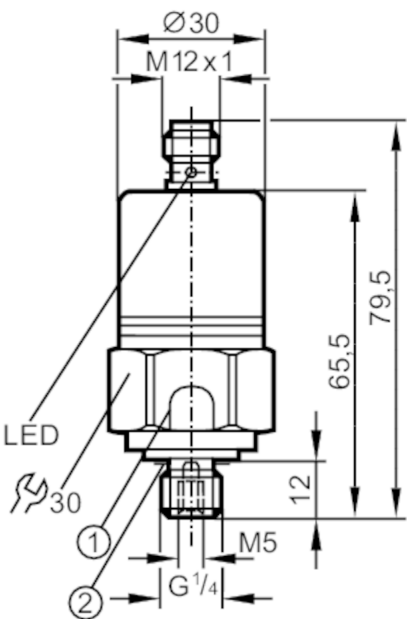


PP0520



Pressure switch with ceramic measuring cell

PP-400-SBG14-QFNKG/US/ IV



- 1 pressure relief mechanism  
No mechanical force must be exerted on the pressure relief mechanism.
- 2 Sealing



| Product characteristics      |                                                              |                                            |            |
|------------------------------|--------------------------------------------------------------|--------------------------------------------|------------|
| Number of inputs and outputs | Number of digital outputs: 2                                 |                                            |            |
| Measuring range              | 0...400 bar                                                  | 0...5800 psi                               | 0...40 MPa |
| Process connection           | threaded connection G 1/4 external thread internal thread:M5 |                                            |            |
| Application                  |                                                              |                                            |            |
| Application                  | for industrial applications                                  |                                            |            |
| Media                        | liquids and gases                                            |                                            |            |
| Conditionally suitable for   | use in gases at pressures > 25 bar only on request           |                                            |            |
| Medium temperature           | -25...90                                                     |                                            |            |
| Min. bursting pressure       | 1000 bar                                                     | 14500 psi                                  | 100 MPa    |
| Pressure rating              | 600 bar                                                      | 8700 psi                                   | 60 Mpa     |
| Type of pressure             | relative pressure                                            |                                            |            |
| Electrical data              |                                                              |                                            |            |
| Operating voltage            | [V]                                                          | 9.6...36 DC; (communication mode: 18...32) |            |
| Current consumption          | [mA]                                                         | < 45                                       |            |
| Min. insulation resistance   | [MΩ]                                                         | 100; (500 V DC)                            |            |
| Protection class             |                                                              | III                                        |            |
| Reverse polarity protection  |                                                              | yes                                        |            |
| Power-on delay time          | [s]                                                          | 0.3                                        |            |
| Inputs / outputs             |                                                              |                                            |            |
| Number of inputs and outputs | Number of digital outputs: 2                                 |                                            |            |
| Outputs                      |                                                              |                                            |            |
| Total number of outputs      | 2                                                            |                                            |            |



## Pressure switch with ceramic measuring cell

PP-400-SBG14-QFNKG/US/ IV

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Output signal                                        | switching signal                                   |
| Electrical design                                    | NPN                                                |
| Number of digital outputs                            | 2                                                  |
| Output function                                      | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V]            | 2                                                  |
| Permanent current rating of switching output DC [mA] | 250                                                |
| Switching frequency DC [Hz]                          | 170                                                |
| Short-circuit protection                             | yes                                                |
| Type of short-circuit protection                     | pulsed                                             |
| Overload protection                                  | yes                                                |

| Measuring/setting range |             |               |                |
|-------------------------|-------------|---------------|----------------|
| Measuring range         | 0...400 bar | 0...5800 psi  | 0...40 MPa     |
| Set point SP            | 4...400 bar | 60...5790 psi | 0.4...40 MPa   |
| Reset point rP          | 2...398 bar | 30...5760 psi | 0.2...39.8 MPa |
| In steps of             | 2 bar       | 30 psi        | 0.2 MPa        |
| Factory setting         |             | SP1 = 100 bar | rP1 = 92 bar   |
|                         |             | SP2 = 300 bar | rP2 = 292 bar  |
|                         |             | OUT1 = Hno    | OUT2 = Hno     |

| Accuracy / deviations                    |                                                                                                   |
|------------------------------------------|---------------------------------------------------------------------------------------------------|
| Switch point accuracy [X21]              | $< \pm 0,5$                                                                                       |
| Repeatability [X21]                      | $< \pm 0,1$ ; (with temperature fluctuations $< 10$ K)                                            |
| Characteristics deviation [X21]          | $< \pm 0,25$ (BFSL) / $< \pm 0,5$ (LS); (BFSL = Best Fit Straight Line; LS = limit value setting) |
| Hysteresis deviation [X21]               | $< \pm 0,1$                                                                                       |
| Long-term stability [X21]                | $< \pm 0,1$ ; (per year)                                                                          |
| Temperature coefficient zero point [X22] | 0,2; (0...80 °C)                                                                                  |
| Temperature coefficient span [X22]       | 0,2; (0...80 °C)                                                                                  |

| Response times                         |                                                               |
|----------------------------------------|---------------------------------------------------------------|
| Response time [ms]                     | $< 3$                                                         |
| Damping process value dAP in steps [s] | 0,003 - 0,006 - 0,010 - 0,017 - 0,060 - 0,125 - 0,250 - 0,500 |

| Operating conditions     |                                             |
|--------------------------|---------------------------------------------|
| Ambient temperature [°C] | -25...85                                    |
| Storage temperature [°C] | -40...100                                   |
| Protection               | IP 68; (7 days / 1 m water depth / 0.1 bar) |

| Tests / approvals |                                         |                                              |
|-------------------|-----------------------------------------|----------------------------------------------|
| EMC               | immunity                                | EN 61000-6-2                                 |
|                   | EN 61000-4-2 ESD                        | 4 kV contact discharge / 15 kV air discharge |
|                   | EN 61000-4-3 HF radiated                | 20 V/m                                       |
|                   | EN 61000-4-4 Burst                      | 4 kV coupling clamp                          |
|                   | EN 61000-4-5 Surge                      | 0,5 kV supply / 1 kV signal for DC units     |
|                   | EN 61000-4-6 HF conducted               | 30 V                                         |
| Shock resistance  | DIN IEC 60068-2-27 / DIN IEC 60068-2-29 | 1000 g                                       |
|                   | DIN EN 61373                            | category 3                                   |

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|                              |                                                                                       |                     |
|------------------------------|---------------------------------------------------------------------------------------|---------------------|
| Vibration resistance         | DIN IEC 68-2-6                                                                        | 20 g (10...2000 Hz) |
|                              | DIN EN 60068-2-64                                                                     | 14 g                |
|                              | DIN EN 61373                                                                          | category 2          |
| MTTF                         | [ANN]                                                                                 | 309                 |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                     |

| Mechanical data               |                                                              |     |
|-------------------------------|--------------------------------------------------------------|-----|
| Weight                        | [g]                                                          | 216 |
| Materials                     | stainless steel (1.4301 / 304); FKM; EPDM/X; PA              |     |
| Materials (wetted parts)      | stainless steel (1.4305 / 303); ceramics; FKM                |     |
| Min. pressure cycles          | 100 million                                                  |     |
| Process connection            | threaded connection G 1/4 external thread internal thread:M5 |     |
| Restrictor element integrated | yes                                                          |     |

| Displays / operating elements |                  |                 |
|-------------------------------|------------------|-----------------|
| Display                       | operation        | 2 x LED, green  |
|                               | switching status | 2 x LED, yellow |
| Teach function                | yes              |                 |

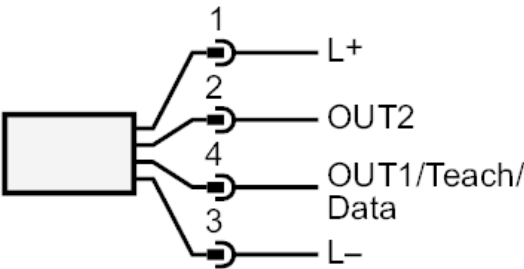
| Remarks       |        |  |
|---------------|--------|--|
| Pack quantity | 1 pcs. |  |

Electrical connection

Connector: 1 x M12; coding: A



Connection



|      |                   |
|------|-------------------|
| OUT1 | switching output  |
| OUT2 | switching output  |
|      | Diagnostic output |