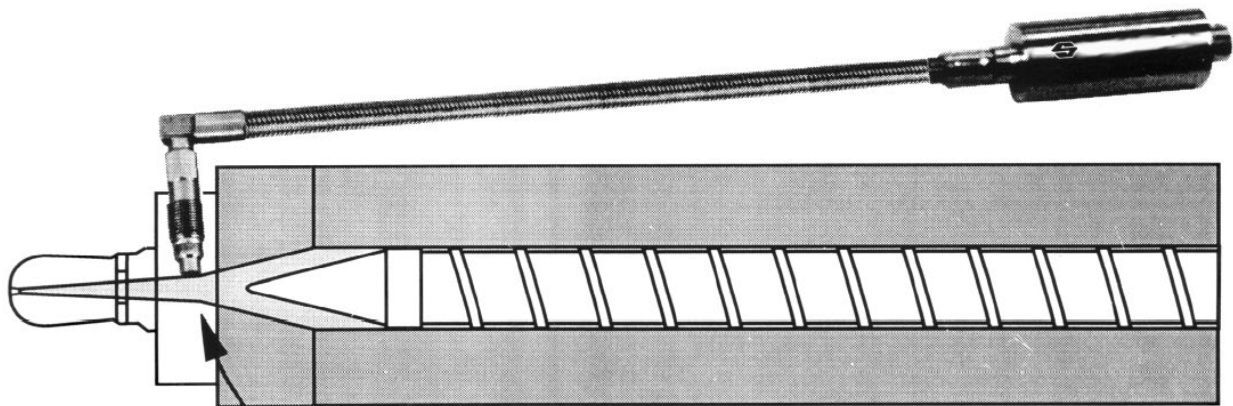


SENSONETICS

SEN-400 PRESSURE AND TEMPERATURE TRANSMITTERS ***EXTRUSION • MOLD CAVITY • NOZZLE • PLASTIC MELT***



FEATURES

- Abrasion Proof Sapphire Diaphragm
- Fast response time < 100 microseconds
- Infinite cycle life @ rated FSPR
- No mercury, NaK or push rods
- No signal decay or hysteresis
- Temperature to 662°F and higher
- 150 TO 40K PSI Pressure Ranges
- 4-20 mA transmitter output
- 0-5, 0-10 VDC amplified output

APPLICATIONS

- Polymer Plants
- Fiber Spinning
- Chemical Processing
- Pharmaceutical
- Thermoset Molds
- Autoclaves
- Medical
- Plastic Melt
- Food Processing

SEN-400 PRESSURE AND TEMPERATURE TRANSMITTER

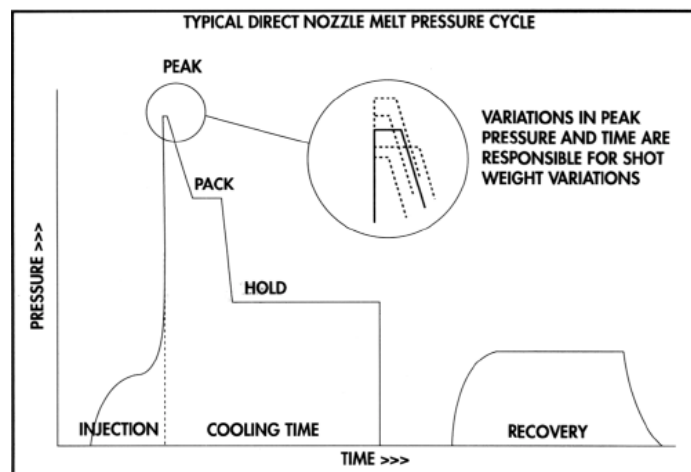
A SEN-400 Pressure and Temperature Transmitter is an excellent choice for measuring your media's pressure and temperature. The SEN-400 Pressure and Temperature Transmitters utilize state-of-the-art Silicon-on-Sapphire (SOS) technology which has rapidly established a proven track record for accuracy, reliability and durability in the thermoplastics and food extrusion industries. SOS technology does not require high temperature isolation of the sensing diaphragm thereby eliminating the need for mercury, NaK fills or push rods. The sapphire diaphragm is fifty times harder than stainless steel making it virtually impervious to wear due to abrasion. The SEN-400 Pressure Transmitter features an advanced 2-Wire, 4-20mA transmitter which accommodates a wide range of supply voltages.

The SEN-400 can be configured to amplify the voltage signal to 0-5 VDC and 0-10 VDC respectively. For ease of calibration, there is minimal interaction between the amplifiers zero and span adjustments. The electrical design features lead reversal and short circuit protection. A SEN-400 Pressure and Temperature Transmitter with a 4-20 mA signal will utilize temperature sensing on the sapphire diaphragm located at the tip of the transmitter. This Sapphire diaphragm is thermally isolated from the mounting well. The result is a reliable transmitter that measures media temperature and pressure while maintaining its accuracy over long periods of time. This configuration does not protrude into the plastic melt stream which can disrupt laminar flow. A combined pressure and temperature transmitter with a 4-20 mA signal will provide reliable measurement and control of these most critical parameters.

Our SOS sensors offer direct pressure measurement for a broad range of pressures ranging from as low as 0-150 PSI to as high as 0-40,000 PSI. Low pressure sensors are used in low pressure structural foam molding. Medium pressure sensors are used in high pressure structural foam molding and rubber compression thermoset molding. High pressure sensors are used in the injection molding of thermoplastics.

PROCESS IMPROVEMENT MADE EASY WITH NOZZLE MELT PRESSURE CONTROL

The principal benefit of nozzle melt pressure control is improved shot weight uniformity. The causes of shot weight variability include: Lack of precise, peak pressure, time control and repeatability. Variability in melt viscosity or melt temperature from shot to shot. Recognizing that melt viscosity is a function of shear stress, it is the uniformity of viscosity from shot to shot that is important, not variability within the cycle.



SEN-400 PRESSURE AND TEMPERATURE TRANSMITTER

SYSTEM INTEGRATION

SENSONETICS offers custom and all of the standard outputs such as 0-5 VDC, 0-10 VDC, or 2-Wire 4-20mA. These outputs are able to interface with all popular control systems. In many instances provisions already exist for pressure control in system controllers. Calibration tables can be entered for optimum precision.

Pressure Transmitter

Range: 0-60,000 PSI.
Combined error: Better than +/-0.5% FSO
Repeatability: Better than +/-0.1% FSO
Resolution: Infinite
Maximum pressure:
2x full scale or 45,000 psi maximum
Wetted material: Sapphire
Case material: SS316; Hastalloy; Inconel
Mounting torque: 40 in-lbs nominal;
50 in-lbs maximum
Maximum diaphragm temperature:
662°F (350°C) Consult factory for higher
temperatures up to 850°F (454°C)
Thermal Zero shift:
Better than: +/-0.01% FSO/°F
Thermal span shift:
Better than +/-0.005% FSO/°F

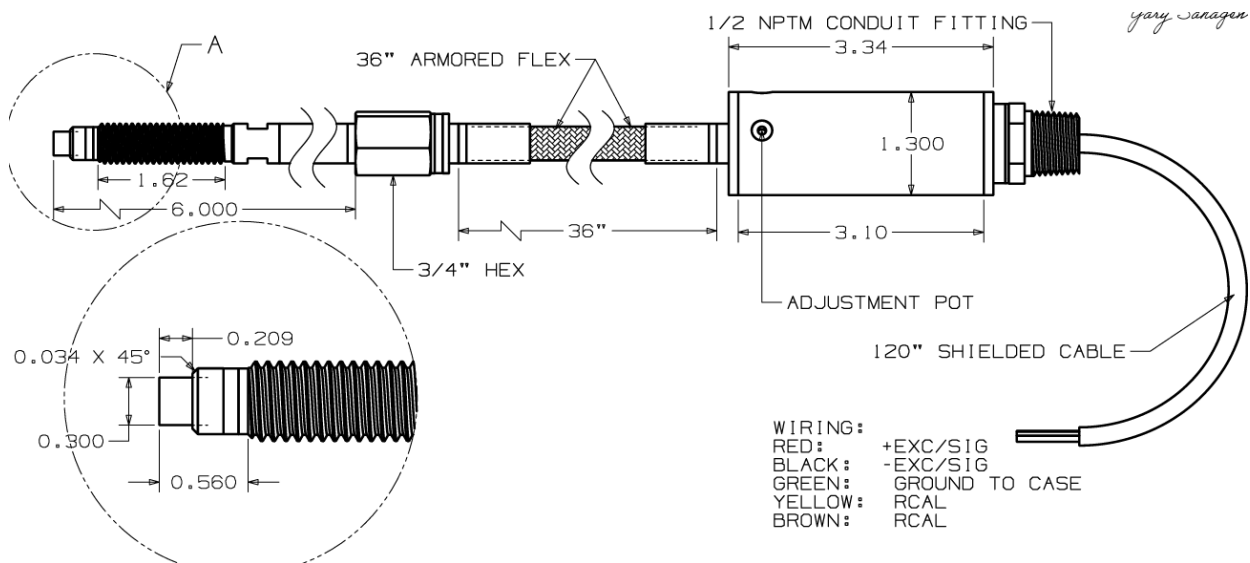
Temperature Transmitter

Range: -65°F to +662°F (350°C) maximum
Resolution: Infinite
Sensor: On-diaphragm silicon RTD Calibration:
4 mA @ 80°F, 20 mA @ 662°F – Consult factory
for higher temperatures.
Platinum RTD located inside sensor housing
behind diaphragm available as an option to
diaphragm silicon RTD.

Electrical Characteristics

Output: 4-20 mA; 0-5 VDC; 0-10 VDC
Input: 14-24 VDC for 4-20 Ma (12 VDC option)
14-36 VDC for 0-5 VDC or 0-10 VDC
Maximum Load resistance: 800 Ω @ 30 VDC;
500 Ω @ 24 VDC
Zero: 4 mA, field adjustable +/-10%
Span: 20 mA, field adjustable +/-10%
Lead reversal protection: Up to 5 A
Response time: Better than 100 microseconds
Intrinsically safe for all installation

SEN-421 OUTLINE DRAWING WITH WELDED STEM:



SEN-400 PRESSURE AND TEMPERATURE TRANSMITTER

ORDERING INFORMATION

SEN - 4** - **** - *** - **** - *** - ** - ***

MODELS: _____

- 421 = Pressure Only, 4-20 mA 422 = P & T, 4-20 mA
- 411 = Pressure Only, 0-5 VDC 412 = P & T, 0-5 VDC
- 431 = Pressure Only, 0-10 VDC 432 = P & T, 0-10 VDC

PRESSURE RANGES: _____

- 1.5C = 150 PSI 5C = 500 PSI 7.5C = 750 PSI
- 1M = 1K PSI 1.5M = 1.5K PSI 5M = 5K PSI
- 10M = 10K PSI 30M = 30K PSI 40M = 40K PSI

OUTLINES: _____

- 10 = No. 10 (1/2-20 UNF) 12 = METRIC THD (M18 X 1.5 THD)
- 19 = Straight Sensor 19R = Right Angle Sensor

STEM LENGTHS: _____

- 1 = 1 INCH 1.5 = 1.5 INCH
- 2 = 2 INCH 2.5 = 2.5 INCH
- 4 = 4 INCH 12 = 12.5 INCH
- 6 = 6 INCH (STD) 15 = 15 INCH
- 9 = 9 INCH 18 = 18 INCH

CONNECTIONS: _____

- W = WELDED D = DISCONNECT

FLEX LENGTHS: _____

- 18 = 18 INCH 72 = 72 INCH
- 36 = 36 INCH 84 = 84 INCH
- 48 = 48 INCH 60 = 60 INCH 120 = 120 INCH

ELECTRICAL TERMINATIONS: _____

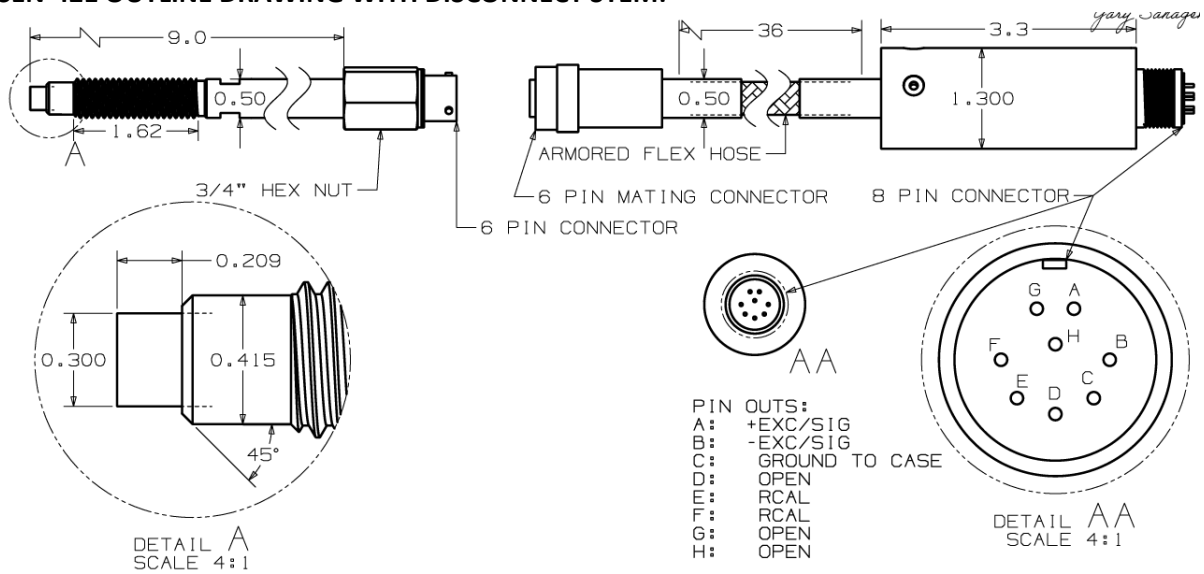
- C6 = 6 PIN FOR 421 C2 = 6 PIN FOR 411 OR 431 CD = CONDUIT FITTING
- C8 = 8 PIN FOR 422 C4 = 8 PIN FOR 412 OR 432

CUSTOM CONFIGURATIONS: _____

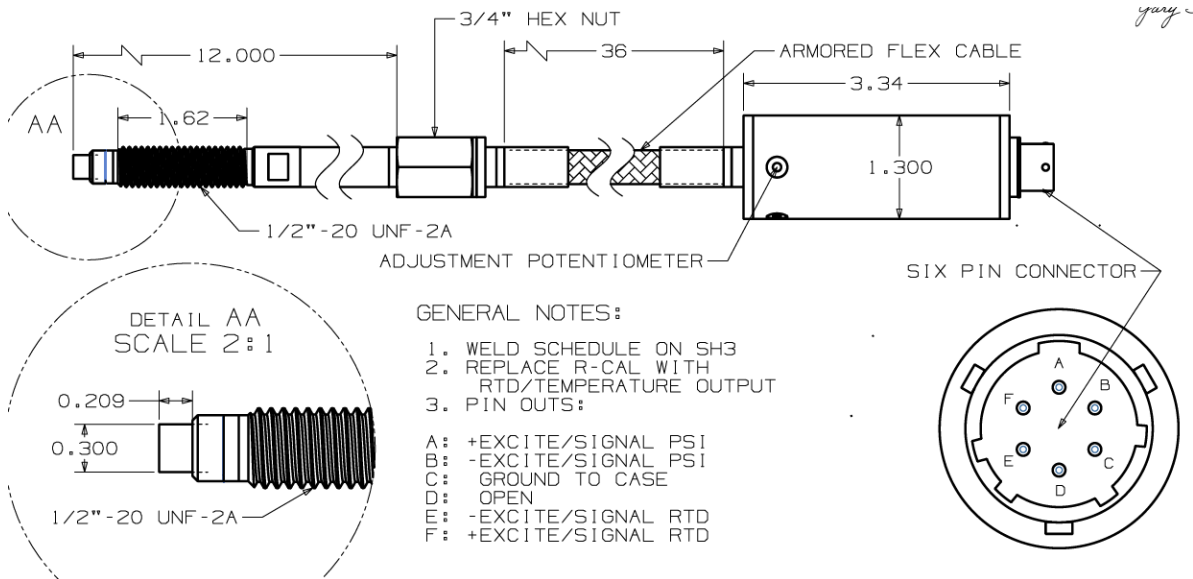
- S = SPECIAL CUSTOM CONFIGURATION EHT = HIGHER TEMPERATURE LIMIT

SEN-400 PRESSURE AND TEMPERATURE TRANSMITTER

SEN-421 OUTLINE DRAWING WITH DISCONNECT STEM:



SEN-422 WITH CUSTOM USE OF SIX PIN CONNECTOR FOR PRESSURE AND TEMPERATURE:



SEN-432 WITH EIGHT PIN CONNECTOR FOR PRESSURE AND TEMPERATURE:

