPa
SIGNAL OUTPUT	4-20mA
ACCURACY	0.5%-1.0%
EXPLOSION-PROOF GRADE	Ex d IIB T4 Gb
PROTECTION GRADE	Display IP67/Probe IP68

HYDROSTATIC LEVEL TRANSMITTER

HCDB

INTRODUCTION

HCDB series are input Hydrostatic Level Transmitter, using high-quality cable containing airway and imported sensors. HCDB series has high accuracy and high stability. It can be directly put into the liquid to be measured, and easy to install. It is suitable for the liquid level measurement of urban water supply and sewage treatment, water conservancy and hydropower monitoring, navigation and ship systems, chemical industry, medical equipment, environmental protection and other industrial sites.

WORKING PRINCIPLE

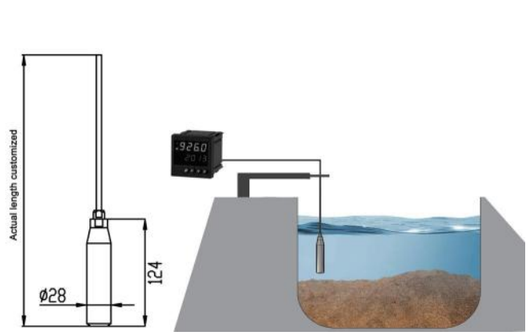
The input level gauge is based on the principle that the measured hydrostatic pressure is proportional to the height of the liquid. The pressure sensor is used to convert the pressure signal into an electrical signal, which is converted into a standard current signal or digital signal after temperature compensation and linear calibration. When it is put into the liquid to be tested in a certain depth, the pressure received by the sensor diaphragm is: p = p0 + ρgh(p0： Atmospheric pressure on the liquid surface)

FEATURE

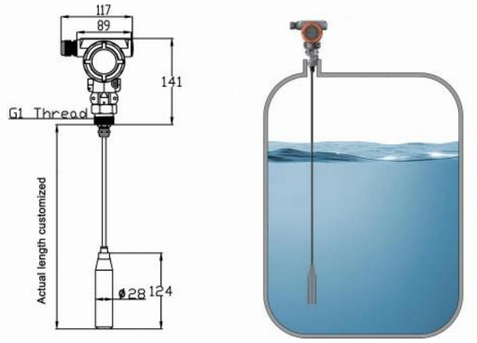
The input level gauge adopts imported high quality silicon piezoresistive sensor or ceramic sensors, air leading cable structure, reliable sealing technology and modeling design, and these make it have excellent stability and stronger applicability. With simulation type, digital type RS485 output, the hydrostatic level transmitter is widely used in every field and industry level measurement.

SELECTION AND APPLICATION

HCDB



HCDB-30 Simple Submersible Hydrostatic Level Transmitter, silicon piezoresistive pressure sensitive element, anti-blocking design, more stable without any potentiometer signal.



HCDB - 50 has status display and die-casting aluminum housing, (4-20) mA output or RS485 output.

COMPARISON TABLE

HCDB

	HCDB-30 Simple Submersible Hydrostatic Level Transmitter	**HCDB-50** Submersible Hydrostatic Level Transmitter	**HCDB-51** Submersible Hydrostatic Level Transmitter	**HCDB-60** Deep Well Level Transmitter
APPLICATION	Liquid	Liquid	Liquid	Liquid
MEASURING RANGE	0-350m	0-350m	0-10m	0-3000m
CONNECTION PROCESS	/	Thread G1"	Thread G1"	/
MEDIUM TEMPERATURE	-20-85℃	-20-85℃	-20-300℃	-20-85℃
ACCURACY	0.1%FS 0.2%FS 0.5%FS	0.1%FS 0.2%FS 0.5%FS	0.1%FS 0.2%FS 0.5%FS	0.1%FS
POWER SUPPLY	24VDC	24VDC	24VDC	24VDC
SIGNAL OUTPUT	4-20mA, 2- wire/ RS485 MODBUS	4-20mA, 2- wire/ RS485 MODBUS	4-20mA, 2- wire/ RS485 MODBUS	4-20mA

PRESSURE TRANSMITTER

HCDP

INTRODUCTION

Pressure transmitter adopts imported pressure sensor as a signal measuring element, digital modular circuit design, digital signal processing technology, which make it has good anti-interference ability and signal stability. Pressure transmitter can be widely used in the field of petroleum, chemical, steel, power, light industry, environmental protection, food, paper making, medicine and all kinds of harsh environment.

WORKING PRINCIPLE

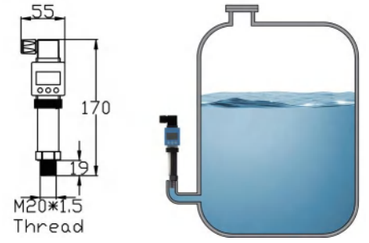
Pressure transmitter is a device where the weak signals from pressure sensor is converted into standard signal output by a special control circuit. Optional signal output have (4-20)mA HART, RS485 MODBUS, voltage output and etc.

FEATURE

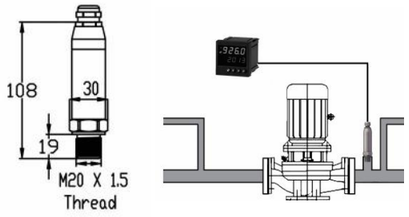
Pressure transmitter adopts imported pressure sensor signal conditioning dedicated chips, high integration, high precision, and high stability. No adjustable components, and it will not be affected by vibration. The damage rate is low, and no need for maintenance. Standard (4-20)mA HART or RS485 communication, some models can be easily adjusted on site through buttons.

SELECTION AND APPLICATION

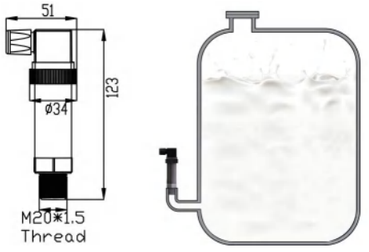
HCDP



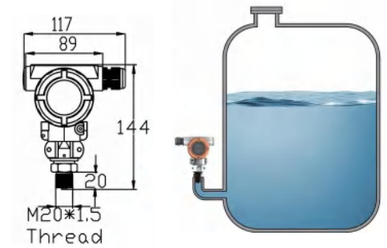
HCDP-10 Hersman joint type is used to process pressure or liquid level measurement.



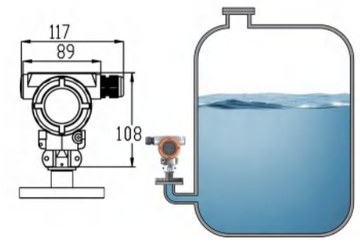
HCDP-11 adopts cable or air seeding head type, used for in the process of pressure or liquid level measurement.



HCDP - 12 has flat membrane sanitary type, thread type and Tri-clamp type.



HCDP - 20 digital and intelligent pressure transmitter adopts die-casting aluminum housing and can be widely used in the field petroleum, chemical industry, steel chain, power, light industry, environment protection and other industry fields.



HCDP-21 Diaphragm type pressure transmitter, using digital intelligent PCB, varies of diaphragm materials as optional, suitable for pressure measurement in varies of industries.

COMPARISON TABLE
HCDP

	 **HCDP-10** Pressure Transmitter	 **HCDP-11** Pressure Transmitter	 **HCDP-13** Pressure Transmitter
APPLICATION	Pressure/Liquid Level	Pressure/Liquid Level	Pressure/Liquid Level
MEASURING RANGE	-0.1-100MPa	-0.1-100MPa	-0.1-100MPa
SENSOR TYPE	Silicon piezoresistive sensor	Silicon piezoresistive sensor	Micro-melt sensor
ACCURACY	0.25%，0.5%	0.25%，0.5%	0.25%，0.5%
LONG-TERM STABILITY	Better than 0.2%FS per year	Better than 0.2%FS per year	Better than 0.2%FS per year
MEDIUM TEMPERATURE	(-40-105)℃	(-40-105)℃	(-40-105)℃
SIGNAL OUTPUT	Two Wire(4-20)mA RS485 MODBUS-RTU 0-5VDC, 0-10VDC	Two Wire(4-20)mA RS485 MODBUS-RTU 0-5VDC, 0-10VDC	Two Wire(4-20)mA RS485 MODBUS-RTU 0-5VDC, 0-10VDC
EXPLOSION-PROOF GRADE	Ex d[ia Ga] IIC T6 Gb	Ex d[ia Ga] IIC T6 Gb	Ex d[ia Ga] IIC T6 Gb

 **HCDP-12** Pressure Transmitter-Hygienic Type	 **HCDP-20** Pressure Transmitter-Industry Type	 **HCDP-21** Pressure Transmitter - Diaphragm Type
Pressure/Liquid Level	Pressure/Liquid Level	Pressure/Liquid Level
-0.1-100MPa	-0.1-100MPa	-0.1-100MPa
Silicon piezoresistive sensor	Silicon piezoresistive sensor/ monocrystalline silicon	Silicon piezoresistive sensor/ monocrystalline silicon
0.25%，0.5%	0.1%，0.25%	0.1%，0.25%
Better than 0.2%FS per year	Better than 0.2%FS per year	Better than 0.2%FS per year
(-30-250)℃	(-40-105)℃	(-40-250)℃
Two Wire(4-20)mA RS485 MODBUS-RTU	Two Wire(4-20)mA RS485 MODBUS-RTU	Two Wire(4-20)mA RS485 MODBUS-RTU
Ex d[ia Ga] IIC T6 Gb	Ex d[ia Ga] IIC T6 Gb	Ex d[ia Ga] IIC T6 Gb

DIFFERENTIAL PRESSURE TRANSMITTER

HCDP

INTRODUCTION

HCDP series Intelligent Differential Pressure Transmitter is a high-performance pressure transmitter with the world-leading technology, developed with international advanced monocrystal silicon pressure sensor and patented packaging process. It adopts the patented double overload protection diaphragm design, and internal circuit surge protection design, which could measure the gauge pressure, absolute pressure, flow rate, liquid level and density accurately. It can be applied to measurement in all kinds of harsh environment.

WORKING PRINCIPLE

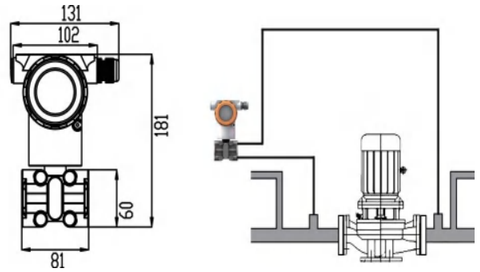
Differential pressure transmitter adopts imported monocrystalline silicon differential pressure sensor as a signal measuring element, digital modular circuit design and digital signal processing technology. Through testing and calculating pressure difference between the positive chamber and negative chamber, the difference signal is converted into electrical signal output remote transmission. It can be implemented for a variety measurement of pressure, differential pressure, flow, liquid level, industrial process parameters.

FEATURE

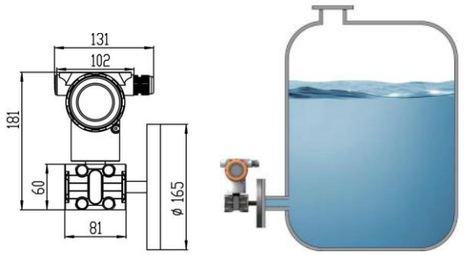
The differential pressure transmitter adopts advanced sensors and signal processing technology, which make it have good anti-interference ability and signal stability. Simple to operate, easy to install, and the standard 4-20 mA and RS485 signal output is suitable for the digital display table, PLC and DCS system. And it can be used for flow measurement with the associated equipment.

SELECTION AND APPLICATION

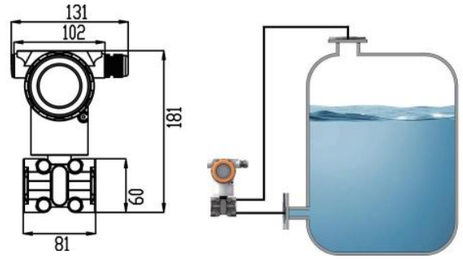
HCDP



HCDP-30



HCDP-31



HCDP-32

Intelligent differential pressure transmitter is mainly used in the field of petrochemical, chemical, electric power, steel, cement, paper and other industries. And while being used with the associated equipment, it can be used for the measurement of gas vapor and liquid flow measurement, Liquid level, volume and density, differential pressure.

COMPARISON TABLE
HCDP

	HCDP-30 Differential Pressure Transmitter
APPLICATION	Liquid Level,Pressure, Flow, Density
MEASURING RANGE	0-1MPa（Single End Pressure≤16MPa）
SENSOR TYPE	Single Crystal Silicon Differential、Pressure Sensor、Metal capacitor
ACCURACY	0.075%，0.1%，0.2%
LONG-TERM STABILITY	Better than 0.2%FS per year
MEDIUM TEMPERATURE	(-40-105) ℃
SIGNAL OUTPUT	2-wire (4-20)mA HART agreement
DISPLAY	Intelligent Housing with LCD and backlight
PROTECTION GRADE	Ex d [ia Ga] IIC T6 Gb

	HCDP-31 Differential Pressure Transmitter - Single Flange	HCDP-32 Differential Pressure Transmitter - Double Flange
APPLICATION	Liquid Level, Pressure	Liquid Level,Pressure, Density
MEASURING RANGE	0-1MPa（Single End Pressure≤16MPa）	0-1MPa（Single End Pressure≤16MPa）
SENSOR TYPE	Single Crystal Silicon Differential Pressure Sensor、Metal capacitor	Single Crystal Silicon Differential Pressure Sensor、Metal capacitor
ACCURACY	0.075%，0.1%，0.2%	0.075%，0.1%，0.2%
LONG-TERM STABILITY	Better than 0.2%FS per year	Better than 0.2%FS per year
MEDIUM TEMPERATURE	(-40-350) ℃	(-40-350) ℃
SIGNAL OUTPUT	2-wire system (4-20)mA HART Agreement	2-wire system (4-20)mA HART Agreement
DISPLAY	Intelligent Housing with LCD and backlight	Intelligent Housing with LCD and backlight
PROTECTION GRADE	Ex d [ia Ga] IIC T6 Gb	Ex d [ia Ga] IIC T6 Gb

RF ADMITTANCE LEVEL TRANSMITTER

HCDN

INTRODUCTION

RF admittance level transmitter is continuous level measurement products based on the principle of radio frequency admittance, and is developed on the basis of the traditional capacitance level transmitter. It is widely used for the continuous measurement in the field of petroleum, chemical industry, metallurgy, medicine, electricity, food, paper and other liquid particles. And it is suitable for the measurement under high temperature, strong corrosion in narrow space environment.

WORKING PRINCIPLE

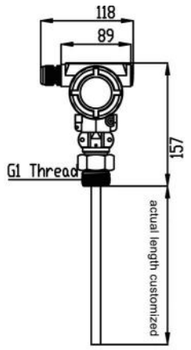
Radio frequency admittance measurement technology is detecting the change of radio waves through the radio frequency circuit. When the material level meter sensor is installed inside the container, it forms a capacitance apparatus. The probe is considered as a plate of capacitor, and the container tank wall is considered as another plate capacitor (container as the insulation material) by measuring changes of capacitance value between two plates due to the change of level, RF admittance level transmitter can measure the material level.

FEATURE

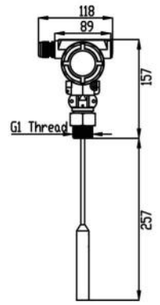
RF admittance level transmitter has high stability, high sensitivity, wide applicable field, simple calibration, no need for maintenance, and is suitable for both liquid and solid material. The instrument body must be reliable grounding and installed steadily to avoid RF rod or cable shaking.

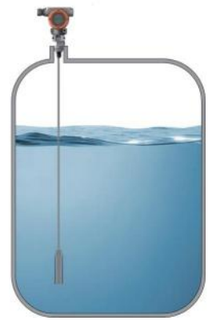
SELECTION AND APPLICATION

HCDN

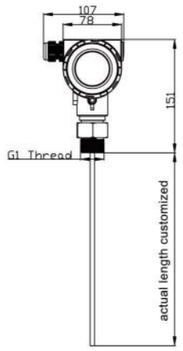


HCDN-501 rod type with PTFE rod protection cover, suitable for the metal containers. Basically can measure any medium. Max measuring range is 3m. Suitable for level measurement in small containers. 2-wire power supply 24VDC, (4-20) mA output.

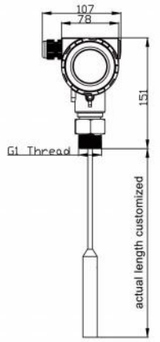




HCDN-502 cable type with PTFE rod protection cover, suitable for the metal containers. Basically can measure any medium. Max measuring range is 10m. Suitable for level measurement in small containers. 2-wire power supply 24VDC, (4-20) mA output.



HCDN-503 rod type with PTFE rod protection cover, suitable for the metal containers. Basically can measure any medium. 24VDC power supply, output (4-20) mA and relay node in the output.



HCDN-502 cable type with PTFE rod protection cover, suitable for the metal containers. Basically can measure any medium. 24VDC power supply, output (4-20) mA and relay node in the output.

COMPARISON TABLE

HCDN

	HCDN-501 RF admittance level transmitter	HCDN-502 RF admittance level transmitter
APPLICATION	Liquid	Liquid
MEASURING RANGE	10PF-5000PF	10PF-5000PF
MEDIUM TEMPERATURE	-35-65℃	-35-65℃
PROCESS PRESSURE	0.1-2MPa	0.1-2MPa
SIGNAL OUTPUT	(4-20) mA	(4-20) mA
ACCURACY	＜0.5% Actual Measured Value	＜0.5% Actual Measured Value
EXPLOSION-PROOF GRADE	Ex d II C T6 Gb Ex ia II C T6 Ga	Ex d II C T6 Gb Ex ia II C T6 Ga
PROTECTION GRADE	IP67	IP67
CABLE ENTRY	M20*1.5	M20*1.5

	HCDN-503 RF admittance level transmitter	HCDN-504 RF admittance level transmitter
APPLICATION	Liquid	Liquid
MEASURING RANGE	10PF-5000PF	10PF-5000PF
MEDIUM TEMPERATURE	-35-65℃	-35-65℃
PROCESS PRESSURE	0.1-2MPa	0.1-2MPa
SIGNAL OUTPUT	(4-20) mA with Alarm Output	(4-20) mA with Alarm Output
ACCURACY	＜0.5% Actual Measured Value	＜0.5% Actual Measured Value
EXPLOSION-PROOF GRADE	Ex d II C T6 Gb Ex ia II C T6 Ga	Ex d II C T6 Gb Ex ia II C T6 Ga
PROTECTION GRADE	IP67	IP67
CABLE ENTRY	M20*1.5	M20*1.5

RF ADMITTANCE LEVEL SWITCH

HCSP-30

INTRODUCTION

RF admittance level switch is a new type of material level control products which is developed from the capacitance type. RF admittance level switch is more reliable, more accurate and is widely used for the the switch quantity measurement of fly ash, particles, powder, liquid, viscous, conductive and non-conductive materials.

WORKING PRINCIPLE

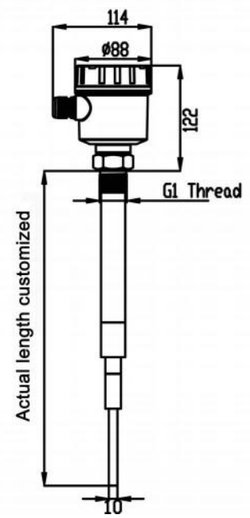
RF admittance switches is to use phase technology to test whether the material have reach a certain position. Apply a set of sine wave signal on the measuring electrode and the protection of electrode respectively, when measuring electrodes in contact with the materials, signal changes in the reactance which causes the phase change of electrode signal. According to the phase difference of signal detection, RF admittance switches gives a signal alarm.

FEATURE

RF admittance switches with its versatility, high temperature and high pressure resistance, free maintenance, the characteristics of anti-interference, and sensor structure and unique circuit design, can make its measurement is not affected by sensor hanging, without regular cleaning, avoid measurement by mistake. Measuring diversification, makes the measurement more accurate measurement is not affected by climate change, high stability, long service life.

SELECTION AND APPLICATION

HCSP-30



HCSP-30 24VDC and 220VAC power supply optional. DPDT 5A relay output. HCSP-30 can directly control small device. The sensitivity and output delay can be adjusted by potentiometer on site, and high temperature type can be customized.

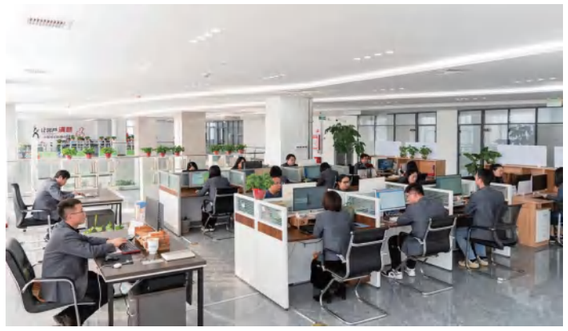
COMPARISON TABLE

HCSP-30

APPLICATION	Solid Particles, Powder, Liquid, Conductive and Non-Conductive Material
POWER SUPPLY	24VDC/220VAC
RELAY CAPACITY	DPDT Rated 5A
TIME-DELAY RELAY	0-30s Adjustable
RATE WORK	3W
MEDIUM TEMPERATURE	-40℃-200℃
ENVIRONMENT TEMPERATURE	-40℃-80℃
CABLE INLET	M20*1.5 or 1/2 NPT

CERTIFICATION

FACTORY ENVIRONMENT



EQUIPMENT DISPLAY