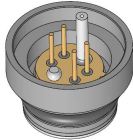
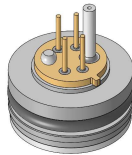


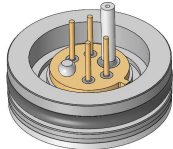
85H



85FH



86H



82H

H SERIES PRESSURE SENSOR

High Accuracy Integrated Pressure Sensor

SPECIFICATIONS

- **316L Stainless Steel Media Isolated Pressure Sensor**
- **High Accuracy Pressure/Temperature Read-out**
- **Integrated and Compact Package**
- **Absolute, Gage and Vacuum Gage**
- **Digital I²C and Analog Output**
- **13mm, 16mm and 19mm Module Diameter**

The H Series pressure sensor integrates a MEMS die, an ASIC Chip and passive components within isolated oil cavity. Leveraging the MEMS die bridge resistance for both temperature and pressure measuring in the same oil temperature environment, it can provide the accurate on-site temperature signal required for compensation, achieve outstanding initial accuracy and excellent EMC performance. The H Series can provide pressure and temperature dual output in digital output mode.

The H Series is ISO packaged, factory calibrated pressure sensor. It offers gage, vacuum gage and absolute pressure measurements spanning from 5psi ~ 1500psi.

The H Series pressure sensor provides both amplified analogy output and digital output signals through the I²C protocol.

Features

- **Weldable or O-ring Mount**
- **-20°C To +85°C Compensated Temperature Range**
- **±0.1%FS Pressure Accuracy**
- **±0.3%FS Total Error Band**
- **Low Power Consumption**
- **Low and Medium Pressure**

Applications

- **Semiconductor Equipment**
- **Process Automation**
- **Medical Devices**
- **OEM IoT System**
- **Analytical Equipment**

H SERIES

High Accuracy Integrated Pressure Sensor

Standard Ranges

Pressure Range	Model	Gage (G)	Absolute (A)	Pressure Range	Model	Vacuum Gage (V)
0 to 5 psi	85H/85FH/86H	•				
0 to 15 psi	85H/85FH/86H	•	•	-14.5 psi to 15 psi	85FH	•
0 to 30 psi	85H/85FH/86H	•	•	-14.5 psi to 30 psi	85FH	•
0 to 50 psi	85H/85FH/86H	•	•	-14.5 psi to 50 psi	85FH	•
0 to 100 psi	85H/85FH/86H	•	•	-14.5 psi to 100 psi	85FH	•
0 to 300 psi	85H/85FH/86H	•	•			
0 to 500 psi	85H/85FH/86H	•	•			
0 to 1000 psi	85H/85FH/86H		•			
0 to 1500 psi	85H/85FH/86H		•			
0 to 1 bar	82H	•	•			
0 to 2 bar	82H	•	•			
0 to 3 bar	82H	•	•			
0 to 4 bar	82H	•	•			
0 to 5 bar	82H	•	•			
0 to 6 bar	82H	•	•			
0 to 7 bar	82H	•	•			
0 to 20 bar	82H	•	•			
0 to 30 bar	82H	•	•			
0 to 70 bar	82H		•			
0 to 100 bar	82H		•			

Note: Other specific pressure ranges are available upon order

Performance Specifications

Supply Voltage: 2.7 VDC to 5.5 VDC

Ambient Temperature: 25°C (Unless otherwise specified)

Parameters	Min.	Typ.	Max.	Unit	Notes
Pressure Accuracy	-0.1		0.1	%Span	1
Total Error Band	-0.3		0.3	%Span	2
Pressure Resolution	5×10^{-5}			%Span	
Temperature Accuracy	-1		1	°C	3
Temperature Resolution			1×10^{-4}	°C	
Long Term Stability (Offset & Span)		±0.1		%Span/Year	

H SERIES

High Accuracy Integrated Pressure Sensor

Supply Voltage	2.7	5.0	5.5	VDC
Supply Current			2	mA
Current Consumption during Conversion			1.88	mA
Sleep Current Consumption		1.8		uA
Standby Current Consumption		156		uA
Insulation Resistance (500 VDC)	100			MΩ 4
Dielectric Strength (500VAC)			1	mA
ESD	±4KV (HBM: C = 100 pF / R = 1.5 kΩ)			
Compensated Temperature	-20		85	°C
Operating Temperature	-40		125	°C 5
Storage Temperature	-40		125	°C 5
Over Pressure			3X	Rated 6
Burst Pressure			4X	Rated 7
Vibration Resistance	20g, 5 Hz to 2000 Hz			
Mechanical Shock Resistance	Half sine, 50g for 11ms			
Media Compatibility	Liquids and gases compatible with 316L Stainless Steel			

Notes

1. Combined linearity, pressure hysteresis and repeatability.
2. Includes calibration errors and temperature effects over the compensated range.
3. The deviation from a best fit straight line (BFSL) fitted to the output measured over the compensated temperature range.
4. Between case and sensing element.
5. Maximum temperature range for product with connector is -20°C to +85°C.
6. 3x or 2000psi, whichever is less.
7. 4x or 3000psi, whichever is less.

Additional Notes

Direct mechanical contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, dents, fingerprints, etc.) for device to operate properly. Caution is advised when handling parts with exposed diaphragms. Use protective cap whenever devices are not in use.

Output

Possible outputs	Digital output	Analog output
	I ² C, DC 5V, four-wire	DC 0.5 to 4.5V, four-wire radiometric 10 to 90% of the voltage supply
Burden	-	R _L ≥ 5 kΩ
Voltage DC 0.5 to 4.5 V		
Pull-up resistor	R _{Pull-up} 1 to 10 kΩ	-
Bit rate	24bit	-
Maximum current consumption	< 2 mA	-

Interface

H SERIES

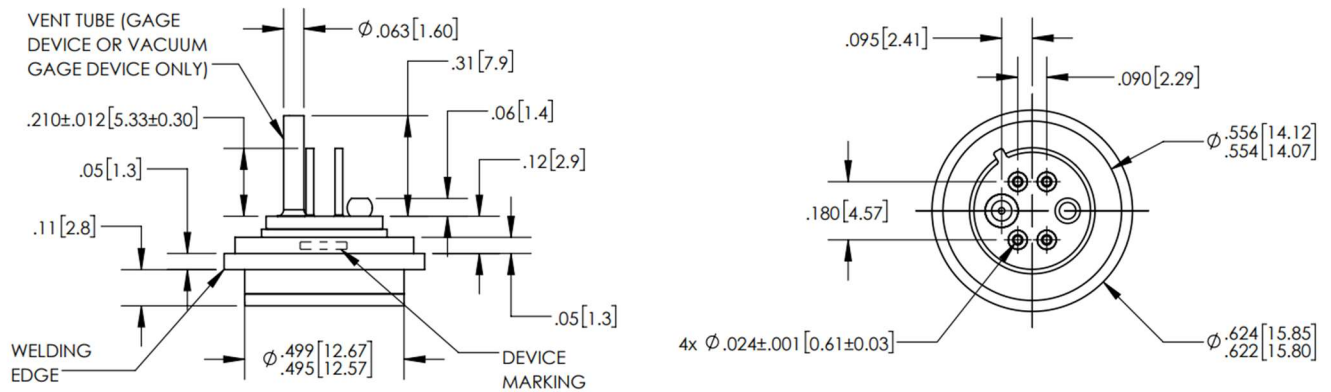
High Accuracy Integrated Pressure Sensor

Bus type	I ² C
Transmission type	Serial transmission (master-slave communication)
Standard address	0x74

Dimensions (Unit: inch[mm])

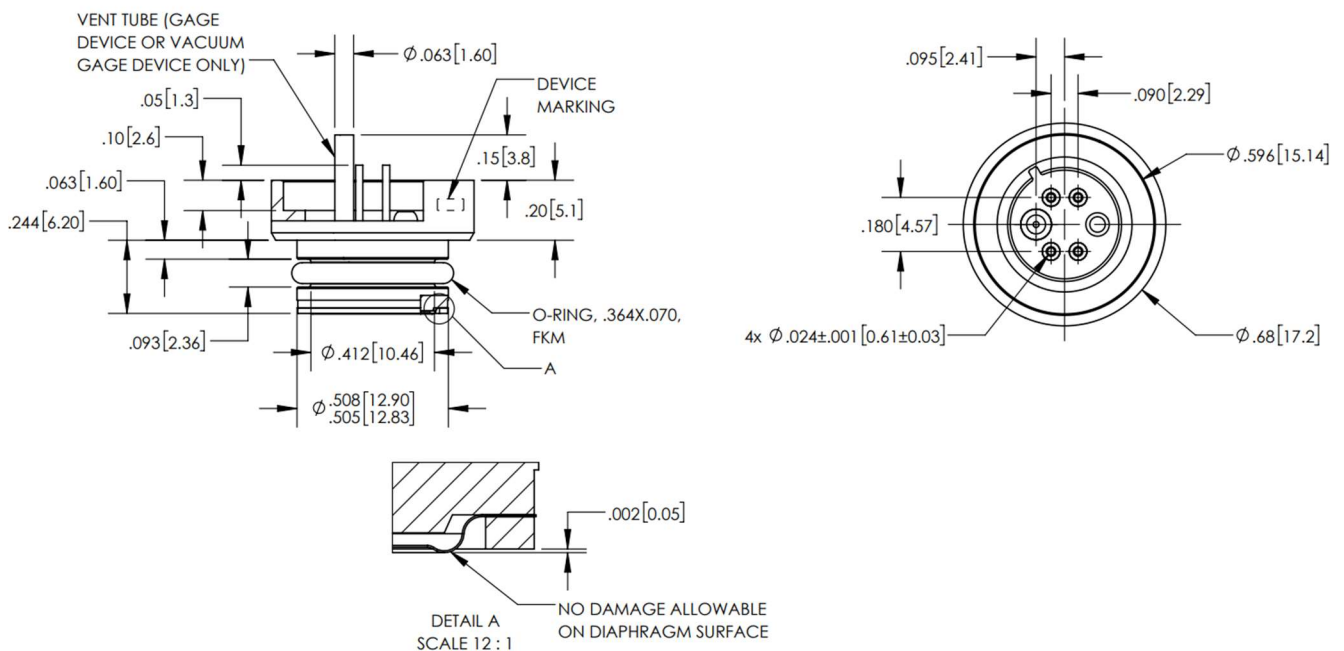
85H Series with Pins

ø13mm Module diameter pressure capsule, standard recessed diaphragm, **weldable**



85FH Series with Pins

ø13mm Module diameter pressure capsule, flush diaphragm, **O-ring mount**

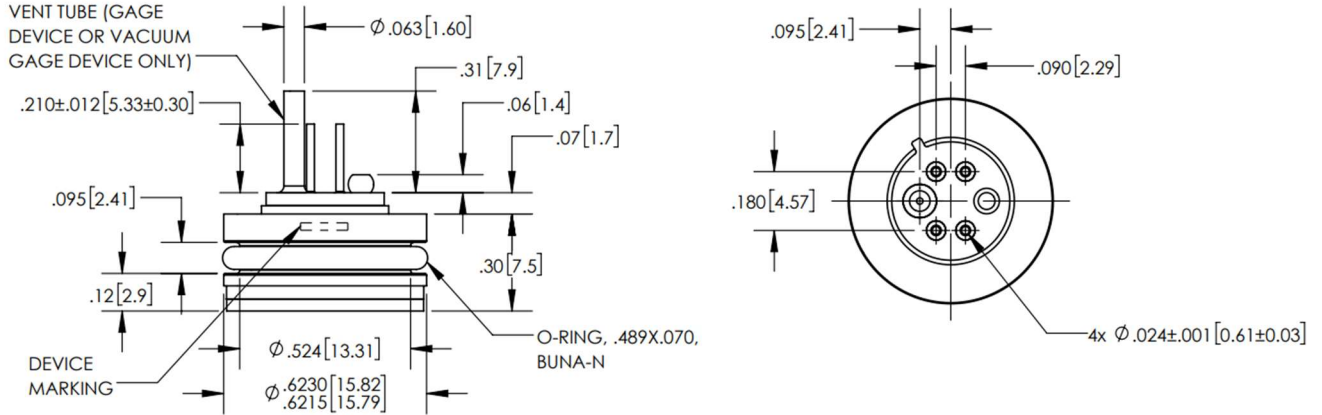


H SERIES

High Accuracy Integrated Pressure Sensor

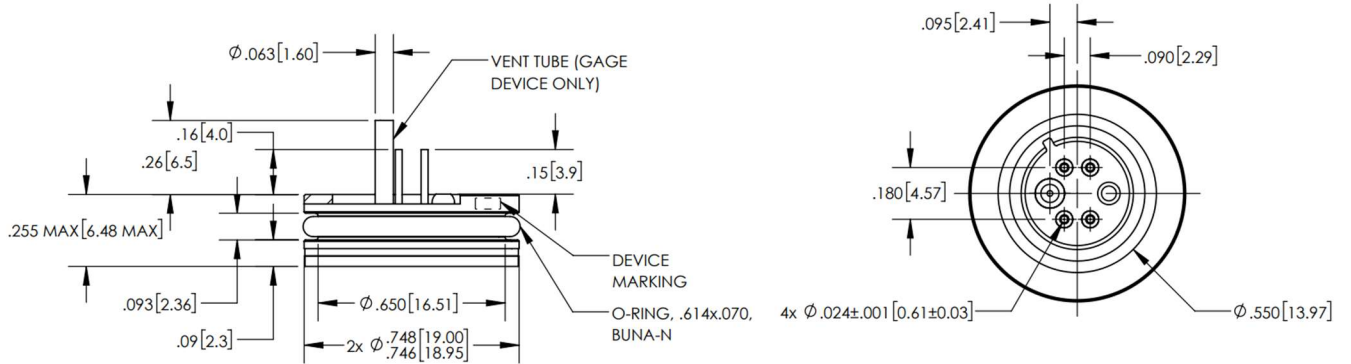
86H Series with Pins

ø16mm Module diameter pressure capsule, standard recessed diaphragm, O-ring mount



82H Series with Pins

ø19mm Module diameter pressure capsule, standard recessed diaphragm, O-ring mount



H SERIES

High Accuracy Integrated Pressure Sensor

Process Connections (Only for 85H Series)

Process Connections	Type Code: 4 1/4 – 18 NPT, ANSI B1.20.1, 5/8 Hex	Type Code: 5 1/4 – 19 BSP, BS21, 3/4 Hex	Type Code: 8 1/8 – 27 NPT, ANSI B1.20.1, 5/8 Hex
Examples			
Notes: Other process connections are available upon order			

Electrical Connections

Electrical Connections	Type Code: P w/ Pins	Type Code: R w/ Standard Ribbon Cables	Type Code: C w/ TE Connector (2473274-4)
85H Series			
85FH Series			

H SERIES

High Accuracy Integrated Pressure Sensor

<p>86H Series</p>			
<p>82H Series</p>			
<p>Notes:</p> <ol style="list-style-type: none"> 1. Wire ends of standard Ribbon cables are tin-plated 2. Ribbon cable size: 26AWG 3. Other cable lengths and sizes can be available upon order 			

Connection Diagram

Electrical Diagrams	Type Code: P w/ Pins	Type Code: R w/ Standard Ribbon Cables	Type Code: C w/ TE Connector (2473274-4)
<p>All Series</p>			
SCL	1	2	2
SDA	2	1	1
VDD	3	4	4
GND	4	3	3

H SERIES

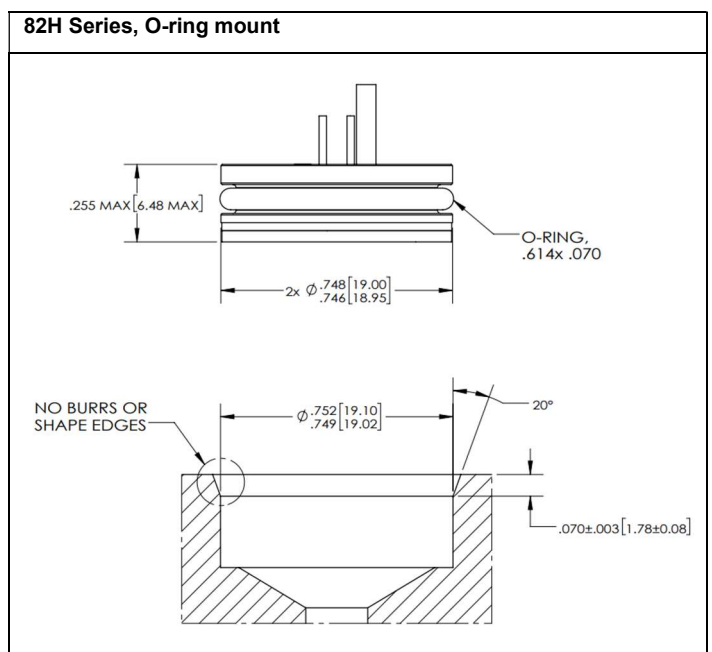
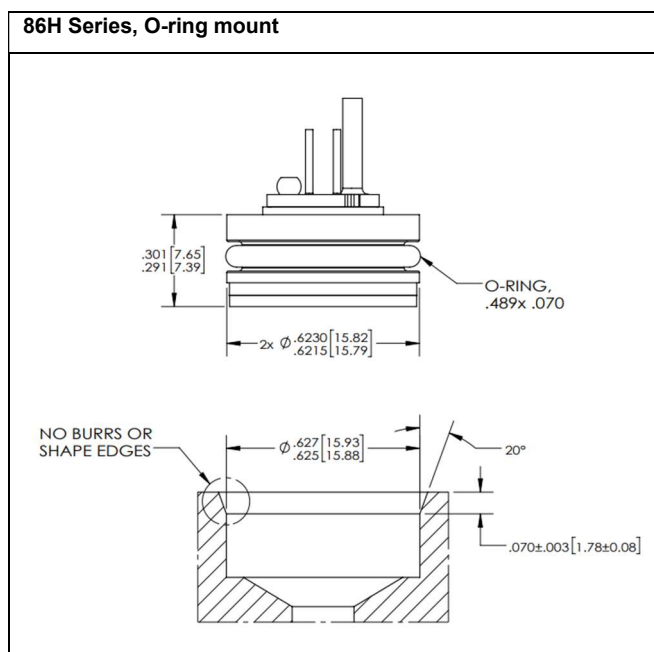
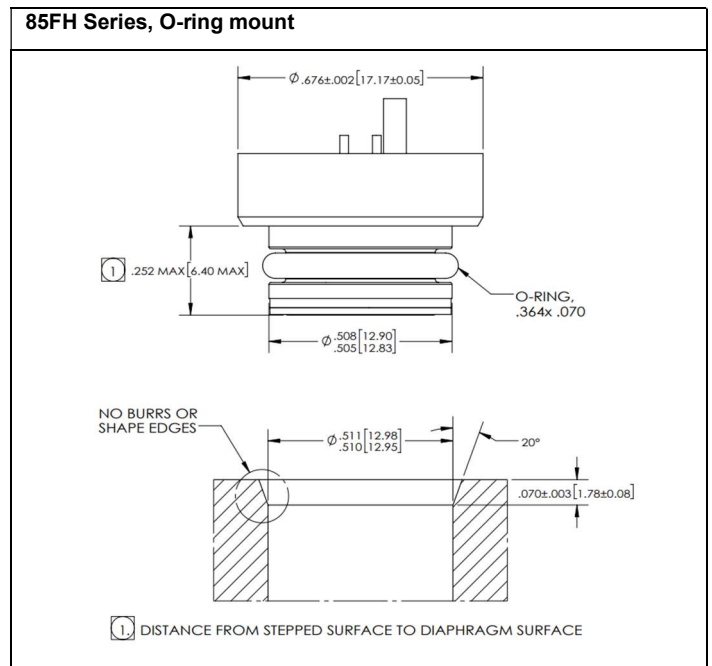
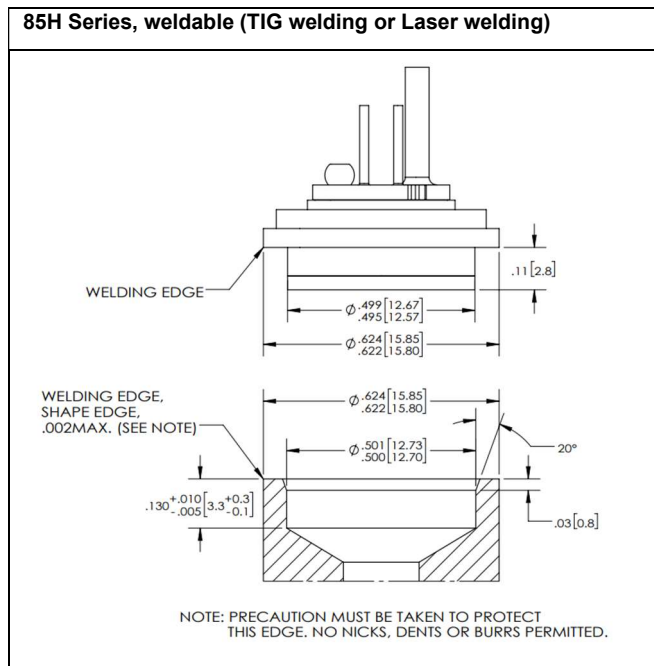
High Accuracy Integrated Pressure Sensor

Installation Notes

- Do not exert any tension on the diaphragm during installation.
- Avoid mechanical damage to the diaphragm.
- Wet O-rings with a suitable lubricant before use.

Assembly examples

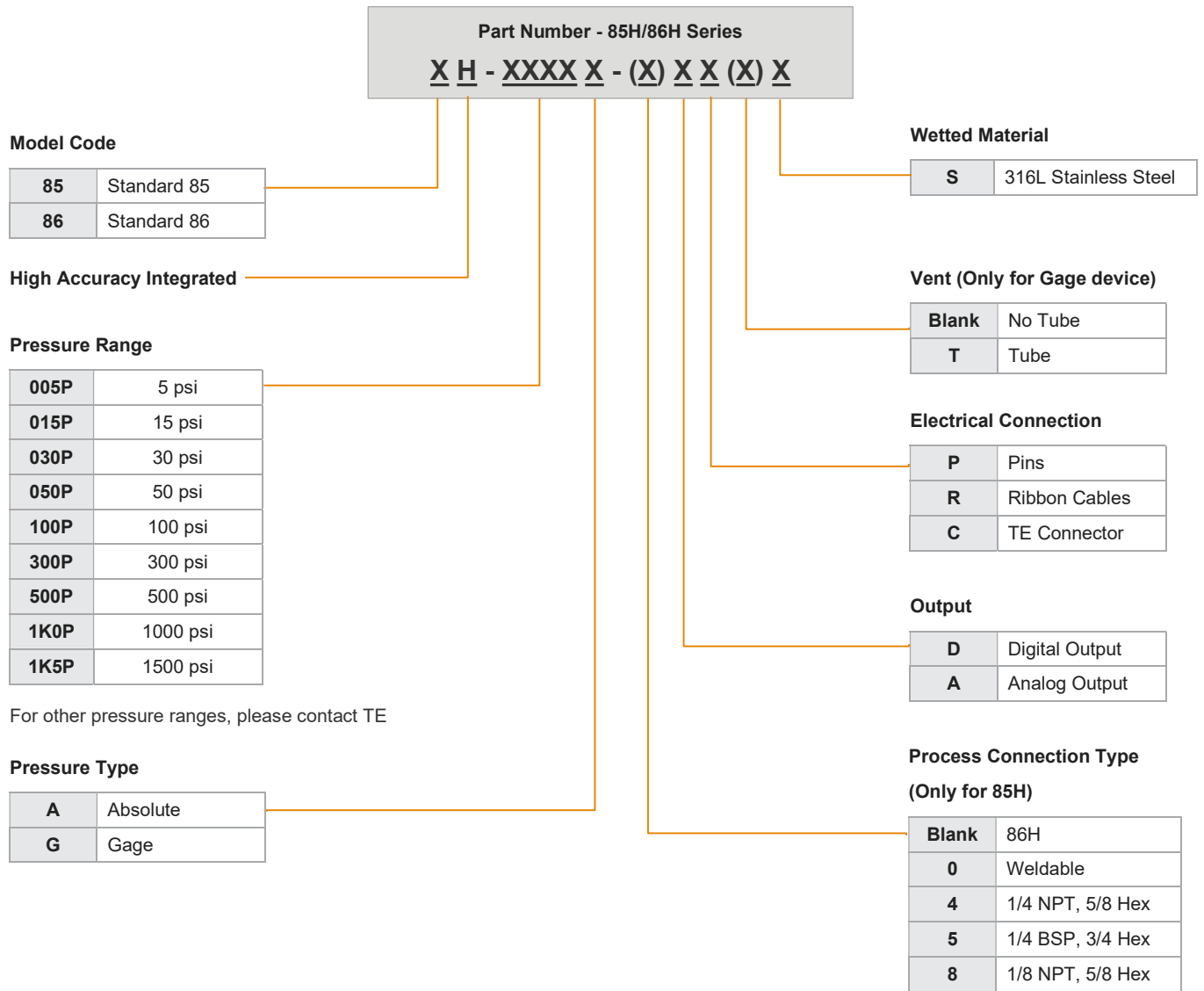
(Dimensions Unit: inch[mm])



H SERIES

High Accuracy Integrated Pressure Sensor

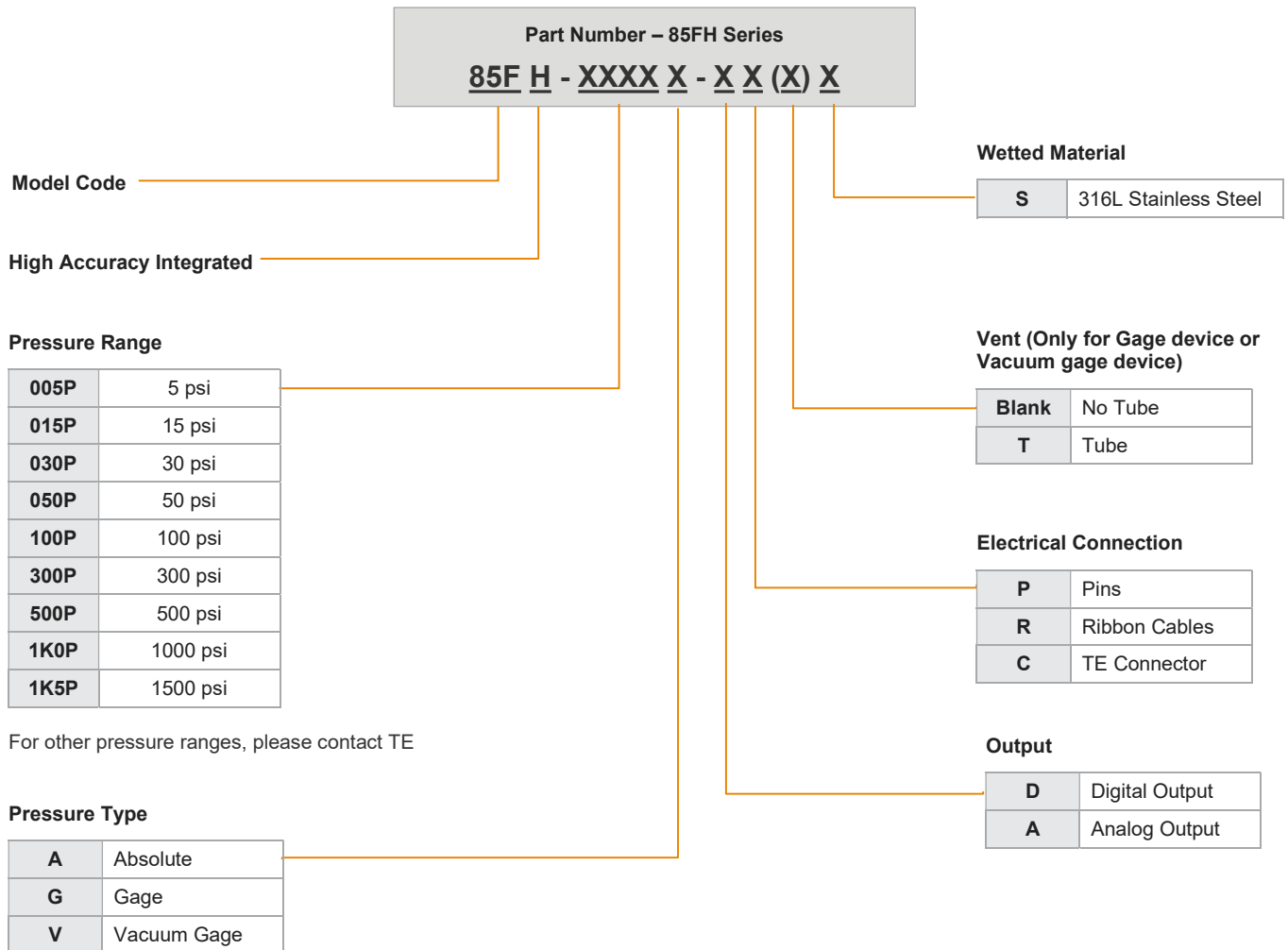
Ordering Information – 85H/86H Series



H SERIES

High Accuracy Integrated Pressure Sensor

Ordering Information – 85FH Series



H SERIES

High Accuracy Integrated Pressure Sensor

Ordering Information – 82H Series

