

# diaphragm pressure switches

## ATEX flameproof enclosure

# 3.42



**Certificate :**  
**CESI 04 ATEX 027**

These flameproof electrical apparatus comply with European Directive ATEX 94/9/EC, for group II and category 2 GD. They are suitable for a variety of uses in hazardous zones 1, 2, 21 and 22 in which the use of flameproof instrument is required. The sensing element is a metallic diaphragm and acts directly on the microswitch through a self-centering pivot. The simplicity of the design, without levers, cams or similar mechanisms, gives the unit an exceptionally long working life.

### 3.42 - Standard Model

**Type of ignition protection:** Ex d IIC T6 as per EN 60079-0, EN 60079-1 and Ex tD A21 IP65 T85°C as per EN 61241-0, EN 61241-1.

**Protection:** IP 65 as per EN 60529.

**Ranges:** 0...1 bar / 0...160 bar; -1...0 bar.

**Electrical specifications:** N. 1...2 SPDT microswitches, or N.1 with adjustable differential (see microswitches table).

**Differential:** fixed, or adjustable 10%...50% of setting range (see microswitches table).

**Repeatability:** ≤ 1% of the full setting value.

**Set-point adjustment:** internal, micrometric adjustable.

**Earth contacts:** N. 1 internal, N. 1 external.

**Process fluid temperature:** -4...+140°F (-20...+60 °C).

**Ambient temperature:** -4...+149°F (-20...+65 °C).

**Thermal drift:** ≤ 0,027% / °F (≤ 0,05% / °C).

**Process connection:** AISI 316 st.st.

**Elastic element:** AISI 316 st.st. diaphragm for pressure ranges ≤ 2,5 bar; carbon steel diaphragm covered with AISI 316 st.st. for pressure ranges > 2,5 bar. Diaphragm PTFE gasket.

**Case:** aluminium, blue polyurethane painted.

**Cover:** aluminium, beige polyurethane painted.

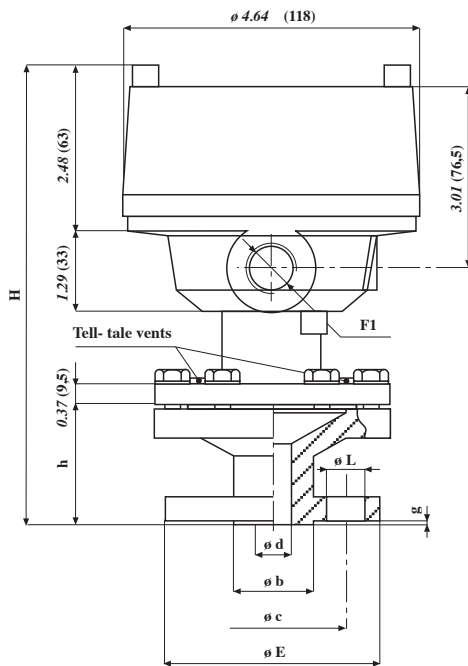
**Tag:** AISI 304 st.st., etched.

**Tell-tale vents:** polypropylene.

| Set-point ranges   | Test pressure | Special overrange (cod. F03) | Differential 1 micro (2) | Differential 2 micro (2) |
|--------------------|---------------|------------------------------|--------------------------|--------------------------|
| 0,06...1 bar (1)   | 1,2 bar       | 10 bar                       | 25 mbar                  | 60 mbar                  |
| 0,06...1,6 bar (1) | 2 bar         | 10 bar                       | 30 mbar                  | 60 mbar                  |
| 0,06...2,5 bar (1) | 3 bar         | 10 bar                       | 40 mbar                  | 60 mbar                  |
| 0,08...4 bar       | 5 bar         | 15 bar                       | 50 mbar                  | 80 mbar                  |
| 0,09...6 bar       | 8 bar         | 15 bar                       | 60 mbar                  | 90 mbar                  |
| 0,15...10 bar      | 12 bar        | 20 bar                       | 100 mbar                 | 150 mbar                 |
| 0,25...16 bar      | 20 bar        | 30 bar                       | 160 mbar                 | 250 mbar                 |
| 0,4...25 bar       | 30 bar        | 35 bar                       | 250 mbar                 | 400 mbar                 |
| 0,6...40 bar       | 48 bar        | 60 bar                       | 400 mbar                 | 600 mbar                 |
| 0,9...60 bar       | 70 bar        | 80 bar                       | 600 mbar                 | 900 mbar                 |
| 6...100 bar        | 120 bar       |                              | 4 bar                    | 6 bar                    |
| 8...160 bar        | 185 bar       |                              | 5 bar                    | 8 bar                    |

(1) also available for vacuum and compound

(2) differential and minimum set-point values for microswitches cod. I, L, N, R, S, T, U, V are 300% of those shown in table.



dimensions : inches (mm)

UNI - DIN STANDARDS (1)

dimensions : mm

| Code | DN(2) | PN-bar  | h  | H   | E   | b  | d  | g | c  | L(3) |
|------|-------|---------|----|-----|-----|----|----|---|----|------|
| OOO  | 15    | 6       | 46 | 188 | 80  | 40 | 15 | 2 | 55 | 11,5 |
| OQO  | 15    | 10...16 | 50 | 192 | 95  | 45 | 15 | 2 | 65 | 14   |
| OSO  | 15    | 25...40 | 52 | 194 | 95  | 45 | 15 | 2 | 65 | 14   |
| QOO  | 25    | 6       | 49 | 191 | 100 | 60 | 25 | 2 | 75 | 11,5 |
| QQO  | 25    | 10...16 | 59 | 201 | 115 | 68 | 25 | 2 | 85 | 14   |
| QSO  | 25    | 25...40 | 59 | 201 | 115 | 68 | 25 | 2 | 85 | 14   |

ASME STANDARDS (1)

dimensions : inches

| Code | DN(2) | Class | h    | H    | E    | b    | d    |      |      | L(3) |
|------|-------|-------|------|------|------|------|------|------|------|------|
| 4AA  | 1/2"  | 150   | 1.89 | 7.48 | 3.50 | 1.38 | 0.59 | 0.06 | 2.38 | 0.63 |
| 4BA  | 1/2"  | 300   | 2.11 | 7.70 | 3.74 | 1.38 | 0.59 | 0.06 | 2.64 | 0.63 |
| 4DA  | 1/2"  | 600   | 2.36 | 7.95 | 3.74 | 1.38 | 0.59 | 0.25 | 2.64 | 0.63 |
| 6AA  | 1"    | 150   | 2.01 | 7.60 | 4.25 | 2    | 0.98 | 0.06 | 3.13 | 0.63 |
| 6BA  | 1"    | 300   | 2.36 | 7.95 | 4.88 | 2    | 0.98 | 0.06 | 3.50 | 0.75 |
| 6DA  | 1"    | 600   | 2.60 | 8.19 | 4.88 | 2    | 0.98 | 0.25 | 3.50 | 0.75 |

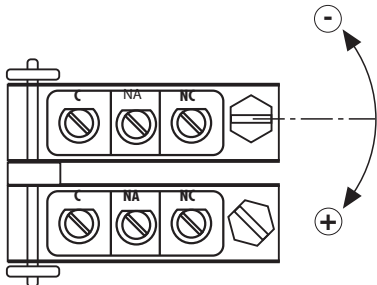
1) Finishing: UNI - Ra 12,5 µm max;

DIN - Rz 40...160 µm; ASME - AARH 125...250 µin

2) Available also DN 20,32,40,50 e 1" 1/2, 2"

3) N°4 threaded or through holes.

Set-point adjustment



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ohmic load

| Single / Double | Type                            | 250 Vac | 125 Vac | 24 Vdc |
|-----------------|---------------------------------|---------|---------|--------|
| C/D             | std.                            | 15A     | 15A     | 0,1A   |
| G/H             | SPLASH                          | 15A     | 15A     | 0,1A   |
| I/L             | goldplated                      |         | 1A      | 0,1A   |
| M/P             | inert gas filled                | 15A     | 15A     | 0,1A   |
| N/R             | goldplated and inert gas filled |         | 1A      | 0,1A   |
| E               | adjustable dead band            | 20A     | 20A     | 0,1A   |
| S/T             | SPLASH VDC                      | 15A     | 15A     | 6A     |
| U/V             | inert gas filled VDC            | 15A     | 15A     | 6A     |

| F1                |
|-------------------|
| 1 - R 1/2-ISO 7/1 |
| 2 - R 3/4-ISO 7/1 |
| 3 - 1/2-14 NPT    |
| 4 - 3/4-14 NPT    |
| A - M20 x 1,5     |

OPTIONS

|                                 |                                 |
|---------------------------------|---------------------------------|
| F03 - Special overpressure stop | E30 - Nace MR 01.03 version (1) |
| M26 - PTFE diaphragm            | M23 - Monel diaphragm           |
| T01 - Tropicalization           | M22 - Hastelloy C diaphragm     |
| P02 - Oxygen service            | M29 - Tantalum diaphragm        |

(1) Monel or Hastelloy C diaphragm.

"HOW TO ORDER" SEQUENCE

| Section | Model | Set-point Adjustment                              | Microswitch           | Electrical connection  | Process connection | ATEX      | Options |
|---------|-------|---|-----------------------|------------------------|--------------------|-----------|---------|
| 3       | 42    | C, D, G, H<br>I, L, M, P<br>N, R, E<br>S, T, U, V | 1<br>2<br>3<br>4<br>A | OOO...QSO<br>4AA...6AA | 2D2                | F03...M29 |         |