

HPM3189 Differential Pressure Transmitter

(For high temperature media)



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Overview

HPM3189 high-temperature type differential pressure transmitter uses a high-temperature resistant pressure core as its sensing element. The pressure of the measured medium is transmitted to the sensor through the transmitter's heat dissipation structure. A low-temperature drift signal conditioning circuit built into a stainless-steel housing converts the sensor signal into a standard current or voltage signal output, which can be directly connected to computers, control instruments, and display instruments. The product features an integrated all-stainless-steel structure, excellent overall performance, easy installation, and good vibration and impact resistance. The high-temperature resistant core and heat dissipation structure ensure long-term use in pressure measurement of high-temperature media.

This compact and easy-to-install product is widely used in differential pressure, level, and flow measurement and control in process control, equipment monitoring, and other fields.

Feature

- ◆ Maximum medium temperature resistance 140°C
- ◆ Compact structure for differential pressure measurement
- ◆ 316L stainless steel diaphragm structure
- ◆ Multiple process connections
- ◆ Short circuit and reverse polarity protection

Typical Applications

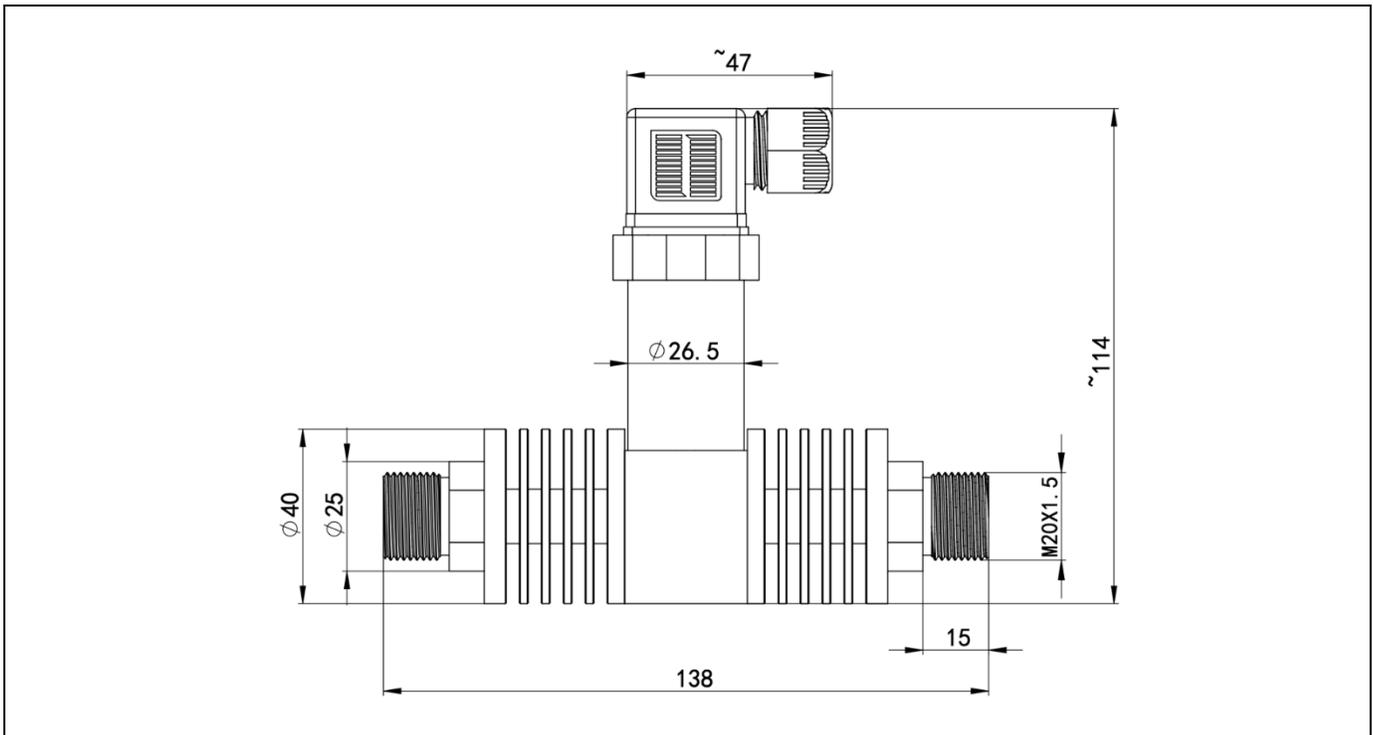
- ◆ Differential pressure measurement
- ◆ Process control
- ◆ Tank monitoring
- ◆ Flow measurement

Technical Parameters

Measuring Range	0~10kPa...3.5MPa
Bilateral static pressure	≤20MPa
Single-sided positive end	1.5~2 times full scale
Single-sided negative end	1 times full scale
Note: The upper and lower limits of the measuring range can be customized. Support the pressure at the negative pressure ends greater than that at the positive pressure end, such as -100~100kPa, -50~20kPa, etc.	
Measuring Medium	Various liquids gases compatible with contact materials
Output Signal/Supply(option1)	2-wire 4~20mA / Vs=8~30V
Output Signal/Supply (option2)	2-wire 4~20mA+HART / Vs=12~32V
Output Signal/Supply (option3)	3-wire 0~10V / Vs=12~30V
Output Signal/Supply (option4)	4-wire Modbus-RTU/RS485 / Vs=12~30V

Accuracy	±0.5%FS @25°C ±0.2%FS @25°C
Long-term Stability	±0.25%FS/year (0.5G accuracy) ±0.2%FS/year (0.2G accuracy)
Static pressure effect	≤0.5%F.S./MPa
Temperature compensation range	0~70°C
Temperature Coefficient of Zero	±1.5%FS Reference 25°C, within the temperature compensation range
Temperature Coefficient of Full Scale	±1.5%FS Reference 25°C, within the temperature compensation range
Medium temperature	-40~140°C (Supports custom higher temperatures)
Ambient temperature	-20~80°C
Storage temperature	-20~80°C
Process connection	NPT1/2 male thread M20×1.5 male thread, or other customized
Insulation resistance	>20MΩ, 500VDC
Dielectric strength	<2mA 500VAC 1min

Structure Drawings



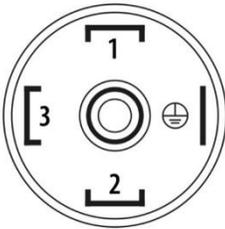
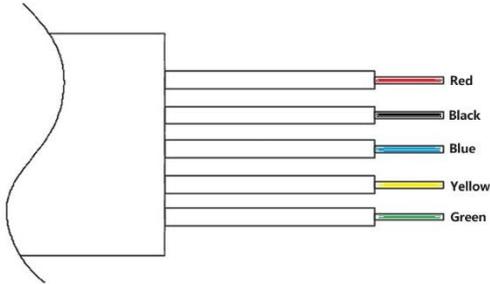
Note:

The dimensions listed in the diagram may change with updates to the manufacturing process.
For other shapes, please consult a sales engineer.

Structure Material

Ordering Code	Part	Note
S4	Housing	Stainless steel 304
S6		Stainless steel 316L
S4	Process connection	Stainless steel 304
S6		Stainless steel 316L
S6	Sensor	Stainless steel 316L diaphragm
FK	O ring	FKM fluor rubber sealing ring (Applicable temperature range -20~200°C) (by default)
NB		NBR nitrile sealing ring (Applicable temperature range -40~120°C)
ED		EPDM sealing ring (Applicable temperature range -55~150°C)
HB		HNBR hydrogenated nitrile sealing ring (Applicable temperature range -40~150°C)

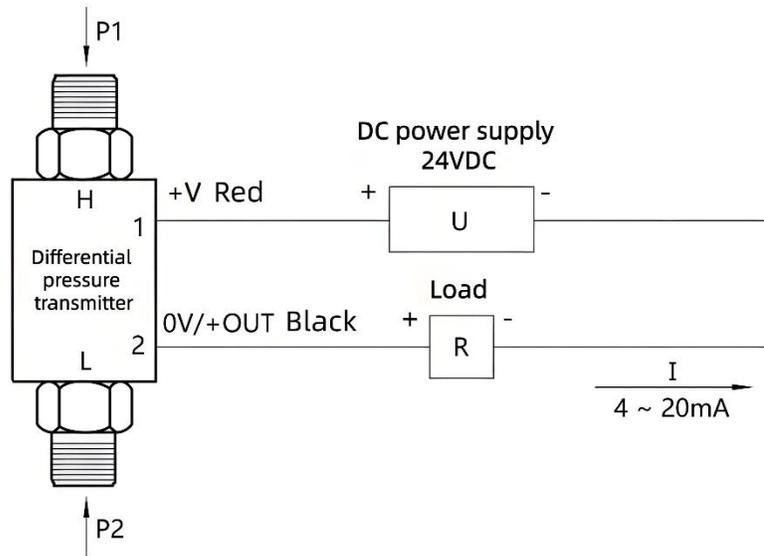
Electrical Connection

DIN43650 (Order code: C1)		Cable outlet (Ordering code: C2)	
			
2-wire 4~20mA current output			
Signal definition	Power+(+V)	Power- (0V/+OUT)	
DIN43650	1	2	
Cable outlet	Red	Black	
3-wire 0~5V/10V voltage output			
Signal definition	Power+(+V)	Power- (GND)	Signal+(+OUT)
DIN43650	1	2	3
Cable outlet	Red	Black	Blue

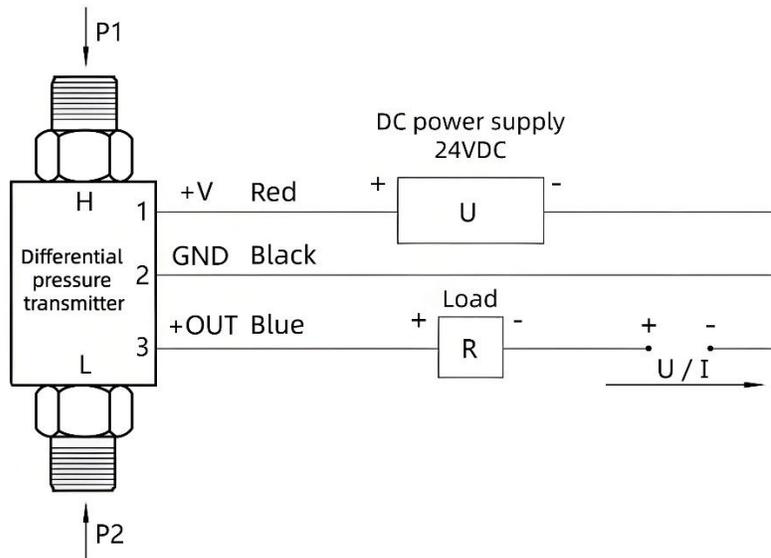
4-wire Modbus-RTU/RS485				
Signal definition	Power+(+V)	Power- (-V)	RS485A	RS485B
DIN43650	1	2	3	4
Cable outlet	Red	Black	Yellow	Green

Electrical wiring diagram

2-Wire 4~20mA output



3-Wire voltage output



Ordering Guide

Item NO.	Type										
HPM3189	Differential Pressure Transmitter										
	Pressure Range	Measuring Range									
	(0-X)kPa	X is the upper limit of the measurement range									
		Code	Output Signal								
		B1	(4-20)mA								
		B3	(0-10)V								
		B7	RS485								
		B8	HART								
		Code	Process connection								
		P1	M20×1.5 male								
		P9	NPT1/2 male								
		G12	G1/2 male								
		Code	Electrical Connection								
		C1	DIN43650								
		C2	Cable Outlet								
		Code	Housing Material								
		S4	SS304								
		S6	SS316L								
		Code	Process Connection Material								
		S4	SS304								
		S6	SS316L								
		Code	Sensor Material								
		S6	SS316L								
		Code	Others								
		FK	FKM fluor rubber sealing ring(by default)								
		NB	NBR nitrile sealing ring								
		J5	0.5 G accuracy(by default)								
		J2	0.2 G accuracy(by default)								
		QF	With factory report								
			Others customized requests								
eg:HPM3189	(0-20)kPa	B1	P1	C1	S4	S4	S6				FK J5 QF

Certification Information

Factory certification	
Certification organization	CQM
Quality management system	ISO 9001:2015
Certification scope	Research, development and manufacture of pressure transmitter and temperature transmitter
Certificate No.	00223Q21711R1S

CE	
Certification organization	ECM
Certification scope	Pressure Transmitter (Differential Pressure Transmitter)
Standard	EN IEC 61000-3-2:2019+A1:2021
	EN IEC 61000-3-3:2013+A1:2019+A2:2021
	EN IEC 61000-6-4:2019, EN IEC 61000-6-2:2019
Certificate No.	6G241223.NHEWC83