

## Data Sheet

# A2 Pressure Transmitter

### FEATURES

- Rugged housing
- Highly configurable: wide selection of pressure ranges, pressure connections and electrical terminations
- Output: select voltage or current versions
- Available with externally adjustable zero and span access

### TYPICAL USES

- Test stands
- Compressor control
- Hydraulic systems
- Process automation
- Pump and pneumatic systems control



**A2**  
Pressure Transmitter



### PERFORMANCE SPECIFICATIONS

|  |  |
|--|--|
| Reference Temperature:                   | 70 °F (21 °C)  |
| Accuracy Class (Includes non-linearity): | ±0.25%, ±0.5%, ±1.0% of span<br>Terminal Point Method includes: hysteresis, non-repeatability, zero offset and span setting errors |
| Best Fit Straight Line (BFSL):           | ±0.2%, ±0.4%, ±0.5% of span<br>Add ±0.05% for ranges >5,000 psi  |
| Durability:                              | >10 million cycles   |
| Stability:                               | ≤±0.25% span/year at reference conditions  |

### ENVIRONMENTAL SPECIFICATIONS

|                      |  |
|----------------------|--|
| Temperature Effects: | -4 °F to 185 °F (-20 °C to 85 °C)<br>±1.0% of span for ±0.25% accuracy class<br>±2.0% of span for ±0.5% and ±1.0% accuracy class                 |
| Temperature Limits:  | Storage: -40 °F to 257 °F (-40 °C to 125 °C)<br>Operating: -40 °F to 257 °F (-40 °C to 125 °C)<br>Compensated: -4 °F to 185 °F (-20 °C to 85 °C) |
| Humidity Effects:    | 0-95% R.H. non-condensing (no effects)<br>0-100% R.H. with welded enclosure (no effects)   |

### FUNCTIONAL SPECIFICATIONS

|                     |  |
|---------------------|--|
| Response Time:      | <2ms   |
| Pressure Ranges:    | Vacuum, gauge, compound and absolute pressure from 0 to 5 psi through 0 to 10,000 psi (Bar ranges available) |
| Shock:              | 100g Peak, 11ms  |
| Random Vibration:   | 10g RMS, 20-2,000Hz  |
| Sweep Vibration:    | 50-2,000Hz, 5g peak  |
| Position Effect:    | ±0.02%, typical  |
| Overpressure:       | Proof: Burst:  |
| ≤300 psi            | 1.5 X Range 2 X Range  |
| ≥500 to ≤10,000 psi | 1.2 X Range 1.5 X Range  |

### KEY BENEFITS

- Provides the user with accurate, reliable, and stable output data
- Board microprocessor provides extremely linear and precise performance over the entire pressure and temperature range

### ELECTRICAL SPECIFICATIONS

|                                       |   |        |
|---------------------------------------|---|--------|
| Circuit Protection:                   | Reverse polarity and mis-wire protected |        |
| Insulation Resistance (Circuit Case): | 100 MΩ @ 30 Vdc                         |        |
| Output Signal:                        | Supply Voltage: (unregulated)           |        |
|                                       | Min.                                    | Max.   |
| 0-5 Vdc (3 Wire)                      | 12 Vdc                                  | 36 Vdc |
| 0-10 Vdc (3 Wire)                     | 14 Vdc                                  | 36 Vdc |
| 1-5 Vdc (3 Wire)                      | 10 Vdc                                  | 36 Vdc |
| 1-6 Vdc (3 Wire)                      | 10 Vdc                                  | 36 Vdc |
| 4-20 mA (2 Wire)                      | 12 Vdc                                  | 36 Vdc |

# Data Sheet

## A2 Pressure Transmitter

Electrical Terminations: See ordering code on page 3 for options

### PHYSICAL SPECIFICATIONS

Environmental Rating: IP65, NEMA 4X

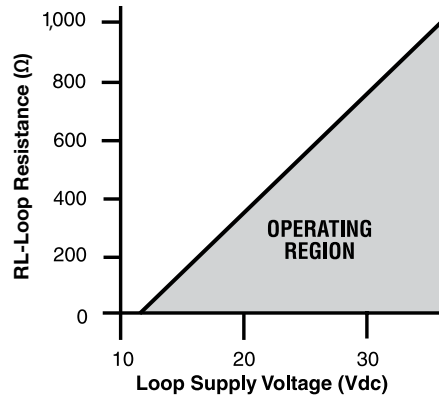
### WETTED MATERIAL

|                                 |                      |
|---------------------------------|----------------------|
| Diaphragm                       | Process Connection   |
| 316L Stainless steel or 17-4PH® | 316L Stainless Steel |

### NON-WETTED

|                     |
|---------------------|
| Housing             |
| 304 Stainless steel |

### LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



$$V_{dc_{min}} = 12V + (0.022A^* \times (RL))$$

$$R_L = R_s + R_w$$

$R_L$  = Loop Resistance (ohms)

$R_s$  = Sense Resistance (ohms)

$R_w$  = Wiring Resistance (ohms)

\* (Includes a 10% safety factor)

# Data Sheet

## A2 Pressure Transmitter

| ORDERING CODE  | Example: | A2 | S | A | M01 | 05 | F2 | 50# | G | -X6B  |
|--|----------|----|---|---|-----|----|----|-----|---|-------|
| <b>Model</b>   |          |    |   |   |     |    |    |     |   |       |
| A2 - Industrial pressure transmitter   |          | A2 |   |   |     |    |    |     |   |       |
| <b>Enclosure</b>   |          |    |   |   |     |    |    |     |   |       |
| S - Basic  |          |    | S |   |     |    |    |     |   |       |
| Z - Zero and span access   |          |    |   |   |     |    |    |     |   |       |
| Y - Welded with zero & span access   |          |    |   |   |     |    |    |     |   |       |
| W - Welded w/out zero & span access  |          |    |   |   |     |    |    |     |   |       |
| <b>Accuracy/Temp. Effects</b>  |          |    |   |   |     |    |    |     |   |       |
| A - 0.25%/±1.0% (-20 °C to 85 °C)  |          |    |   | A |     |    |    |     |   |       |
| B - 0.50%/±2.0% (-20 °C to 85 °C)  |          |    |   |   |     |    |    |     |   |       |
| C - 1.0%/±2.0% (-20 °C to 85 °C)   |          |    |   |   |     |    |    |     |   |       |
| <b>Pressure Connection</b>   |          |    |   |   |     |    |    |     |   |       |
| F01 - 1/4 NPT Female   |          |    |   |   |     |    |    |     |   |       |
| F02 - 1/4 NPT Female   |          |    |   |   |     |    |    |     |   |       |
| F04 - 1/2 NPT Female   |          |    |   |   |     |    |    |     |   |       |
| F09 - 3/16-18 (1/4)-Female (Aminco®)   |          |    |   |   |     |    |    |     |   |       |
| FRW - 7/16-20 SAE-Female   |          |    |   |   |     |    |    |     |   |       |
| MEK - 7/16-20 SAE-Male   |          |    |   |   |     |    |    |     |   |       |
| MG2 - G1/4 Male  |          |    |   |   |     |    |    |     |   |       |
| MG4 - G1/2 Male  |          |    |   |   |     |    |    |     |   |       |
| M01 - 1/8 NPT Male   |          |    |   |   | M01 |    |    |     |   |       |
| M02 - 1/4 NPT Male   |          |    |   |   |     |    |    |     |   |       |
| M04 - 1/2 NPT Male   |          |    |   |   |     |    |    |     |   |       |
| VM2 - VCR® process connection 1/4" VCR® gland w/ 3/16-18 Male nut                    |          |    |   |   |     |    |    |     |   |       |
| VF2 - VCR® process connection 1/4" VCR® gland w/ 3/16-18 Female nut                  |          |    |   |   |     |    |    |     |   |       |
| S15 - Sanitary seal 1 1/2" Tri-Clamp®  |          |    |   |   |     |    |    |     |   |       |
| S20 - Sanitary seal 2" Tri-Clamp®  |          |    |   |   |     |    |    |     |   |       |
| <b>Output Signal</b>   |          |    |   |   |     |    |    |     |   |       |
| 05 - 0-5 Vdc   |          |    |   |   |     | 05 |    |     |   |       |
| 10 - 0-10 Vdc  |          |    |   |   |     |    |    |     |   |       |
| 15 - 1-5 Vdc   |          |    |   |   |     |    |    |     |   |       |
| 16 - 1-6 Vdc   |          |    |   |   |     |    |    |     |   |       |
| 42 - 4-20 mA   |          |    |   |   |     |    |    |     |   |       |
| <b>Electrical Termination</b>  |          |    |   |   |     |    |    |     |   |       |
| <b>Integral Cable (Pigtail)</b>  |          |    |   |   |     |    |    |     |   |       |
| F2 - 3' shielded cable (available with enclosure code or S, Z)                       |          |    |   |   |     |    | F2 |     |   |       |
| P1 - Specify length (available with enclosure code or S, Z)                          |          |    |   |   |     |    |    |     |   |       |
| <b>Hirschmann® Style Form A DIN 43650-A</b>  |          |    |   |   |     |    |    |     |   |       |
| DN - W/o mating conn. (available with enclosure code or S, Z)                        |          |    |   |   |     |    |    |     |   |       |
| D0 - With mating conn., no cable (available with enclosure code or S, Z)             |          |    |   |   |     |    |    |     |   |       |
| D2 - With mating conn., 3' cable (available with enclosure code or S, Z)             |          |    |   |   |     |    |    |     |   |       |
| D1 - With mating conn., specify length (available with enclosure code or S, Z)       |          |    |   |   |     |    |    |     |   |       |
| <b>4-Pin Bendix® Style</b>   |          |    |   |   |     |    |    |     |   |       |
| B4 - W/o mating conn. (available with enclosure code or S, Z, W, Y)                  |          |    |   |   |     |    |    |     |   |       |
| H1 - With mating conn., no cable (available with enclosure code or S, Z, W, Y)       |          |    |   |   |     |    |    |     |   |       |
| L1 - With mating conn., 3' cable (available with enclosure code or S, Z, W, Y)       |          |    |   |   |     |    |    |     |   |       |
| P2 - With mating conn., specify length (available with enclosure code or S, Z, W, Y) |          |    |   |   |     |    |    |     |   |       |
| <b>1/2 NPT-M Conduit Shielded Cable (NEMA Rating not valid for ranges ≤300 psi)</b>  |          |    |   |   |     |    |    |     |   |       |
| C1 - 3' Shielded cable (available with enclosure code W, Y)                          |          |    |   |   |     |    |    |     |   |       |
| C6 - 15' Shielded cable (available with enclosure code W, Y)                         |          |    |   |   |     |    |    |     |   |       |
| C7 - 30' Shielded cable (available with enclosure code W, Y)                         |          |    |   |   |     |    |    |     |   |       |
| P7 - Shielded cable specify length (available with enclosure code W, Y)              |          |    |   |   |     |    |    |     |   |       |
| <b>1/2 NPT-M Conduit Flying Leads (NEMA Rating not valid for ranges ≤300 psi)</b>    |          |    |   |   |     |    |    |     |   |       |
| C2 - 3' Flying leads (available with enclosure code W, Y)                            |          |    |   |   |     |    |    |     |   |       |
| C5 - 10' Flying leads (available with enclosure code W, Y)                           |          |    |   |   |     |    |    |     |   |       |
| <b>M12 Threaded</b>  |          |    |   |   |     |    |    |     |   |       |
| EW - W/o mating conn. (available with enclosure code or S, Z)                        |          |    |   |   |     |    |    |     |   |       |
| E0 - With mating conn. no cable (available with enclosure code or S, Z)              |          |    |   |   |     |    |    |     |   |       |
| E2 - With mating conn. 3' cable (available with enclosure code or S, Z)              |          |    |   |   |     |    |    |     |   |       |
| E1 - With mating conn., specify length (available with enclosure code or S, Z)       |          |    |   |   |     |    |    |     |   |       |
| <b>Pressure Range (see range table on page 4)</b>                                    |          |    |   |   |     |    |    |     |   |       |
| 50# - 50 psi   |          |    |   |   |     |    |    | 50# |   |       |
| <b>Measurement Type</b>  |          |    |   |   |     |    |    |     |   |       |
| G - Gauge pressure   |          |    |   |   |     |    |    |     | G |       |
| A - Absolute pressure  |          |    |   |   |     |    |    |     |   |       |
| <b>Option (if including an option(s) must include an "X")</b>                        |          |    |   |   |     |    |    |     |   |       |
| CL - Non-standard calibration  |          |    |   |   |     |    |    |     |   | X _ _ |
| K8 - 17-4PH® Stainless steel sensor material   |          |    |   |   |     |    |    |     |   |       |
| 6B - Cleaned for oxygen service  |          |    |   |   |     |    |    |     |   | 6B    |

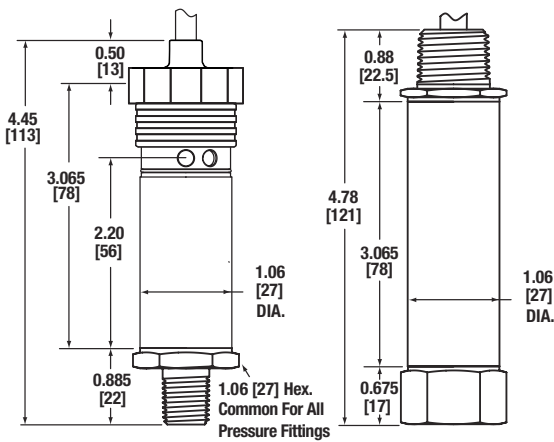
# Data Sheet

## A2 Pressure Transmitter

### DIMENSIONS in [ ] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings

### Heavy Industrial (Enclosure S, Z, Y, W)



### RANGE TABLE

|                   | Range            | Code                       | Notes   |
|-------------------|------------------|----------------------------|---|
| Vacuum            | 0 psi/-14.7 psi  | 0#&vac                     | 17-4PH® SS sensor not available, gauge pressure only  |
|                   | 15 psi/-14.7 psi | 15#&vac                    | 17-4PH® SS sensor not available, gauge pressure only  |
| Compound          | 30 psi/-14.7 psi | 30#&vac                    | 17-4PH® SS sensor not available, gauge pressure only  |
|                   | 45 psi/-14.7 psi | 45#&vac                    | Gauge pressure only   |
|                   | 60 psi/-14.7 psi | 60#&vac                    | Gauge pressure only   |
| Positive Pressure | 1.5 psi          | 1.5#                       | 17-4PH® SS sensor not available, gauge pressure only, available with accuracies B or C only |
|                   | 5 psi            | 5#                         | 17-4PH® SS sensor not available, gauge pressure only  |
|                   | 10 psi           | 10#                        | 17-4PH® SS sensor not available, gauge pressure only  |
|                   | 15 psi           | 15#                        | 17-4PH® SS sensor not available   |
|                   | 30 psi           | 30#                        | 17-4PH® SS sensor not available   |
|                   | 50 psi           | 50#                        |   |
|                   | 60 psi           | 60#                        |   |
|                   | 75 psi           | 75#                        |   |
|                   | 100 psi          | 100#                       |   |
|                   | 150 psi          | 150#                       |   |
|                   | 200 psi          | 200#                       |   |
|                   | 300 psi          | 300#                       |   |
|                   | 500 psi          | 500#                       |   |
|                   | 750 psi          | 750#                       |   |
|                   | 1,000 psi        | 1000#                      |   |
|                   | 1,500 psi        | 1500#                      |   |
|                   | 2,000 psi        | 2000#                      |   |
| 3,000 psi         | 3000#            |                            |   |
| 5,000 psi         | 5000#            |                            |   |
| 6,000 psi         | 6000#            |                            |   |
| 7,500 psi         | 7500#            |                            |   |
| 10,000 psi        | 10000#           | 17-4PH® SS sensor required |   |