

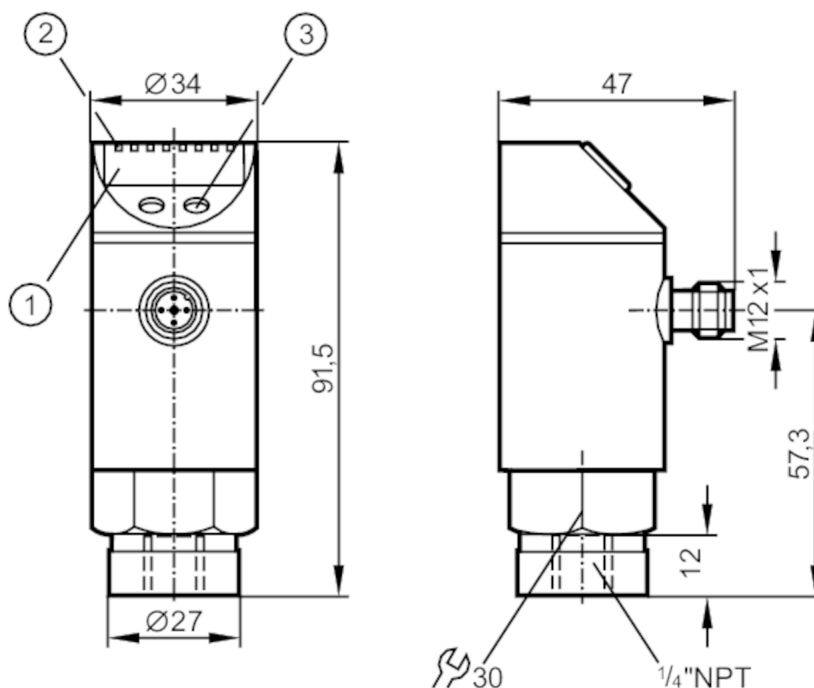


## Pressure sensor with display

PN-100-SBN14-MFRKG/US/ /V

discontinued article

replaced by: PN2292 – Discontinuation date: 31.12.2016



- 1 alphanumeric display 4-digit
- 2 LEDs Display unit / switching status
- 3 programming button



### Product characteristics

|                    |                                                            |              |            |
|--------------------|------------------------------------------------------------|--------------|------------|
| Output signal      | switching signal; analogue signal; IO-Link; (configurable) |              |            |
| Measuring range    | 0...100 bar                                                | 0...1450 psi | 0...10 MPa |
| Process connection | threaded connection 1/4 NPT internal thread                |              |            |

### Application

|                            |                                                    |          |        |
|----------------------------|----------------------------------------------------|----------|--------|
| Special feature            | Gold-plated contacts                               |          |        |
| Application                | for industrial applications                        |          |        |
| Media                      | liquids and gases                                  |          |        |
| Conditionally suitable for | use in gases at pressures > 25 bar only on request |          |        |
| Medium temperature [°C]    | -25...80                                           |          |        |
| Pressure rating            | 300 bar                                            | 4350 psi | 30 MPa |
| Min. bursting pressure     | 650 bar                                            | 9400 psi | 65 MPa |
| Type of pressure           | relative pressure                                  |          |        |



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| Electrical data                                 |                 |                                                                                                          |                |
|-------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------|----------------|
| Operating voltage                               | [V]             | 18...32 DC; (according to EN 50178 SELV/PELV)                                                            |                |
| Current consumption                             | [mA]            | < 35                                                                                                     |                |
| Min. insulation resistance                      | [MΩ]            | 100; (500 V DC)                                                                                          |                |
| Protection class                                |                 | III                                                                                                      |                |
| Reverse polarity protection                     |                 | yes                                                                                                      |                |
| Power-on delay time                             | [s]             | 0.3                                                                                                      |                |
| Integrated watchdog                             |                 | yes                                                                                                      |                |
| Inputs / outputs                                |                 |                                                                                                          |                |
| Number of inputs and outputs                    |                 | Number of digital outputs: 2; Number of analogue outputs: 1                                              |                |
| Outputs                                         |                 |                                                                                                          |                |
| Total number of outputs                         |                 | 2                                                                                                        |                |
| Output signal                                   |                 | switching signal; analogue signal; IO-Link; (configurable)                                               |                |
| Electrical design                               |                 | PNP/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]            | < 500                                                                                                    |                |
| Number of analogue outputs                      |                 | 1                                                                                                        |                |
| Analogue current output                         | [mA]            | 4...20; (scalable 1:4)                                                                                   |                |
| Max. load                                       | [Ω]             | (U <sub>b</sub> - 10 V) / 20 mA                                                                          |                |
| Analogue voltage output                         | [V]             | 0...10; (scalable 1:4)                                                                                   |                |
| Min. load resistance                            | [Ω]             | 2000                                                                                                     |                |
| Short-circuit protection                        |                 | yes                                                                                                      |                |
| Type of short-circuit protection                |                 | pulsed                                                                                                   |                |
| Overload protection                             |                 | yes                                                                                                      |                |
| Measuring/setting range                         |                 |                                                                                                          |                |
| Measuring range                                 |                 | 0...100 bar                                                                                              | 0...1450 psi   |
| Set point SP                                    |                 | 0.8...100 bar                                                                                            | 12...1450 psi  |
| Reset point rP                                  |                 | 0.4...99.6 bar                                                                                           | 6...1444 psi   |
| Analogue start point                            |                 | 0...75 bar                                                                                               | 0...1088 psi   |
| Analogue end point                              |                 | 25...100 bar                                                                                             | 364...1450 psi |
| In steps of                                     |                 | 0.2 bar                                                                                                  | 2 psi          |
| Factory setting                                 |                 |                                                                                                          | SP1 = 362 psi  |
|                                                 |                 |                                                                                                          | SP2 = 1088 psi |
|                                                 |                 |                                                                                                          | ASP = 0 psi    |
|                                                 |                 |                                                                                                          | rP1 = 334 psi  |
|                                                 |                 |                                                                                                          | rP2 = 1058 psi |
|                                                 |                 |                                                                                                          | AEP = 1450 psi |
| Accuracy / deviations                           |                 |                                                                                                          |                |
| Switch point accuracy                           |                 | < ± 0,4; (Turn down 1:1)                                                                                 |                |
|                                                 | [% of the span] |                                                                                                          |                |
| Repeatability                                   | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                           |                |
| Characteristics deviation                       |                 | < ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting) |                |



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|                                    |                        |                                         |
|------------------------------------|------------------------|-----------------------------------------|
|                                    | [% of the span]        |                                         |
| Hysteresis deviation               |                        | $< \pm 0,1$ ; (Turn down 1:1)           |
|                                    | [% of the span]        |                                         |
| Long-term stability                |                        | $< \pm 0,1$ ; (Turn down 1:1; per year) |
|                                    | [% of the span]        |                                         |
| Temperature coefficient zero point |                        | $< \pm 0,2$ ; (0...80 °C)               |
|                                    | [% of the span / 10 K] |                                         |
| Temperature coefficient span       |                        | $< \pm 0,2$ ; (0...80 °C)               |
|                                    | [% of the span / 10 K] |                                         |

### Response times

|                                      |      |          |
|--------------------------------------|------|----------|
| Response time                        | [ms] | $< 1.5$  |
| Damping for the switching output dAP | [s]  | 0.01...4 |
| Damping for the analogue output dAA  | [s]  | 0.01...4 |
| Max. response time analogue output   | [ms] | 3        |

### Software / programming

|                           |                                                                                                                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter setting options | hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Interfaces

|                         |                   |
|-------------------------|-------------------|
| Communication interface | IO-Link           |
| Transmission type       | COM2 (38.4 kBaud) |
| IO-Link revision        | 1.0               |

### Operating conditions

|                     |      |           |
|---------------------|------|-----------|
| Ambient temperature | [°C] | -25...80  |
| Storage temperature | [°C] | -40...100 |
| Protection          |      | IP 67     |

### Tests / approvals

|                              |                                                                                       |                     |
|------------------------------|---------------------------------------------------------------------------------------|---------------------|
| EMC                          | EN 61000-4-2 ESD                                                                      | 4 kV CD / 8 kV AD   |
|                              | EN 61000-4-3 HF radiated                                                              | 10 V/m              |
|                              | EN 61000-4-4 Burst                                                                    | 2 kV                |
|                              | EN 61000-4-5 Surge                                                                    | 0,5/1 kV            |
|                              | EN 61000-4-6 HF conducted                                                             | 10 V                |
| Shock resistance             | DIN IEC 68-2-27                                                                       | 50 g (11 ms)        |
| Vibration resistance         | DIN IEC 68-2-6                                                                        | 20 g (10...2000 Hz) |
| MTTF                         | [years]                                                                               | 131                 |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                     |

### Mechanical data

|                               |                                                                                    |       |
|-------------------------------|------------------------------------------------------------------------------------|-------|
| Weight                        | [g]                                                                                | 266.5 |
| Materials                     | stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM |       |
| Materials (wetted parts)      | stainless steel (1.4305 / 303); ceramics; FKM                                      |       |
| Min. pressure cycles          | 100 million                                                                        |       |
| Process connection            | threaded connection 1/4 NPT internal thread                                        |       |
| Restrictor element integrated | no (can be retrofitted)                                                            |       |

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| Displays / operating elements |                  |                               |
|-------------------------------|------------------|-------------------------------|
| Display                       | Display unit     | 3 x LED, green                |
|                               | switching status | 2 x LED, yellow               |
|                               | function display | alphanumeric display, 4-digit |
|                               | measured values  | alphanumeric display, 4-digit |

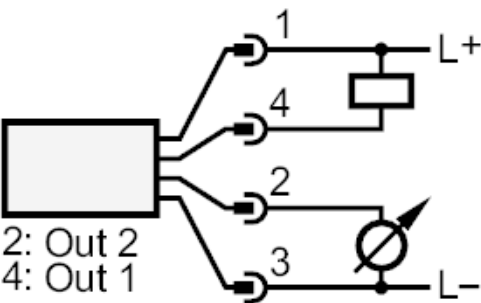
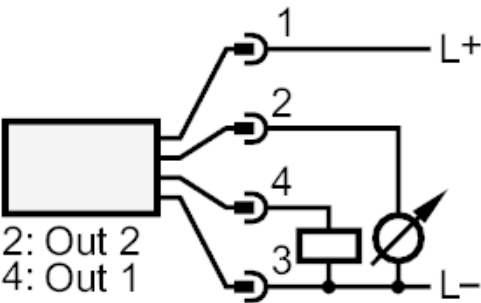
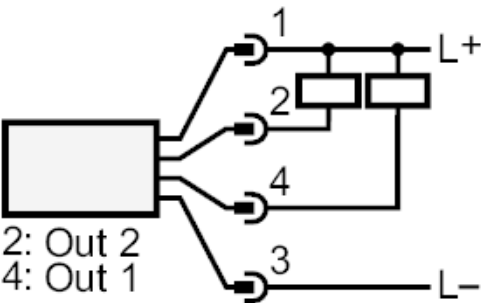
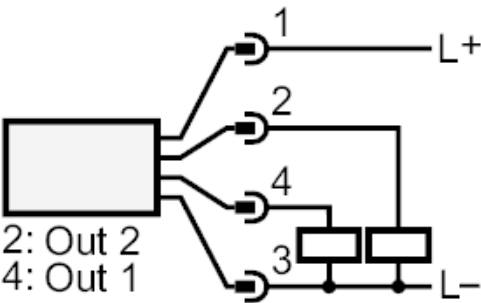
| Remarks       |                      |
|---------------|----------------------|
| Notes         | discontinued article |
| Pack quantity | 1 pcs.               |

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection



|      |                  |
|------|------------------|
| OUT1 | switching output |
| OUT2 | switching output |
|      | analogue output  |

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