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# COMPANY PROFILE

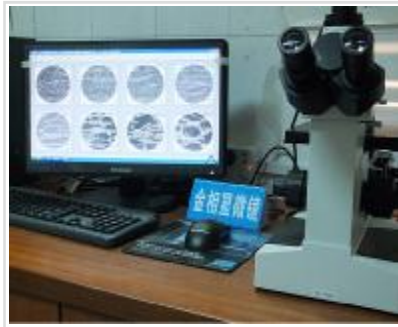
CNGauge is the leading manufacturer of CNG gauges and Sensors in the world. Since entered into this field in year 2009, we have got consideration market share in both original and aftermarket. Based on our strong R & D capability, advanced product and production technology, CNGauge's products & brand have been recognized as reliable quality, our customers are from all major CNG market in the world and include many major global kit manufacturers. CNGauge has become the main supplier of such products, supplying more than 1.5 million pieces annually.

In original installation field, we also have important share, users include Volkswagen, Mazda, Chery, Geely, Hyundai, BYD, Citroen, etc.

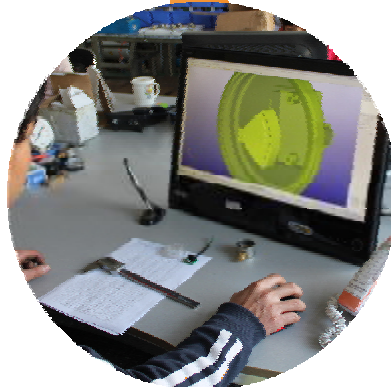
CNGauge has strong design and development capacity, we may make deign and solutions as per customer's requirements. We are ISO9001 certificated, ISO15500 and ECE-R110 compliant.



# Technologies



Technology Promote Quality



Analysis

Testings

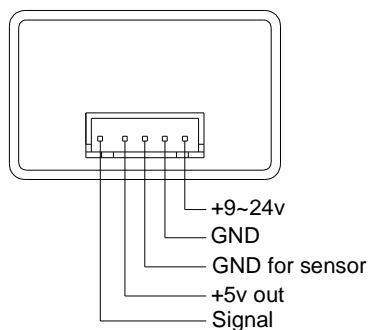
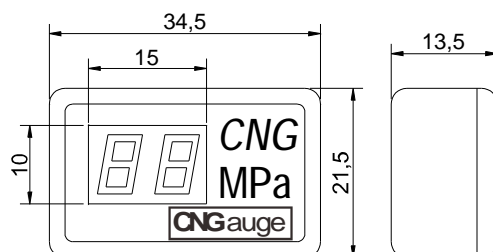
Quality Promote Brand



## Digitron Display



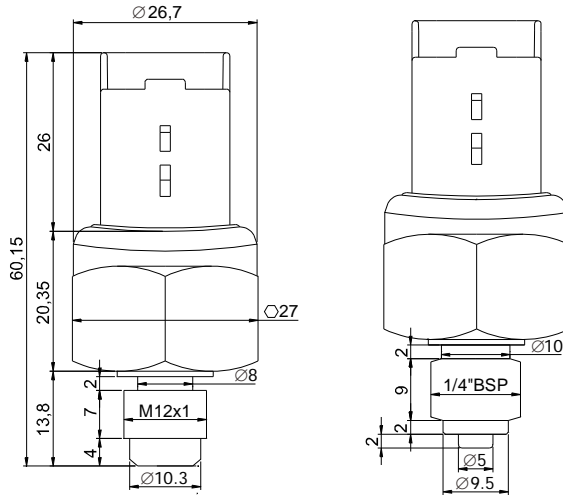
Model	DD01
Display	0.8" digitron
Connector	XH-5P
Installation	adhesive tape
Supply Volt	9~24v
Display	1MPa
Working Temp	-25~85°C



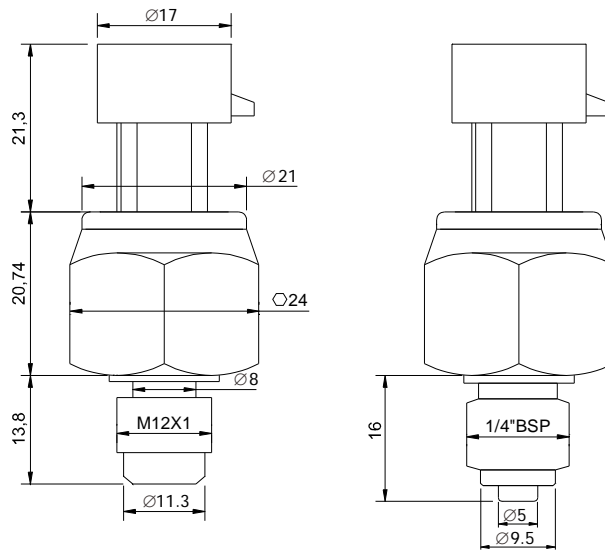
## High Pressure Sensor - HTS260 Series



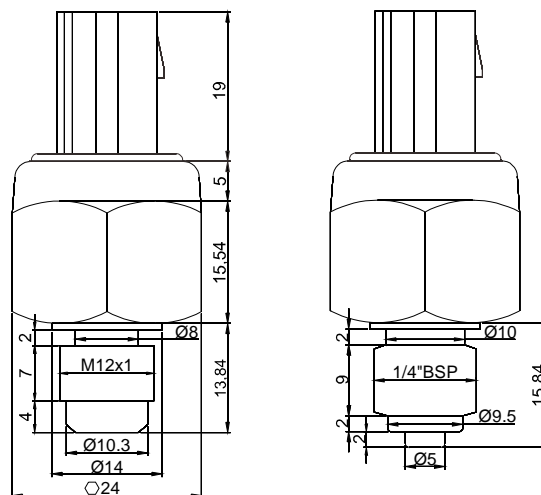
**HTS260-xxB**  
Wire connector type E3  
Mate with FCI 211PC032S0049



**HTS260-xx-M**  
Wire connector type M3  
Mate with AMP 2-967642-1



**HTS260-xx-N**  
Wire connector type N3  
Mate with AMP 2-967642-1



HTS260 Series high pressure sensor has stainless steel body, the pressure chip is made in Switzerland, the circuit chip is made in USA. This is a stable, durable, linear and accurate sensor, 3 digit display can be supported perfectly.

The library durability testing of HTS260 is up to 30,000 cycles, it is better than almost all of other brands in the world.

## Technical Specifications:

<b>Working Pressure:</b> 0-260bar other ranges available	<b>Working Temp:</b> -40~120°C
<b>Burst Pressure:</b> >520bar	<b>Durability:</b> 30,000 cycles
<b>Accuracy:</b> 1.6% F.S.@25°C 0.5% available	<b>Socket:</b> M12*1, 1/4" BSP.....
<b>Linearity:</b> 0.5%	<b>Warranty:</b> 2 years or 100K Km
	<b>Certifications:</b> ECE-R110 / ISO15500

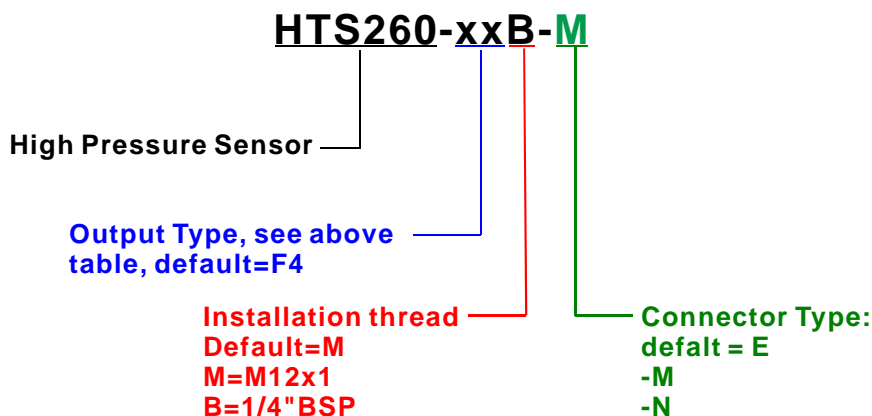
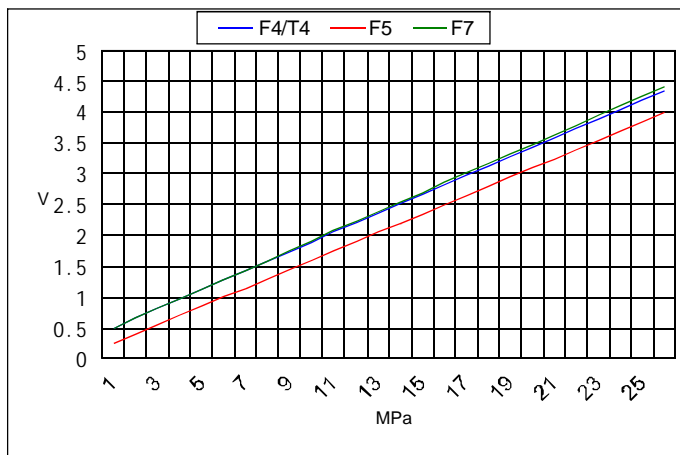
## Quality Specifications:

- Estimated durability in vehicle:** around 8 years
- Real failure rate during warranty:** Less than 0.1%
- Vibration effect:** 0% accuracy distortion after vibration testing according to ISO15500-8
- Temperature effect:** Max 1.6% accuracy distortion under -40~120°C according to ISO15500-8

## Output Types and Curves

Output Type	Input Volt	Output Volt
-F4	+5V	0bar/0.5V~260bar/4.5V
-F5	+5V	0bar/0.25V~260bar/4.15V
-F7	+5V	0bar/0.5V~250bar/4.41V
-T4	+12V	0bar/0.5V~260bar/4.5V

Other output type available as per customer's requirements.

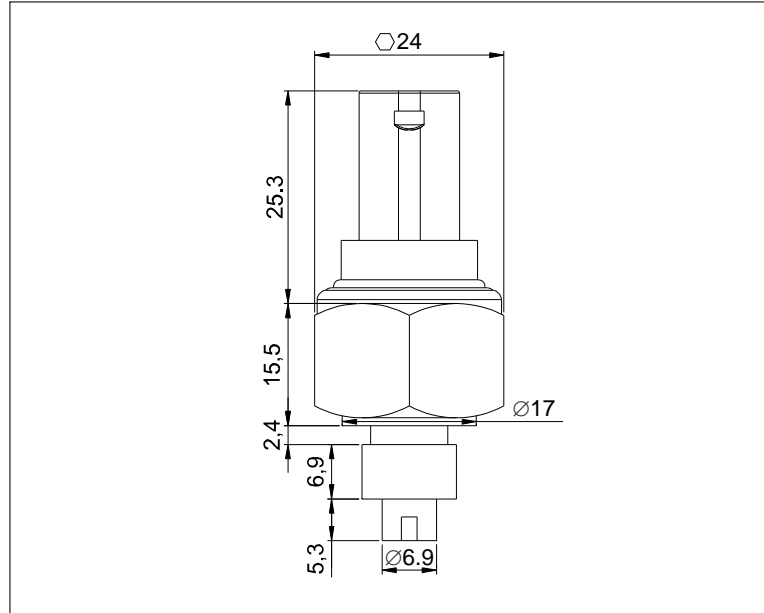


## Low Pressure + Temperature Sensors



**TPS400**

Connector type: C4  
Mate with AMP 1-967640-1

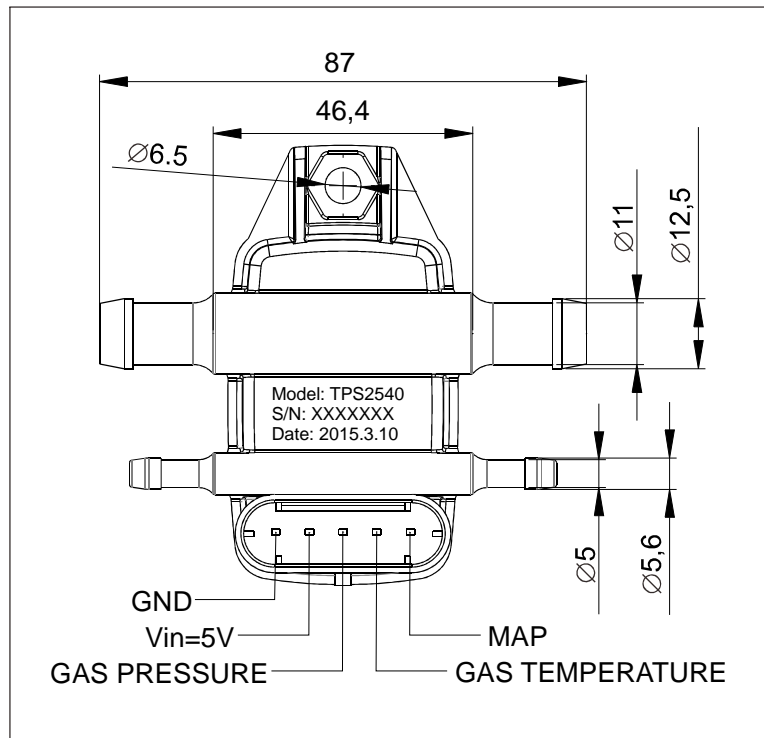


<b>Application:</b>	CNG, LPG, LNG	<b>Body Material:</b>	aluminium
<b>Pressure (absolute):</b>	0~400kPa	<b>Accuracy:</b>	1% for pres. & temp.
<b>Thermal Compensation:</b>	Yes	<b>Working Temp:</b>	-40~120°C
<b>Socket Thread:</b>	M12x1.25 (default), M12x1	<b>Protection:</b>	IP67
<b>Temperature:</b>	NTC thermistor 10KΩ (thermistor touch gas directly to give response within 10s)		



**TPS2540**

Connector type: 1.5x5  
Mate with

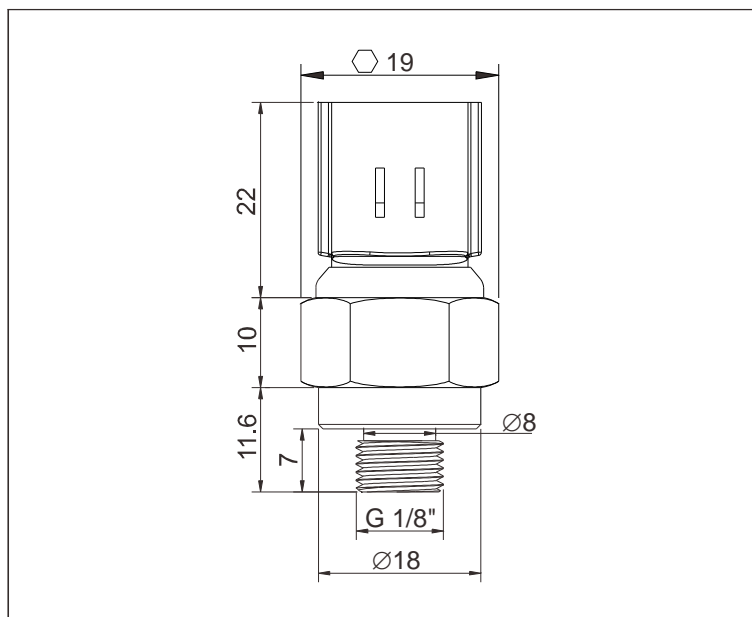


<b>Application:</b>	CNG, LPG, LNG	<b>Body Material:</b>	plastic
<b>Pressure (absolute):</b>	0~250 + 0-400kPa	<b>Accuracy:</b>	1% for pres. & temp.
<b>Thermal Compensation:</b>	Yes	<b>Working Temp:</b>	-40~120°C
<b>Socket Thread:</b>	5mm & 12mm pipe	<b>Protection:</b>	IP67
<b>Temperature:</b>	NTC thermistor 10KΩ (temperature is conducted by plastic body))		



**NTP250 / NTP400**

Connector type: N4  
Mate with DELPHI 12065287



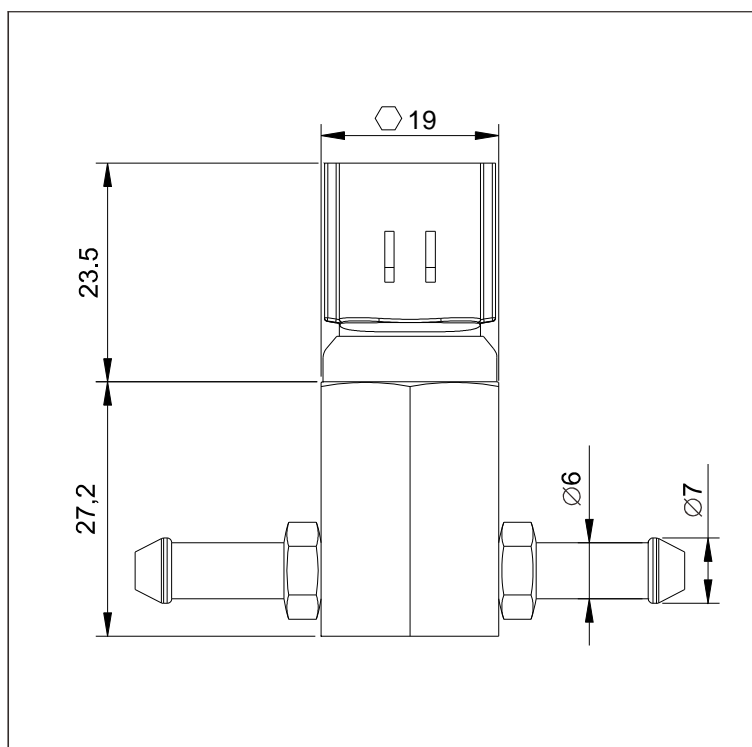
**Application:** CNG, LPG, LNG  
**Pressure (absolute):** 0~250 or 0~400kPa  
**Thermal Compensation:** Yes  
**Socket Thread:** 1/8" BSP  
**Temperature:** NTC thermistor 10KΩ (temperature is conducted by aluminium body)

**Body Material:** aluminium  
**Accuracy:** 1% for pres. & temp.  
**Working Temp:** -40~120°C  
**Protection:** IP67



**NTP250-P / NTP400-P**

Connector type: N4  
Mate with DELPHI 12065287



**Application:** CNG, LPG, LNG  
**Pressure (absolute):** 0~250 or 0~400kPa  
**Thermal Compensation:** Yes  
**Socket Thread:** 6mm pipe  
**Temperature:** NTC thermistor 10KΩ (temperature is conducted by aluminium body)

**Body Material:** aluminium  
**Accuracy:** 1% for pres. & temp.  
**Working Temp:** -40~120°C  
**Protection:** IP67

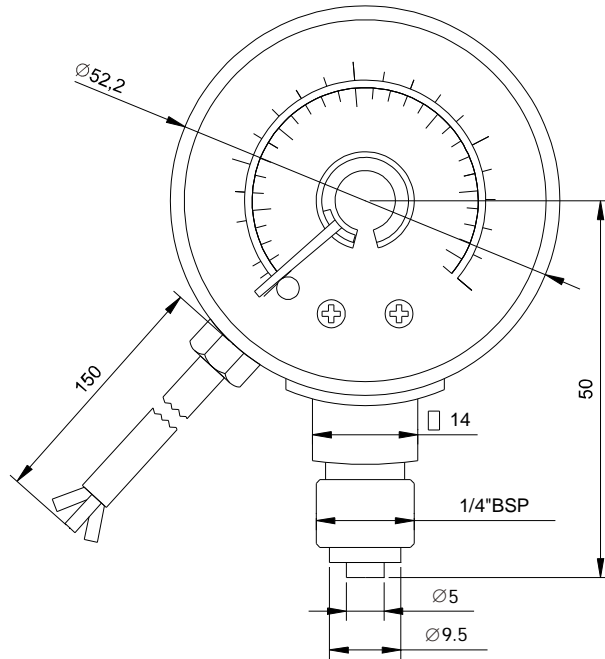


## Optical Manometer - MT206E Series

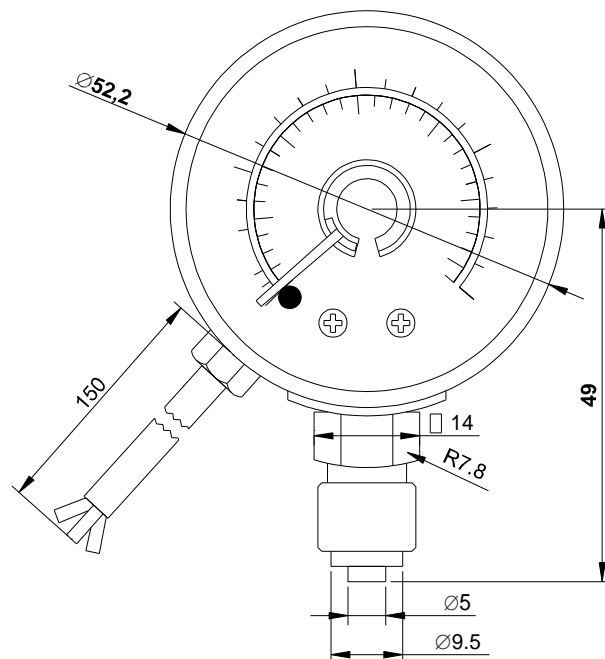
MT206E series is designed based on the experiences of CNGauge in CNG field, by now, it is the most suitable version for CNG in the world, it uses substantial internal system, fitted structure for assembly, SMT type LEDs. Market has proved the low failure rate and stability of this product.



MT206E  
Protection = IP65



MT206E-S  
Protection = IP66



**Technical Specifications:**

<b>Working Pressure:</b>	0-200bar	<b>Working Temp:</b>	-40~120°C
<b>Testing Pressure:</b>	0-400bar	<b>Durability:</b>	150,000 cycles
<b>Burst Pressure:</b>	>1000bar	<b>Socket:</b>	M12*1.5, 1/4”BSP.....
<b>Mechanical Accuracy:</b>	1.6% F.S. @25°C	<b>Warranty:</b>	2 years or 100K Km
<b>Electronic Accuracy:</b>	±10 bar	<b>Certifications:</b>	ECE-R110 / ISO15500

**Quality Specifications:**

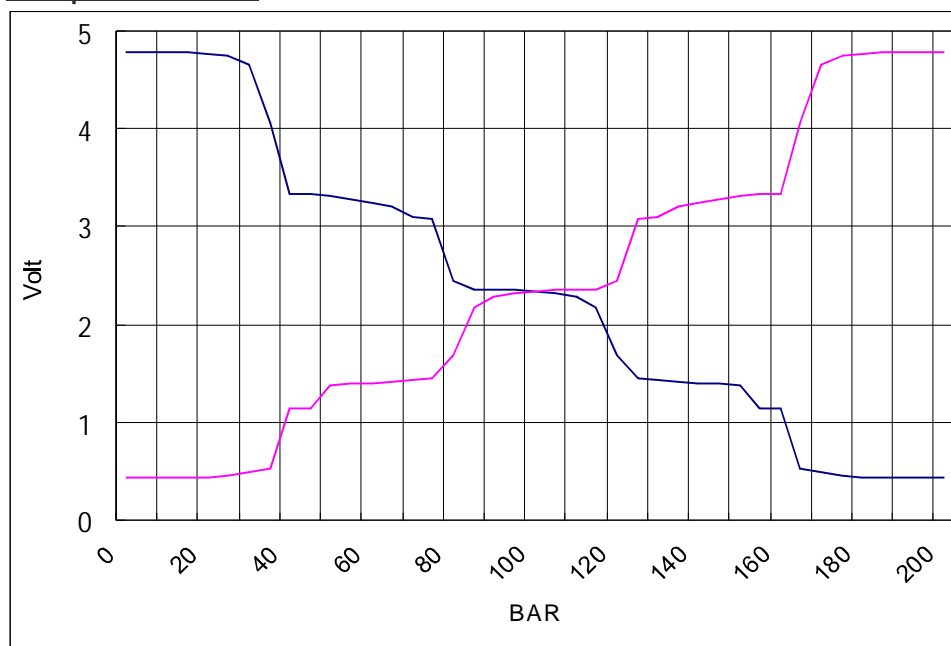
**Estimated durability in vehicle:** around 5 years  
**Real failure rate during warranty:** Less than 0.5% (much lower than traditional type manometer)

**Output Type:**

Output Code	Input Volt	Typical output (Pressure±10bar)				Remark
		40bar	80bar	120bar	160bar	
None	+5V	4v	3v	2v	1v	Need 12K Dividing resistor to supply, installed 150Ω resistor for LED
-V	+5V	4v	3v	2v	1v	Volt output directly, installed 150Ω resistor for LED
-12V	+12V	4v	3v	2v	1v	Volt output directly, installed 470Ω resistor for LED
-371	+12V	9.6v	7.2v	4.8v	2.4v	Need 12K Dividing resistor to supply, installed 470Ω resistor for LED
-F	+5V	1v	2v	3v	4v	Need 12K Dividing resistor to GND, installed 150Ω resistor for LED
-F2	+12V	1v	2v	3v	4v	Need 4.7K Dividing resistor to GND, installed 470Ω resistor for LED
-F3	+12V	1v	2v	3v	4v	Volt output directly, installed 470Ω resistor for LED

\* In order to reduce display error, we strongly recommend that your switch or ECU use typical output.

**Output Curve:**

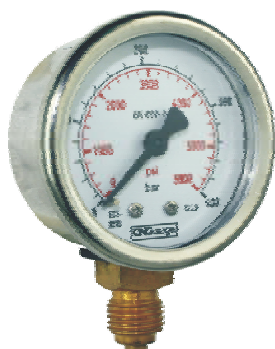
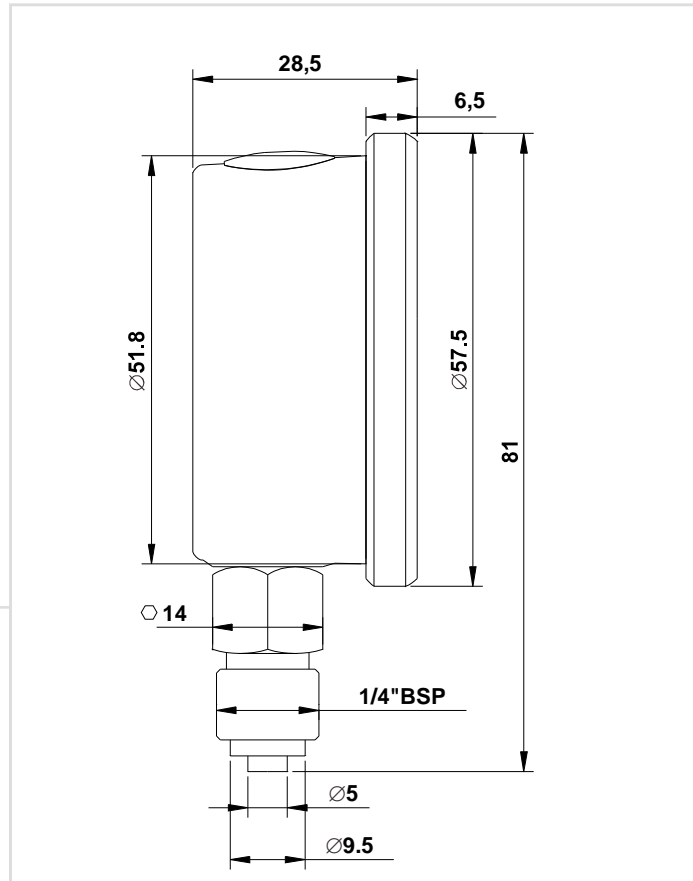


## OEM Class Simple Manometer



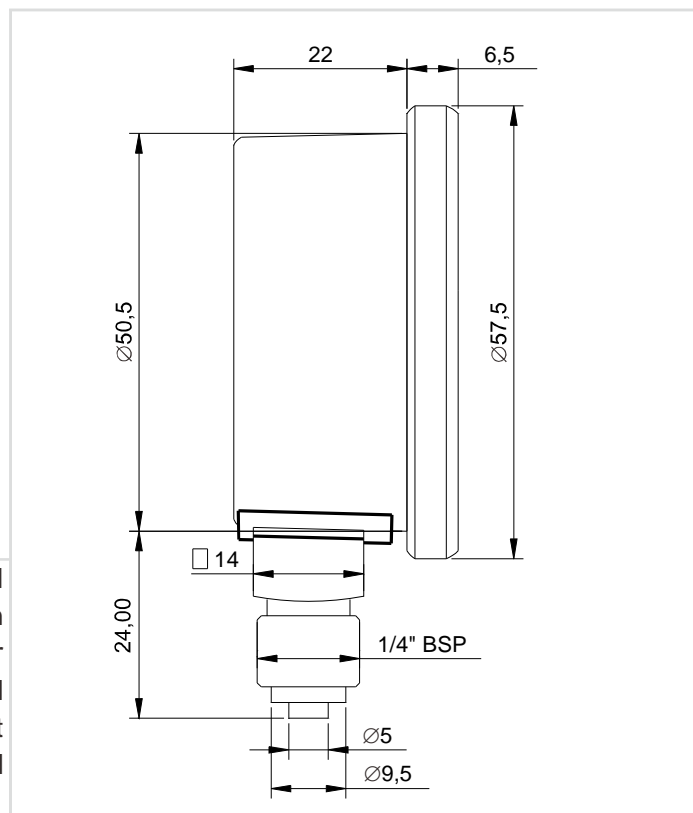
**B101A**

B101A is developed based on traditional industrial manometer, the oil is filled to reduce the damage of vibration, however, after using substantial internal system, the anti-vibration performance of new system is better than using oil. Installation direction of oil filled gauge is required as “stand”.



**B207A**

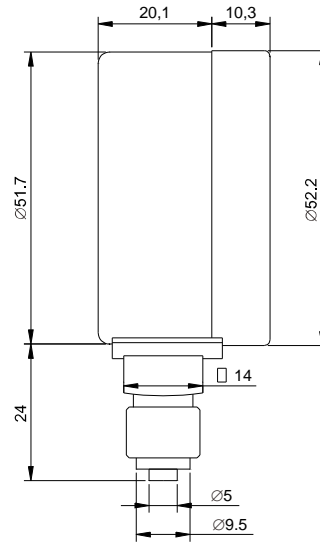
Supported by substantial internal system, oil is unnecessary for improving the anti-vibration performance, our B207A's performance under vibration is not worse than other traditional manometers which filled oil, and B207A hasn't installation direction requirements to avoid leakage of oil.



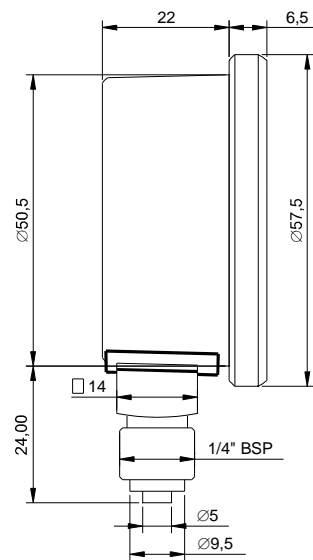
## Economic Class Simple Manometer



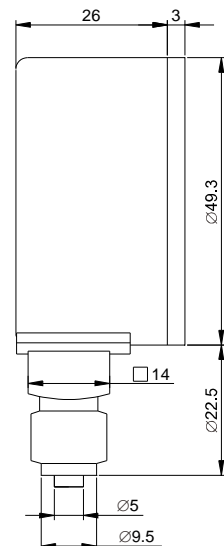
**B201A**



**B211A**



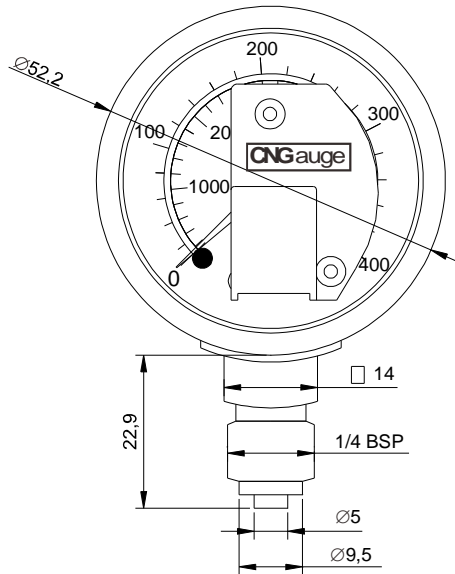
**B221A**



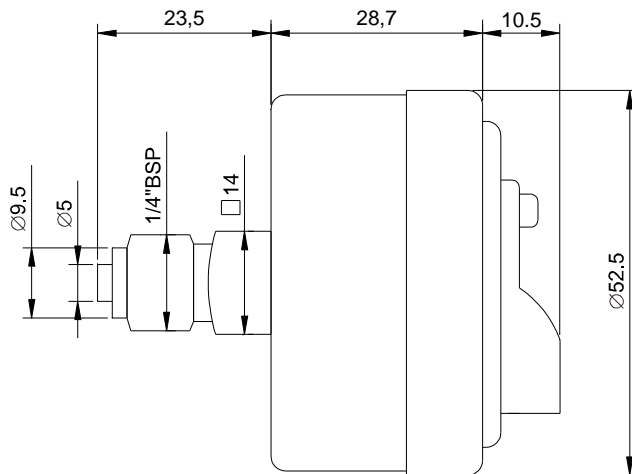
## Economic Class Optical Manometer



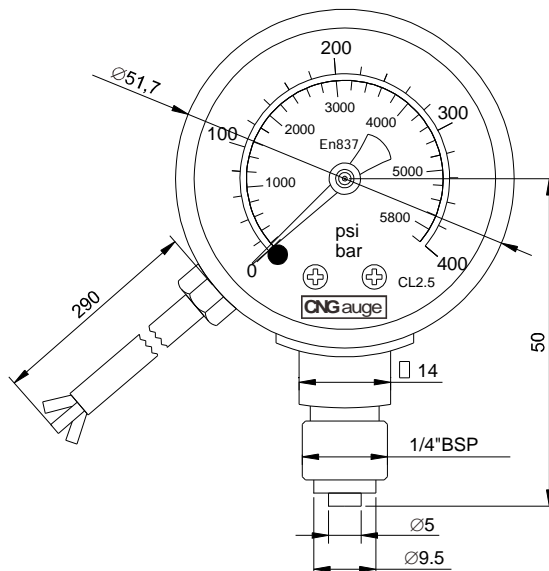
CNG201C  
Protection = IP65



CNG201D  
Protection = IP65



CNG201E  
Protection = IP65



CNG201C / CNG201D series are the traditional optical sensor for CNG field, with sensor in front of the gauge and supply stable output. CNG201E series is an internal type optical sensor, supply more stable and accurate output.

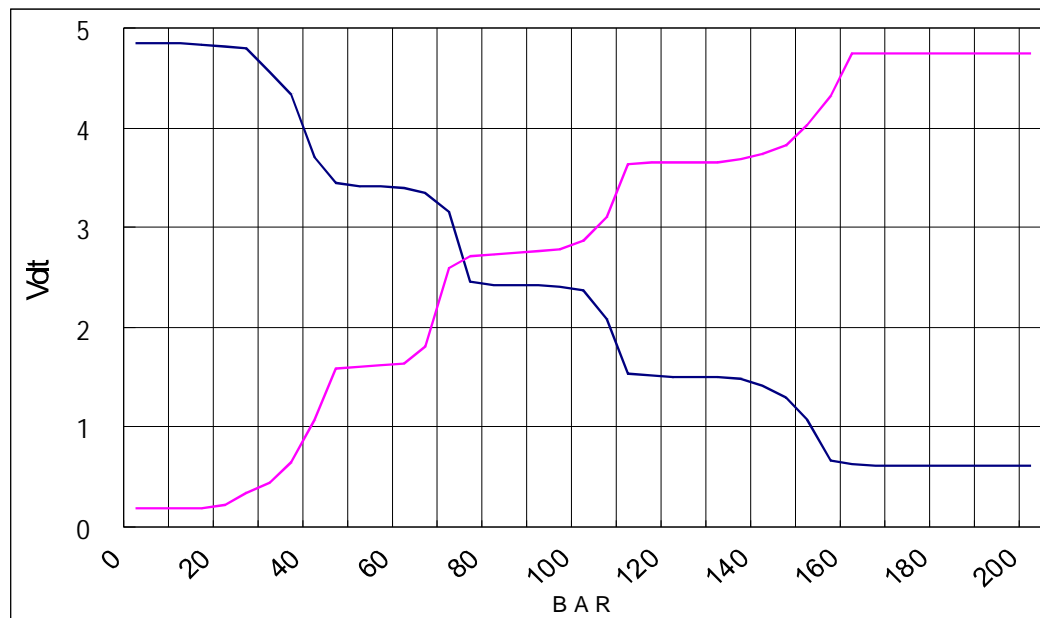
CNG201C and CNG201E are economic version manometers, the mechanical accuracy is  $\pm 1.6\%$ , electric output accuracy is  $\pm 10\text{bar}$ , support LED switches perfectly.

## Output Type:

Output Code	Input Volt	Typical output (Pressure $\pm 10\text{bar}$ )				Remark
		40bar	70bar	110bar	150bar	
None	+5V	4v	3v	2v	1v	Need 12K Dividing resistor to supply, installed 150 $\Omega$ resistor for LED
-V	+5V	4v	3v	2v	1v	Volt output directly, installed 150 $\Omega$ resistor for LED
-12V	+12V	4v	3v	2v	1v	Volt output directly, installed 470 $\Omega$ resistor for LED
-371	+12V	9.6v	7.2v	4.8v	2.4v	Need 12K Dividing resistor to supply, installed 470 $\Omega$ resistor for LED
-F	+5V	1v	2v	3v	4v	Need 12K Dividing resistor to GND, installed 150 $\Omega$ resistor for LED
-F2	+12V	1v	2v	3v	4v	Need 4.7K Dividing resistor to GND, installed 470 $\Omega$ resistor for LED
-F3	+12V	1v	2v	3v	4v	Volt output directly, installed 470 $\Omega$ resistor for LED

\* In order to reduce display error, we strongly recommend that your switch or ECU use typical output.

## OUTPUT CURVE



## Resistance Sensors

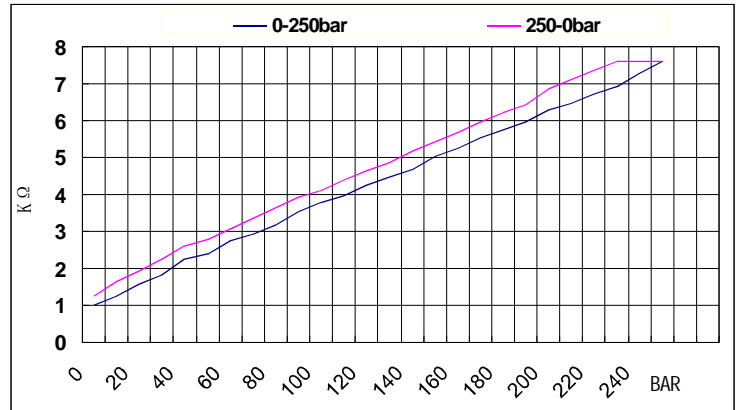


**ASB22**

### Main Specifications :

- Signal type: Resistance
- Working pressure: 0-200bar
- Burst pressure: >1000bar
- Accuracy: 5%F.S. at 25°C
- Thread: 1/4"BSP
- Resistance value: 0-7KΩ, 0-2KΩ, 0-1KΩ

### REAL OUTPUT CURVE



- . Brown yellow PCB
- . 26cm x 2 wires
- . White plastic connector x 2

**ASB22-R**



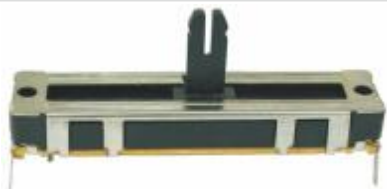
- . Brown yellow PCB
- . 26cm x 2 wires
- . White plastic + ground plate Ø6mm

**ASB22-R-A10**



- . Mirror yellow PCB
- . 26cm x 2 wires
- . White plastic connector x 2

**ASB22-R-A11**



- . Mirror yellow PCB
- . No wire
- . No connector

**ASB22-R-A12**



- . Mirror yellow PCB
- . 26cm x 2 wires
- . 2P water proof connector

**ASB22-R-A13**

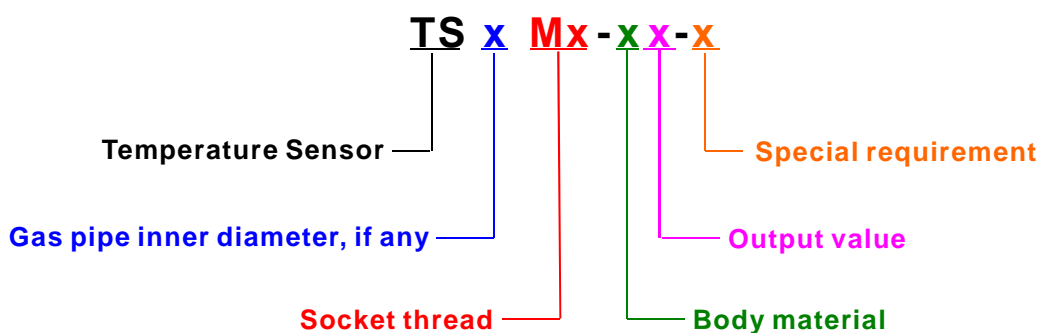


- . Mirror yellow PCB
- . 26cm x 2 wires
- . White plastic + ground plate Ø6mm

**ASB22-R-A14**

## Temperature Sensors

Specifications	
Output type	NTC 2KΩ, 5KΩ, 4.7KΩ, 10KΩ or customerized
Thread type	M5, M6, M12*1.5
Pipe connector	Ø5 or Ø6 Pagoda-Shape connector
Body material	Brass, Aluminium
Working temperature	-40~125°C
Accuracy	±1%



Body Material	Output Value
0: brass	1: NTC 5KΩ
1: aluminium	2: NTC 10KΩ
	3: NTC 4.7KΩ
	4: NTC 2KΩ



### Optional Connectors



3A - 3PIN water proof



A3 - 3PIN water proof



2A - 2PIN water proof



A2 - 2PIN water proof



4C - 4PIN water proof



3E - 3PIN water proof



E3 - 3PIN water proof



2E - 2PIN water proof



E2 - 2PIN water proof



F3 - 3PIN water proof



3G - 3PIN simple



G3 - 3PIN simple



4N - 4PIN water proof

# Certifications



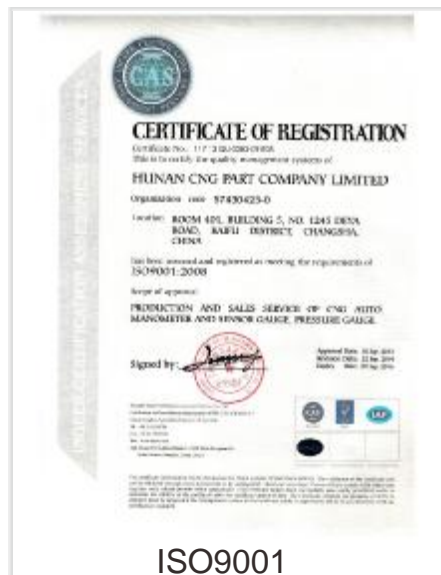
MC approval



Patent approval



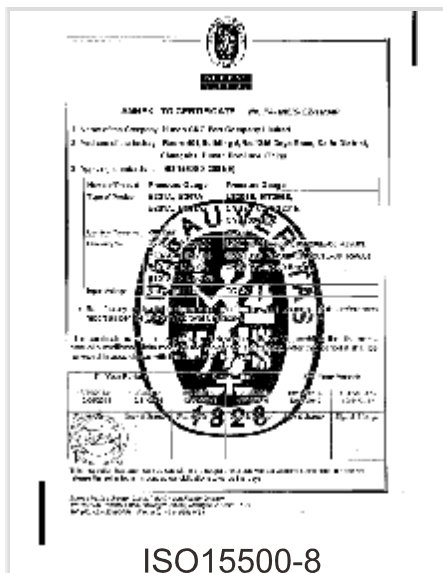
ISO9001



ISO9001



ISO15500-8



ISO15500-8



E4-110R-000187



E4-110R-000188