

GP-402 I²C Digital Pressure Sensor

Features

- ✓ Pressure ranges from -100 kPa to 3.5 MPa
- ✓ I²C digital pressure and temperature output
- ✓ 24-bit high-resolution ADC
- ✓ Low power consumption, <1 mA operating current
- ✓ Supply voltage: 1.8–3.6 VDC
- ✓ Gauge, absolute and sealed pressure
- ✓ 316L stainless steel wetted parts
- ✓ Digital temperature compensation and calibration



Introduction

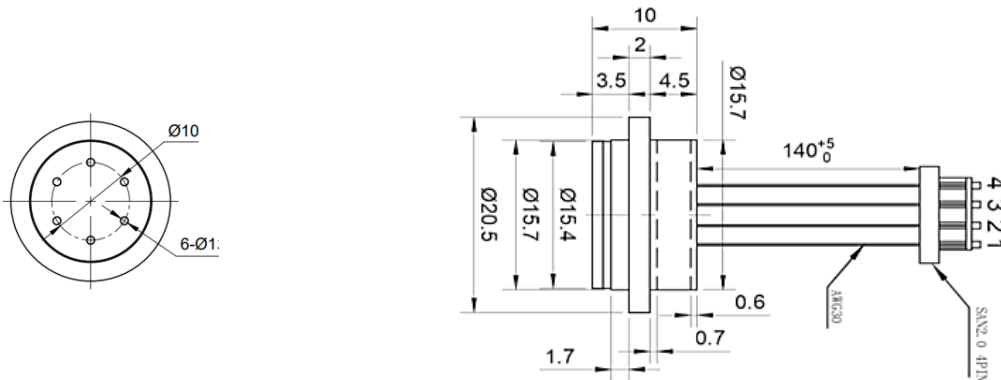
The GP-402 is a compact MEMS digital pressure sensor featuring a high-performance signal conditioning ASIC with a 24-bit ADC. Digital compensation for offset, temperature drift, and non-linearity ensures stable and accurate pressure measurement. The sensor provides pressure and temperature data through a standard I²C interface, simplifying integration with embedded systems. Constructed with 316L stainless steel wetted parts, it is suitable for non-corrosive gases and liquids. Its low power consumption and compact design make it ideal for smart water meters, industrial instruments, portable devices, and other embedded applications.

Specifications

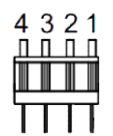
Items	Parameters
Range	-100 kPa~0 kPa··· 3.5 MPa
Over Pressure	x 2 FS
Burst Pressure	x 5 FS
Pressure Accuracy	±0.5%FS BFUL @25°C
Temperature Accuracy	1°C (typ.), 1.5°C(Max.)
Power Supply	1.8V ~ 3.6V DC
Output	15%~85% (I ² C Bus protocol)
Working Current	<1mA, Standby current is about 0.1µA
Compensation Temperature	0°C ~ 80°C
Work Temperature	-40°C ~ 125°C
Data Clock	3.4 MHz
Long-term Stability	±0.2% FS/year
Connector	SAN2.0-4P
Wires	AWG30, 140mm

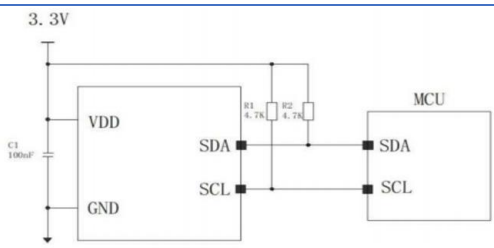
Material-Diaphragm	316L SS
Material-Housing	316L SS
Diaphragm Protection	316L cap with 6 holes
Circuit Protection	Silicon glue
RoHs	Yes

Dimensions (mm)



Electrical connection

Connector	No.	Wire Color	Definition
 SAN2.0-4P	1	Red	VCC
	2	Black	GND
	3	Yellow	SDA
	4	Blue	SCL



Output conversion

Percentage output (%)	Digital quantity (decimal)	Digital quantity (hexadecimal)
0	0	0x000000
10	1677722	0x19999A
15	2516582	0x266666
85	14260633	0xD99999
90	15099494	0xE66666
100	16777215	0xFFFFF

Order Guide

GP-401 I ² C Digital Pressure Sensor						
	Code1	Pressure Range				
	0B	0~20kPa	G	12	0~2MPa	G/A
	0A	0~35kPa	G	13	0~3.5MPa	G/A
	02	0~70kPa	G	14	0~7MPa	A/S
	03	0~100kPa	G/A	15	0~10MPa	A/S
	07	0~200kPa	G/A	17	0~20MPa	A/S
	08	0~350kPa	G/A	18	0~35MPa	A/S
	09	0~700kPa	G/A			
	10	0~1MPa	G/A			
		Code2	Type			
		G	Gauge			
		A	Absolute			
		S	Sealed Gauge			
			Code3	Electrical Connector		
			1	140mm wires with connector		
			2	Customized		
GP-401	10	G	1			

*Completed Sample: **GP-401-10-G-1***

Tips:

The sensor diaphragm is extremely fragile. Any direct contact with hard objects may cause diaphragm deformation and damage to the sensor.