

## | PRESSURE

Sensata is a leading manufacturer of pressure sensors, transducers and transmitters with three innovative sensing technologies: microfused strain gage, ceramic capacitive, and MEMS. The pressure range applications can be from 2.5mbar to 700 bar.

### Pressure Sensor Types



#### PRESSURE/HVAC SWITCHES

Sensata's pressure switches provide on/off control based on a predetermined pressure setting. These devices utilize highly dependable snap-acting disks, perfect for safely controls of industrial and HVAC equipment. The pressure switches are offered in a wide range of functions and configurations for a wide range of applications. For the most rigorous applications, pressure switches are also available with hermetic designs that are rated for >1Mu cycle life.



#### LOW PRESSURE SENSORS

Sensata's low pressure sensors are perfect for air movement applications including ventilation/building management systems and medical airflow. With pressure ranges down to 2.5mbar, these low pressure sensors can detect the smallest amount of airflow. Available in both plastic packages and PCB board mount form factors, the sensor may be mounted directly on ventilation equipment or integrated with the controller electronics.



#### MID PRESSURE SENSORS

Sensata's mid pressure sensors are used in applications from 15 to 750 psi that are common across a wide range of applications including air conditioning and refrigeration, water, compressed air, oil, lubricants, etc. These sensor include a pressure transducer and integrated electronics to amplify the signal and create a standard analog output. Offered in plastic, brass, or stainless steel packages with a wide range of pressure ranges, ports, and connectors. Optional features include hermetic and electrically isolated designs.



#### HIGH PRESSURE SENSORS

Sensata's high pressure sensors are typically used in applications from 50 to 700 bar including hydraulics/pneumatics, CO2 refrigeration, and bottled gas. These hermetic sensors utilize a silicon MEMS strain gage sensor which is glass bonded to a stainless steel diaphragm. With added benefits of digital temperature compensation, EEPROM memory, and self diagnostic capability, these products are ideal for applications that demand premium accuracy and performance at a competitive price.

## Key Products

### 112CP



The 112CP series combined pressure and temperature sensors delivers the benefit of both pressure and instream temperature sensing in a single, robust integrated package. The pressure transducer is a 0–5 Vdc output design that requires no end–user amplification. Similar to other Sensata pressure transducers, the voltage output is ratiometric to supply voltage. With a data conversion circuit referenced to supply voltage, accuracy can be maintained regardless of supply voltage variation. In addition, the circuit design includes linearity compensation, providing improved accuracy performance. The temperature sensor is an NTC thermistor (resistance decreases with increasing temp) with either 10K or 100K Ohm value @ 25C. Unlike other integrated packages, Sensata’s PT Sensor places the thermistor directly in the measurement medium (fluid stream), which provides faster response time and greater accuracy over encased or pipe–mounted thermistors.

- Pressure and temperature measurement in one package
- Fast, in-stream temperature measurement
- Precise superheat measurement

### 2CP5



The 2CP series is ideal for demanding air conditioning and refrigeration applications where long-term reliability and accuracy is a must. The 2CP series provides proven reliability at a competitive price.

- Ceramic capacitive sensor
- Durable, compact, low-cost design
- Accurate performance over wide temperatures

### P1A



The P1A family measures pressure ranges from vacuum up to 16 Bar and features a highly modular compact geometry. This modularity and extensive range of options offered by the P1A family make the advantages of Ceramic Capacitive technology in low-pressure sensing now available to the broadest spectrum of industrial applications. Designed to withstand harsh environments, it features superior EMI protection, outstanding shock and vibration performance, impressive longevity and lifetime performance and high quality.

- Vacuum to 16Bar Gauge and Absolute
- Outstanding Long Term Stability and Performance
- Small Compact Size

### P4000



The P4000 series of pressure sensors incorporates a stainless steel isolation diaphragm and welded construction to withstand harsh environments. The sensor uses piezo-resistive sensing technology and is paired with our custom ASIC to produce a stable, accurate output. Using a 5 Vdc input, the sensors provide a 0.5 to 4.5 Vdc output proportional to pressure. Internal temperature compensation provides an accurate, easy-to-use device. The rugged construction of the P4000 series is specifically designed to withstand high overpressure spikes and provide compatibility with a wide range of process media including refrigerants and hydraulic oils.

- Welded Stainless Steel Construction
- Isolation Diaphragm
- Absolute or Sealed Gage Reference