AP90 High- frequency Dynamic Pressure Transmitter

Description:

AP90 is an industrial measuring instrument that is modular in design and meets global OEM standards. The series is stable and reliable, and has excellent cost performance. It is rugged and durable to meet the requirements of more stringent industrial standards. It is widely used in industrial support, industry support and equipment support. The series includes a variety of options, which are applied to different industries and different working conditions. It solves the needs for economic pressure monitoring in different occasions and serves a wide range of industries.

AP90 high-frequency dynamic pressure transmitter is designed and manufactured by the company using special technology. This sensor is designed and manufactured by advanced MEMS technology. Three-dimensional integrated double-sided silicon piezoresistive pressure sensitive components through the ion implantation, fine lithography technology of the Wheatstone bridge, through silicon-silicon bonding technology, inverted V-slot design to make products with high sensitivity and dynamic characteristics. This principle design ensures the dynamic characteristics of the natural frequency of 500KHz and the measurement stability of the product, followed by the special high-frequency digital calibration circuit, which can convert the change of the pressure amount into a linear corresponding standard electrical signal, such as 4-20mA, 0-5V, etc., while ensuring the accuracy of the measurement.

Features:

◎ Measuring range: 0~20KPa...60MPa
◎ Static and simultaneous measurement, frequency from 0~20KHz
◎ Various industrial signal output 4~20mA, DC 0~5V, DC 1~5V and DC 0.5~4.5V
◎ All stainless steel structure, can measure the gas, liquid, gas-liquid mixing and other fluids compatible with it
◎ Compact structure, standardized process production, stable and reliable quality, high cost performance

Applications:

◎ High speed oil pump test
◎ Testing of high speed valves
◎ Engine pressure dynamics detection
◎ Locomotive test bench,
◎ Hydraulic and pneumatic dynamic test bench
◎ Petroleum, chemical industry equipment
◎ Medical equipment
◎ Other equipment and systems for dynamic pressure measurement

Performance Parameter

Measuring Range	0~10KPa……60MPa	
Overload Capability	1.5~2 times full-scale pressure	
Burst Pressure	4Xfs(≤100MPa)	
Durability	>1x108 cycle(P:0~FS)	
Pressure Type	Gauge / Absolute	
Measuring medium	Gas or liquid compatible with 316 stainless steel	
Response frequency	0~3KHz	
Natural frequency	500KHz	
Resolution	0.01%FS	
Accuracy (linear,hysteresis, repeatability)	Typical: ±0.5%FS	Maximum: ±1%FS
Long-term stability	Typical: ±0.2%FS	Maximum: ±0.3%FS
Zero temperature drift	Typical: ±0.02%FS/℃	Maximum: ±0.05%FS/℃
Sensitivity temperature drift	Typical: ±0.02%FS/℃	Maximum: ±0.05%FS/℃

Environmental Conditions

Medium Temperature	-20 ~ 85℃
Ambient Temperature	-20 ~ 80℃
Compensation Temperature	-10 ~ 60℃
Vibration resistance	10g IEC 60068-2-6
Impact resistance	500g/1ms IEC 60068-2-27
EMC- launch	EN61000-6-3
EMC- anti-interference	EN61000-6-2
Insulation resistance	>100MΩ(100V)
Shell Protection	Plug type(IP65); Cable type(IP67) Compliance IEC 60529 standard
Certification	CE

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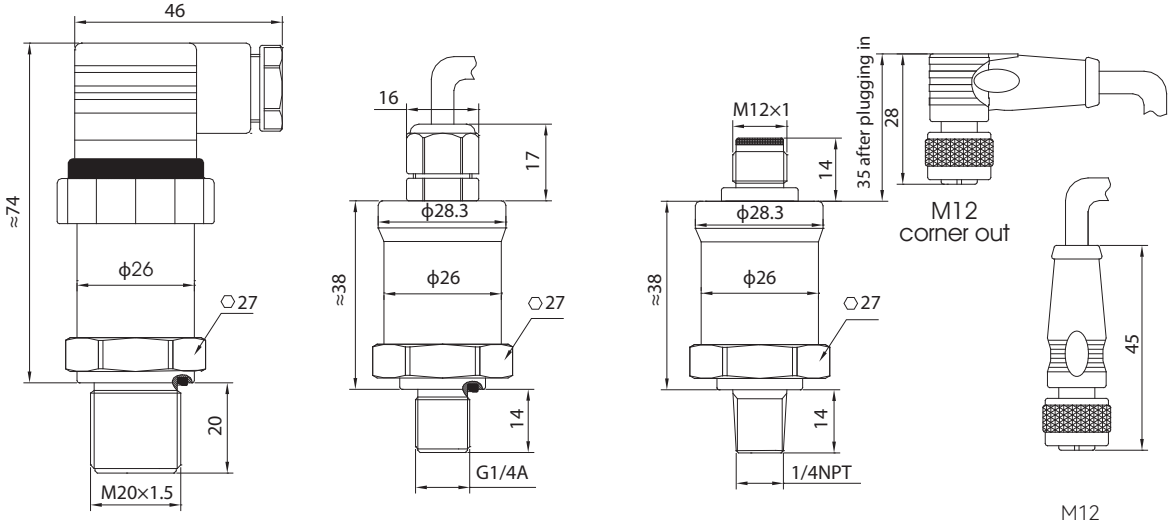
Electrical Specifications

Code	Standard signal (with short circuit protection)	Supply voltage with polarity protection	Power supply -Current	Load(R)	Output Impendence
A1	4~20mA	DC 9~30V	Max.25mA	R≤(U-9)/0.02Ω	
V1	1~5V DC	DC 9~30V	8mA	R≥50kΩ	<2kΩ
V2	0~5 V DC	DC 9~30V	8mA	R≥50kΩ	<2kΩ
V3	0.5~4.5V DC	DC 9~30V	8mA	R≥50kΩ	<2kΩ
V4	0.5~4.5V DC	DC 5±0.25V	8mA	R≥50kΩ	<2kΩ

Material

Interface and housing	Stainless Steel 304L
O-ring	Fluororubber
Sensor Diaphragm	Silicon based material
Weight	Approx.180g

Size and Outline



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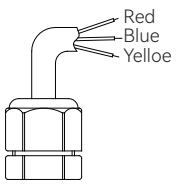
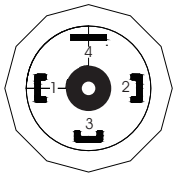
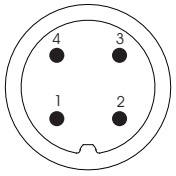
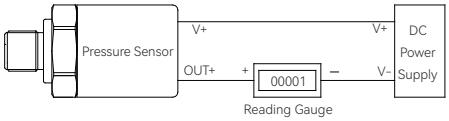
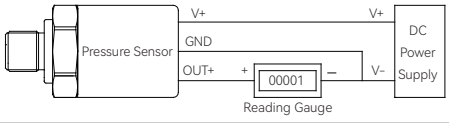
Electrical Connections

Description	PG7 Grand lock head outlet 1m Shielded cable	A type HSM plug	M12x1 Aviation plug Straight out or Corner out 1m unshielded cable
Code	W1	W2	W3 / W4
Diagram			
Protection Grade	IP67	IP65	IP65
Ambient Temperature	-40 ~ 85℃	-40 ~ 85℃	-40 ~ 85℃
Current output wiring definition	RED:V+ / BLUE:OUT+	1#:V+ / 2#:OUT+	BROWN（1#）:V+ / BLUE（3#）:OUT+
Voltage output wiring definition	RED:V+ / BLUE:OUT+ YELLOW:GND	1#:V+ / 2#:OUT+ 3#:GND	BROWN（1#）:V+ / BLUE（3#）:OUT+ BLACK（4#）:GND
Current output wiring diagram			
Voltage output wiring diagram			

Ordering Information

AP90	G	010B	A1	F2	W2
Model	Pressure type	Pressure Range	Output	Mounting thread	Electrical connections
AP90	G=Gauge A=Absolute	010K =10KPa G 020K =20KPa G 035K =35KPa G 070K=70KPa G 001B=1bar G/A 002B=2bar G/A 004B=4bar G/A 006B=6bar G/A 010B=10bar G/A 016B=16bar G/A 025B=25bar G/A 040B=40bar G/A 060B=60bar G 100B=100bar G 160B=160bar G 250B=250bar G 400B=400bar G 600B=600bar G	A1=4~20mA V1=1~5V V2=0~5V V3=0.5~4.5V	F1=M20x1.5male F2=G1/4male F3=1/4NPT F0= Customize	W1=Straight Out 1m W2=A type HSM plug W3=M12 corner out 1m W4=M12 Straight Out 1m

Model example: **AP90G010BA1F2W2**
AP90 High- frequency Dynamic Pressure Transmitter; Range 0~1MPa Gauge;
Output 4~20mA; Accuracy 0.5% typical; Power Supply 9~30VDC;
Pressure Connection G1/4 male thread; Electrical Connection Hessman plug;
Special instruction: 010B=10bar G/A, G/A stands for gauge and absolute pressure, G gauge, A absolute

Remarks:
It can be customized if the order quantity exceeds a certain amount. Please contact the sales engineers for details.