

## Data Sheet

# E2 Sanitary Pressure Transducer

### FEATURES

- Available with 1.5" and 2.0" Tri-Clamp® connection
- Ranges vacuum through 1000 psi
- Glycerin fill fluid is standard for ranges from 0 to 1000 psi, mineral oil fill fluid is standard on vacuum, compound and absolute ranges.
- Wide selection of electrical terminations
- Customizable configurations
- External magnetic offset & span adjustment
- SIL 3 capable

### TYPICAL USES

- Food, dairy and beverage production
- Pharmaceutical
- 3-A Sanitary applications
- Biotech and medical equipment
- Filtration



E2 Sanitary Pressure Transducer

### PERFORMANCE SPECIFICATIONS

Reference Temperature: 21 °C ±2 °C (70 °F ±3 °F)

Static Accuracy: ±0.25% of span, ±0.50% of span, ±1.0% of span, Terminal Point Method includes: hysteresis, linearity, repeatability, offset and span

Stability: ±0.25% year at reference conditions

### ENVIRONMENTAL SPECIFICATIONS

Thermal Coefficients: Offset: ±0.009% /°C from -40 °C to 125 °C  
Span: ±0.009% /°C from -40 °C to 125 °C

Additional Offset Temperature Error (21 °C Reference Temp.)

	Glycerin	Silicone
1.5" Fitting	0.8 psi/100 °C	1.4 psi/100 °C
2.0" Fitting	0.5 psi/100 °C	0.7 psi/100 °C

Temperature Limits: (Subject to Fill Fluid)

Code	Fill Fluid	Storage Operating and Media Temperature
CG*	Glycerine	0 °F to 257 °F (-18 °C to 125 °C) (STD.) <b>*Standard on ranges from 0 to 1000 psig.</b>
CZ	Food grade Silicone	-40 °F to 257 °F (-40 °C to 125 °C)
FJ	Distilled water	40 °F TO 185 °F (4 °C TO 85 °C)
MY*	Mineral oil	10 °F to 257 °F (-12 °C to 125 °C) <b>*Standard on all vacuum, compound and absolute ranges.</b>
NM	Neobee® M20	5 °F to 257 °F (-5 °C to 125 °C)

Note: Contact Ashcroft for alternate fill fluids

Humidity: 0-100% (non-condensing)

### FUNCTIONAL SPECIFICATIONS

Response Time (Output)	4 ms
Gauge/Compound Pressure Ranges:	VAC to 1000 psig
Absolute Pressure Ranges:	0 to 500 psia
Proof Pressure:	1.2X - 2X (See Table 1 on page 2)
Burst Pressure:	3X - 8X (See Table 1 on page 2)



### KEY BENEFITS

- Highly configurable
- Easy calibration of offset and span
- SIL certified

### ELECTRICAL SPECIFICATIONS

Circuit Protection: Reverse polarity protected

#### INTRINSICALLY SAFE INSTALLATIONS

##### Supply Voltage: Output

**9-28 Vdc:** 0-5 Vdc, 1-5 Vdc, 1-6 Vdc, 0.1-5 Vdc, 0.5-4.5 Vdc

**14-28 Vdc:** 0-10 Vdc, 1-11 Vdc, 0.1-10 Vdc

**9-30 Vdc:** 4-20 mA, 20-4 mA (2-wire)

#### NON-INCENDIVE INSTALLATIONS:

##### Supply Voltage: Output

**9-28 Vdc:** 0-5 Vdc, 1-5 Vdc, 1-6 Vdc, 0.1-5 Vdc, 0.5-4.5 Vdc

**14-28 Vdc:** 0-10 Vdc, 1-11 Vdc, 0.1-10 Vdc

**9-30 Vdc:** 4-20 mA, 20-4 mA (2-wire)

Adjustability: ±5% of span non-interactive offset & span

Supply Current: <8 mA (Vout)

Current Source/Sink for Voltage Output: 1 mA (source)/ 0.1 mA (sink) MAX.

Withstand/Breakdown: 100 Vdc/Vac, optional 500 Vdc/Vac

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## E2 Sanitary Pressure Transducer

### PHYSICAL SPECIFICATIONS

Ingress Rating: IP66 (NEMA 4X) (STD.)  
IP67 (IP69K Consult factory)

### WETTED MATERIAL

Diaphragm: 316L Stainless steel (12-20 Ra Surface finish)  
Process Connection: 316L Stainless steel (Electro-polished)

### NON-WETTED MATERIAL

Housing: 316L Stainless steel  
Sensor: A - 17-4PH® Stainless steel  
C - 316L Stainless steel

### EMC TESTING

EMC: Directive 2014/30/EU, EN61326-1,  
EN61326-2-3 (Industrial Env.)

Immunity:	61000-4-2 (ESD)	±4 kV/±8 kV (Contact/Air)
	61000-4-3 (Radiated RF)	10 V/m to 1GHz, 3 V/m to 2 GHz, 1 V/m to 2.7 GHz
	61000-4-4 (EFT/Burst)	±1k V (5/50 ns, 5 kHz)
	61000-4-5 (Surge)	±1k V, Earth to Shield over all I/O lines
	61000-4-6 (Conducted RF)	3 V/ (0.15 to 80 MHz)
	61000-4-8 (Line Freq. Magnetic)	30 A/m

Emissions: EN 55011 (CISPR 11) Class A, Group 1 & FCC (47 CFR 15)

### APPROVALS

CE, UL/cUL Recognized component (UL 61010-1, CSA 22.2 61010-1),  
Electrical Equipment for Measurement, Control, and Laboratory Use.

**TABLE 1: PROOF & BURST PRESSURE MULTIPLIERS**

Sensor Range	Sensor A - 17-4PH® SS		Sensor C - 316L SS	
	Proof	Burst	Proof	Burst
<b>(psi)</b>				
30			60	150
45	90	360	90	225
50	100	400	100	250
60	120	480	120	300
75	150	600	150	375
100	200	800	200	500
150	300	1000	300	600
200	400	1000	400	600
300	600	1000	600	900
500	1000	1000	1000	1000
750	1000	1000		
1000	1000	1000		
<b>(Compound)</b>				
VAC#			30	75
V&15#			60	150
V&30#			90	225
V&45#	120	480		
V&60#	150	600	150	375
V&100#	230	920		
V&150#	330	1000	330	660
V&200#	430	1000		
V&300#	630	1000	630	945
<b>(psia)</b>				
15			30	75
30			60	150
70			140	350
150			300	600
300			600	900
500			1000	1000

# Data Sheet

## E2 Sanitary Pressure Transducer

ORDERING CODE	Example:	E2G	A	5	C	S15	42	CC	X	10	F	100#	-XNH
<b>Model</b>													
E2G - Sanitary Pressure Transducer		E2G											
<b>Sensor Materials - See Table 2 on page 4 for range options</b>													
A - 17-4PH® Stainless steel		A											
C - 316L Stainless steel (liquid isolated)		C											
<b>Accuracy</b>													
3 - ±0.25% span													
5 - ±0.50% span		5											
7 - ±1.00% span													
<b>Calibration Chart</b>													
N - Without calibration chart													
C - With <a href="#">Traceable calibration certificate</a>		C											
<b>Pressure Connections - See Table 3 on page 4 for dimensional information</b>													
S15 - 1.5" Tri-Clamp®		S15											
S20 - 2.0" Tri-Clamp®													
<b>Output Type</b>													
05 - 0-5 Vdc													
10 - 0-10 Vdc													
11 - 1-11 Vdc													
12 - 1-10 Vdc													
13 - 0.1-5 Vdc													
15 - 1-5 Vdc													
16 - 1-6 Vdc													
42 - 4-20 mA		42											
45 - 0.5-4.5 Vdc non-ratiometric													
00 - Custom													
<b>Electrical Terminations - See Table 4 on page 5 for more options</b>													
CC - (½ NPT conduit w/cable)		CC											
<b>Mating Connector</b>													
M - With mating connector													
X - Without mating connector		X											
<b>Cable Length</b>													
Max cable length of 30 ft for outputs 05, 10, 11, 12, 13, 15, 16 and 45. Max cable length of 99 ft for outputs 24 and 42.													
00 - No cable													
XX - 01 to 99		10											
<b>Unit of Length</b>													
F - Feet		F											
M - Meter													
N - Inches													
0 - No cable													
<b>Pressure Ranges - Coding example only, see Table 5 on page 6 for more options</b>													
100# - 100 psig		100#											
<b>Options (if choosing an option(s) must include an "X")</b>													
NN - Paper tag													
NH - Stainless steel tag		NH											
CZ - Silicone fill fluid (3-A certified)													
MY - Light mineral oil fill fluid (3-A certified)													
NM - Neobee® M20 fill fluid (3-A certified)													
FJ - Distilled water fill fluid (3-A certified)													
1L - SIL certification for E2 series transducer													

Accessory	Part Number
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Offset and Span Adjustment Magnet	266A143-01
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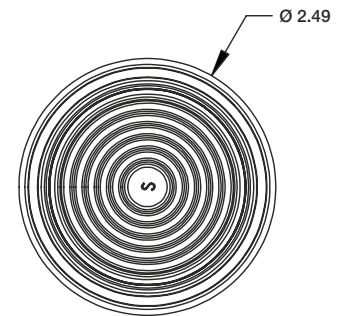
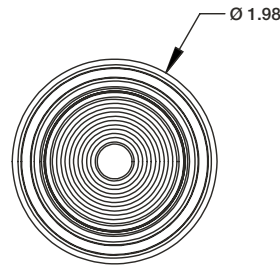
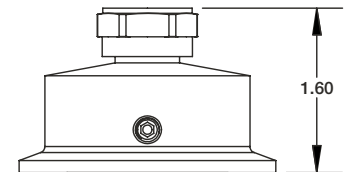
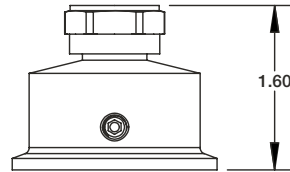
Accessories must be ordered separately

# Data Sheet

## E2 Sanitary Pressure Transducer

**TABLE 2 - SENSOR PRESSURE RANGE**

psi	Sensor Material		bar	Sensor Material	
	A 17-4PH® SS	C 316 ISO		A 17-4PH® SS	C 316 ISO
30#	•	•			
45#	•	•	2BR		•
50#	•	•	2.5BR	•	•
60#	•	•	4BR	•	•
75#	•	•	6BR	•	•
100#	•	•	10BR	•	•
150#	•	•	16BR	•	•
200#	•	•	20BR	•	•
250#	•	•	25BR	•	•
300#	•	•	40BR	•	•
500#	•	•	60BR	•	•
750#	•				
1000#	•				
			VACBR		•
			V&1BR		•
			V&1.6BR		•
			V&2BR		•
VAC#		•	V&4BR	•	•
V&15#	•	•	V&6BR	•	•
V&30#	•	•	1BRA		•
V&45#	•	•	1.6BRA		•
V&60#	•	•	2BRA		•
V&100#	•	•	2.5BRA		•
V&150#	•	•	4BRA		•
V&200#	•	•	6BRA		•
V&300#	•	•	10BRA		•
15#A		•	16BRA		•
30#A		•	20BRA		•
50#A		•			
100#A		•			
120#A		•			
300#A		•			

**TABLE 3 - PRESSURE CONNECTION DIMENSIONS**
**1½" Tri-Clamp® Connection**
**Code: S15**
**MAWP: 1,000 psi**
**2" Tri-Clamp® Connection**
**Code: S20**
**MAWP: 1,000 psi**


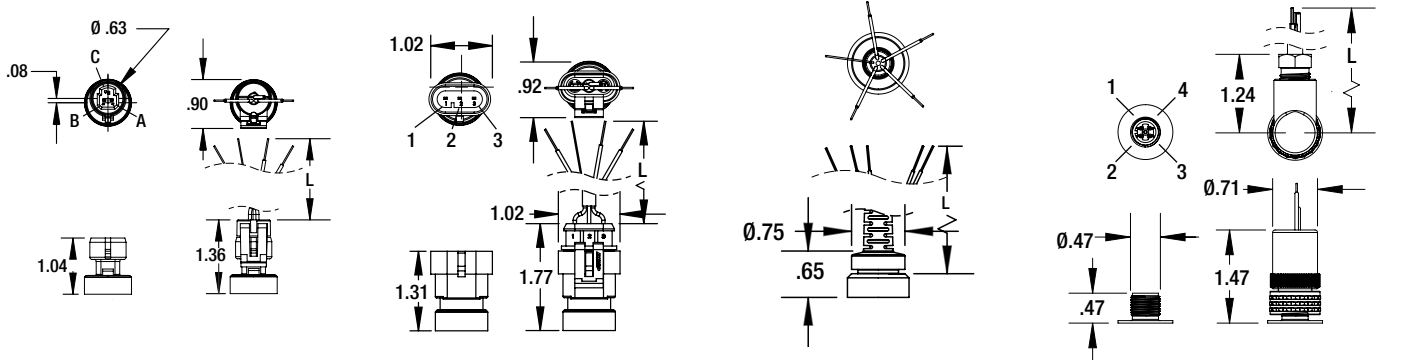
# Data Sheet

## E2 Sanitary Pressure Transducer

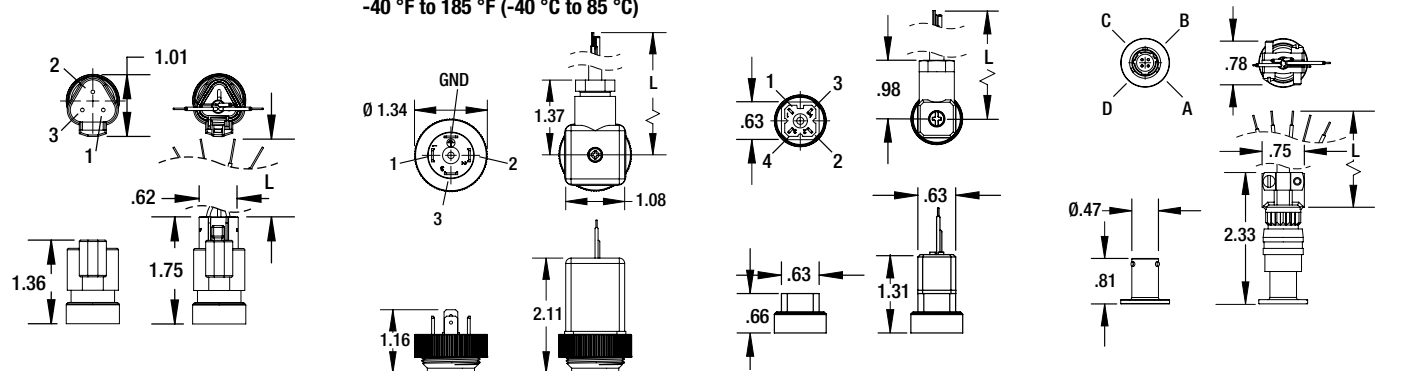
**TABLE 4 - ELECTRICAL TERMINATION DIMENSIONS**

Maximum temperature range listed

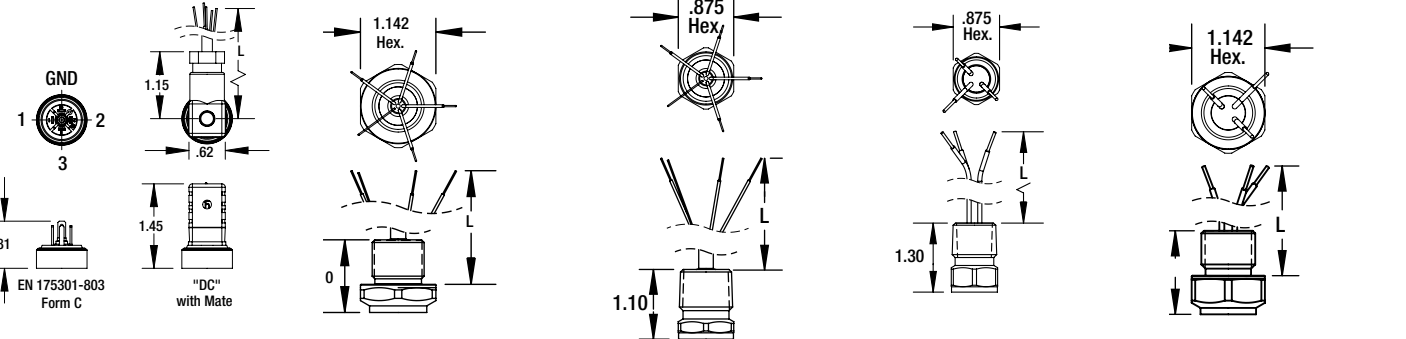
Metri-Pack® 3-Pin	AMP® Superseal® 3-Pin	Over-Mold Cable	M12 4-Pin
Code: GN – IP67 (NEMA 4X)	Code: AP – IP66 (NEMA 4X)	Code: FC, FV* – IP67 (NEMA 4X)	Code: EW – IP66 (NEMA 4X)
-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 185 °F (-40 °C to 85 °C)



DEUTSCH® DT04 3-Pin	Hirschmann® EN 175301-803 Form A	Mini-Hirschmann®	MIL DTL 26482 8 4-Pin
Code: DT – IP66 (NEMA 4X)	Code: DA – IP66 (NEMA 4X)	Code: HM – IP66 (NEMA 4X)	Code: B4 – No IP or NEMA rating
-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 221 °F (-25 °C to 105 °C)



Hirschmann® EN 175301-803 Form C	M20 Conduit With Cable	½ NPT Conduit With Cable	½ NPT Conduit With Flying Leads	M20 Conduit With Flying Leads
Code: DC IP66 (NEMA 4X)	Code: MC, MV* IP67 (NEMA 4X)	Code: CC, CV* IP67 (NEMA 4X)	Code: CF IP67 (NEMA 4X)	Code: MF IP67 (NEMA 4X)
-40 °F to 185 °F (-40 °C to 85 °C)	-40 °F to 257 °F (-40 °C to 125 °C)	-40 °F to 257 °F (-40 °C to 125 °C)	-40 °F to 257 °F (-40 °C to 125 °C)	-40 °F to 257 °F (-40 °C to 125 °C)



Note: \* Indicates Vented Cable

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# E2 Sanitary Pressure Transducer

**TABLE 5 - PRESSURE RANGES**

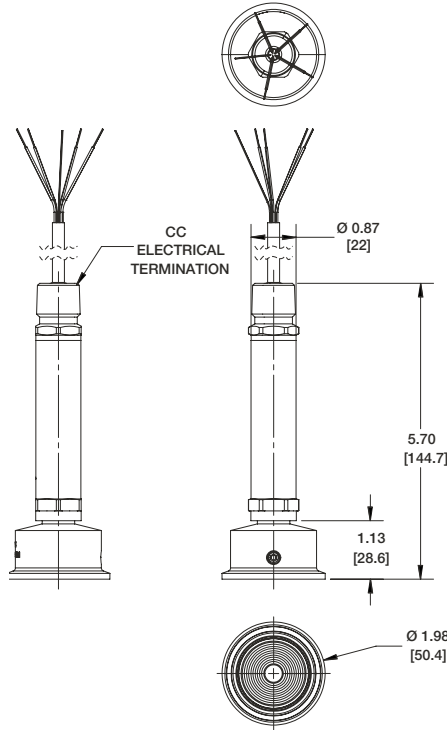
	PSI	bar
Vac.	VAC# <sup>(1)</sup>	VACBR <sup>(1)</sup>
	V&15# <sup>(1)</sup>	V&1BR <sup>(1)</sup>
	—	V&1.6BR <sup>(1)</sup>
Compound	V&30# <sup>(1)</sup>	V&2BR <sup>(1)</sup>
	V&45# <sup>(1)</sup>	—
	V&60# <sup>(1)</sup>	V&4BR <sup>(1)</sup>
	—	V&6BR <sup>(1)</sup>
	V&100# <sup>(1)</sup>	—
	V&150# <sup>(1)</sup>	—
	V&200# <sup>(1)</sup>	—
	V&300# <sup>(1)</sup>	—
	30#	2BR
	—	2.5BR
Absolute Pressure (psia)	45#	—
	50#	—
	60#	4BR
	75#	—
	—	6BR
	15#A <sup>(1)</sup>	1BRA
	—	1.6BRA
	30#A <sup>(1)</sup>	2BRA
	—	2.5BRA
	50# <sup>(1)</sup>	—
	—	4BRA
	—	6BRA
	100#A <sup>(1)</sup>	—
	—	10BRA
	—	16BRA
—	20BRA	
500#A <sup>(1)</sup>	—	

<sup>(1)</sup>All vacuum, compound and absolute ranges must be selected with mineral oil fill fluid (XMY)

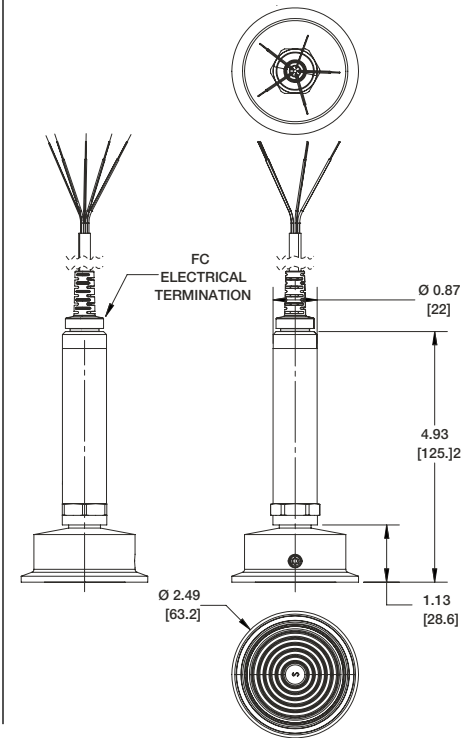
## DIMENSIONS

For reference only, consult Ashcroft for specific dimensional drawings

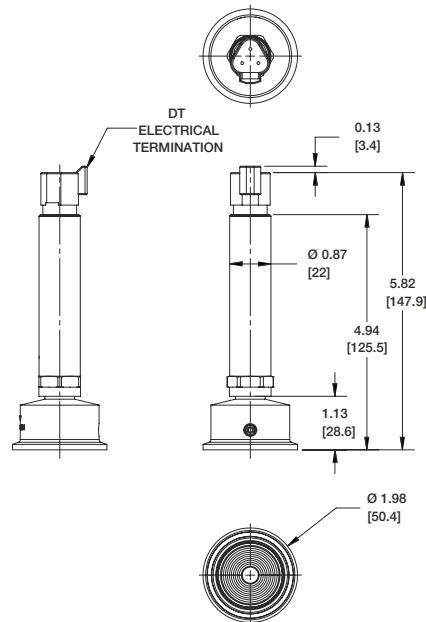
**E2 Transducer with S15 Sanitary Seal and CC Electrical Termination**



**E2 Transducer with S20 Sanitary Seal and FC Electrical Termination**



**E2 Transducer with S15 Sanitary Seal and DT Electrical Termination**



**E2 Transducer with S20 Sanitary Seal and GN Electrical Termination**

