



## Diaphragm Pressure Switch



measuring  
•  
monitoring  
•  
analysing

### SCH-27



- Setting range: 0.7 ... 6 mbar to 8 ... 160 bar
- Temperature: Max. +100 °C
- Material: Stainless steel
- Connection: G 1/2 male, 1/2" NPT male, 1/4" NPT female, 1/2" NPT female



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P3



**Description**

These diaphragm pressure switches are IP65, and suitable for a variety of applications such as: food industry, cannery, pharmaceutical, petrochemical, conventional and nuclear power station, and they withstand the most unfavourable working conditions, caused by either the process fluid aggressiveness or high ambient temperature. 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 mechanism, gives the unit an exceptionally long working life.

Set-point adjustment: Internal, micrometric adjustable  
 Protection: IP65 as per IEC 529  
 Electrical wiring: Terminal strip  
 Earth contact: 1 x internal and 1 x external  
 Process temperature: 100 °C max. (+212 °F)  
 Ambient temperature: -25... +65 °C (-13... +149 °F)  
 Thermal drift: ≤ 0.05% / °C (≤ 0.027% / °F)  
 Process connection: AISI 316 stainless steel  
 Elastic element: AISI 316 stainless steel diaphragm for pressure ranges ≤ 2.5 bar; carbon steel diaphragm covered with AISI 316 stainless steel for pressure ranges 4...160 bar  
 Gasket: PTFE  
 Case: AISI 304 stainless steel  
 Cover: AISI 304 stainless steel, bayonet lock  
 Tag: AISI 304 stainless steel, etched

**Technical Data**

Electrical specifications: 1...2 SPDT microswitches (see microswitches table)  
 Differential (dead band): Fixed (value as per setting range table), adjustable (microswitch code E/F) from 10%...50% of setting range  
 Repeatability: ≤ 1% of the full setting value

**Setting Ranges**

| Code | Setting range                                | Test pressure | Special overrange (Code H) | Differential 1 micro <sup>2)</sup> | Differential 2 micro <sup>2)</sup> |
|------|--|---------------|----------------------------|------------------------------------|------------------------------------|
| F7   | 0.7...6 mbar <sup>1)</sup>                   | 10 mbar       |                            | 0.5 mbar                           |                                    |
| F8   | 1...16 mbar <sup>1)</sup>                    | 20 mbar       |                            | 0.8 mbar                           |                                    |
| F9   | 2...25 mbar <sup>1)</sup>                    | 30 mbar       |                            | 1.2 mbar                           |                                    |
| F0   | 5...40 mbar <sup>1)</sup>                    | 0.5 bar       | 400 mbar                   | 4 mbar                             | 5 mbar                             |
| F1   | 5...60 mbar <sup>1)</sup>                    | 0.5 bar       | 600 mbar                   | 4 mbar                             | 5 mbar                             |
| F2   | 6...100 mbar <sup>1)</sup>                   | 0.5 bar       | 1 bar                      | 4 mbar                             | 6 mbar                             |
| F3   | 9...160 mbar <sup>1)</sup>                   | 0.5 bar       | 1.6 bar                    | 6 mbar                             | 9 mbar                             |
| F4   | 9...250 mbar <sup>1)</sup>                   | 1 bar         | 2.5 bar                    | 6 mbar                             | 9 mbar                             |
| F5   | 15...400 mbar <sup>1)</sup>                  | 1 bar         | 4 bar                      | 10 mbar                            | 15 mbar                            |
| F6   | 18...600 mbar <sup>1)</sup>                  | 1 bar         | 6 bar                      | 12 mbar                            | 18 mbar                            |
| B2   | 0.06...1 bar <sup>1)</sup>                   | 1.2 bar       | 10 bar                     | 25 mbar                            | 60 mbar                            |
| B3   | 0.06...1.6 bar <sup>1)</sup>                 | 2 bar         | 16 bar                     | 30 mbar                            | 60 mbar                            |
| B4   | 0.06...2.5 bar <sup>1)</sup>                 | 3 bar         | 25 bar                     | 40 mbar                            | 60 mbar                            |
| B5   | 0.08...4 bar                                 | 5 bar         | 40 bar                     | 50 mbar                            | 80 mbar                            |
| B6   | 0.09...6 bar                                 | 8 bar         | 40 bar                     | 60 mbar                            | 90 mbar                            |
| B7   | 0.15...10 bar                                | 12 bar        | 40 bar                     | 100 mbar                           | 150 mbar                           |
| B8   | 0.25...16 bar                                | 20 bar        | 40 bar                     | 160 mbar                           | 250 mbar                           |
| B9   | 0.4...25 bar                                 | 30 bar        | 40 bar                     | 250 mbar                           | 400 mbar                           |
| B0   | 0.6...40 bar                                 | 48 bar        | 60 bar                     | 400 mbar                           | 600 mbar                           |
| C1   | 0.9...60 bar                                 | 70 bar        | 80 bar                     | 600 mbar                           | 900 mbar                           |
| C2   | 6...100 bar                                  | 120 bar       |                            | 4 bar                              | 6 bar                              |
| C3   | 8...160 bar                                  | 185 bar       |                            | 5 bar                              | 8 bar                              |
| YY   | Vacuum and compound ranges / consult factory |               |                            |                                    |                                    |

<sup>1)</sup> also available for vacuum and compound

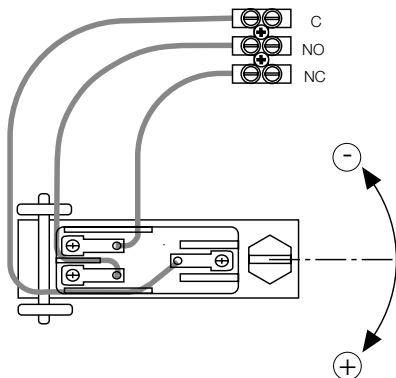
<sup>2)</sup> differential and minimum set-point values for microswitches cod. I, L, N, R, S, T, U, V are 300% of those shown in table

**Order Details** (Example: SCH-27 C2 A I2 1 N)

| Model     | Setting range   | Microswitch type   | Process connection (F)   | Electrical connection (F1)   | Options  |
|-----------|---|--|--|--|--|
| SCH-27... | ...F7... = 0.7...6 mbar <sup>1)</sup><br>...F8... = 1...16 mbar <sup>1)</sup><br>...F9... = 2...25 mbar <sup>1)</sup><br>...F0... = 5...40 mbar <sup>1)</sup><br>...F1... = 5...60 mbar <sup>1)</sup><br>...F2... = 6...100 mbar <sup>1)</sup><br>...F3... = 9...160 mbar <sup>1)</sup><br>...F4... = 9...250 mbar <sup>1)</sup><br>...F5... = 15...400 mbar <sup>1)</sup><br>...F6... = 18...600 mbar <sup>1)</sup><br>...B2... = 0.06...1 bar <sup>1)</sup><br>...B3... = 0.06...1.6 bar <sup>1)</sup><br>...B4... = 0.06...2.5 bar <sup>1)</sup><br>...B5... = 0.08...4 bar<br>...B6... = 0.09...6 bar<br>...B7... = 0.15...10 bar<br>...B8... = 0.25...16 bar<br>...B9... = 0.4...25 bar<br>...B0... = 0.6...40 bar<br>...C1... = 0.9...60 bar<br>...C2... = 6...100 bar<br>...C3... = 8...160 bar<br>...YY... = Vacuum and compound ranges / consult factory | ...A = standard, single<br>...B = standard, double<br>...I <sup>2)</sup> = goldplated, single<br>...L <sup>2)</sup> = goldplated, double<br>...M <sup>2)</sup> = inert gas filled, single<br>...P <sup>2)</sup> = inert gas filled, double<br>...N <sup>2)</sup> = goldplated and inert gas filled, single<br>...R <sup>2)</sup> = goldplated and inert gas filled, double<br>...E <sup>3)</sup> = adjustable differential, single<br>...F <sup>3)</sup> = adjustable differential, double<br>...U <sup>2)</sup> = inert gas filled V <sub>DC</sub> , single<br>...V <sup>2)</sup> = inert gas filled V <sub>DC</sub> , double | I2 = ¼-18" NPT F<br>N4 = ½-14" NPT<br>I4 = ½-14" NPT F<br>G4 = G ½ A | 1 = R ½-ISO 7/1<br>2 = R ¾-ISO 7/1<br>3 = ½-14" NPT<br>4 = ¾-14" NPT<br>A = M 20 x 1.5 | N = none<br>H = special over pressure stop<br>P = PTFE covered diaphragm<br>M = 2" stake's mounting bracket<br>W = wall mounting bracket<br>T = tropicalisation<br>S = oxygen service<br>Y = special (specify in clear text) |

<sup>1)</sup> also available for vacuum and compound  
<sup>2)</sup> for pressure ranges ≥ 40 mbar  
<sup>3)</sup> for pressure ranges ≥ 1 bar

**Set-point Adjustment**



**Microswitch Electrical Rating**

Ohmic load

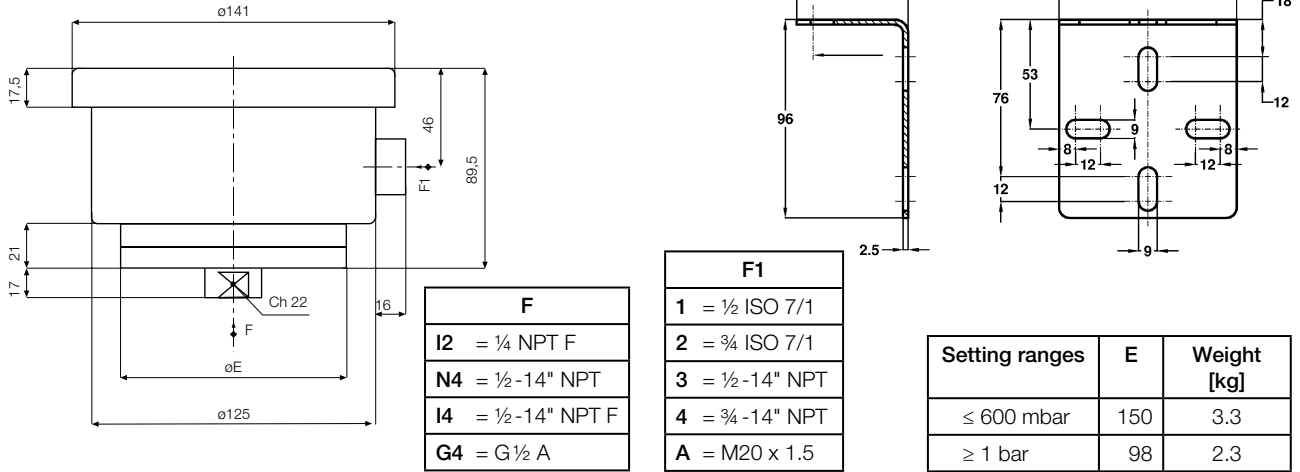
| Single | Double | Type   | 250 V <sub>AC</sub> | 125 V <sub>AC</sub> | 24 V <sub>DC</sub> |
|--------|--------|--|---------------------|---------------------|--------------------|
| A      | B      | standard                                       | 15 A                | 15 A                | 0.1 A              |
| I      | L      | goldplated <sup>1)</sup>                       |                     | 1 A                 | 0.1 A              |
| M      | P      | inert gas filled <sup>1)</sup>                 | 15 A                | 15 A                | 0.1 A              |
| N      | R      | goldplated and inert gas filled <sup>1)</sup>  |                     | 1 A                 | 0.1 A              |
| E      | F      | adjustable differential <sup>2)</sup>          | 20 A                | 20 A                | 0.1 A              |
| U      | V      | inert gas filled V <sub>DC</sub> <sup>1)</sup> | 15 A                | 15 A                | 6 A                |

<sup>1)</sup> for pressure ranges ≥ 40 mbar  
<sup>2)</sup> for pressure ranges ≥ 1 bar

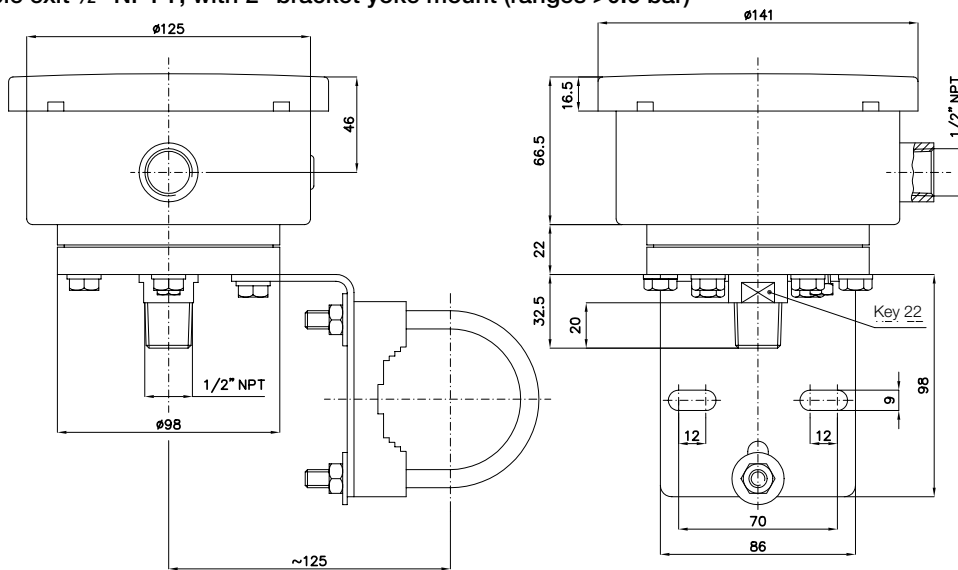


## Diaphragm Pressure Switch Model SCH-27

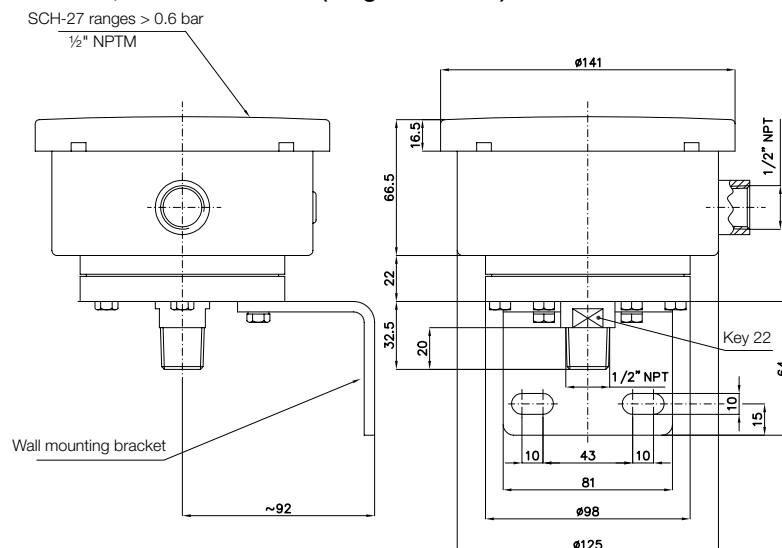
### Dimensions [mm]



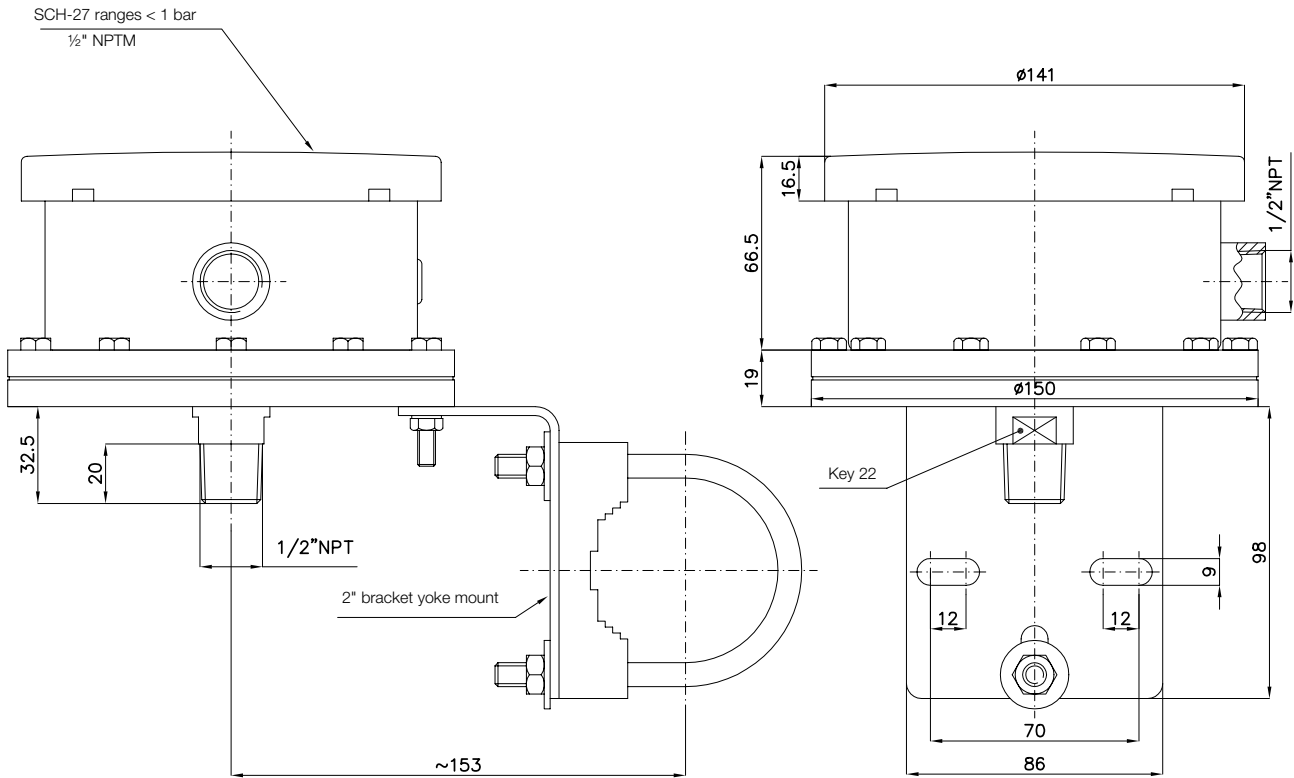
### 1/2" NPT M, cable exit 1/2" NPT F, with 2" bracket yoke mount (ranges >0.6 bar)



### 1/2" NPT M, cable exit 1/2" NPT F, with wall bracket (ranges >0.6 bar)



1/2" NPT M, cable exit 1/2" NPT F, with 2" bracket yoke mount (ranges ≤0.6 bar)



1/2" NPT M, cable exit 1/2" NPT F, with wall bracket (ranges ≤0.6 bar)

