HM53
Industrial Pressure Transmitter

The HM53 series is designed for demanding industrial environments. It uses a MEMS silicon strain gauge on a stainless steel element with an integrated ASIC, providing analog voltage (0-10V) or 4-20mA outputs.

Its one-piece 17-4PH stainless steel pressure cavity has no O-rings or organics exposed to media, eliminating leakage and ensuring durability.

The HM53 features compact size, wide operating temperature (-40°C to +125°C), and ±0.25% accuracy. It is ideal for OEMs with medium to high volumes. Semi-custom and fully custom designs are available for specific applications.



FEATURES

- Heavy Industrial
- Integral Pressure Cavity，No leakage
- Reverse Polarity Protection on Input
- Short Circuit Protection on Output
- Up to ±0.5% Accuracy
- Up to ±1% Total Error Band
- Compact Outline
- -40°C to +125°C Operating Temperature
- 0°C to +70°C Compensated Temperature

GREAT FOR

- Industrial Process Control and Monitoring
- Advanced HVAC Systems
- Refrigeration Systems
- Automotive Test Stands
- Off-Road Vehicles
- Pumps and Compressors
- Hydraulic/Pneumatic Systems
- Agriculture Equipment
- Energy Generation and Management



Configurable Design

The HM53 is ideal for demanding industrial applications requiring high ruggedness and reliability. It offers flexible choices of thread sizes, pressure ranges (up to 20,000 psi), electrical connections (cable or connector), wetted materials, and output signals.

Hansensol provides semi-custom and fully custom designs based on volume and application needs.

Other unlisted configurations can also be achieved. Please feel free to inquire.

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SPECIFICATIONS

Performance

Accuracy	⩽±0.25%FS BSFL ⩽± 0.5%FS BSFL
Stability (1 year)	⩽0.25%FS
Pressure Cycles	1×10^7
Proof Pressure	2X
Burst Pressure	3X (Max 20KPSI)

** Accuracy includes non-linearity, hysteresis and non-repeatability*

Thermal

Operating Temperature	-40···125℃
Media Temperature	-40···125℃
Storage Temperature	-40···125℃
Compensated Temperature	0···70℃
TC Zero	⩽1%FS
TC Span	⩽1%FS

Enviromantal

Isolation (Body to any Lead)	100 MΩ@250VDC
EMI/RFI Protection	Yes
IP Rating:	IP65minimum
Vibration:	±20g,1Hz to 200Hz
Shock	50g,11msec,1/2sine

** IP Rating is dependent on electrical termination selected. Contact factory for more information.*

** IP Rating applies when electrical connector is attached with the appropriate ingress protection.*

Electrical (Current)

Outputs:	4···20mA
Excitation:	9-36V
Current Consumption:	< 10 mA
Output Load:	0···1350Ω
Frequency Response (min):	<3ms Without Snubber
Zero Offset (of FS):	⩽ ±0.5% typical,
Span Tolerance (of FS):	⩽ ±0.5% typical

Electrical (Voltage)

Outputs:	0-5V, 1-5V, 1-6V, 0-10V
Excitation:	13-36V
Current Consumption:	< 10 mA
Output Load:	> 100kΩ
Frequency Response (min):	<2ms Without Snubber
Zero Offset (of FS):	⩽ ±0.5% typical
Span Tolerance (of FS):	⩽ ±0.5% typical

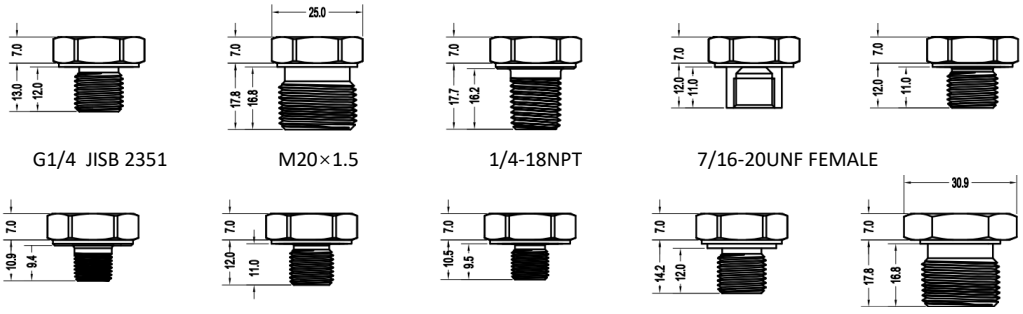
Outputs:	0.5-4.5V ratiometric
Excitation:	5V
Current Consumption:	< 10 mA
Output Load:	> 100kΩ
Frequency Response (min):	<2ms Without Snubber
Zero Offset (of FS):	⩽ ±0.5% typical
Span Tolerance (of FS):	⩽ ±0.5% typical

Outputs:	0.5-2.5V ratiometric
Excitation:	3-5VDC
Current Consumption:	< 3 mA
Output Load:	> 100kΩ
Frequency Response (min):	<2ms Without Snubber
Zero Offset (of FS):	⩽ ±0.5% typical
Span Tolerance (of FS):	⩽ ±0.5% typical

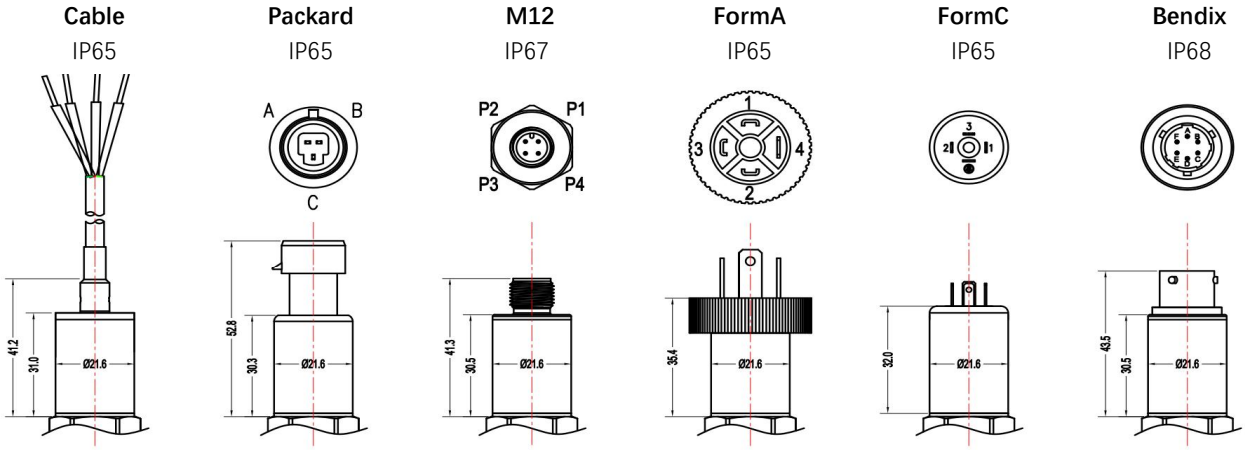
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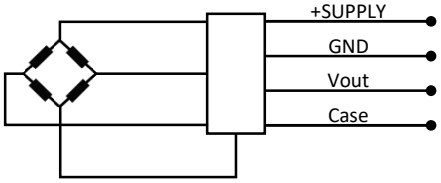
Pressure Connection



Electrical Connection

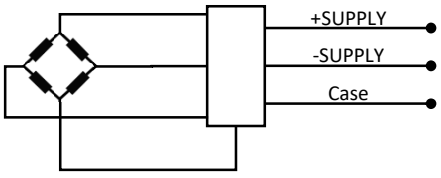


VOLTAGE AMPLIFIED OUTPUT



Cable	Packard A	Packard B	M12	Form A	Form C	Bindex 6P
RE	A	B	1	3	3	A
BK	B	A	2	2	2	B
WH	C	C	3	1	1	C
Shield	/	/	4	4	4	F

CURRENT AMPLIFIED OUTPUT



Cable	Packard A	Packard B	M12	Form A	Form C	Bindex 6P
RE	A	B	1	1	1	A
BK	B	A	2	2	2	B
Shield	/	/	4	4	4	F

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Ordering Information

HM53	-	3	4	1	1	1	G2J	-	010B	G	-	000

Output	
1	0.5-4.5V RATIOMETRIC
2	1-5V
3	4-20mA
4	0-5V
5	0-10V
6	1-6V
7	0.5-4.5V
X	Customer Special

Connection	
1	Cable
2	Packard A
2	Packard B
4	M12
5	FORM A
6	FORM C
7	Bindex 6P
X	Customized

Material (Diaphragm+Screw)	
1	17-4PH+304

Snubber	
1	With Snubber
2	Without Snubber

Label	
0	No
1	Adhesive
2	Lazer

Options	
000	No Special Option

Pressure Type	
G	Gauge
S	Sealed
C	Compound

Pressure Range+Unit			
Code	PSI	Code	Bar
100P	0-100	007B	0-7
150P	0-150	010B	0-10
250P	0-250	016B	0-16
500P	0-500	035B	0-35
1000P	0-1000	070B	0-70
1500P	0-1500	100B	0-100
2250P	0-2250	150B	0-150
3000P	0-3000	200B	0-200
5000P	0-5000	350B	0-350
7500P	0-7500	500B	0-500
010KP	0-10000	700B	0-700
015KP	0-15000	1000B	0-1000
020KP	0-20000	1500B	0-1500
030KP	0-30000	2000B	0···2000

Pressure Port	
G2J	G1/4 JIS B2351
G2D	G1/4 DIN 3852
M20	M20×1.5 mm ISO 6149-2
N2	1/4-18 NPT
R2	R1/4
X	Customized

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