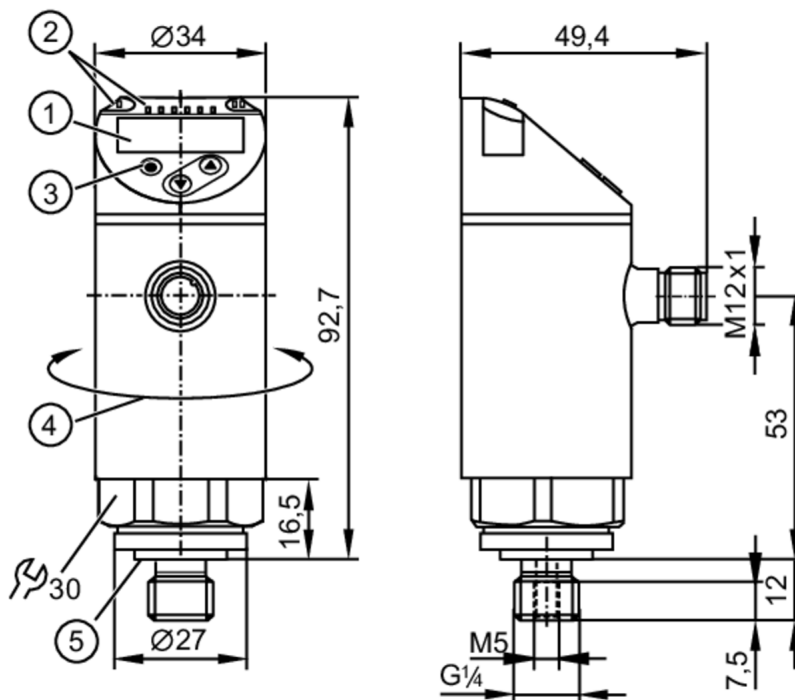




## Pressure sensor with display

PN-001BREG14-QFRKG/US/ IV



- 1 alphanumeric display 4-digit red/green
- 2 LEDs Display unit / switching status
- 3 programming button
- 4 upper part of the housing can be rotated 345°
- 5 Sealing



### Product characteristics

|                              |                                                              |               |              |               |             |
|------------------------------|--------------------------------------------------------------|---------------|--------------|---------------|-------------|
| Number of inputs and outputs | Number of digital outputs: 2                                 |               |              |               |             |
| Measuring range              | 0...1 bar                                                    | 0...1000 mbar | 0...14.5 psi | 0...29.5 inHg | 0...100 kPa |
| Process connection           | threaded connection G 1/4 external thread internal thread:M5 |               |              |               |             |

### Application

|                         |                                            |         |          |          |
|-------------------------|--------------------------------------------|---------|----------|----------|
| Special feature         | Gold-plated contacts                       |         |          |          |
| Measuring element       | ceramic-capacitive pressure measuring cell |         |          |          |
| Application             | for industrial applications                |         |          |          |
| Media                   | liquids and gases                          |         |          |          |
| Medium temperature [°C] | -25...80                                   |         |          |          |
| Min. bursting pressure  | 30000 mbar                                 | 450 psi | 880 inHg | 3000 kPa |
| Pressure rating         | 10000 mbar                                 | 145 psi | 290 inHg | 1000 kPa |
| Type of pressure        | relative pressure                          |         |          |          |

### Electrical data

|                                 |                            |  |  |  |
|---------------------------------|----------------------------|--|--|--|
| Operating voltage [V]           | 18...30 DC; (to 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                      |  |  |  |



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|                                                           |                                                                                                                          |                  |                 |                |             |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|----------------|-------------|
| Integrated watchdog                                       | yes                                                                                                                      |                  |                 |                |             |
| Inputs / outputs                                          |                                                                                                                          |                  |                 |                |             |
| Number of inputs and outputs                              | Number of digital outputs: 2                                                                                             |                  |                 |                |             |
| Outputs                                                   |                                                                                                                          |                  |                 |                |             |
| Total number of outputs                                   | 2                                                                                                                        |                  |                 |                |             |
| Output signal                                             | switching 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]                 | 2.5                                                                                                                      |                  |                 |                |             |
| Permanent current rating of switching output DC [mA]      | 150; (200 (...60 °C) 250 (...40 °C))                                                                                     |                  |                 |                |             |
| Switching frequency DC [Hz]                               | < 170                                                                                                                    |                  |                 |                |             |
| Short-circuit protection                                  | yes                                                                                                                      |                  |                 |                |             |
| Type of short-circuit protection                          | pulsed                                                                                                                   |                  |                 |                |             |
| Overload protection                                       | yes                                                                                                                      |                  |                 |                |             |
| Measuring/setting range                                   |                                                                                                                          |                  |                 |                |             |
| Measuring range                                           | 0...1 bar                                                                                                                | 0...1000 mbar    | 0...14.5 psi    | 0...29.5 inHg  | 0...100 kPa |
| Set point SP                                              | 10...1000 mbar                                                                                                           | 0.1...14.5 psi   | 0.2...29.5 inHg | 1...100 kPa    |             |
| Reset point rP                                            | 5...995 mbar                                                                                                             | 0.05...14.45 psi | 0.1...24.9 inHg | 0.5...99.5 kPa |             |
| In steps of                                               | 5 mbar                                                                                                                   | 0.05 psi         | 0.1 inHg        | 0.5 kPa        |             |
| Accuracy / deviations                                     |                                                                                                                          |                  |                 |                |             |
| Switch point accuracy [% of the span]                     | < ± 0,5                                                                                                                  |                  |                 |                |             |
| Repeatability [% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K)                                                                          |                  |                 |                |             |
| Characteristics deviation [% of the span]                 | < ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)                                |                  |                 |                |             |
| Hysteresis deviation [% of the span]                      | < ± 0,25                                                                                                                 |                  |                 |                |             |
| Long-term stability [% of the span]                       | < ± 0,05; (per 6 months)                                                                                                 |                  |                 |                |             |
| Temperature coefficient zero point [% of the span / 10 K] | < ± 0,2; (-0...80 °C)                                                                                                    |                  |                 |                |             |
| Temperature coefficient span [% of the span / 10 K]       | < ± 0,2; (-0...80 °C)                                                                                                    |                  |                 |                |             |
| Response times                                            |                                                                                                                          |                  |                 |                |             |
| Response time [ms]                                        | < 3                                                                                                                      |                  |                 |                |             |
| Delay time programmable dS, dr [s]                        | 0...50                                                                                                                   |                  |                 |                |             |
| Software / programming                                    |                                                                                                                          |                  |                 |                |             |
| Parameter setting options                                 | hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping; Display unit |                  |                 |                |             |



## Pressure sensor with display

PN-001BREG14-QFRKG/US/ IV

| Interfaces                    |                                                                                            |                                         |
|-------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------|
| Communication interface       | IO-Link                                                                                    |                                         |
| Transmission type             | COM2 (38,4 kBaud)                                                                          |                                         |
| IO-Link revision              | 1.1                                                                                        |                                         |
| SDCI standard                 | IEC 61131-9                                                                                |                                         |
| Profiles                      | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis               |                                         |
| SIO mode                      | yes                                                                                        |                                         |
| Required master port type     | A                                                                                          |                                         |
| Process data analogue         | 1                                                                                          |                                         |
| Process data binary           | 2                                                                                          |                                         |
| Min. process cycle time [ms]  | 2.3                                                                                        |                                         |
| Supported DeviceIDs           | Type of operation                                                                          | DeviceID                                |
|                               | default                                                                                    | 405                                     |
| Operating conditions          |                                                                                            |                                         |
| Ambient temperature [°C]      | -25...80                                                                                   |                                         |
| Storage temperature [°C]      | -40...100                                                                                  |                                         |
| Protection                    | IP 65; IP 67                                                                               |                                         |
| Tests / approvals             |                                                                                            |                                         |
| EMC                           | DIN EN 61000-6-2                                                                           |                                         |
|                               | DIN EN 61000-6-3                                                                           |                                         |
| Shock resistance              | DIN EN 60068-2-27                                                                          | 50 g (11 ms)                            |
| Vibration resistance          | DIN EN 60068-2-6                                                                           | 20 g (10...2000 Hz)                     |
| MTTF [years]                  | 260                                                                                        |                                         |
| UL approval                   | UL Approval no.                                                                            | J001                                    |
| Pressure Equipment Directive  | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request      |                                         |
| Mechanical data               |                                                                                            |                                         |
| Weight [g]                    | 259                                                                                        |                                         |
| Materials                     | stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC                                   |                                         |
| Materials (wetted parts)      | stainless steel (316L/1.4404); ceramics; FKM                                               |                                         |
| Min. pressure cycles          | 100 million                                                                                |                                         |
| Tightening torque [Nm]        | 25...35; (recommended tightening torque; depends on lubrication, seal and pressure rating) |                                         |
| Process connection            | threaded connection G 1/4 external thread internal thread:M5                               |                                         |
| Restrictor element integrated | no (can be retrofitted)                                                                    |                                         |
| Displays / operating elements |                                                                                            |                                         |
| Display                       | Display unit                                                                               | 4 x LED, green (mbar, psi, kPa, inHg)   |
|                               | switching status                                                                           | 2 x LED, yellow                         |
|                               | measured values                                                                            | alphanumeric display, red/green 4-digit |
| Remarks                       |                                                                                            |                                         |
| Pack quantity                 | 1 pcs.                                                                                     |                                         |

# PN7597



## Pressure sensor with display

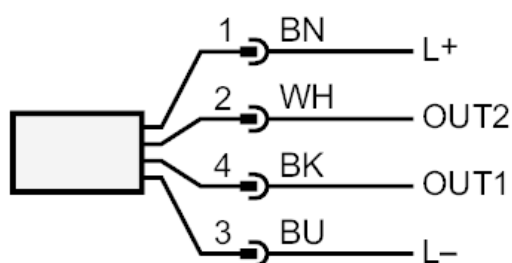
PN-001BREG14-QFRKG/US/ IV

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



|      |                                                 |
|------|-------------------------------------------------|
| OUT1 | switching output<br>IO-Link                     |
| OUT2 | switching output<br>colours to DIN EN 60947-5-2 |
|      | Core colours :                                  |
| BK = | black                                           |
| BN = | brown                                           |
| BU = | blue                                            |
| WH = | white                                           |