ANL-8010x

GWR Level/interface Transmitters

Catalog V.2024

Phoenix. Chen

CHINASIMBA www.chinasimba.com

SN: DY.11.05.218

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Contents

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ANL-8010 2GHz GWR radar level Gauges Overview

结构规格 Series	8010 Regular version	8010S HT version	8010H HTHP version	8010P Remote connection	8010PH Remote connection
单/双腔 Exia/Exd Single/Double Chamber	Single/Double	Single/Double	Single/Double	Single/Double	Single/Double
缆式 (C) Cable probe /SS304/SS316	2 / 4 / 6mm(default)	2 / 4 / 6mm(default)	4mm / 6mm(default)	4mm / 6mm(default)	6mm(default)
探杆 (R) Rod probe /SS304/SS316	6/8/10(default)/12mm	6/8/10(default)/12mm	8mm /10mm /16mm	8mm /10mm / 16mm	8mm /10mm / 16mm
同轴 (A) Coax probe /SS304/SS316	22 / 25 / 32 / 42mm	22 / 25 / 32 / 42mm	22 / 25 / 32 / 42mm	22 / 25 / 32 / 42mm	22 / 25 / 32 / 42mm
最大过程压力 Max. process pressure	4MPa	4MPa	=< 40MPa	=< 40MPa	=< 40MPa
液位、界位 Level / interface	Level or Level/Interface	Level or Level/Interface	Level or Level/Interface	Level or Level/Interface	Level or Level/Interface
可螺纹连接 Process fittings : Pipe thread	G¾, G1, G1½ //NPT	G¾, G1, G1½ //NPT	G¾, G1, G1½, G3 //NPT	G¾, G1, G1½ //NPT	G¾, G1, G1½ //NPT
最大本体耐热温度 Self-struc. process Temp.[1]	-60℃~+200℃ / PEEK -40℃~+200℃ / PTFE -196℃~+260℃ / PFA	-60℃~+300℃ / PEEK -40℃~+300℃ / PTFE -196℃~+360℃ / PFA	-196℃~+450℃	-60℃~+200℃ / PEEK -40℃~+200℃ / PTFE -196℃~+360℃ / PFA	-196℃~+850℃
最小可配法兰尺寸 Config. Min. flange size	>DN32	>DN32	>DN32	>DN32	>DN32
探棒连接材料 Process seal on the instrument side (cable/rod lead through)	PTFE/PEEK/PFA	PTFE/PEEK/PFA	Ceramics	PTFE/PEEK/PFA	Zirconia Ceramic

O-ring list

Code	Global Name	CN Name	CN Brand	Shore A	Temperature
N	None				
K	Kalrez 6375 Perfluoroelastomer	全氟醚橡胶	TRUFLOUREZ-T23	75	-15℃~230℃
			TRUFLOUREZ-T80	70	-15℃~310℃
			TRUFLOUREZ-T32	75	-15℃~325℃
			TRUFLOUREZ-T26	70	-15℃~260℃
			TRUFLOUREZ-T30	75	-15℃~300℃
			TRUFLOUREZ-T95	60	-15℃~300℃
E	EPDM	三元乙丙橡胶	TRUFLOUREZ - EPDM	SA40~90	-5℃~300℃
V	Viton Fluoroelasromer	氟橡胶	Ref. to Viton O-ring list		
B	NBR	丁腈橡胶	TRUFLOUREZ - NBR	SA50~90	-40~120℃
L	Low- Temperature Viton Fluoroelasromer	低溫氟橡胶	Ref. to Viton O-ring list		
F	FVMQ	氟硅橡胶	TRUFLOUREZ - FVMQ	SA45~80	-60~230℃
P	PTFE seal	四氟弹簧密封圈	FMH - PTFE o-ring	SB-200	-200℃ ~ +300℃

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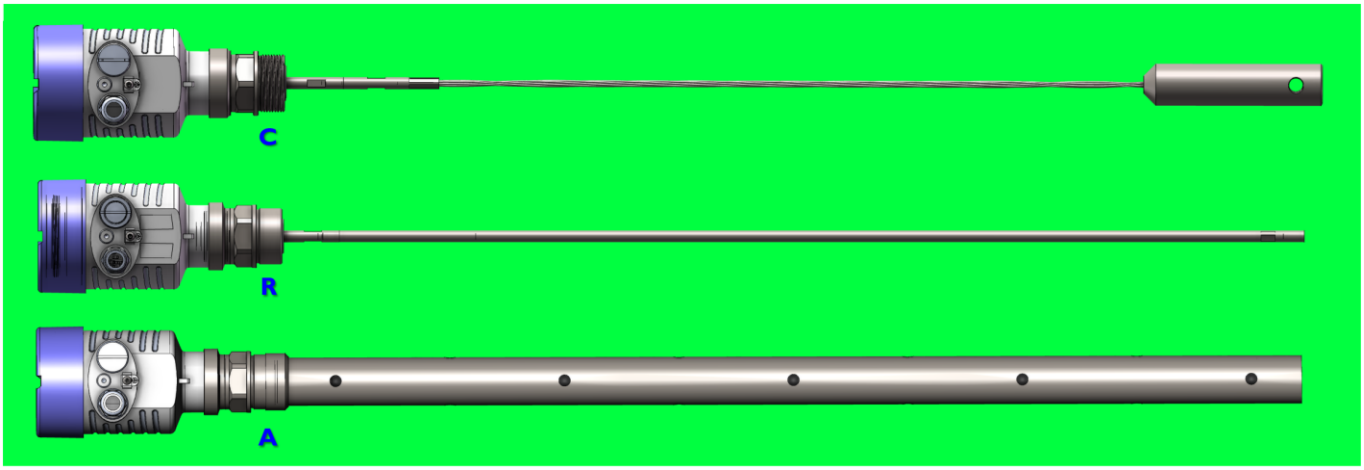
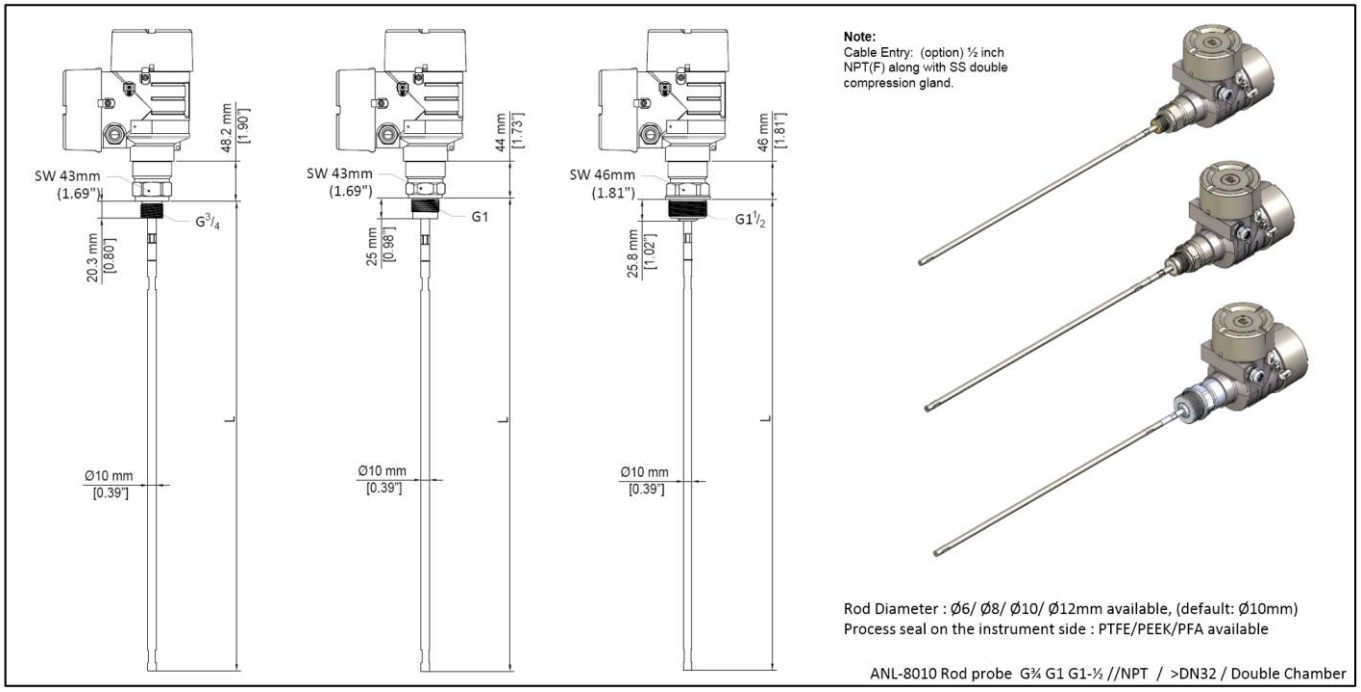
ANL-8010 G¾ G1 G1½ Serials standard specification



	名称 Model Name	安装方式 Connection Type	过程接触面材料 Materials of Conn.	被测物料相对介电参数 Relative permittivity of the medium	过程温度 Process Temperature	过程压力 Max. process pressure	最长探头长度 Max. probe length
①	ANL8010-C (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	PEEK : -60 ~ +200℃ PTFE : -40 ~ +200℃ PFA : -196 ~ +260℃	4MPa	Ø 2mm < 70M Ø 4mm < 45M Ø 6mm < 30M
②	ANL8010-R (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	PEEK : -60 ~ +200℃ PTFE : -40 ~ +200℃ PFA : -196 ~ +260℃	4MPa	Ø6mm / Ø8mm / Ø10mm / Ø12mm < 6M
③	ANL8010-A (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.4 (regular version)	PEEK : -60 ~ 200℃ PTFE : -40 ~ 200℃ PFA : -196 ~ +260℃	4MPa	Ø22 / Ø25 / Ø32 / Ø42mm < 6M

ANL-8010 Rod Dimensions



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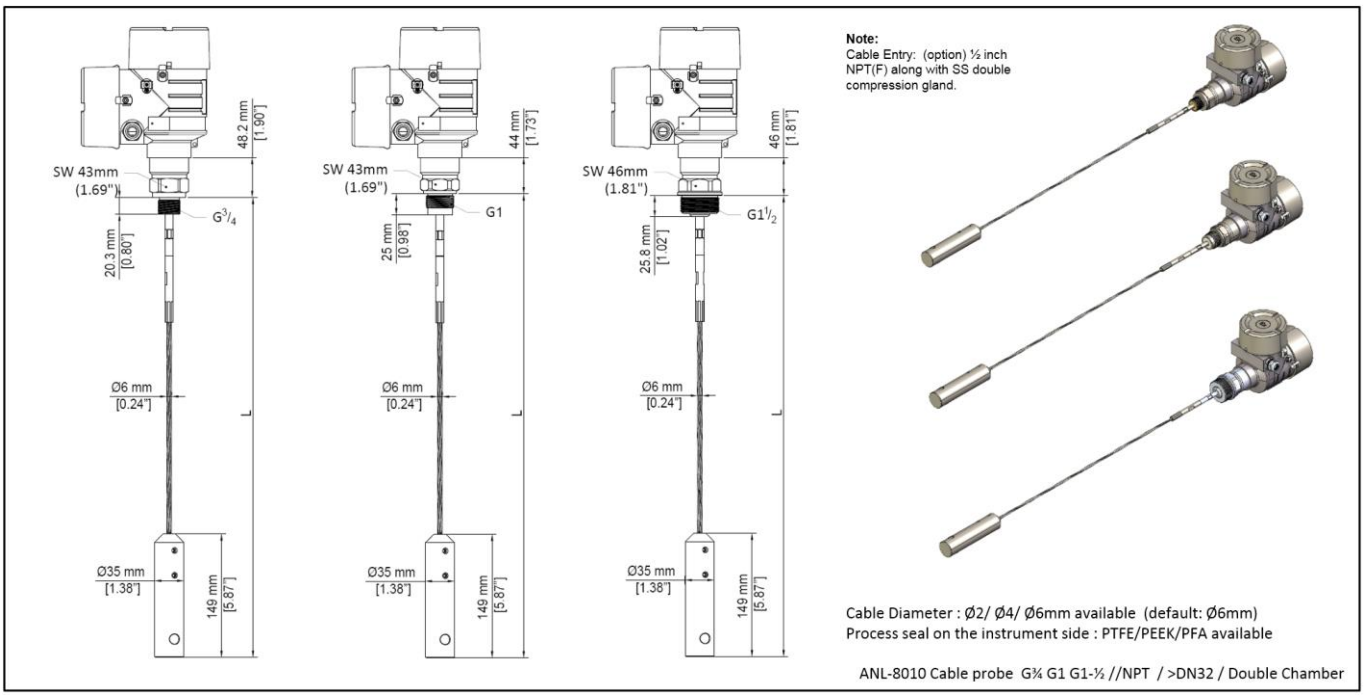
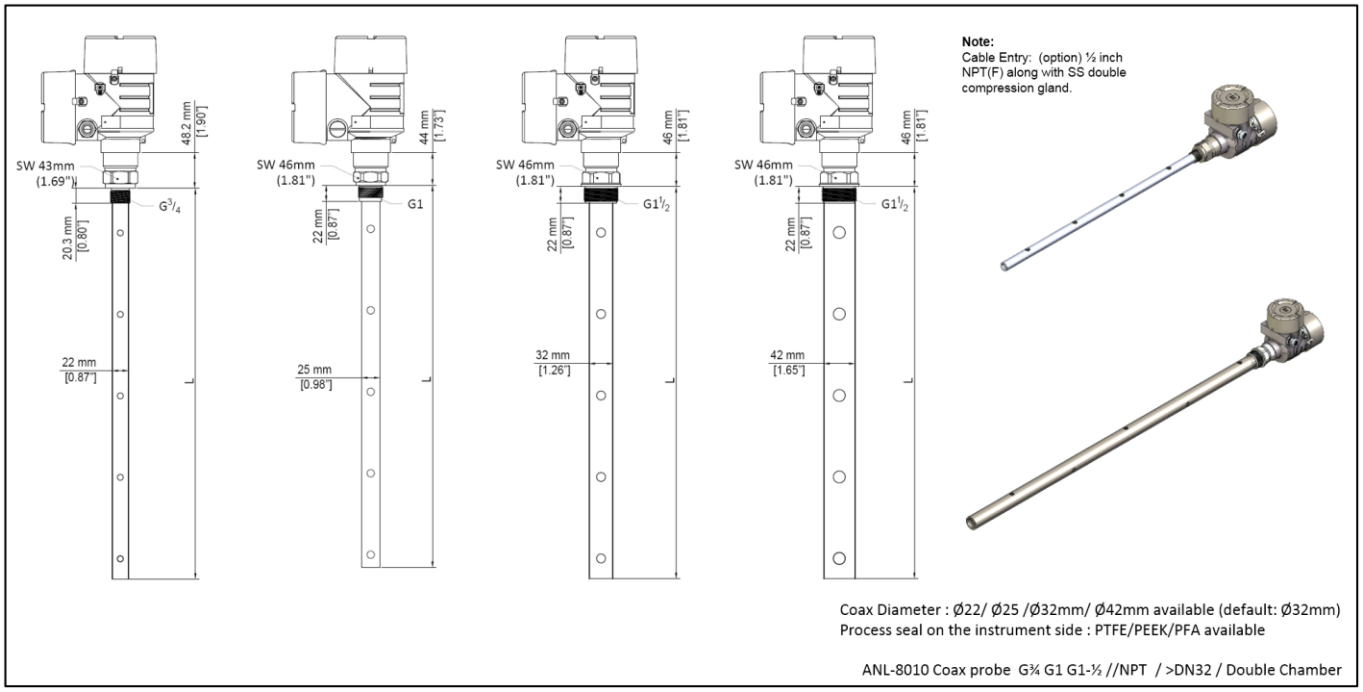
ANL-8010 Cable Dimensions



ANL-8010 Coaxial Dimensions



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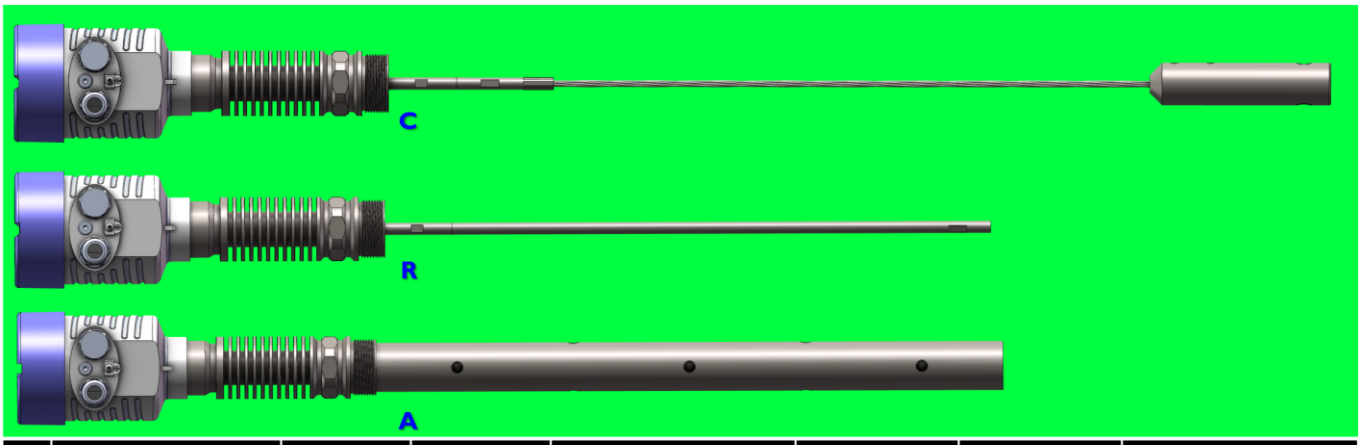
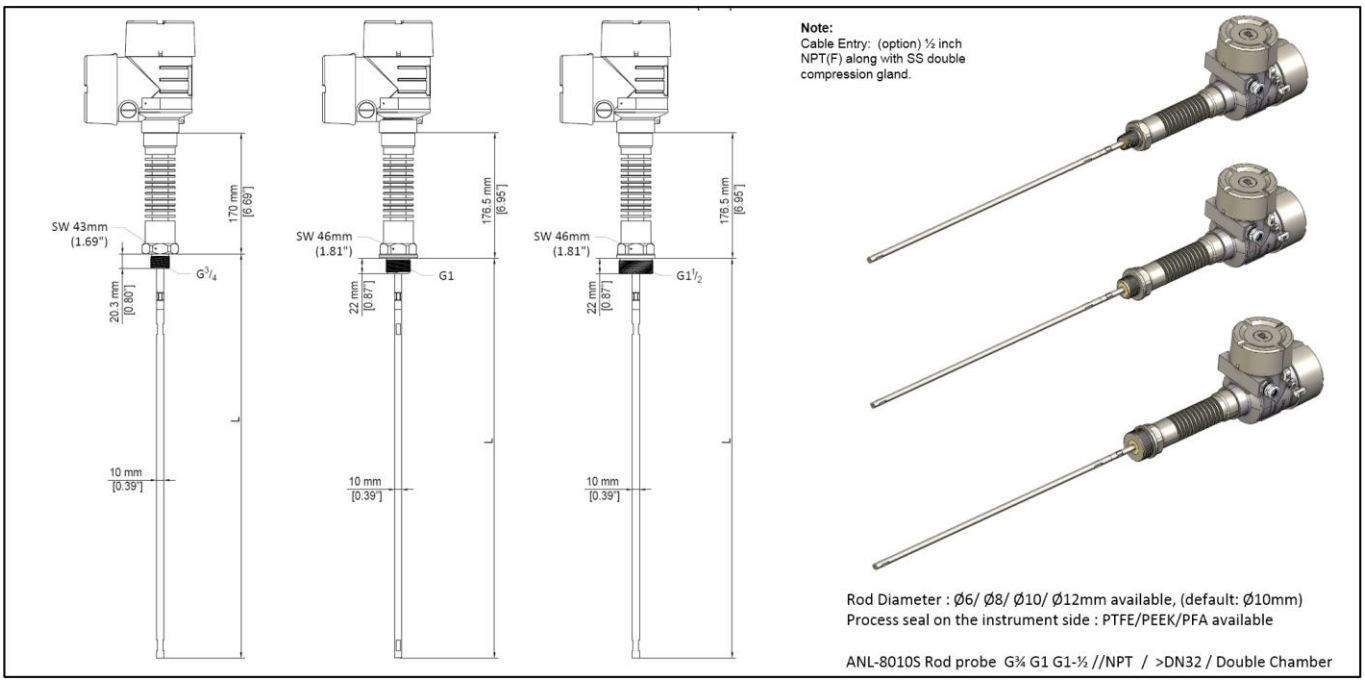
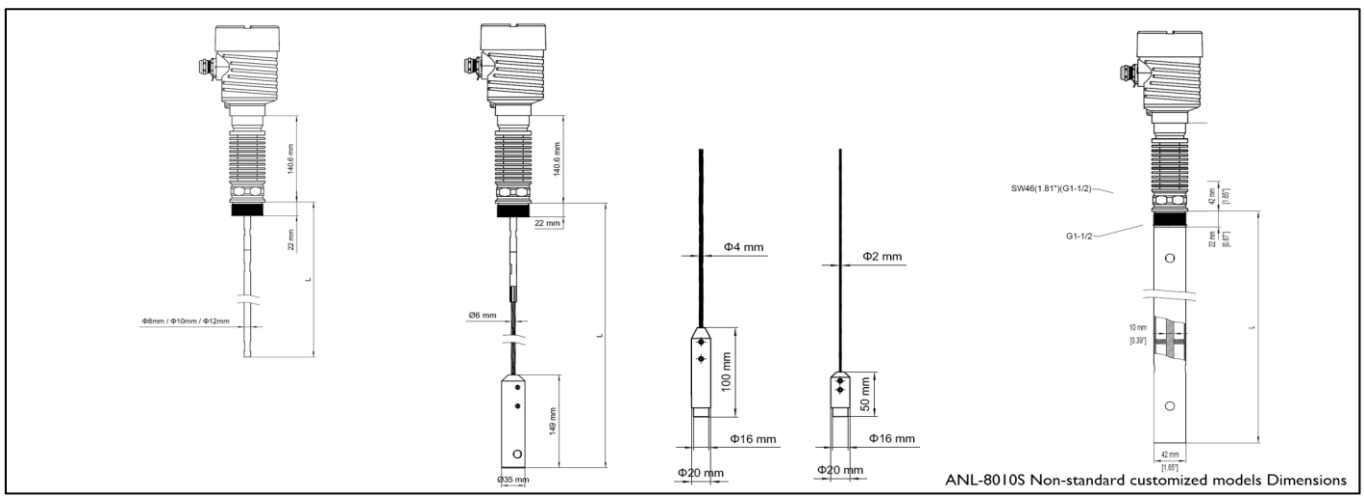
ANL-8010S G¾ G1 G1½ Serials standard specification



	名称 Model Name	安装方式 Connection Type	过程接触面材料 Materials of Conn.	被测物料相对介电参数 Relative permittivity of the medium	过程温度 Process Temperature	过程压力 Max. process pressure	最长探头长度 Max. probe length
①	ANL8010S-C (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	PEEK : -60 ~ +300℃ PTFE : -40 ~ +300℃ PFA : -196 ~ +360℃	4MPa	Ø 2mm < 70M Ø 4mm < 45M Ø 6mm < 30M
②	ANL8010S-R (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	PEEK : -60 ~ +300℃ PTFE : -40 ~ +300℃ PFA : -196 ~ +360℃	4MPa	Ø6mm / Ø8mm / Ø10mm / Ø12mm < 6M
③	ANL8010S-A (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.4 (regular version)	PEEK : -60 ~ 300℃ PTFE : -40 ~ 300℃ PFA : -196 ~ +360℃	4MPa	Ø22 / Ø25 / Ø32 / Ø42mm < 6M





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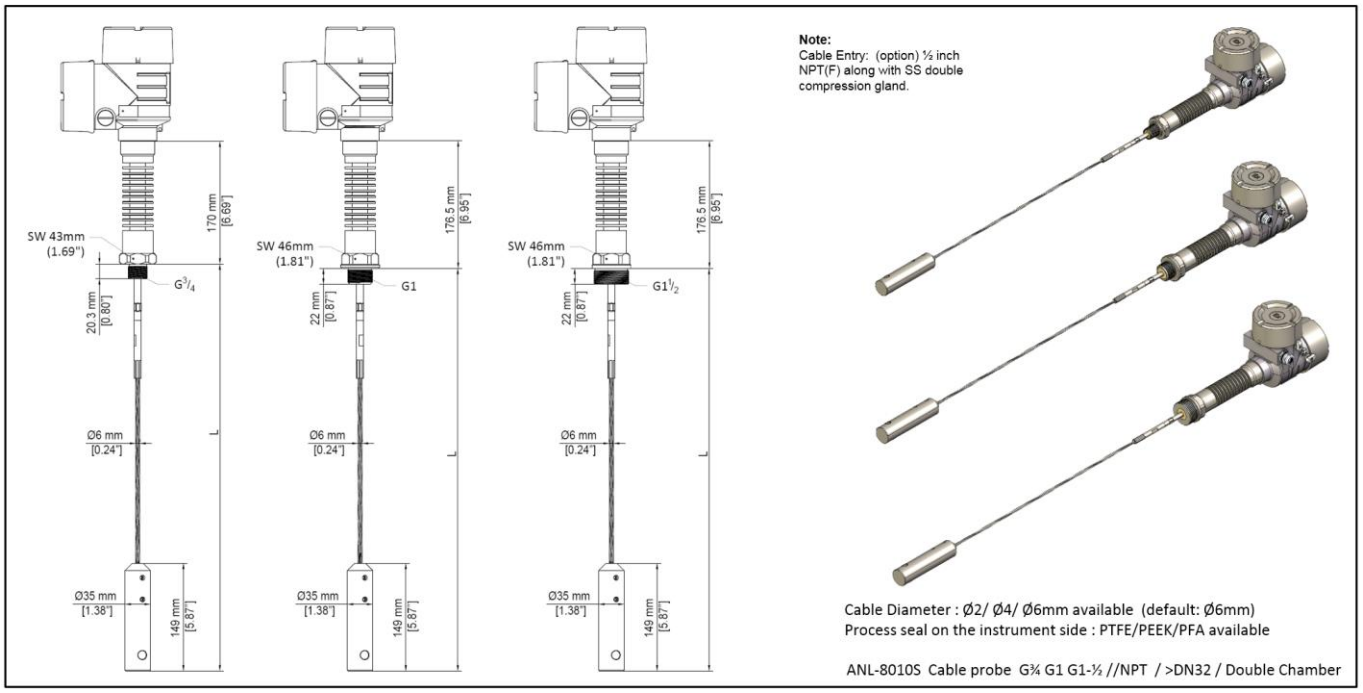
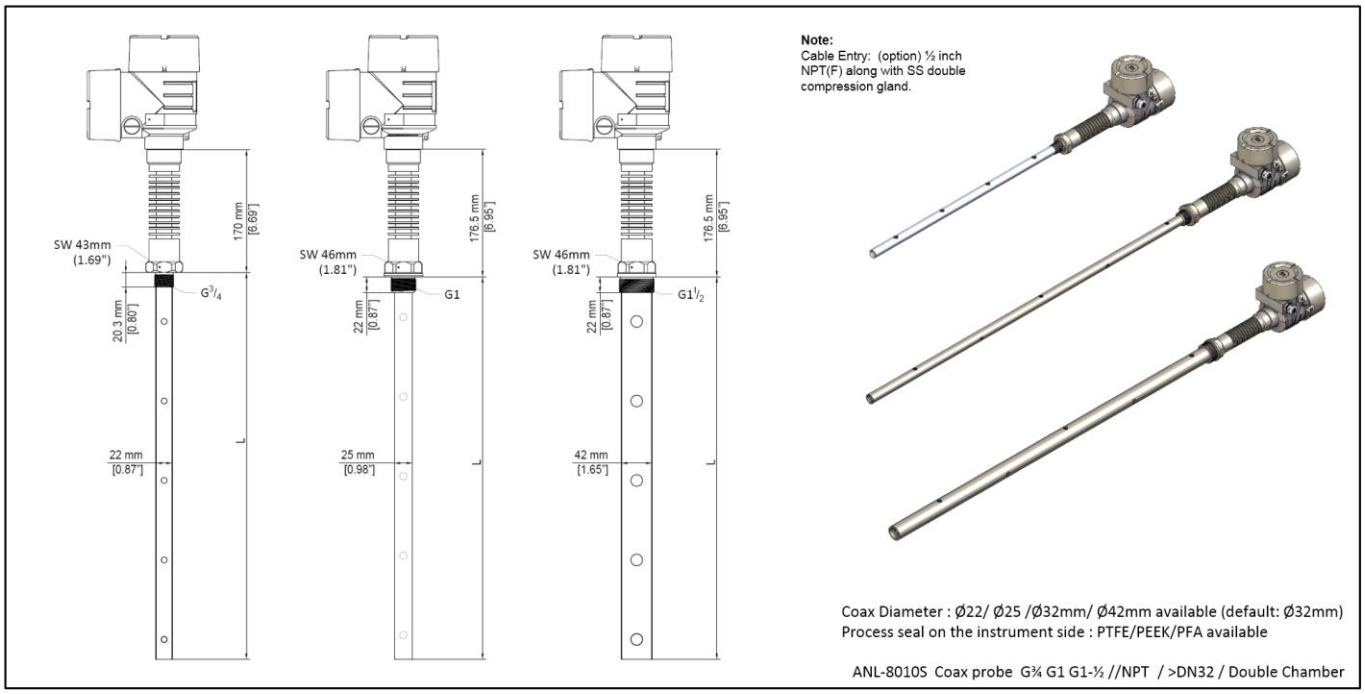
ANL-8010S Cable Dimensions



ANL-8010S Coaxial Dimensions



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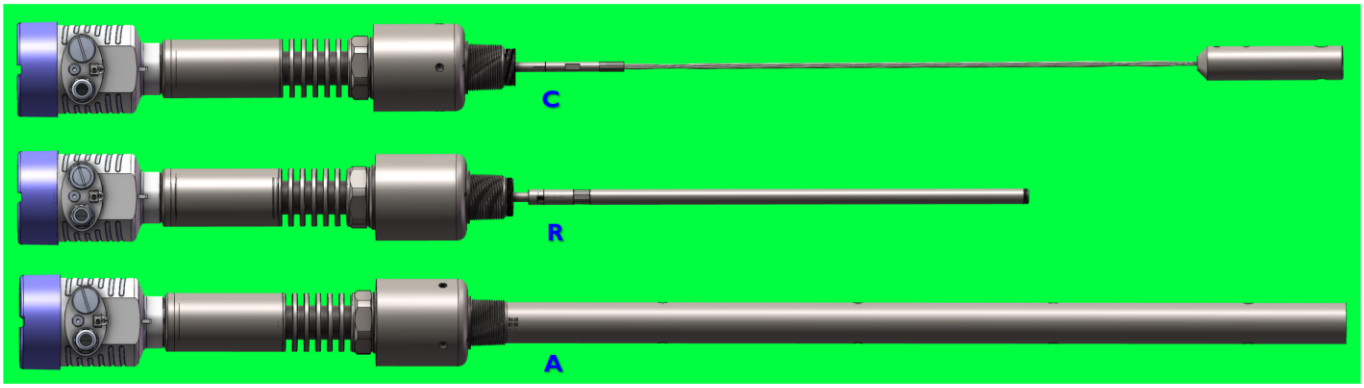
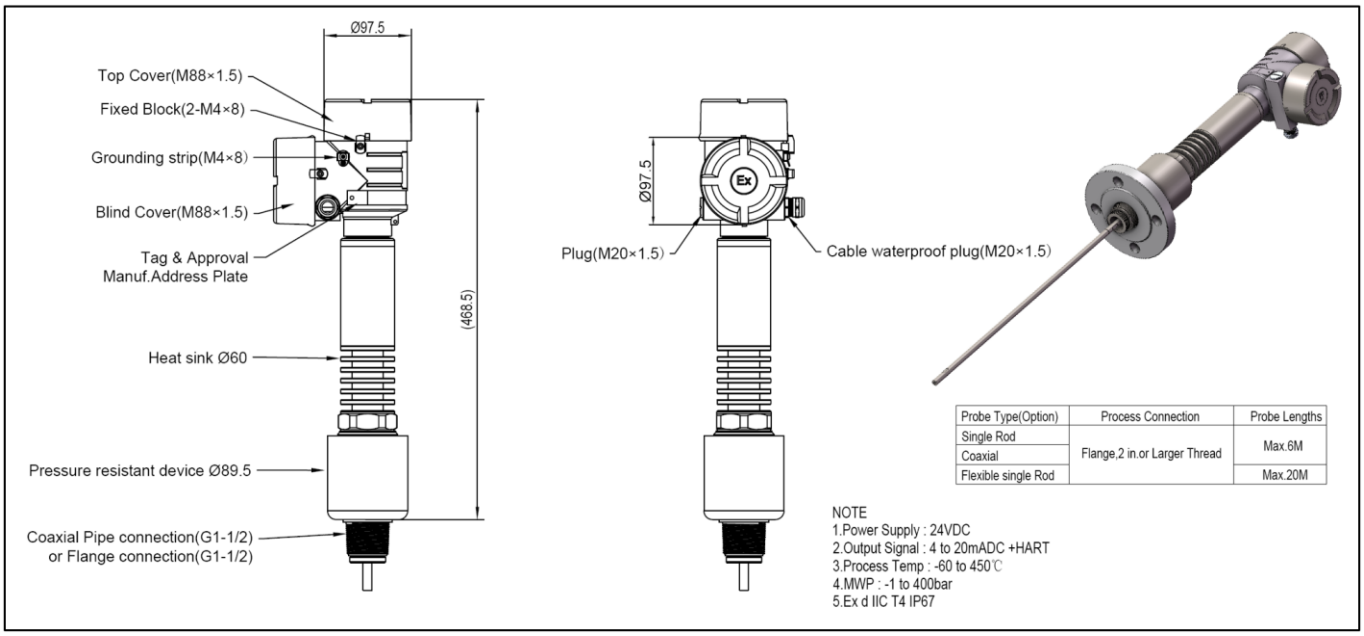
ANL-8010H G¾ G1 G1½ Serials standard specification

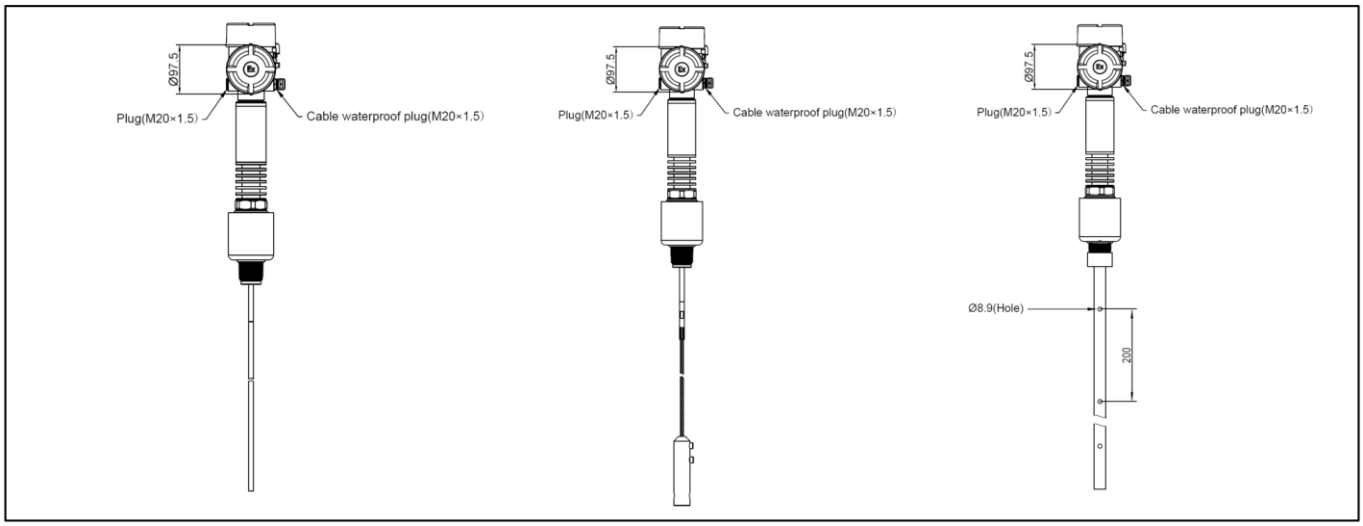


	名称 Model Name	安装方式 Connection Type	过程接触面材料 Materials of Conn.	被测物料相对介电参数 Relative permittivity of the medium	过程温度 Process Temperature	过程压力 Max. process pressure	最长探头长度 Max. probe length
①	ANL8010H-C (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	Ceramic and graphite seals	>1.6 (regular version)	-196 ~ +450℃	40MPa	Ø 4mm < 45M Ø 6mm < 30M
②	ANL8010H-R (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	Ceramic and graphite seals	>1.6 (regular version)	-196 ~ +450℃	40MPa	Ø8mm / Ø10mm / Ø16mm < 6M
③	ANL8010H-A (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	Ceramic and graphite seals	>1.4 (regular version)	-196 ~ +450℃	40MPa	Ø22 / Ø25 / Ø32 / Ø42mm < 6M



Probe Type(Option)	Process Connection	Probe Lengths
Single Rod	Flange,2 in.or Larger Thread	Max.6M
Coaxial		
Flexible single Rod		Max.20M

NOTE
1.Power Supply : 24VDC
2.Output Signal : 4 to 20mADC +HART
3.Process Temp : -60 to 450℃
4.MWP : -1 to 400bar
5.Ex d IIC T4 IP67



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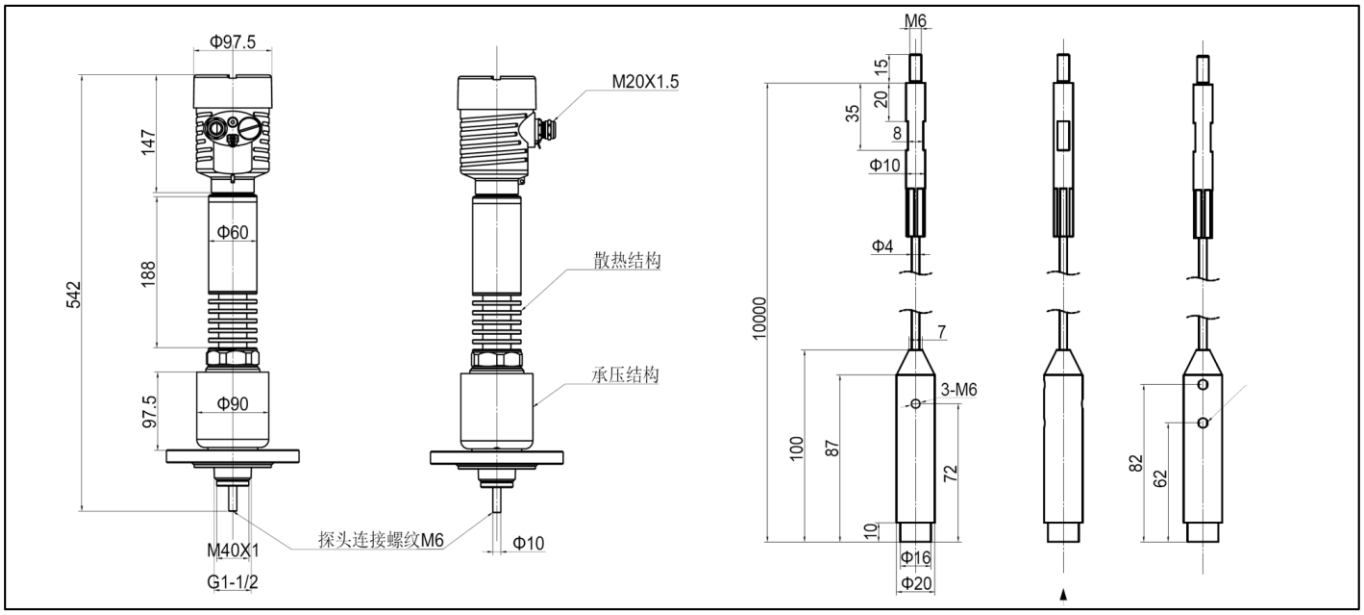
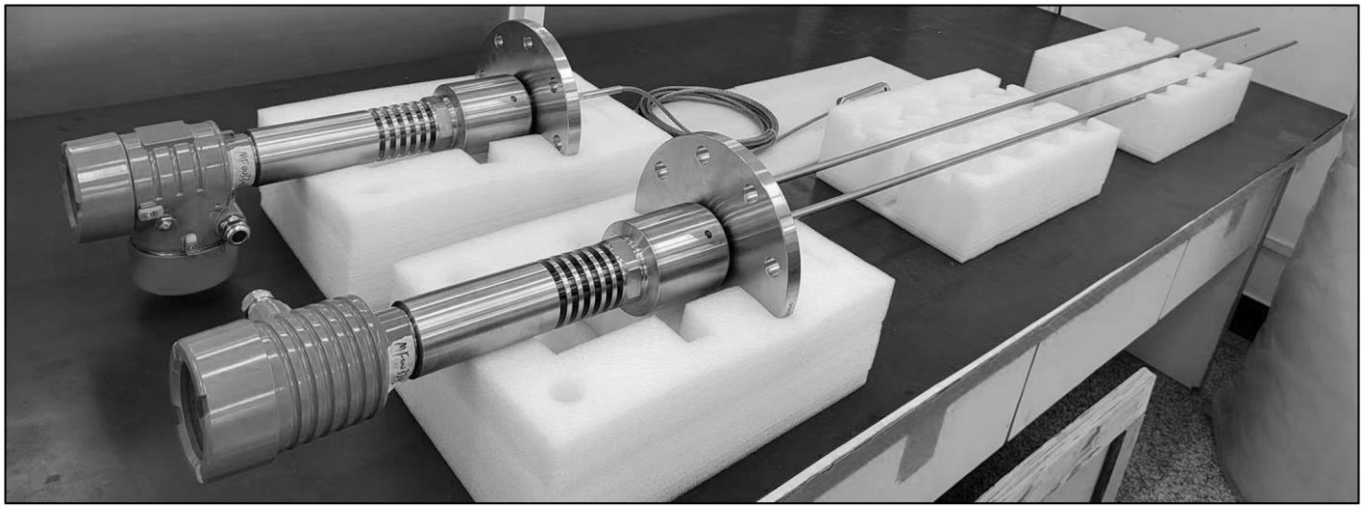
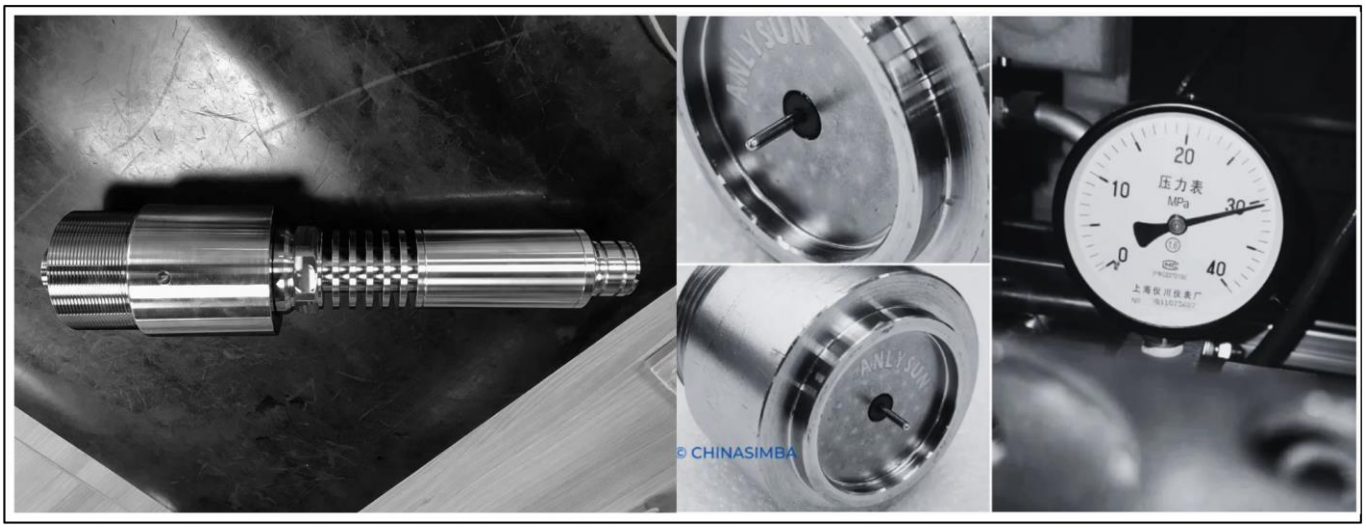
ANL-8010H Dimensions







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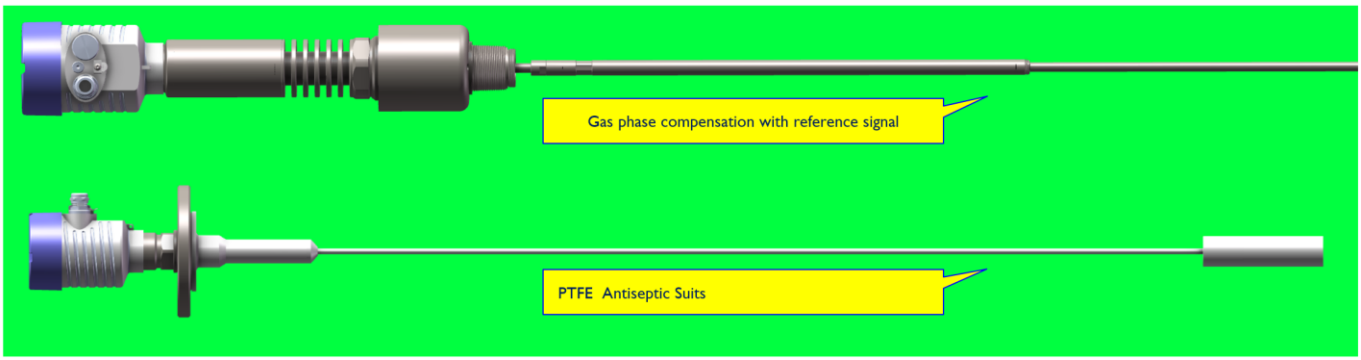
ANL-8010 non-standard specification



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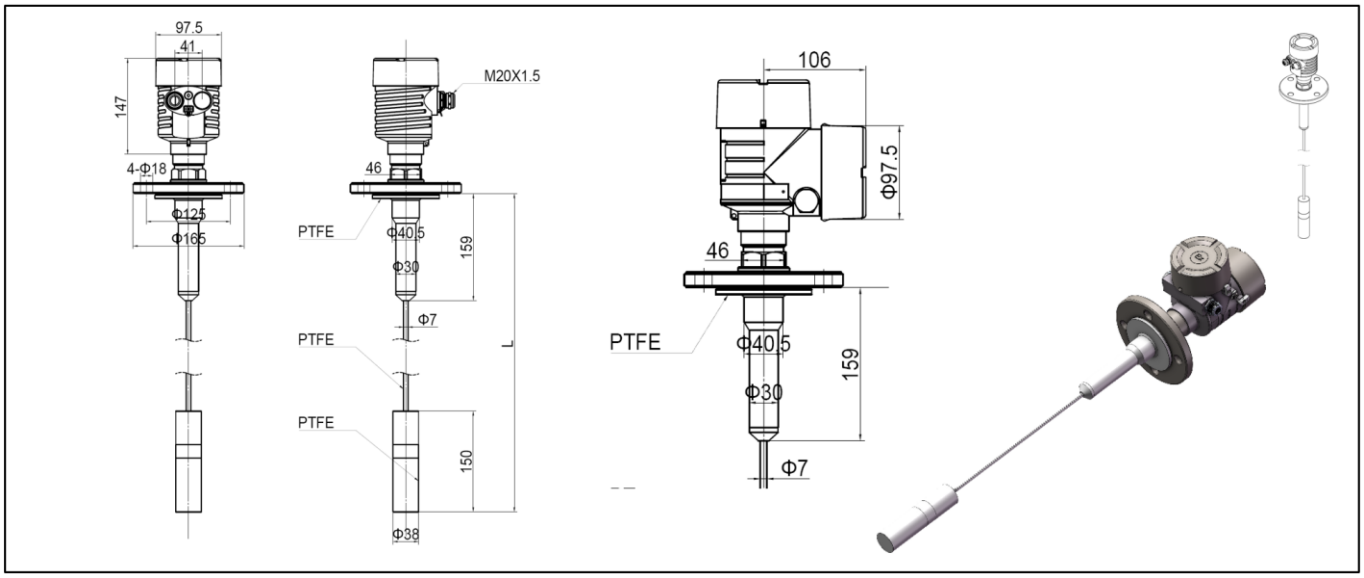
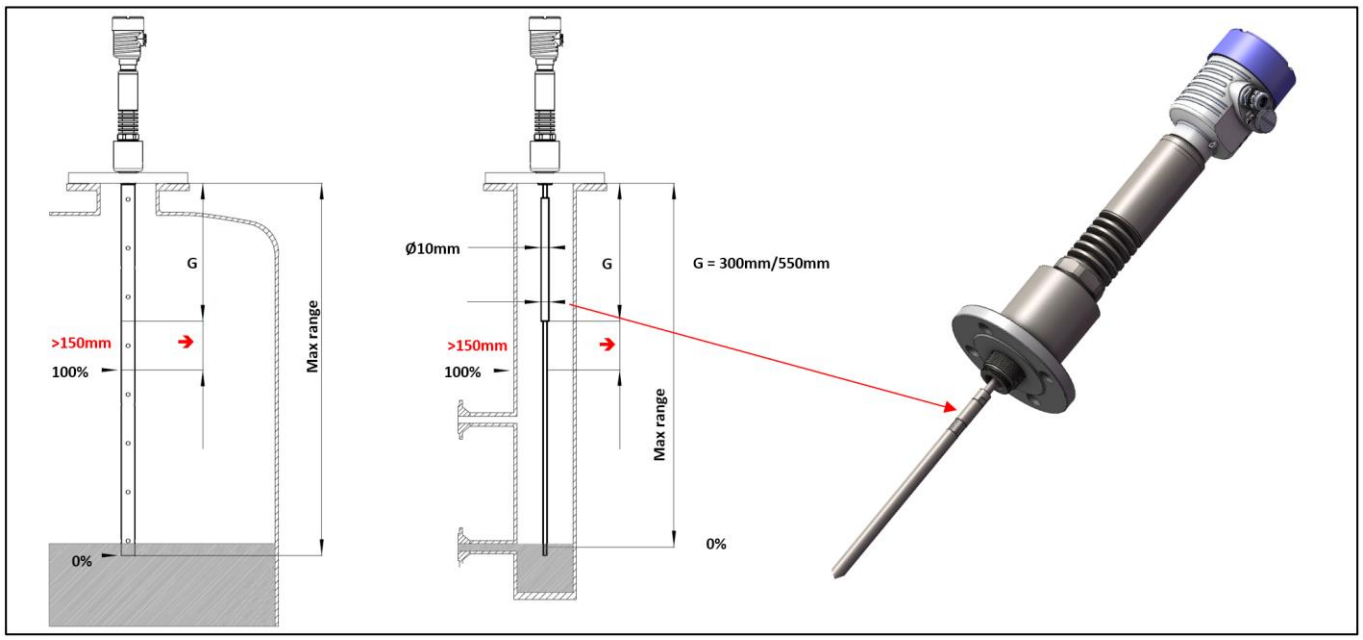
①	ANL8010H-A (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	-196 ~ +260℃	40MPa	(*)
②	ANL8010 rod / cable	G1½	PTFE Antiseptic suits	>2.0 (regular version)	PTFE : -40 ~ +200℃	< 2 MPa	Cable: Ø8mm / Ø10mm Rod < 2M

Note: Rod probes with reference reflection are only suited for mounting in stilling wells and side gauges (bypasses). The reference reflection diameter D of the probe rod in the range of the reference distance L must be chosen depending on the pipe inner rod diameter.





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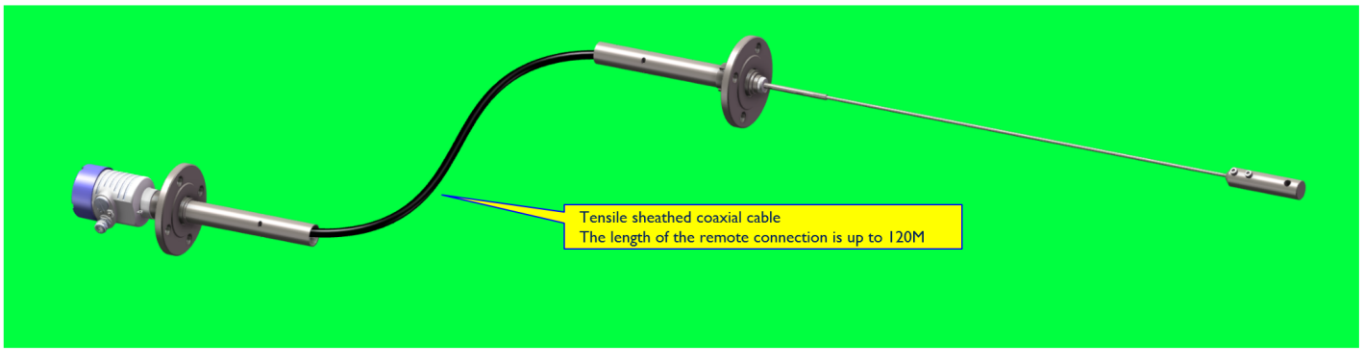
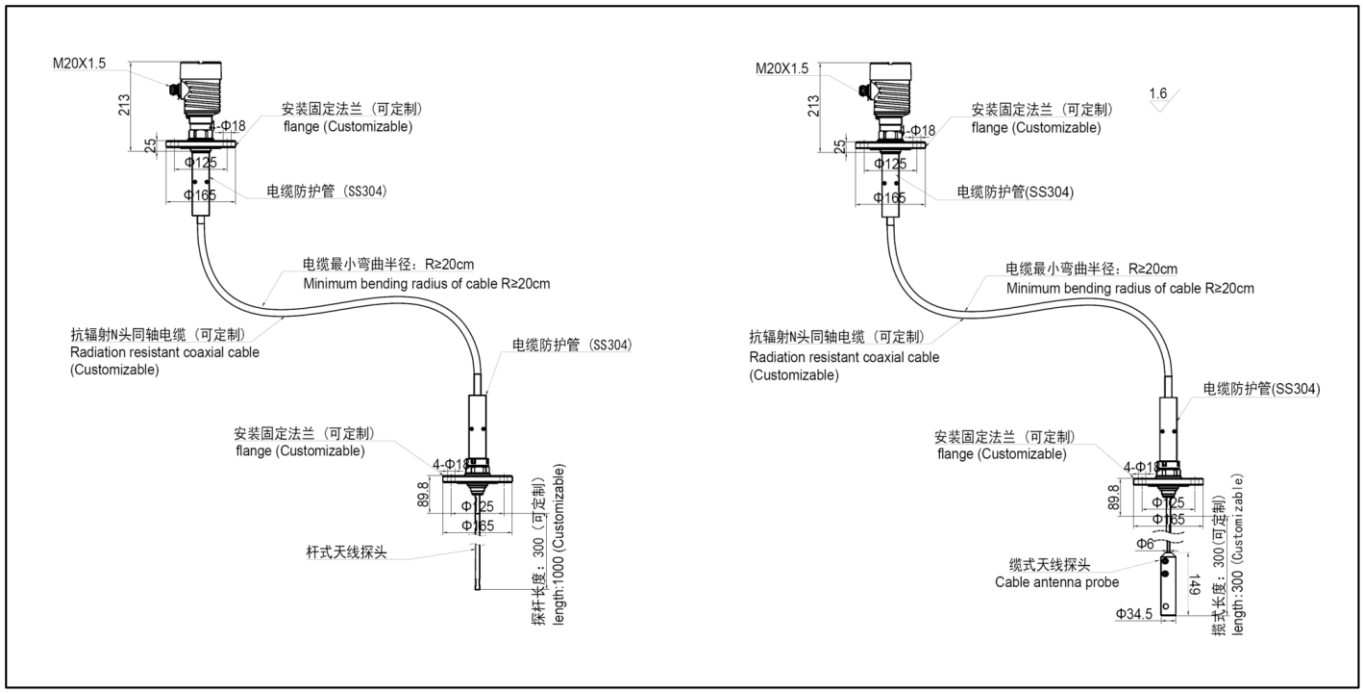
ANL-8010P G¾ G1 G1½ Serials standard specification



	名称 Model Name	安装方式 Connection Type	过程接触面材料 Materials of Conn.	被测物料相对介电参数 Relative permittivity of the medium	过程温度 Process Temperature	过程压力 Max. process pressure	最长探头长度 Max. probe length
①	ANL8010P-C (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	PEEK: -60 ~ +200℃ PTFE: -40 ~ +200℃ PFA: -196 ~ +260℃	4MPa	Ø 2mm < 70M Ø 4mm < 45M Ø 6mm < 30M
②	ANL8010P-R (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.6 (regular version)	PEEK: -60 ~ +200℃ PTFE: -40 ~ +200℃ PFA: -196 ~ +260℃	4MPa	Ø6mm / Ø8mm / Ø10mm / Ø12mm < 6M
③	ANL8010P-A (G¾ G1 G1½)	BSSP(G) thread G1½ (default)	PTFE (default) or PEEK or PFA	>1.4 (regular version)	PEEK: -60 ~ 200℃ PTFE: -40 ~ 200℃ PFA: -196 ~ +260℃	4MPa	Ø22 / Ø25 / Ø32 / Ø42mm < 6M



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ANL-8010,ANL-8010S

Guided Wave Radar Level and interface transmitters

Version V.2024

Characteristics

- Level and interface measurement in liquids and bulk solids.
- The user interface of the product can be adjusted through mobile phone.
- Remote parameter setting can be supported without going to on-site.
- Density fluctuations, steam generation or strong pressure and temperature fluctuations do not influence the measuring result.
- Build-up on the probe or the vessel wall do not influence the measurement
- Product adopts innovative multi-echo tracking technology, built-in storage of factory pre-calibration data, reliable measurement under fluctuating liquid levels and foams.
- Product is cost-effective, supports OEM/ODM, electronic modules are available.
- With inside overvoltage protection
- It supports the connection of tank tables to achieve distributed display and debugging

Application

- Typical process properties in bulk solids are strong dust and noise generation, buildup, condensation and of course the generation of material cones. ANL8010 is the ideal measuring system for silos or bunkers with such conditions. Typical product properties, such as moisture content, mixing ratio or granulate size, do not affect the function of the instrument, which makes planning really simple.
- The intelligent software guarantees high measurement certainty and a well monitored probe. An ideal application is level measurement in a bypass tube or standpipe, because even products with a dielectric constant below 1.4 can be reliably measured.
- Even in products with low dielectric constant (from 1.4) the sophisticated processing ensures reliable measuring results.
- Different probes are available: Cable probes for applications in high vessels up to 75m. Rod probes for applications in vessels up to 10m.

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Specifications

ANL-8010 - x	Rod	Cable	Coax
Max. measuring range	Max. 10m / Level or Level & Interface	Max. 45m / Level or Level & Interface	Max. 6m / Level or Level & Interface
DK value	DK >1.4	DK >1.6 @ ≤30m, DK >2.0 @ >30m	DK >1.2
Probe	Ø 8 / Ø 10 (default) / Ø 12mm	Ø 2 / Ø 4 / Ø 6mm (default)	Ø 22 / Ø 32(default) / Ø 42mm
Process fitting / Material wetted parts	Thread G¾, G1, G1½, NPT/ Flanges >= DN25 304L/316L/Alloy C, PEEK / PTFE (default) / PFA	Thread G¾, G1, G1½, NPT / Flanges >= DN50 304L/316L/Alloy C, PEEK / PTFE (default) / PFA	Thread G¾, G1, G1½, NPT /Flanges >= DN50 304L/316L/Alloy C, PEEK / PTFE (default) / PFA
Ambient temperature	-40 … +85 °C / -60 … +105 °C (cool version)		
Process temperature	-60°C … +200°C / PEEK, -40°C … +200°C / PTFE, -195°C … +260°C / PFA		
Max. process pressure	-1 … 4MPa	-1 … 4MPa	-1 … 4MPa
Measuring accuracy	level: ±2 mm Interface: ±5 mm	level: ±2 mm@<=15M, ±6 mm@>15M Interface: ±8 mm	level: ±1 mm Interface: ±5 mm
Signal output	4-20 mA/HART7 2-wire, 4-20 mA/HART7 4-wire, Profibus PA / DP, Ethernet-APL, Modbus protocol 4-wire		
Variables influencing meas. accuracy	Specifications for the digital measured value Temperature drift - Digital output: ±1mm/10K relating to the max. measuring range or max. 15 mm Additional deviation through electromagnetic interference acc. to EN-61326: < ±10 mm Specifications apply also to the current output Temperature drift - Current output: ±0.01%/10K relating to the 16.7 mA span or max. ±0.15% Deviation in the current output due to digital/analogue conversion Non-Ex and Ex-ia version: < ±1μA; Ex-d-ia version: < ±1μA Additional deviation through electromagnetic interference acc. to EN-61326: < ±150μA		
Indication/Adjustment	1. 160x80 LCD FSTN RGB backlight monitor adapter with keyboard module, operation Temp. -20°C … 70°C. or 128x64 OLED monitor adapter with keyboard module, operation Temp. -55°C … 80°C. (option) or 230x240 LCD TFT colors monitor adapter with keyboard module, operation Temp. -20°C … 70°C. (option only for 4-wrie system) 2. (APP) Radar MobileManager via BT wireless connection 3. (PC software) Radar PCManager /or Via a PC with PACTware/DTM (an interface converter AiW-305 USB CONNECT is required)		
Power supply	14.5V ~ 40 VDC / Load resistor > 600Ω		
Wireless communication	Bluetooth 5.0 (Bluetooth 4.0 LE compatible), communication range 40m, in rainy day 20m		
Approvals	Ex ia IIC T6 Ga IP67; Ex d IIC T6 Gb IP67		
Housing	Single chamber / Double chamber, Aluminum / Stainless steel / Plastic PBT, IP66 / IP67 / IP68		
Applications	Storage silos, storage tanks, liquids with smooth surface	Storage tanks, liquids with agitated surface, high storage silos, silos with product movement	Storage tanks, liquids with low dielectric constant, vessel with installations

SERVICE CONTACT: 86-13799977915, 86-18965063391(TECHNICAL SUPPORT), 86-18106067295(AFTER SALE SERVICE)
ALTHOUGH WE HAVE RECONCILED THE CONTENTS OF THE MANUAL WITH DESCRIPTION OF INSTRUMENT, THERE MAY STILL BE CHANGES WE CANNOT ENSURE THAT IT IS FULLY CONSISTENT. THE CONTENT WILL BE CHECKED AND CORRECTED IN AN ORDERLY, AND THE ERRATA WILL BE IN SUBSEQUENT RELEASES. WE WELCOME USERS TO MAKE VARIOUS SUGGESTIONS FOR IMPROVEMENT. [TECHNICAL DATA SUBJECT TO CHANGE]

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ANL-8010S - x	Rod	Cable	Coax
Max. measuring range	Max. 10m / Level or Level & Interface	Max. 45m / Level or Level & Interface	Max. 6m / Level or Level & Interface
DK value	DK >1.4	DK >1.6 @ ≤30m, DK >2.0 @ >30m	DK >1.2
Probe	Ø 8 / Ø 10 (default) / Ø 12mm	Ø 2 / Ø 4 / Ø 6mm (default)	Ø 22 / Ø 32(default) / Ø 42mm
Process fitting / Material wetted parts	Thread G¾, G1, G1½, NPT/ Flanges >= DN25 304L/316L/Alloy C, PEEK / PTFE (default) / PFA	Thread G¾, G1, G1½, NPT / Flanges >= DN50 304L/316L/Alloy C, PEEK / PTFE (default) / PFA	Thread G¾, G1, G1½, NPT /Flanges >= DN50 304L/316L/Alloy C, PEEK / PTFE (default) / PFA
Ambient temperature	-40 … +85 °C / -60 … +105 °C (cool version)		
Process temperature	-60°C … +300°C / PEEK, -40°C … +300°C / PTFE, -195°C … +360°C / PFA		
Max. process pressure	-1 … 4MPa	-1 … 4MPa	-1 … 4MPa
Measuring accuracy	level: ±2 mm Interface: ±5 mm	level: ±2 mm@<=15M, ±6 mm@>15M Interface: ±8 mm	level: ±1 mm Interface: ±5 mm
Signal output	4-20 mA/HART7 2-wire, 4-20 mA/HART7 4-wire, Profibus PA / DP, Ethernet-APL, Modbus protocol 4-wire		
Variables influencing meas. accuracy	Specifications for the digital measured value Temperature drift - Digital output: ±1mm/10K relating to the max. measuring range or max. 15 mm Additional deviation through electromagnetic interference acc. to EN-61326: < ±10 mm Specifications apply also to the current output Temperature drift - Current output: ±0.01%/10K relating to the 16.7 mA span or max. ±0.15% Deviation in the current output due to digital/analogue conversion Non-Ex and Ex-ia version: < ±1μA; Ex-d-ia version: < ±1μA Additional deviation through electromagnetic interference acc. to EN-61326: < ±150μA		
Indication/Adjustment	1. 160x80 LCD green backlight monitor adapter with keyboard module, operation Temp. -20°C …70°C. or 128x64 OLED monitor adapter with keyboard module, operation Temp. -55°C … 80°C. (option) or 230x240 LCD TFT colors monitor adapter with keyboard module, operation Temp. -20°C … 70°C. (option only for 4-wrie system) 2. (APP) Radar MobileManager via BT wireless connection 3. (PC software) Radar PCManager /or (an interface converter AiW-305 USB CONNECT is required)		
Power supply	14.5V ~ 40 VDC / Load resistor > 600Ω		
Wireless communication	Bluetooth 5.0 (Bluetooth 4.0 LE compatible), communication range 40m, in rainy day 20m		
Approvals	Ex ia IIC T6 Ga IP67; Ex d IIC T6 Gb IP67		
Housing	Single chamber / Double chamber, Aluminum / Stainless steel / Plastic PBT, IP66 / IP67 / IP68		
Applications	Storage silos, storage tanks, liquids with smooth surface	Storage tanks, liquids with agitated surface, high storage silos, silos with product movement	Storage tanks, liquids with low dielectric constant, vessel with installations

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ANL-8010H high-temperature & high-pressure version

Guided Wave Radar Level and interface transmitters

Version V.2024

Characteristics

- Level, Level/interface measurement in liquids, solids, hygienic and extreme conditions.
- The user interface of the product can be adjusted through mobile phone or remote parameter setting can be supported without going to on-site.
- Density fluctuations, steam generation or strong pressure and temperature fluctuations do not influence the measuring result.
- Build-up on the probe or the vessel wall do not influence the measurement
- Product adopts innovative multi-echo tracking technology, built-in storage of factory pre-calibration data, reliable measurement under fluctuating liquid levels and foams.
- One digital and 2 current output options available, self-monitoring meets theNE43/NE107 standards.
- Real-time measurements with inside overvoltage protection.
- It supports the connection of tank tables to achieve distributed display and debugging.

Application

- Typical process properties in liquids, solids, hygienic and extreme condition applications, even in strong construction with dual seal to ensure its integrity in applications including options for aggressive such as ammonia etc.
- The intelligent software guarantees high measurement certainty and a well monitored probe. An ideal application is level measurement in a bypass tube or standpipe, because even products with a dielectric constant below 1.2 can be reliably measured.
- The ANL-8010H features advanced measurement techniques that provide a unique solution to the saturated steam applications, such as high temperature high pressure water used in power generation.
- The ANL-8010H GWR transmitter is capable of effectively measuring both an upper liquid level and an interface liquid level. It is typically required that the upper liquid has a dielectric constant less than 10, and the lower liquid has a dielectric constant greater than 15. A typical interface application would be oil over water, with the upper layer of oil being non-conductive (DK≈2.0), and the lower layer of water being very conductive (DK≈80).
- Different probes are available, field replaceable and adjustable probes.

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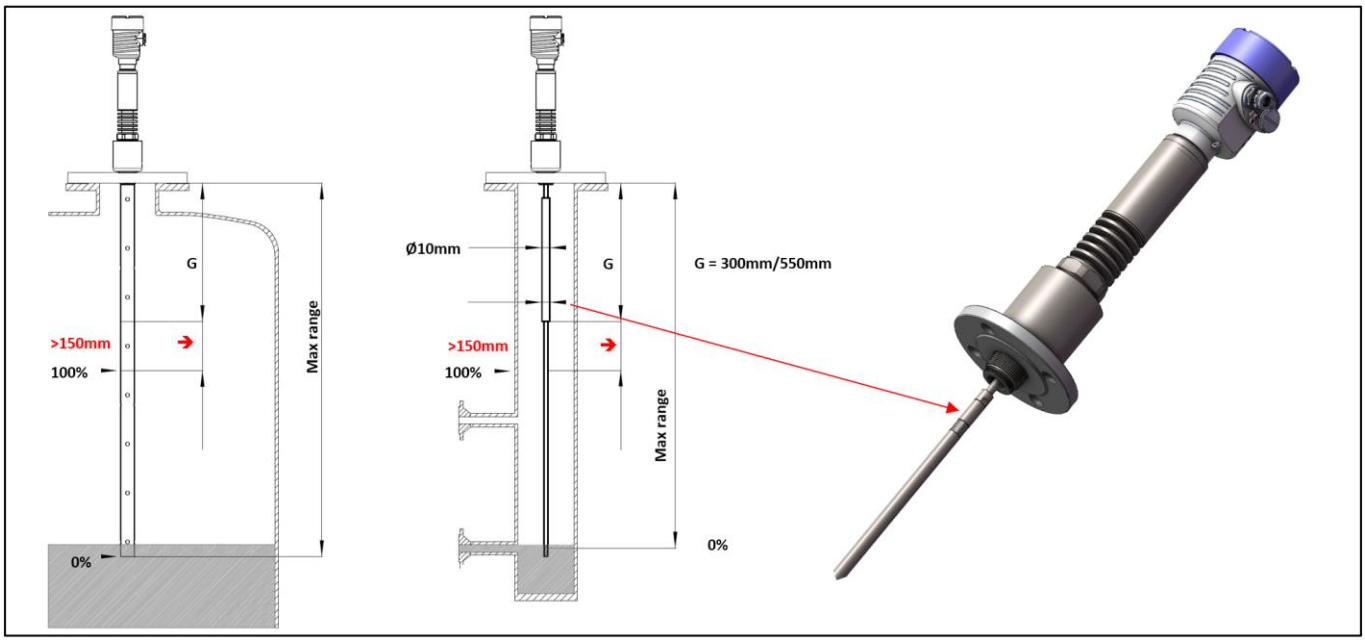
Gas phase compensation with reference signal (ANL-8010H-GP)

In the high-pressure application, the propagation speed of GWR signals is reduced in the steam (polar media) above the liquid to be measured. As a result, the Level signal indicates the level too low.

As an option ANL-8010H-GP version is available in a version with automatic gas phase correction, which corrects this error. (option Gas Phase Compensation G= 300mm/550mm). This version of the ANL-8010H-GP generates a reference reflection in the distance G from the flange by a diameter step of the probe rod.



NOTE: The reference reflection must be at least 150 mm above the highest level. By means of the shift of the reference reflection the actual propagation speed is measured and the level value will be automatically corrected. with reference reflection can be installed in any tank (free in the tank or into a bypass). Coax probes are completely mounted and adjusted ex works. Rod probes are only recommended if the installation of a coax probe is not possible (e.g. if the bypass diameter is too small).

Rod probes with reference reflection are only suited for mounting in stilling wells and side gauges (bypasses).

Level measurements with high pressure for measuring ranges up to a few meters in polar media with a dielectric constant DK > 7 (e.g. water or ammonia), which would cause a high measuring error without the compensation.

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Specifications

ANL-8010H - x	Rod	Cable	Coax
Max. measuring range	Max. 6m / Level or Level & Interface	Max. 45m / Level or Level & Interface	Max. 6m / Level or Level & Interface
DK value	DK >1.4	DK >1.6 @ ≤15m, DK >2.0 @ >15m	DK >1.2
Probe	Ø 8 / Ø 10 (default) / Ø 12mm	Ø 2 / Ø 4 / Ø 6mm (default)	Ø 22 / Ø 32(default) / Ø 42mm
Process fitting / Material wetted parts	Thread G1, G1½, NPT/ Flanges >= DN50, 304L/316L/Alloy C (options), Borosilicate glass, graphite Dual seal and meet the ASNI/ISA 12.27.01 specifications		
Ambient temperature	-40 … +85 °C / -60 … +105 °C (cool version)		
Process temperature	-196°C … +450°C		
Max. process pressure	-1 … 40MPa	-1 … 40MPa	-1 … 40MPa
Measuring accuracy	level: ±2 mm Interface: ±5 mm	level: ±2 mm@<=15M, ±6 mm@>15M Interface: ±8 mm	level: ±1 mm Interface: ±5 mm
Signal output	4-20 mA/HART7 2-wire, 4-20 mA/HART7 4-wire, Profibus PA / DP, Ethernet-APL, Modbus protocol 4-wire		
Variables influencing meas. accuracy	Specifications for the digital measured value Temperature drift - Digital output: ±1mm/10K relating to the max. measuring range or max. 15 mm Additional deviation through electromagnetic interference acc. to EN-61326: < ±10 mm Specifications apply also to the current output Temperature drift - Current output: ±0.01%/10K relating to the 16.7 mA span or max. ±0.15% Deviation in the current output due to digital/analogue conversion Non-Ex and Ex-ia version: < ±1µA; Ex-d-ia version: < ±1µA Additional deviation through electromagnetic interference acc. to EN-61326: < ±150µA		
Indication/Adjustment	4. 160x80 LCD FSTN RGB backlight monitor adapter with keyboard module, operation Temp. -20°C … 70°C. or 128x64 OLED monitor adapter with keyboard module, operation Temp. -55°C … 80°C. (option) or 230x240 LCD TFT colors monitor adapter with keyboard module, operation Temp. -20°C … 70°C. (option only for 4-wrie system) 5. (APP) Radar MobileManager via BT wireless connection 6. (PC software) Radar PCManager /or Via a PC with PACTware/DTM (an interface converter AiW-305 USB CONNECT is required)		
Power supply	14.5V ~ 40 VDC / Load resistor > 600Ω		
Wireless communication	Bluetooth 5.0 (Bluetooth 4.0 LE compatible), communication range 40m, in rainy day 20m		
Approvals	Ex ia IIC T6 Ga IP67; Ex d IIC T6 Gb IP67		
Housing	Single chamber / Double chamber, Aluminum / Stainless steel / Plastic PBT, IP66 / IP67 / IP68		
Applications	liquids, solids, hygienic and extreme condition high-temperature and high-pressure applications		

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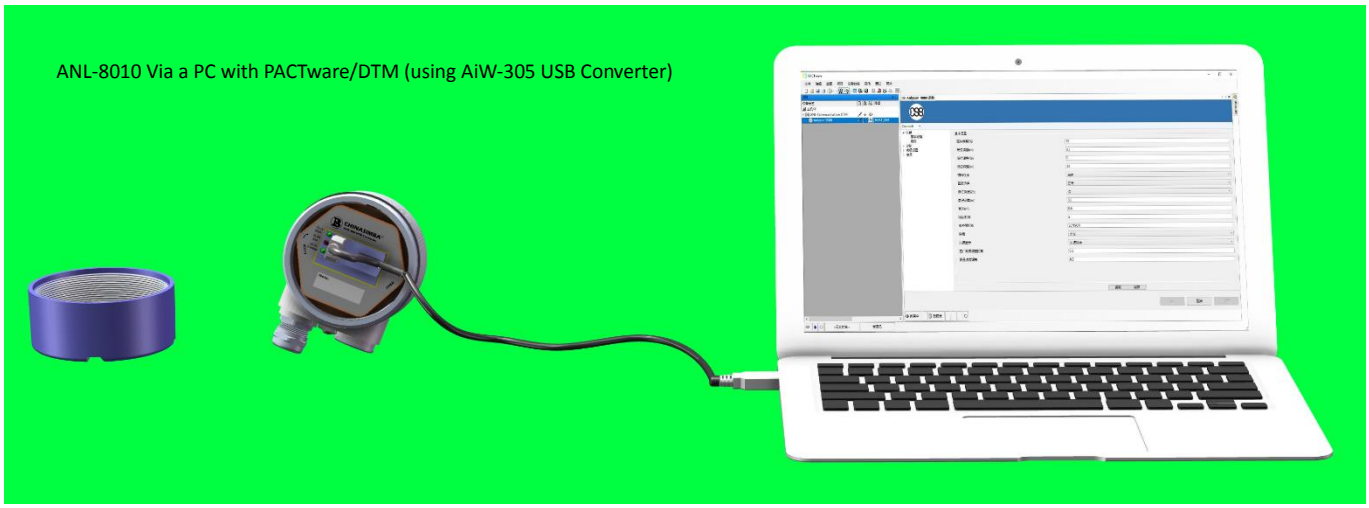
Adapters / Accessories

DTM Adapter for ANL-8010



AiW-305 USB Converter Adapter

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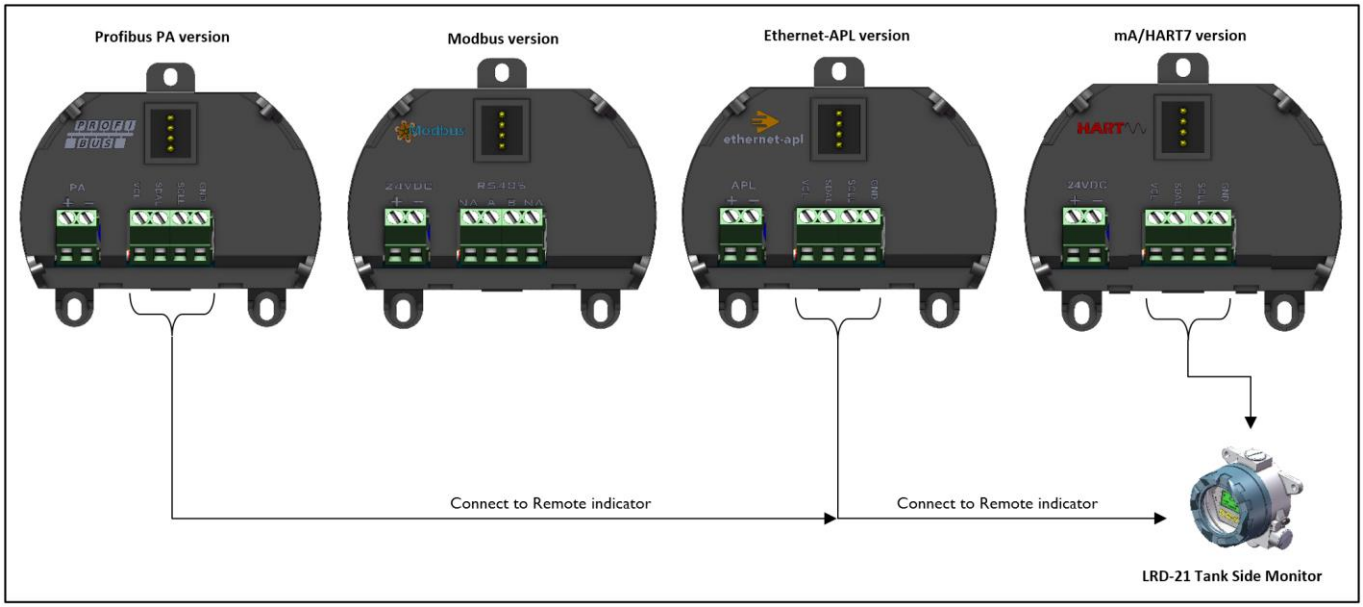
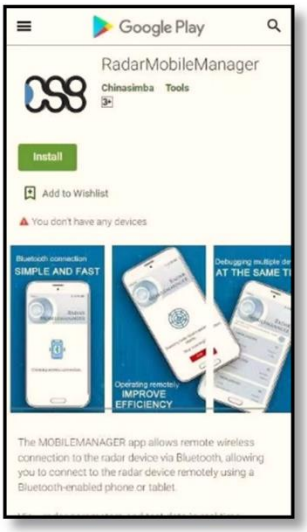
Remote programmer cum Indicator Adapters

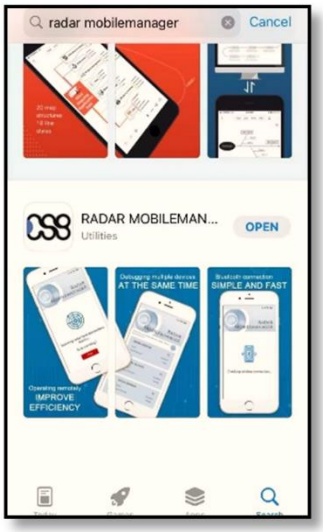
Remote indicator connects for ANL-8010

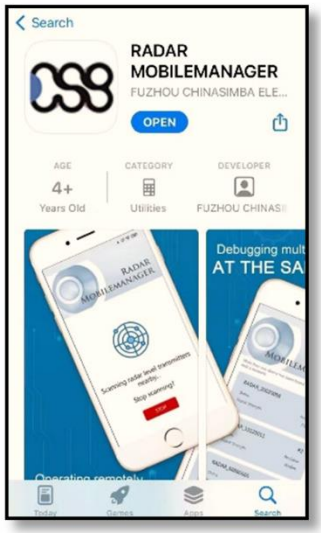


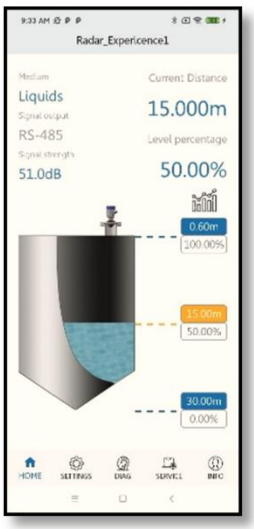
Remote indicator via Bluetooth communication

ANL-9080 radar level transmitters (with Bluetooth function) can be connected to mobile phone through Bluetooth wireless system. The mobile phone needs to install the RadarMobileManager APP. This is a free registered APP (Android and IOS etc.) software, which can be downloaded and installed directly in major APP Stores, or please contact the relevant product suppliers.









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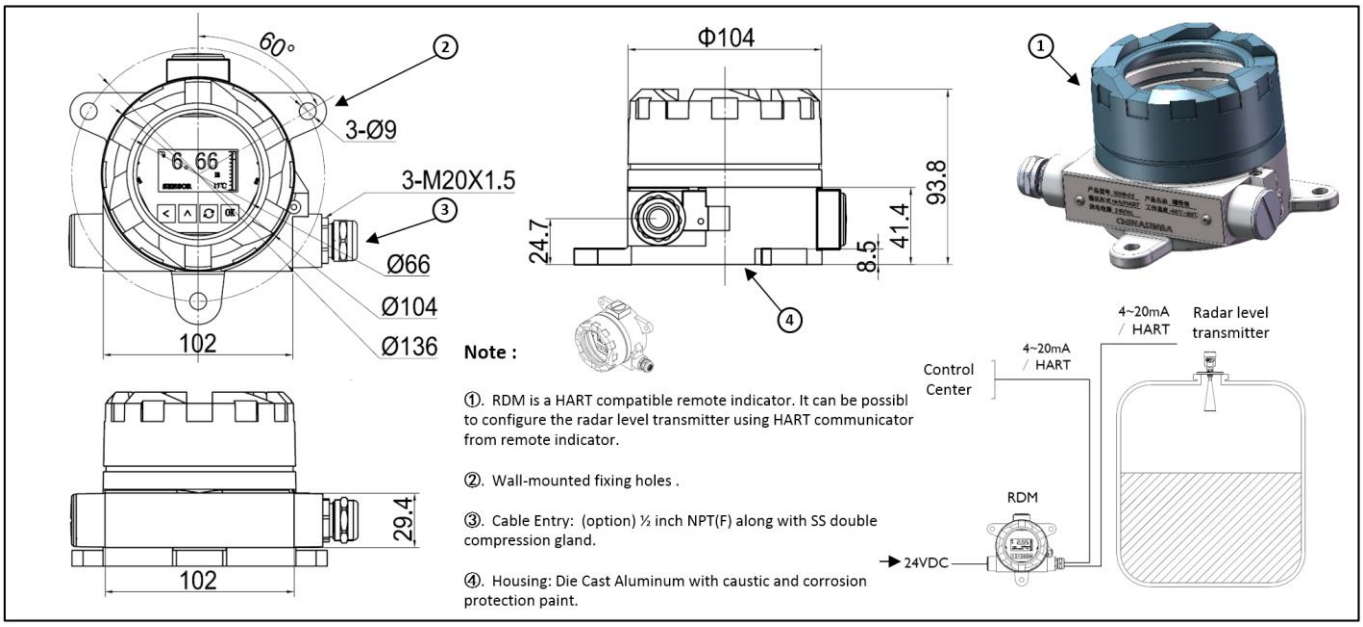
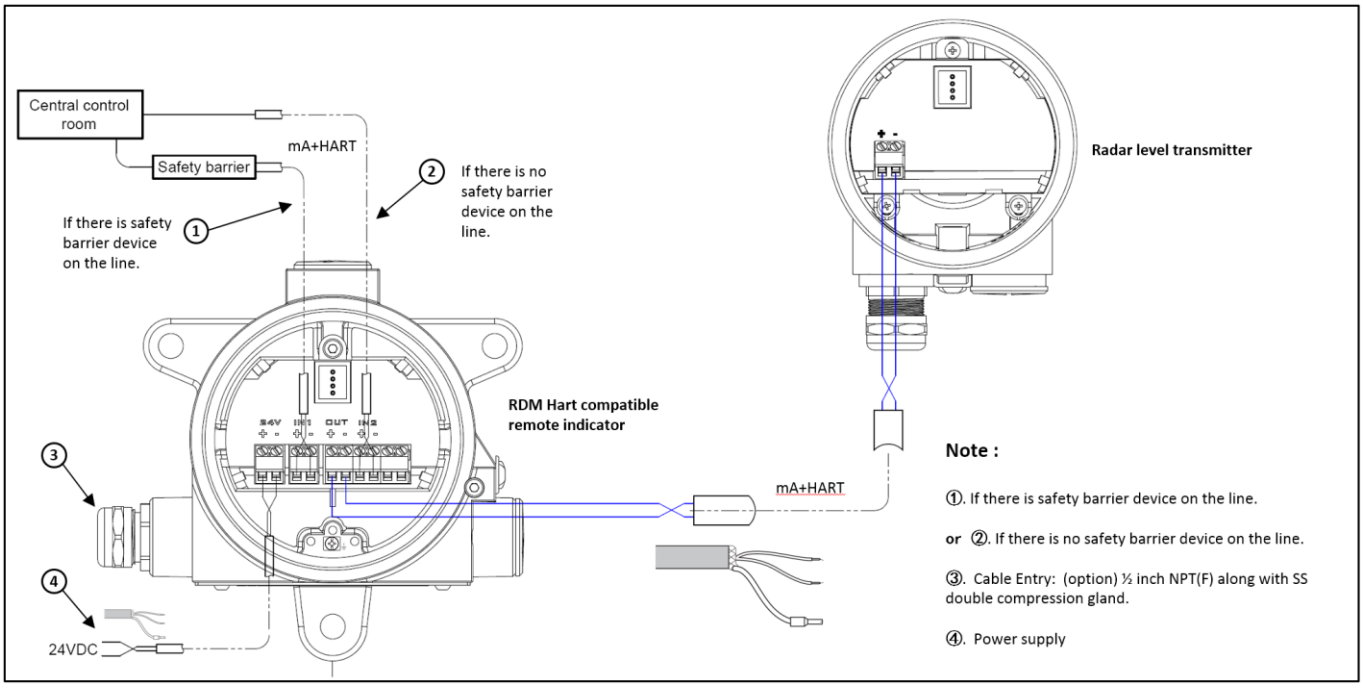
Remote indicator with HART compatible (RDM-25)





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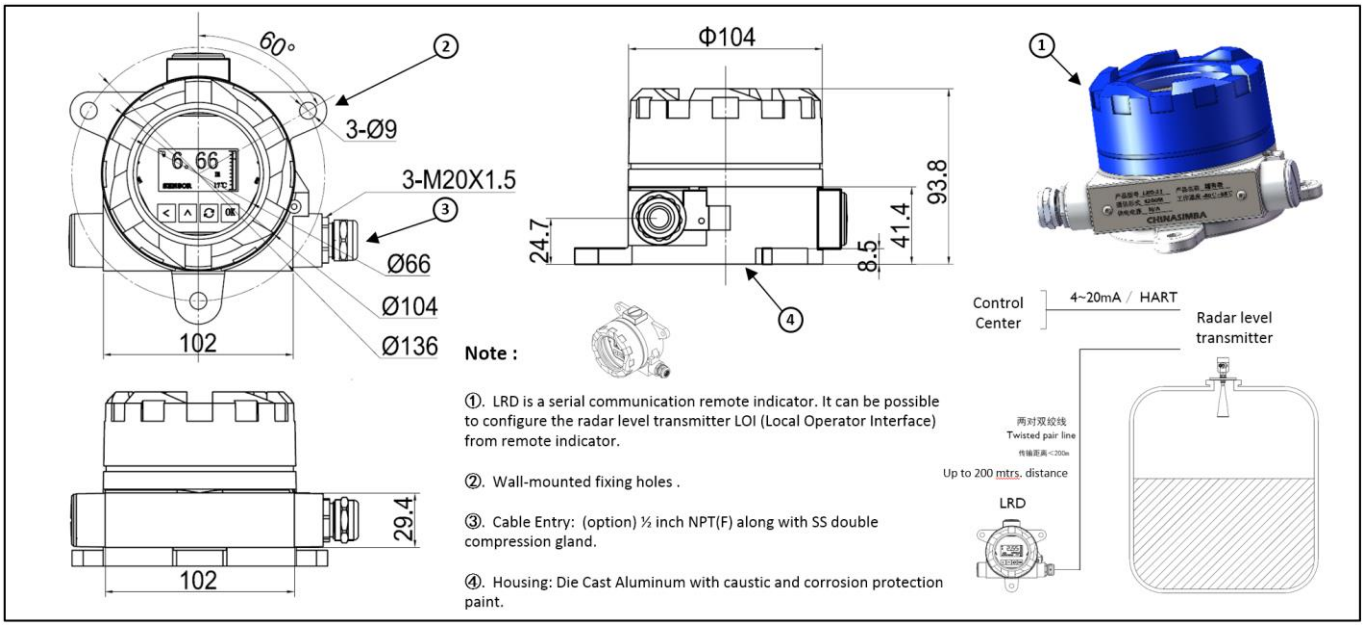
Remote indicator via Serial communication (LRD-21)



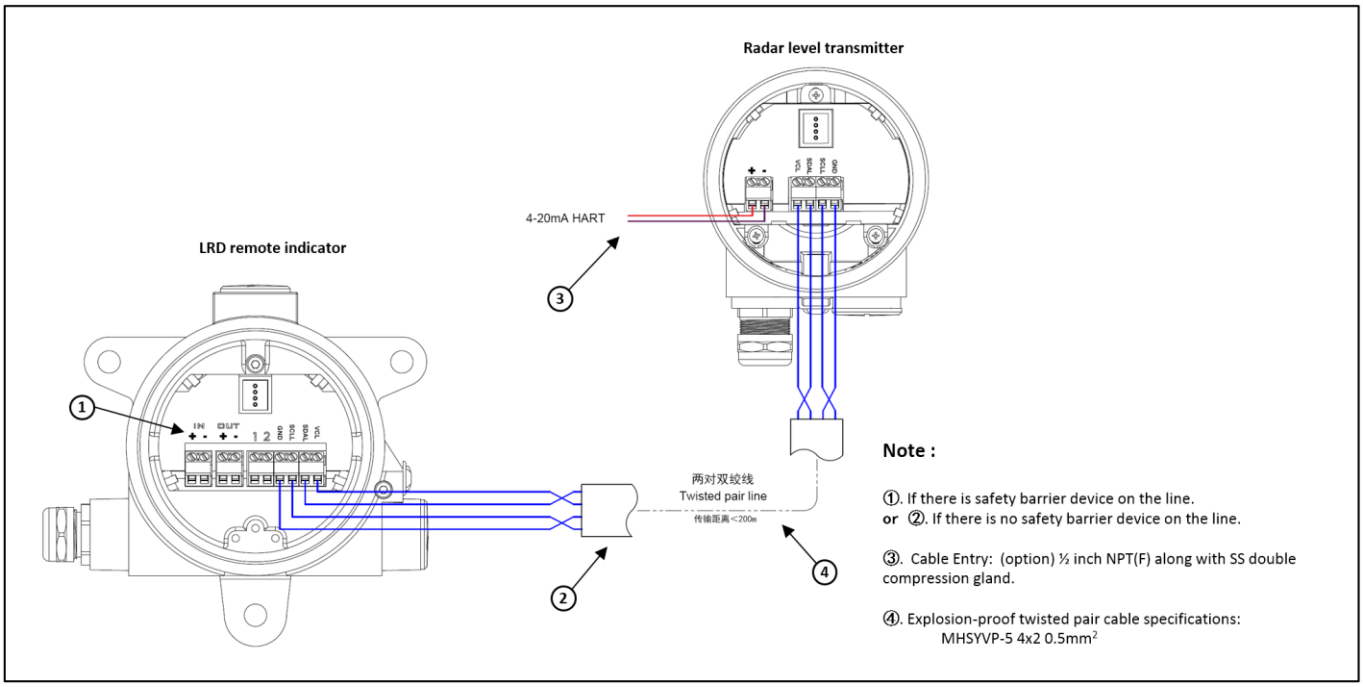
Note :

①. LRD is a serial communication remote indicator. It can be possible to configure the radar level transmitter LOI (Local Operator Interface) from remote indicator.

②. Wall-mounted fixing holes .

③. Cable Entry: (option) ½ inch NPT(F) along with SS double compression gland.

④. Housing: Die Cast Aluminum with caustic and corrosion protection paint.



Note :

①. If there is safety barrier device on the line.
or ②. If there is no safety barrier device on the line.

③. Cable Entry: (option) ½ inch NPT(F) along with SS double compression gland.

④. Explosion-proof twisted pair cable specifications:
MHSYVP-5 4x2 0.5mm^2

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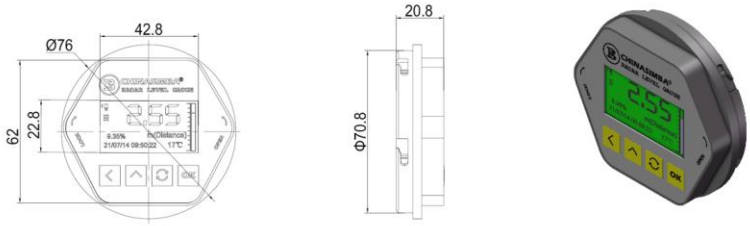
Indication/Adjustment LOI Adapter

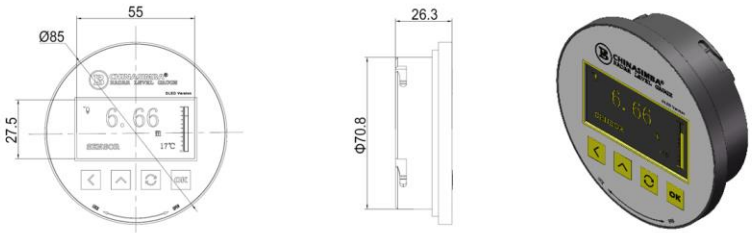
160x80 LCD RGB Backlight Monitor Adapter

Display type: FSTN
View direction: 6 o'clock
Operation temperature : -20°C ... 70°C



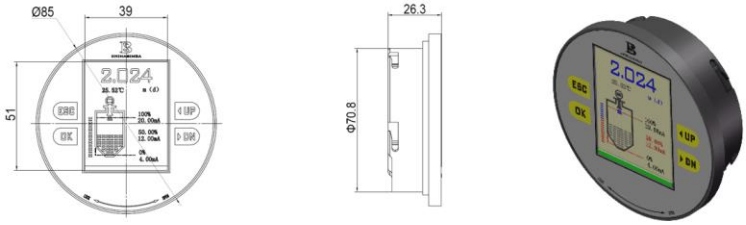
128x64 OLED graphic Monitor Adapter

Display type: OLED
View direction: 180 o'clock
Operation temperature : -55°C ... 80°C



320x240 LCD TFT colors Monitor Adapter

Display type: 2.4" TFT 65K/262K colors
View direction: 6 o'clock
Operation temperature : -20°C ... 70°C



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8010 Model Technical data

The technical data in the corresponding safety instructions included in the delivery are valid for approved instruments (approved for explosion protection). These data may differ from those listed here, for example with regard to process conditions or voltage supply.

1. Materials and weights		
	Materials, wetted parts	
	Antenna, process fitting	2GHz RF coaxial interface (bandwidth 500MHz ~ 5GHz)
	Process seala	
	For the process conditions, please also note the specifications on the nameplate. The lowest value (am	
	Flange nozzle length	
	Process installation	
	Process temperature	
	Process pressure	
	Materials, non-wetted parts	
	Housing	Nylon PA6 (Polyamide), Fiberglass
	Housing seals	Applicable temperature of the housing：-65 ~ 120 ℃
	Cable gland	Board insulating silicone gel (Dielectric Silicone Gel) potting
	Sealing, cable gland	Gel potting density/viscosity: 0.97g/cm3/800cPs
	Blind plug, cable gland	
	Inspection window for the indication	Display module ejector: Material C3604 brass / Stretch: 80gF / Life: >50000 times, Maximum current >1A, Contact resistance<0.03R
	Weight	
	Product weight	< 0.3 kg (with gel filling weight)
	Contains package weight	
2. Torques		
	Max. torque mounting boss	
	Max. torque for NPT cable glands and Conduit tubes	
3. Input variable		
	Measured variable	The measured value is the distance between the flange side of the sensor and the surface of the medium. The flange face is also the reference plane for measurement.
	Max.measuring range (Depending on application and medium)	≤ 6 ~ 70M (level, interface)
	Minimum measuring distance	Depending on the operating conditions and prob type
	mode 1, 2, 4	
	mode 3	
4. Switch-on phase		
	Run-up time for UB = 12 V DC, 18 V DC, 24 V DC	< 25 s | < 6 s
	Starting current for run-up time	≤ 3.6 mA | ≤ 15mA
	Power consumption	The peak current duration at power-on instantaneous ≤ 5uS, and the current stabilization time is ≤50uS
	@ ≤ 3.6 mA	<45mW@12VDC; <65mW@18VDC; <90mW@24VDC (2 Wired)
	@ 4mA	<50mW@12VDC; <75mW@18VDC; <100mW@24VDC (2 Wired)
	@ 20mA	<245mW@12VDC; <370mW@18VDC; <485mW@24VDC (2 Wired)
5. Output variable		
	Output signal	4 ... 20 mA/HART | 4 ... 20 mA/HART
	Range of the output signal	3.8 ... 20.5 mA/HART (factory setup)
	Signal resolution	0.3 µA
	Resolution, digital	0.3 mm
	Fault signal, current output (adjustable)	≤ 3.6 mA, ≥ 21 mA , The latest applicable measurements
	Max. output current	23.5mA
	Starting current	≤ 3.6 mA ; ≤ 4 mA turn-on 10s
	Load	570 Ohm @ 24V DC
	Damping (63 % of the input variable), adjustable	0 ... 999 s
	HART output values	
	PV (Primary Value)	Linear percentage value
	SV (Secondary Value)	Distance / Level / Space
	TV (Third Value)	Measurement reliability
	QV (Fourth Value)	Electronic module temperature
	Fulfilled HART specification	HART V7.0 (programmable via PACTware/DTM)
	Further information on Manufacturer ID, Device ID, Device Revision	See the FieldComm Group of Companies' webpage
	Other optional output protocols (be arbitrarily selected)	
	MODBUS (RS485)	Modbus RTU
	Profibus PA (Process Automation)	V3.02 Process automation data transfer enables sensors and actuators to be connected to a single bus
	Profibus DP (Decentralized Periphery)	High-speed data communication is provided for device-level control systems and distributed I/O front-end sensors
	SDI-12	V1.3 is applied in multi-parameter measurement and control in industry and agriculture, river and lake hydrology and meteorology and other global environment monitoring, aquaculture and food industries, and can transmit data far away
	IO-Link	IEC 61131-9
6. Deviation (according to DIN EN 60770-1)		
	Reference conditions according to DIN EN 61298-1	
	Temperature	+18 ... +30 ℃ (+64 ... +86 ℉)
	Relative humidity	45 ... 75 %
	Air pressure	860 ... 1060 mbar/86 ... 106 kPa (12.5 ... 15.4 psig)
	Installation reference conditions	
	Distance to installations	> 200 mm @ flange (Standard 10,000mm steel cable)
	Reflector	Diameter > 300mm straight pipe flat level
	False reflections	The maximum interference signal is 20 dB smaller than the effective signal
	Deviation with liquids	
	Measuring distance > 0.25 m/0.8202 ft	≤ 3 mm
	Measuring distance ≤ 0.25 m/0.8202 ft	≤ 8 mm
	Non-repeatability (already included in the meas. deviation)	≤ 1.0 mm
	Deviation with bulk solids	The values depend to a great extent on the application. Binding specifications are thus not possible.

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7. Variables influencing measurement accuracy			
	Specifications apply to the digital measured value	** Additional error of the digital output from a change in ambient temperature by 10°C from the normal 20°C*	
	Temperature drift - Digital value	< 1 mm/10K, Max. 2 mm	
	Specifications apply also to the current output	** Additional error of the analog output 4/20 mA from a change in ambient temperature by 10°C from the normal 20°C*	
	Temperature drift - Current output	< 0.03 %/10K or 0.3 % Max, for the 16.7 mA range (regular); < 0.01 %/10K or 0.15 % Max, for the 16.7 mA range(for N60)	
	Deviation in the current output due to digital/analogue conversion	1µA *(Additional error of converting a digital signal into an analogue 4/20 mA with a two-wire power supply connection)*	
	Additional deviation through electromagnetic interference		
	According to NAMUR NE 21	< 80 µA	
	According to EN 61326-1		
	According to IACS E10 /IEC 60945	< 250 µA	
8. Characteristics and performance data			
	Measuring frequency	1.8GHz Guided wave pulse TDR technology	
	Measuring cycle time @With operating voltage UB ≥ 24 VDC	≤ 300ms	≤ 150ms
	Step response time @Time span after a sudden distance change from 1 m to 5 m until the output signal reaches 90 % of the final value for the first time (IEC 61298-2). Valid with operating voltage UB ≥ 24 V DC.	≤ 4 s	≤ 2 s
	Beam angle @Outside the specified beam angle, the energy level of the radar signal is 50% (-3 dB) less.	Depends on the configuration probe type	
	Dielectric constant (liquid)	> 1.2	
9. Ambient conditions			
	Ambient temperature device	-40 ... 85 ℃ (Regular) -60 ... 105 ℃ (low cold) N60	
	Ambient temperature display	-65 ...120 ℃	
	Storage and transport temperature	-55 ... 85 ℃	
10. Mechanical environmental conditions			
	Vibrations (oscillations)	Class 4M8 acc. to IEC 60271-3-4 (5 g at 4 ... 200 Hz)	
	Impacts (mechanical shock)	Class 6M4 acc. to IEC 60271-3-6 (50 g, 2.3 ms)	
	Impact resistance	IK07 acc. to IEC 62262	
11. Electromechanical data			
	Cable entry		
	• Options	M20 x 1.5; ½ NPT	
	• Cable gland	M20 x 1.5 (cable diameter 5 ... 9 mm)	
	• Closing cap	½ NPT	
	Wire cross-section (spring-loaded terminals)		
	• Stranded wire	0.2 mm² (AWG 24) ... 2.5 mm² (AWG 14) with a minimum insulation thickness of 0.5 mm or more	
12. Bluetooth interface			
	Bluetooth standard	V5.0 /or V4.2	
	Frequency	2.402 ... 2.480 GHz	
	Max. emitted power	+2.2 dBm	
	Max. number of participants	1	
	Effective range typ.(Depending on the local conditions)	25 m (82 ft)	
13. Indication			
	Measured value and menu display		
	• Optional HMI	160x80 dot matrix LCD display with background illumination with bar chart showing level scale values	
	• Max. indicating range	-99999 ... 99999	
14. Adjustment			
	Optional HMI	4 buttons for operating menus	
	Tank side meter	LRD type tank side meter (serial digital communication), RDM type tank side meter (HART protocol communication)	
	Field DTM communicator	AiW-305 (Master Mode), AiW-315 (Slave Mode)	
	PC/Notebook	CHINASIMBA® PC Manager software	
	Mobile terminal equipment	CHINASIMBA® Radar Mobile Manager software	
15. Voltage supply			
	Operating voltage U_B		
	• at 4 mA	11 ... 40 V DC	9 ... 40 V DC
	• at 20 mA	9 ... 40 V DC	9 ... 40 V DC
	Operating voltage scope U_B - with illuminated LCD display and adjustment module	16 ... 40 V DC (Min. ~ Max., Supply voltage of the transmitter is 4/20 mA with a two-wire power supply connection)	9 ... 40 V DC
	Reverse voltage protection	Built in	
16. Overvoltage protection			
	Dielectric strength against metallic mounting parts	>10KV	
	Overvoltage resistance (test impulse voltages 1.2KV/50 µs at 42 Ω)	> 1KV	
	Insulation resistance	∞	
	Dielectric strength	≤ 5mA @500VDC	
	Power frequency magnetic field immunity	100A/m @X,Y	
	Electrostatic discharge immunity	> 4KV	
	Radiated immunity to radio frequency electromagnetic fields	10V/m @80MHz ~ 1000MHz	
	Electrical fast transient burst immunity	> 2KV	
	Additional overvoltage arrester	Due to the floating structure of the electronics and comprehensive insulation measures generally not necessary	
17. Electrical protective measures			
	Protection rating	IP66/IP67 according to IEC 605294X and UL 50	
	Altitude above sea level	5000 m (16404 ft)	
	Protection class	III	
	Pollution degree	4	

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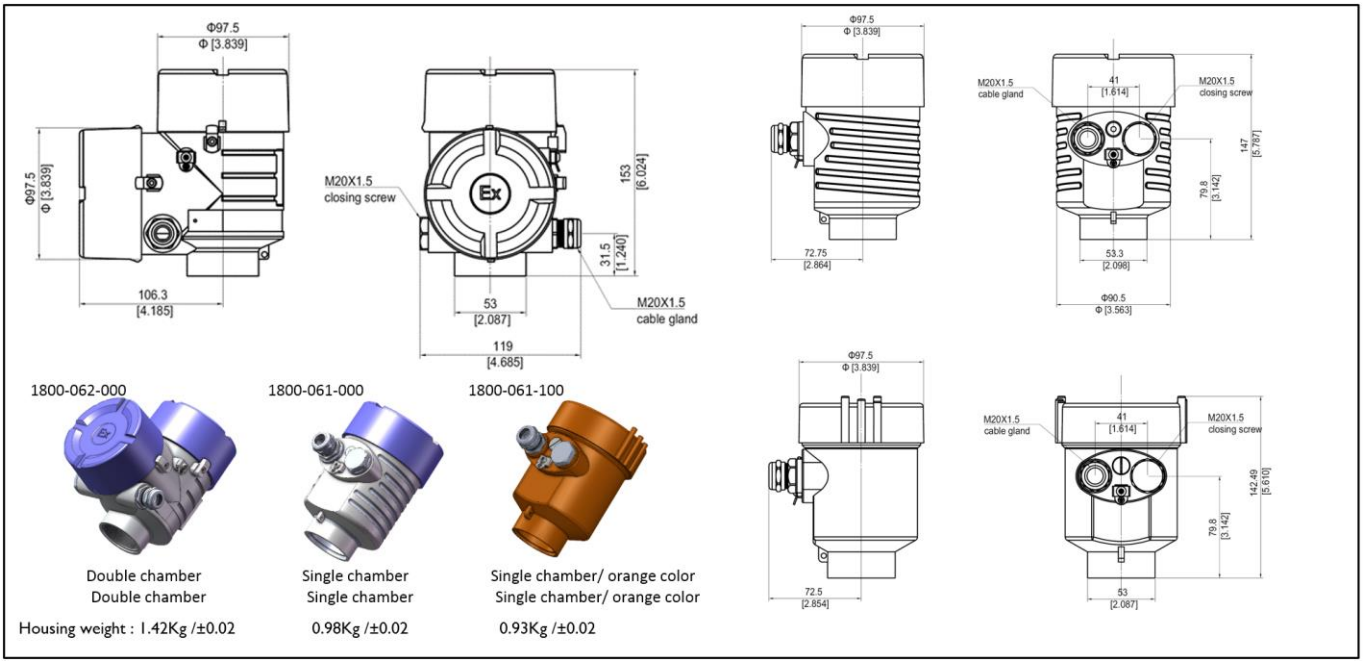
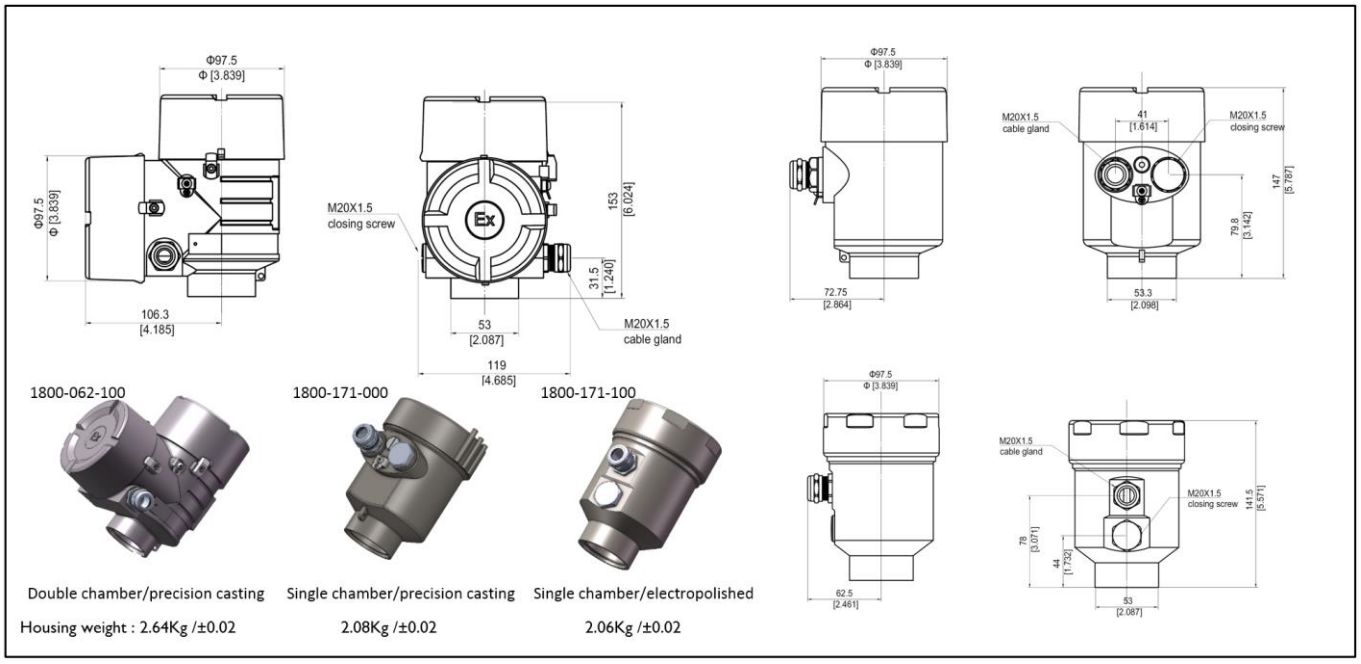
Housing Drawing

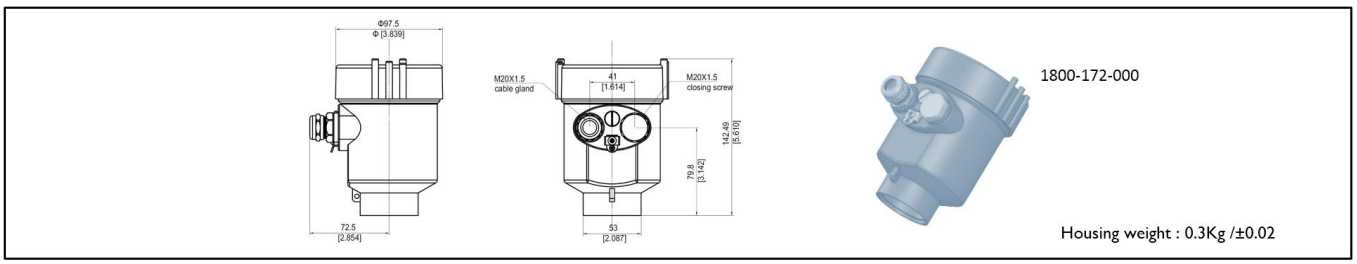
Aluminum housing



Stainless steel housing



Plastic housing



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