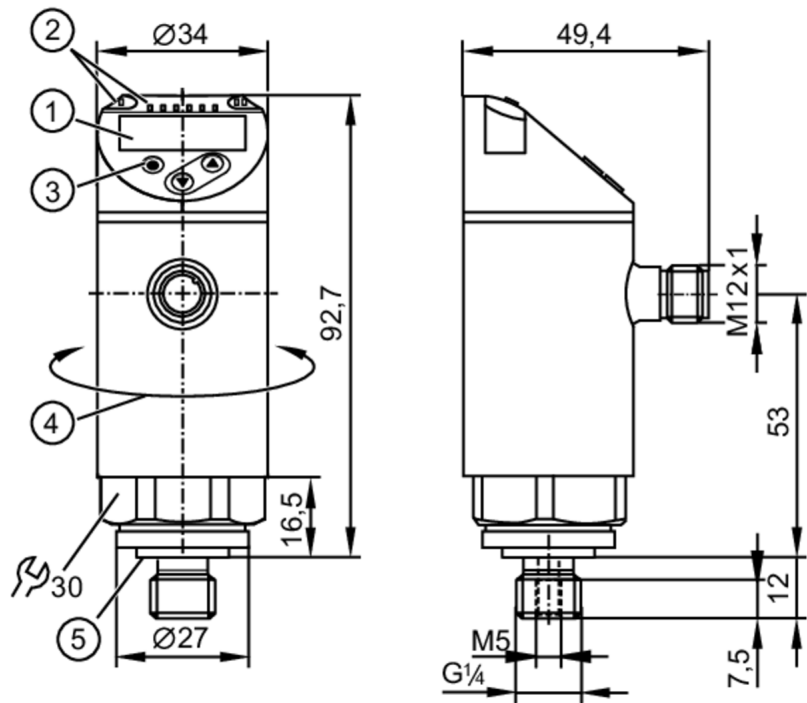


PN7543



Pressure sensor with display

PN-040-SEG14-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...40 bar                                                   | 0...580 psi | 0...4 MPa |
| 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                                  |          |        |
| Conditionally suitable for | use in gases at pressures > 25 bar only on request |          |        |
| Medium temperature [°C]    | -25...80                                           |          |        |
| Min. burst pressure        | 500 bar                                            | 7200 psi | 50 MPa |
| Pressure rating            | 200 bar                                            | 3000 psi | 20 MPa |
| Vacuum resistance          | -1000 mbar                                         | -0.1 MPa |        |
| 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                        |  |  |



## Pressure sensor with display

PN-040-SEG14-QFRKG/US/ IV

|                             |       |
|-----------------------------|-------|
| 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 |
|------------------------------|------------------------------|

## 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 / closed; (configurable)    |
| 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                     | yes (non-latching)                        |
| Overload protection                                  | yes                                       |

## Measuring/setting range

|                                   |                |             |                  |
|-----------------------------------|----------------|-------------|------------------|
| Measuring range                   | 0...40 bar     | 0...580 psi | 0...4 MPa        |
| Set point SP                      | 0.3...40 bar   | 5...580 psi | 0.032...4 MPa    |
| Reset point rP                    | 0.1...39.8 bar | 2...577 psi | 0.012...3.98 MPa |
| Min. difference between SP and rP | 0.2 bar        | 3 psi       | 0.02 MPa         |
| In steps of                       | 0.1 bar        | 1 psi       | 0.01 MPa         |

## Accuracy / deviations

|                                                           |                                                                                          |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------|
| Switch point accuracy [% of the span]                     | < ± 0,8                                                                                  |
| Repeatability [% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K)                                          |
| Characteristics deviation [% of the span]                 | < ± 0,4 (BFSL) / < ± 0,8 (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)                                                                    |

## Reaction times

|                                    |        |
|------------------------------------|--------|
| Response time [ms]                 | < 3    |
| Delay time programmable dS, dr [s] | 0...50 |
| Damping process value dAP [s]      | 0...4  |



## Pressure sensor with display

PN-040-SEG14-QFRKG/US/ IV

| Software / programming            |  |                                                                                                                 |                                                  |
|-----------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Parameter setting options         |  | hysteresis / window; normally open / closed; switching logic; switch-on/switch-off delay; Damping; Display unit |                                                  |
| Interfaces                        |  |                                                                                                                 |                                                  |
| Communication interface           |  | IO-Link                                                                                                         |                                                  |
| Transmission type                 |  | COM2 (38,4 kBaud)                                                                                               |                                                  |
| IO-Link revision                  |  | 1.1                                                                                                             |                                                  |
| SDCI standard                     |  | IEC 61131-9                                                                                                     |                                                  |
| Profiles                          |  | Smart Sensor - SSP 3.1<br>Common - I&D                                                                          | Measuring Sensor<br>Identification and Diagnosis |
| SIO mode                          |  | yes                                                                                                             |                                                  |
| Required master port class        |  | A; (when pin 2 not connected: B)                                                                                |                                                  |
| Min. process cycle time [ms]      |  | 3                                                                                                               |                                                  |
| IO-Link resolution pressure [bar] |  | 0.02                                                                                                            |                                                  |
| IO-Link process data (cyclical)   |  | Function                                                                                                        | bit length                                       |
|                                   |  | pressure                                                                                                        | 16                                               |
|                                   |  | device status                                                                                                   | 4                                                |
|                                   |  | binary switching information                                                                                    | 2                                                |
| IO-Link functions (acyclical)     |  | application specific tag                                                                                        |                                                  |
| Supported DeviceIDs               |  | Type of operation                                                                                               | DeviceID                                         |
|                                   |  | default                                                                                                         | 1198                                             |
| Note                              |  | For further information please see the IODD PDF file at "Downloads"                                             |                                                  |
| 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]                      |  | 249                                                                                                             |                                                  |
| UL approval                       |  | UL approval number                                                                                              | J002                                             |
|                                   |  | File number UL                                                                                                  | E174189                                          |
| Pressure equipment directive      |  | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request                           |                                                  |
| Mechanical data                   |  |                                                                                                                 |                                                  |
| Weight [g]                        |  | 278.45                                                                                                          |                                                  |
| Material                          |  | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC                                                      |                                                  |
| Materials (wetted parts)          |  | stainless steel (1.4404 / 316L); Al2O3 (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)                                                                                         |                                                  |

PN7543



Pressure sensor with display

PN-040-SEG14-QFRKG/US/ IV

| Displays / operating elements |                  |                                         |
|-------------------------------|------------------|-----------------------------------------|
| Display                       | Display unit     | 3 x LED, green (bar, psi, MPa)          |
|                               | Switching status | 2 x LED, yellow                         |
|                               | Measured values  | alphanumeric display, red/green 4-digit |

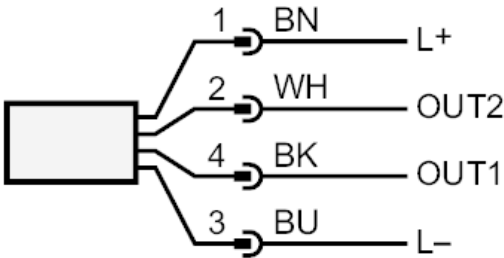
| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated



Connection



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