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

Guided Wave Radar Level and interface transmitters

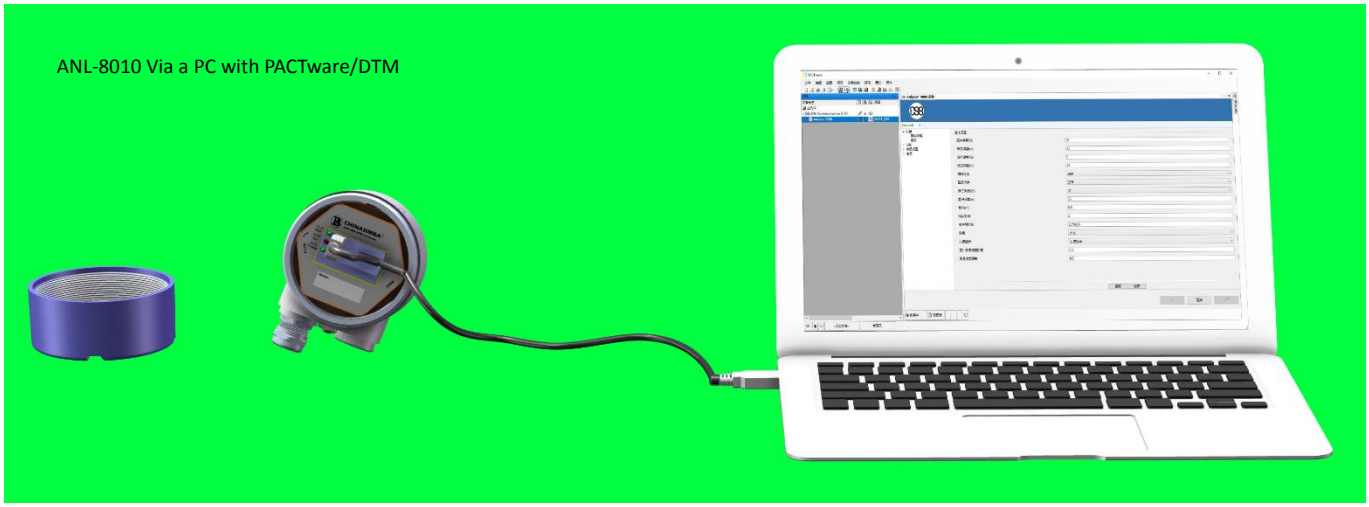
Version V.2024

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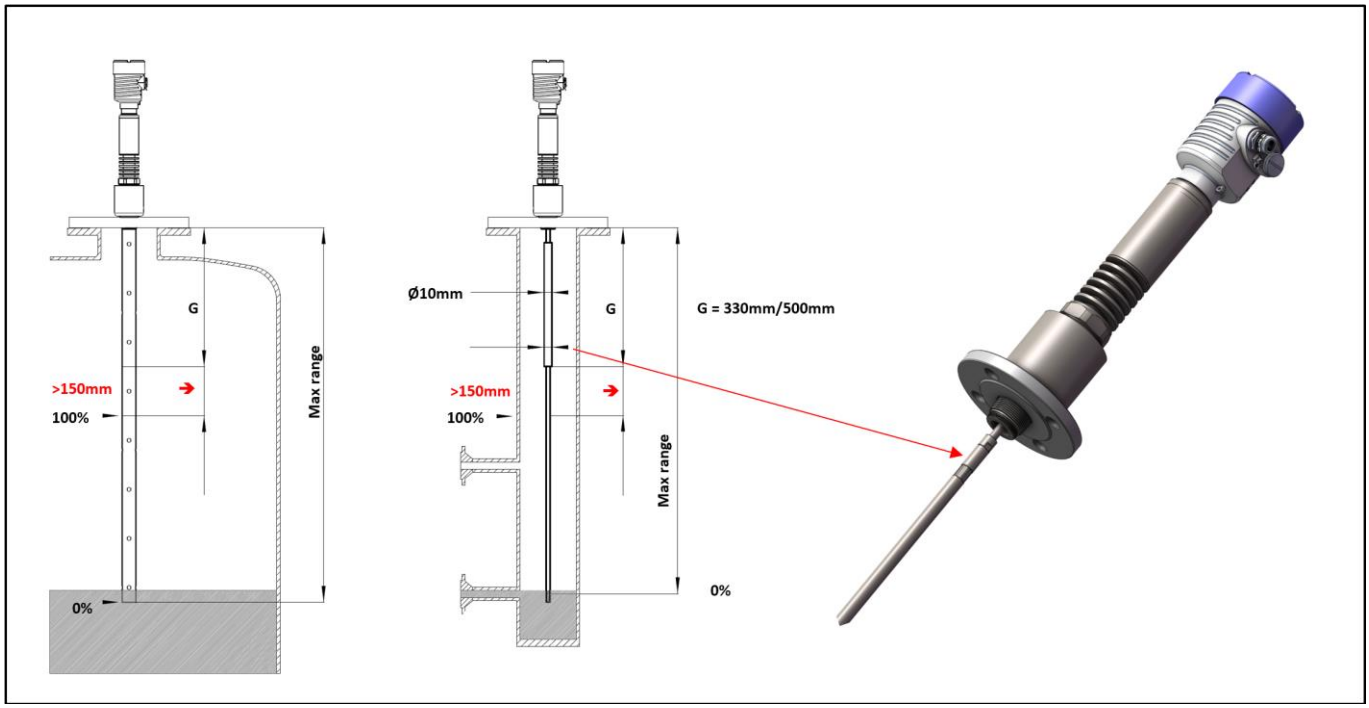
Gas phase compensation with reference signal (ANL-8010H-GP)

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	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	liquids, solids, hygienic and extreme condition high-temperature and high-pressure applications		

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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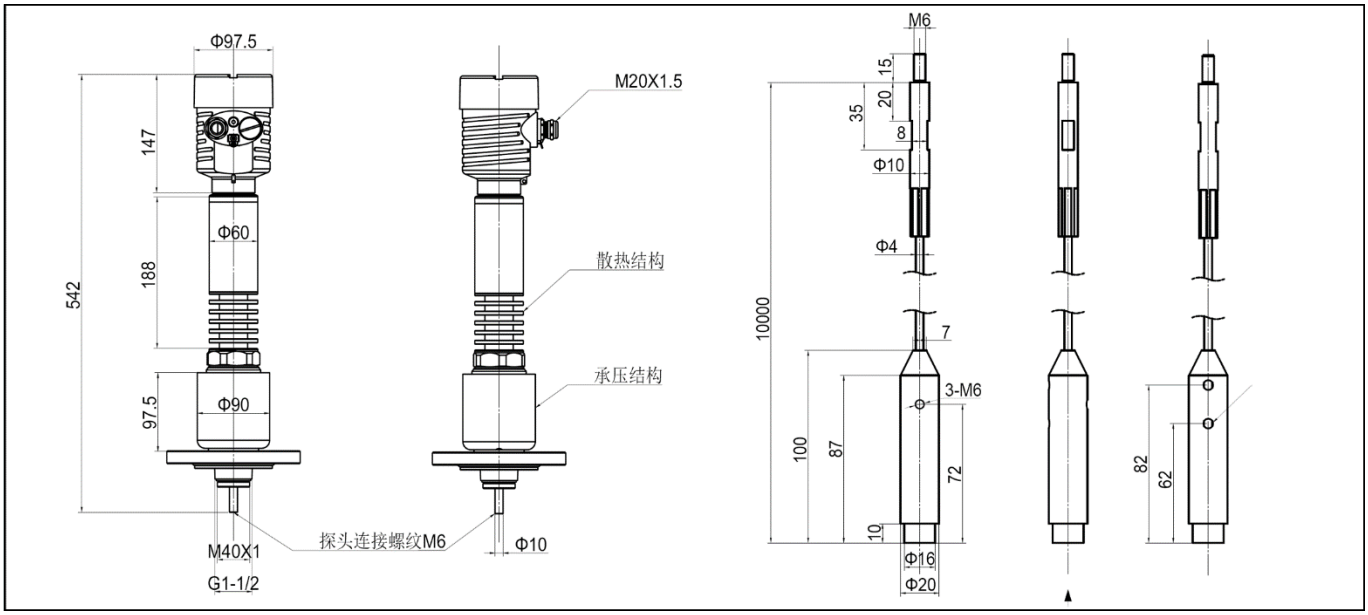
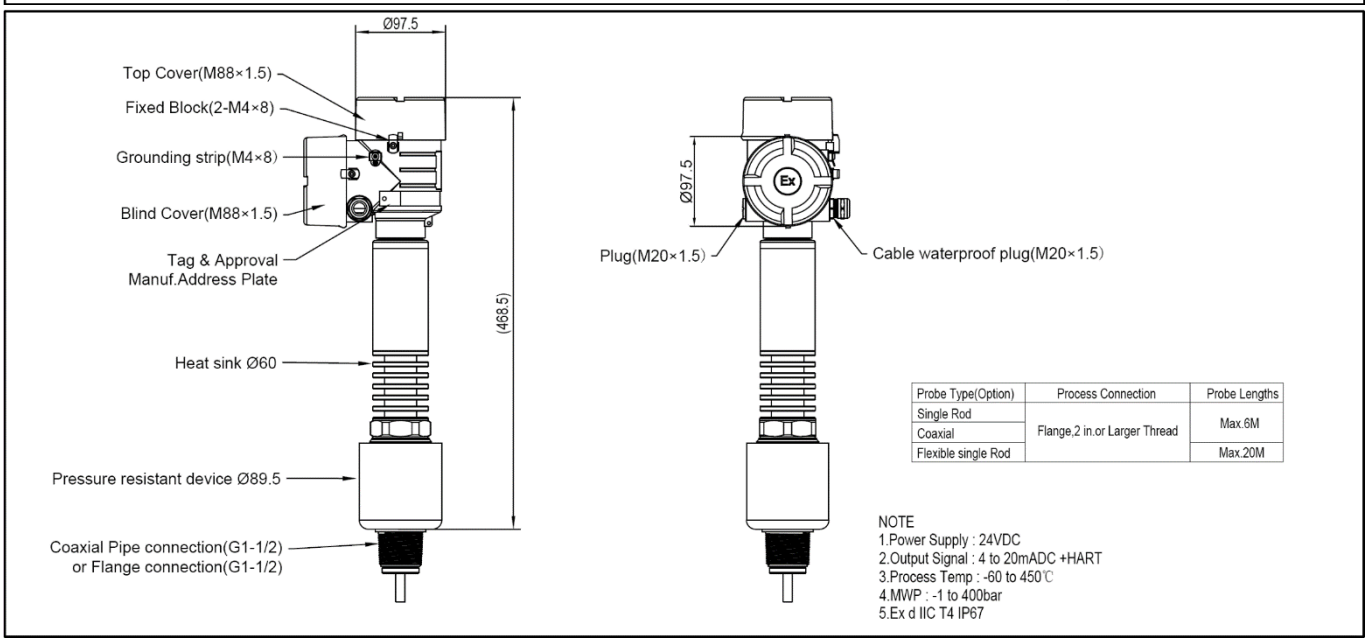
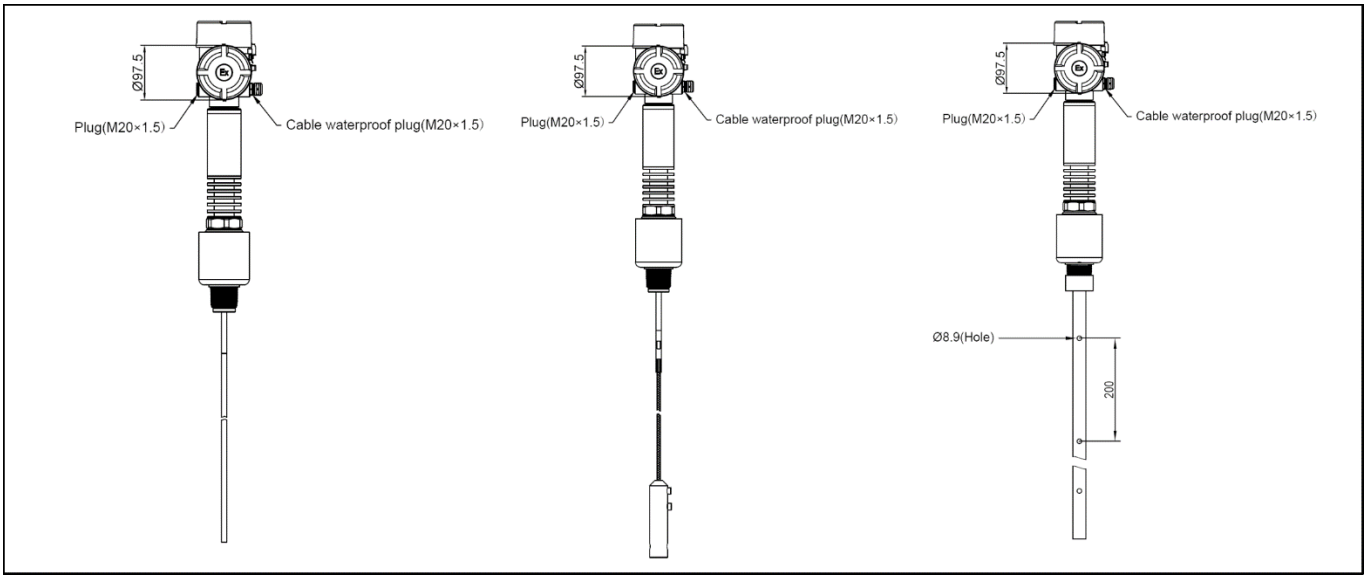
Dimensions





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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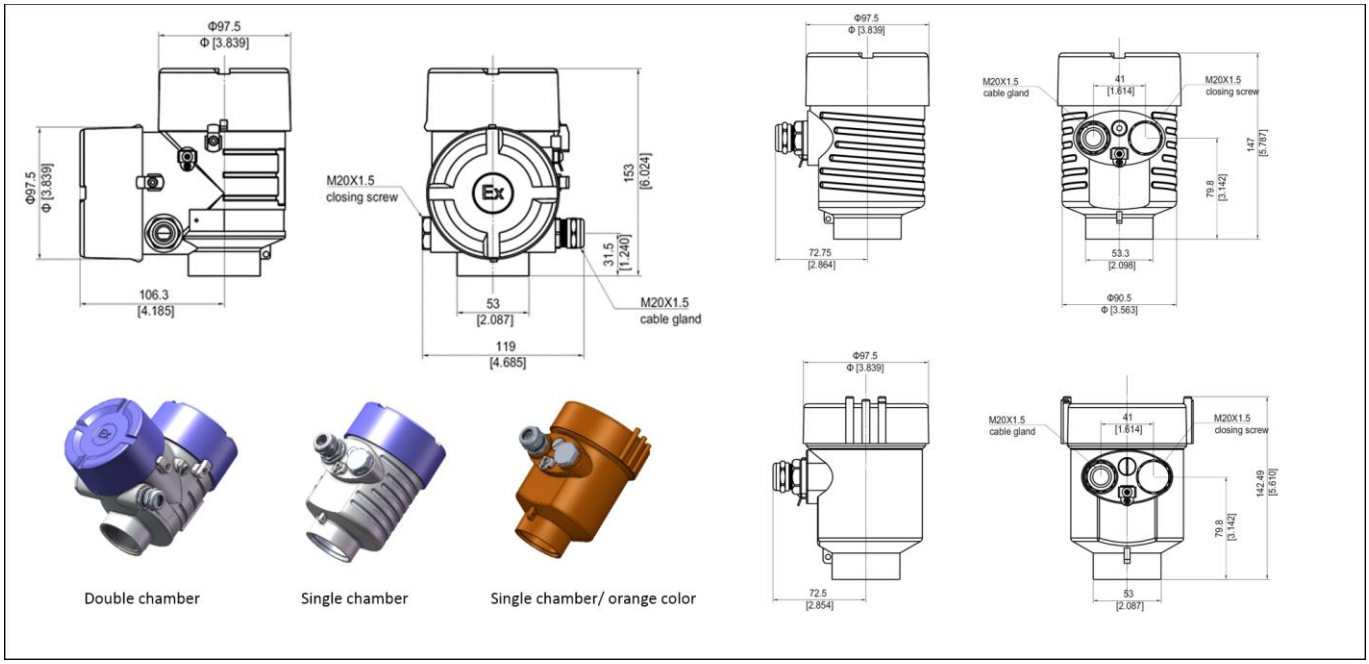
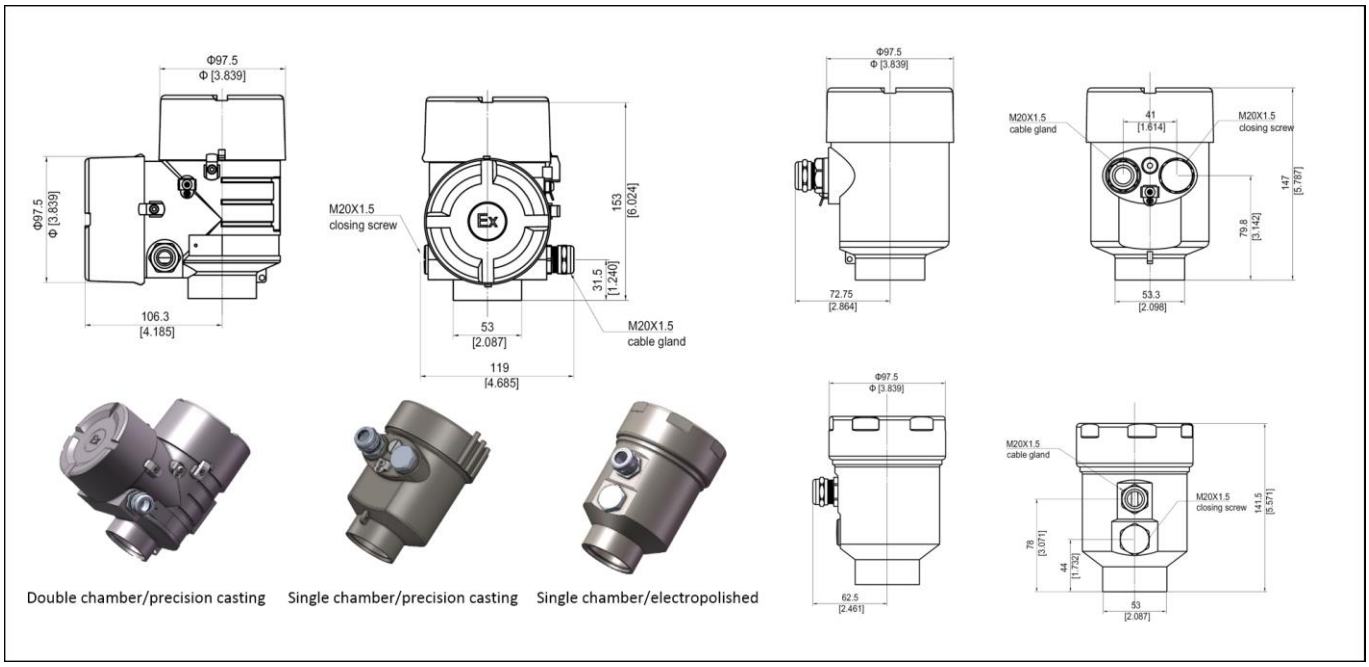
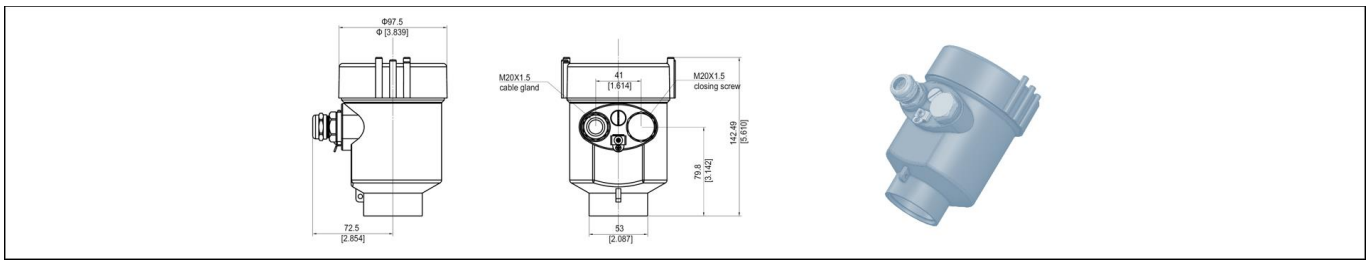
Aluminum housing



Stainless steel housing



Plastic housing



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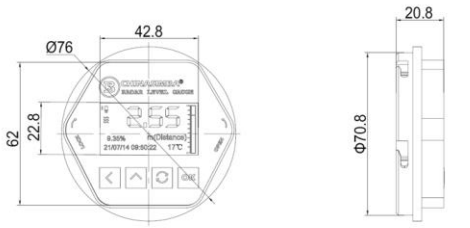
Indication/Adjustment Adapter

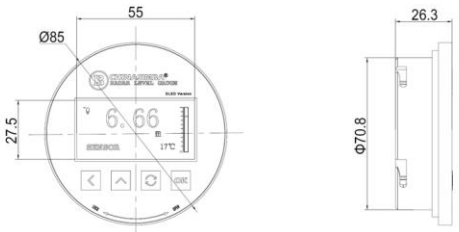
160x80 LCD RGB Backlight Monitor Adapter

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



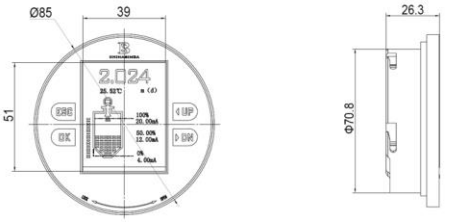
128x64 OLED graphic Monitor Adapter

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



For more information contact your regional sales representative.

overseas@chinasimba.com

https://www.chinasimba.com/downloads.html

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