



## 640 SERIES

- Vacuum ranges through 0 psig to 15,000 psig; absolute ranges from 0 psia to 15 psia through 0 psia to 300 psia
- Standard 4 mA to 20 mA output
- 316 and 17-4PH stainless steel wetted parts
- CE compliant to suppress RFI, EMI and ESD

### APPLICATIONS

- Aerospace equipment
- Laboratory & test equipment
- Precision measurement

### SPECIFICATIONS

|                               |  |
|-------------------------------|--|
| <b>Output signals</b>         | 4 mA to 20 mA, 2-wire; 0 Vdc to 5 Vdc and 0 Vdc to 10 Vdc, 3-wire  |
| <b>Pressure ranges</b>        | Vacuum through 0 psig to 15,000 psig<br>Absolute from 0 to 15 psia through 0 psia to 300 psia  |
| <b>Accuracy</b>               | ±0.05% full scale (BFSL); optional ±0.025% full scale (BFSL); (includes the effects of non-linearity, hysteresis, non-repeatability, zero point and full scale errors)   |
| <b>Stability</b>              | ≤ ±0.1% full scale; 5 psi ±0.2% full scale per year  |
| <b>Response time</b>          | < 300 ms (between 10% to 90% full scale)   |
| <b>Service life</b>           | > 100,000,000 load cycles  |
| <b>Temperature ranges</b>     | Compensated 32 °F to 160 °F (0 °C to 70 °C)<br>Effect: ±0.005% °F (32 °F to 50 °F) to zero point and pressure range no effect (50 °F to 104 °F) for zero and span<br>±0.005%/ °F (104 °F to 158 °F) to zero point and pressure range<br>Media - 5 °F to 160 °F (-20 °C to 70 °C)<br>Ambient 32 °F to 160 °F (0 °C to 70 °C)<br>Storage -5 °F to 160 °F (-20 °C to 70 °C) |
| <b>Power requirement*</b>     | 9 Vdc to 30 Vdc (4 mA to 20 mA, 2-wire, 0 Vdc to 5 Vdc, 3-wire)<br>14 Vdc to 30 Vdc (0 Vdc to 10 Vdc, 3-wire)<br>Voltage supply via RS232 interface (RS232)  |
| <b>Load limitations</b>       | ≤ (VPower-10)/0.020 Amp for 4 mA to 20 mA<br>≥ 10,000 Ω for 0 Vdc to 10 Vdc, 3-wire<br>≥ 5,000 Ω for 0 Vdc to 5 Vdc, 3-wire  |
| <b>Proof pressure</b>         | 3 times full scale for ranges 0 psi to 5 psi through 0 psi to 200 psi<br>2 times full scale for ranges 0 psi to 300 psi through 0 psi to 10,000 psi<br>1.5 times full scale for 0 psi to 15,000 psi  |
| <b>Burst pressure</b>         | 4 times full scale for ranges 0 psi to 5 psi through 0 psi to 200 psi<br>4 times full scale for ranges 0 psi to 300 psi through 0 psi to 10,000 psi<br>3 times full scale for 0 psi to 15,000 psi  |
| <b>Measuring element</b>      | 316 stainless steel for vacuum through 300 psi;<br>17-4PH stainless steel for ≥500 psi   |
| <b>Connection</b>             | 316 stainless steel  |
| <b>Housing material</b>       | 316 stainless steel  |
| <b>Environmental rating</b>   | IP65   |
| <b>Electromagnetic rating</b> | CE compliant to EMC norm EN 61326:1997/A1:1998<br>RFI, EMI and ESD protection  |
| <b>Electrical protection</b>  | Reverse polarity, overvoltage and short circuit protection   |
| <b>Shock</b>                  | 100 g's according to IEC 60068-2-27  |
| <b>Vibration</b>              | 15 g's according to IEC 60068-2-6  |
| <b>Weight</b>                 | Approximately 11 oz.   |

\* Unregulated

| ORDERING INFORMATION   |        |                               |        |                      |      |   |       |                       |      |                    |
|--|--------|-------------------------------|--------|----------------------|------|---|-------|-----------------------|------|--------------------|
| SERIES   | 640    |                               |        |                      |      |   |       |                       |      |                    |
| PRESSURE RANGES  | 30vac  | -30 inHg to 0 psig            | 30/300 | -30 inHg to 300 psig | 150  | 0 psig to 150 psig                                      | 3000  | 0 psig to 3,000 psig  | 30A  | 0 psia to 30 psia  |
|  | 30/15  | -30 inHg to 15 psig           | 5      | 0 psig to 5 psig     | 200  | 0 psig to 200 psig                                      | 5000  | 0 psig to 5,000 psig  | 60A  | 0 psia to 60 psia  |
|  | 30/30  | -30 inHg to 30 psig           | 10     | 0 psig to 10 psig    | 300  | 0 psig to 300 psig                                      | 6000  | 0 psig to 6,000 psig  | 100A | 0 psia to 100 psia |
|  | 30/60  | -30 inHg to 60 psig           | 15     | 0 psig to 15 psig    | 500  | 0 psig to 500 psig                                      | 7500  | 0 psia to 7,500 psig  | 150A | 0 psia to 150 psia |
|  | 30/100 | -30 inHg to 100 psig          | 30     | 0 psig to 30 psig    | 750  | 0 psig to 750 psig                                      | 10000 | 0 psia to 10,000 psig | 200A | 0 psia to 200 psia |
|  | 30/150 | -30 inHg to 150 psig          | 60     | 0 psig to 60 psig    | 1000 | 0 psig to 1,000 psig                                    | 15000 | 0 psia to 15,000 psig | 300A | 0 psia to 300 psia |
|  | 30/200 | -30 inHg to 200 psig          | 100    | 0 psig to 100 psig   | 2000 | 0 psig to 2,000 psig                                    | 15A   | 0 psia to 15 psia     |      |                    |
| psig = gauge pressure      psia = absolute pressure      Other ranges available on request |        |                               |        |                      |      |   |       |                       |      |                    |
| ACCURACIES   | 1      | ±0.05% full scale (BFSL)      |        |                      | 2    | ±0.025% full scale (BFSL)                               |       |                       |      |                    |
| OUTPUT SIGNALS   | 1      | 4 mA to 20 mA, 2-wire analog  |        |                      | 5    | 0 Vdc to 10 Vdc, 3-wire analog                          |       |                       |      |                    |
|  | 2      | 0 Vdc to 5 Vdc, 3-wire analog |        |                      |      |   |       |                       |      |                    |
| PROCESS CONNECTIONS  | 2      | 1/4" NPT male                 |        |                      | 8    | 1/2" NPT male; other connections available upon request |       |                       |      |                    |
| ELECTRICAL CONNECTIONS   | 1      | 54" Integral cable            |        |                      | 25   | M12 x 1 (4-pin)   |       |                       |      |                    |
| OPTION   | ST8    | Threaded Orifice              |        |                      |      |   |       |                       |      |                    |

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

## EXAMPLE

|                                    |                              |            |          |             |          |          |          |          |          |          |          |           |          |            |
|------------------------------------|------------------------------|------------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|------------|
| <b>Series</b> .....                | 640 Series                   | <b>640</b> | <b>-</b> | <b>3000</b> | <b>-</b> | <b>1</b> | <b>-</b> | <b>1</b> | <b>-</b> | <b>8</b> | <b>-</b> | <b>25</b> | <b>-</b> | <b>ST8</b> |
| <b>Pressure range</b> .....        | 0 psig to 3,000 psig         |            |          |             |          |          |          |          |          |          |          |           |          |            |
| <b>Accuracy</b> .....              | ±0.05% full scale (BFSL)     |            |          |             |          |          |          |          |          |          |          |           |          |            |
| <b>Output signal</b> .....         | 4 mA to 20 mA, 2-wire analog |            |          |             |          |          |          |          |          |          |          |           |          |            |
| <b>Process connection</b> .....    | 1/2" NPT Male                |            |          |             |          |          |          |          |          |          |          |           |          |            |
| <b>Electrical connection</b> ..... | M12 x 1 (4-pin)              |            |          |             |          |          |          |          |          |          |          |           |          |            |
| <b>Option</b> .....                | Threaded Orifice             |            |          |             |          |          |          |          |          |          |          |           |          |            |



## 2-WIRE WIRING

| Wiring   | M12 | Cable |
|----------|-----|-------|
| + Supply | 1   | Brown |
| + Output | 3   | Blue  |

## 3-WIRE WIRING

| Wiring   | M12 | Cable |
|----------|-----|-------|
| + Supply | 1   | Brown |
| Common   | 3   | Blue  |
| + Output | 4   | Black |