

GP-1100 Atmosphere Pressure Sensor

Features

- ✓ MEMS silicon resonant sensor
- ✓ Comprehensive accuracy up to $\pm 0.01\%$ F.S.
- ✓ Frequency signal output
- ✓ Widest temperature range: -40°C to 80°C
- ✓ Flexible electrical and pressure interface configurations



Introduction

GP-1100 Meteorological Pressure Sensor, specifically designed for atmospheric data measurement in meteorology, features a proprietary silicon resonant pressure core at its heart. It offers high precision, excellent stability, and quasi-digital output. The sensor's pressure chip employs a tuning fork beam design for its resonant structure, operating via in-plane vibration. Resonant frequency is captured through electrostatic excitation and capacitance detection, then converted into a frequency signal output via a closed-loop control circuit.

Specification

Items	Parameters
Pressure Range	40kPa ~ 140kPa
Max Over Pressure	$1.5 \times \text{FS}$
Max Burst Pressure	$2 \times \text{FS}$
Temperature Compensation	$-40^\circ\text{C} \sim 80^\circ\text{C}$
Accuracy*	$\pm 0.01\% \text{FS}$
Resolution	0.1Hz
Long Term Stability	$\pm 0.01\% \text{FS/year}$
Acceleration Impact	< 5Pa/g
Response Time	< 25ms, From 10% to 90%FS
Initial Time	250ms reach accuracy
Measure Medium	Dry air no corrosivity
Pressure Port	$\Phi 2\text{mm} \times 7\text{mm}$
Size	$45\text{mm} \times 28\text{mm} \times 16\text{mm}$
Weight	14g

* Including NI, Rp, Hy and Temperature

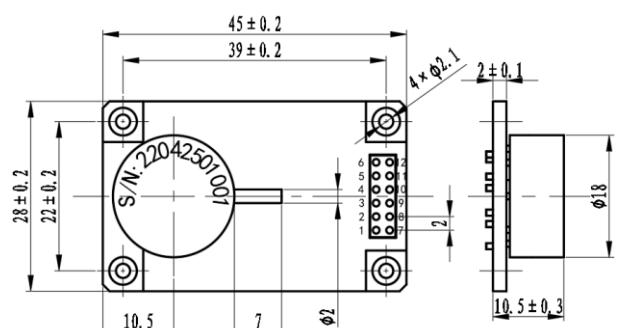
Power & Output

Current	Output	Frequency Range	Waveform
15 ~ 35mA	Pressure Frequency	30kHz ~ 50kHz	Square wave, 5V TTL
	Temperature Frequency	2kHz ~ 16kHz	

Connection

Items	Definition
+15 (V)	+15V Power Supply
GND	GND
TEMP (TF)	Temperature frequency
FREQUENCY (F)	Pressure frequency
SCL	Control wire
SDA	Data wire

Dimensions (mm)



Order Guide

GP1100 Atmosphere Pressure Sensor			
	Code1	Pressure Range	
	RA1	0~140kPa	
	RA2	0~280kPa	
	RA3	0~350kPa	
	RA4	40~140kPa	
	Code2	Pressure Type	
	A	Absolute	
	D	Differential	
		Code3	Compensation Temperature
		T1	-10°C ~ 50°C
		T2	-20°C ~ 70°C
		T3	-40°C ~ 80°C
		T4	-40°C ~ 125°C
GP1100	RA4	A	T3

Completed Sample: **GP1100-RA4AT3**