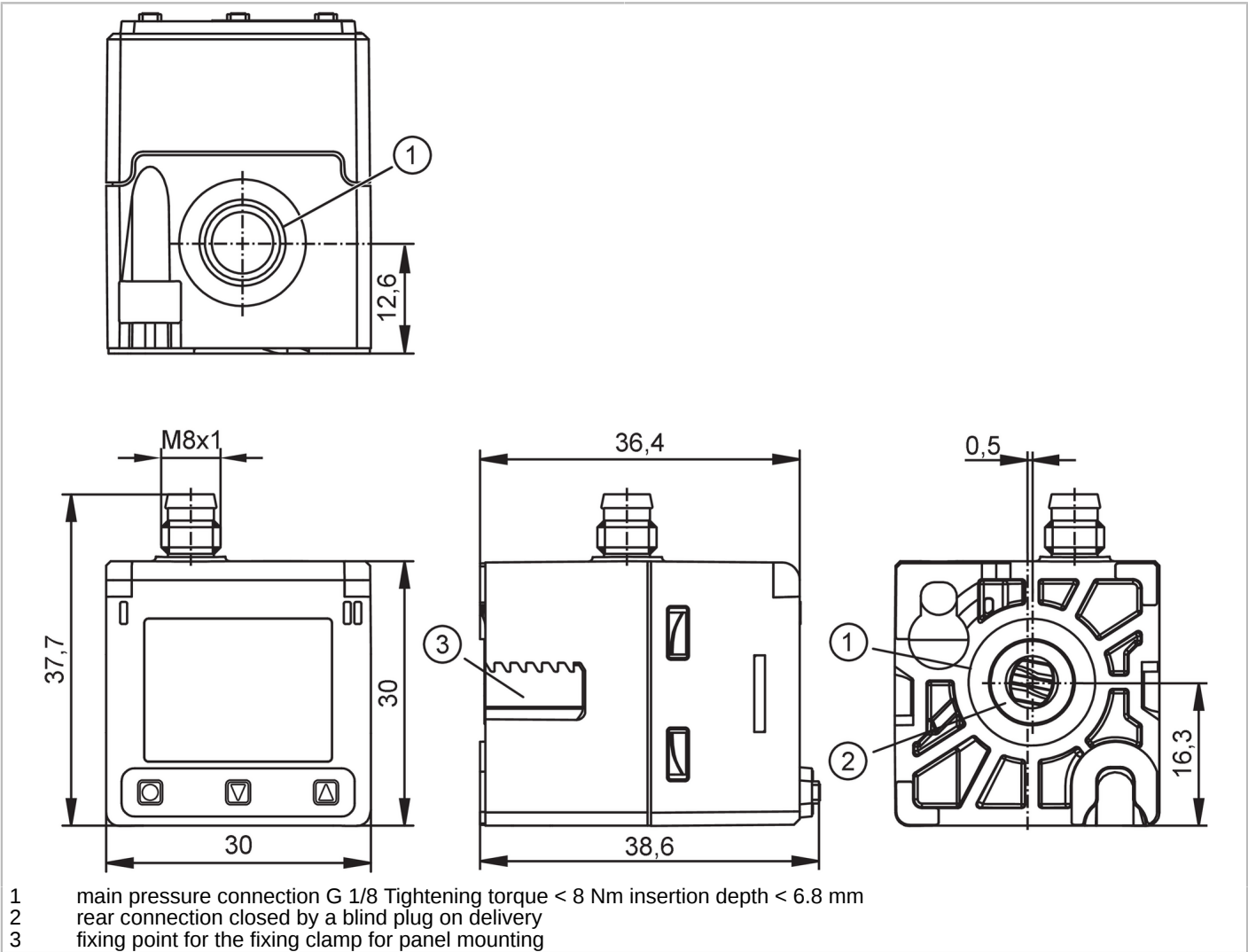


PQC816



Pressure sensor for pneumatics

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| Product characteristics      |                                                           |                   |                |
|------------------------------|-----------------------------------------------------------|-------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1 |                   |                |
| Measuring range              | -1...1 bar                                                | -1000...1000 mbar | -100...100 kPa |
| Process connection           | threaded connection G 1/8 Internal thread (2x)            |                   |                |
| Application                  |                                                           |                   |                |
| Special feature              | gold-plated contacts                                      |                   |                |
| Application                  | for industrial applications                               |                   |                |
| Media                        | compressed air; nitrogen (N2)                             |                   |                |
| Conditionally suitable for   | other media on request                                    |                   |                |
| Medium temperature [°C]      | 0...60                                                    |                   |                |
| Min. burst pressure          | 20 bar                                                    | 2 MPa             |                |
| Pressure rating              | 10 bar                                                    | 1 MPa             |                |
| Vacuum resistance            | -1000 mbar                                                | -0.1 MPa          |                |
| Type of pressure             | relative pressure; vacuum                                 |                   |                |
| Electrical data              |                                                           |                   |                |
| Operating voltage [V]        | 18...30 DC                                                |                   |                |

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|                             |      |                 |
|-----------------------------|------|-----------------|
| Current consumption         | [mA] | < 30            |
| 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: 1; Number of analog outputs: 1 |
|------------------------------|-----------------------------------------------------------|

### Outputs

|                                                      |                                                          |
|------------------------------------------------------|----------------------------------------------------------|
| Total number of outputs                              | 2                                                        |
| Output signal                                        | switching signal; analog signal; IO-Link; (configurable) |
| Electrical design                                    | PNP/NPN; (configurable)                                  |
| Number of digital outputs                            | 1                                                        |
| Output function                                      | normally open / closed; (configurable)                   |
| Max. voltage drop switching output DC [V]            | 2.5                                                      |
| Permanent current rating of switching output DC [mA] | 100                                                      |
| Switching frequency DC [Hz]                          | < 170                                                    |
| Number of analog outputs                             | 1                                                        |
| Analog current output [mA]                           | 4...20, invertible; (scalable)                           |
| Max. load [Ω]                                        | 500                                                      |
| Analog voltage output [V]                            | 0...10 / 1...5, invertible; (scalable)                   |
| Min. load resistance [Ω]                             | 2000                                                     |
| Short-circuit protection                             | yes                                                      |
| Type of short-circuit protection                     | yes (non-latching)                                       |
| Overload protection                                  | yes                                                      |

### Measuring/setting range

|                    |              |                   |                |
|--------------------|--------------|-------------------|----------------|
| Measuring range    | -1...1 bar   | -1000...1000 mbar | -100...100 kPa |
| Set point SP       | -1...1 bar   | -100...100 kPa    |                |
| Analog start point | -1...0.6 bar | -100...60 kPa     |                |
| Analog end point   | -0.6...1 bar | -60...100 kPa     |                |
| In steps of        | 0.001 bar    | 0.1 kPa           |                |

### Accuracy / deviations

|                           |                 |                                                                               |
|---------------------------|-----------------|-------------------------------------------------------------------------------|
| Switch point accuracy     | [% of the span] | < ± 0,5; (Turn down 1:1)                                                      |
| Repeatability             | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K: Turn down 1:1)                |
| Characteristics deviation | [% of the span] | < ± 0,5; (Turn down 1:1; including linearity, hysteresis and repeatability)   |
| Linearity deviation       | [% of the span] | < ± 0.5 % (limit value setting according to DIN EN IEC 62828-1) Turn down 1:1 |
| Hysteresis deviation      | [% of the span] | < ± 0,25; (Turn down 1:1)                                                     |
| Long-term stability       | [% of the span] | < ± 0,1; (Turn down 1:1; per year)                                            |

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|                                                              |                      |
|--------------------------------------------------------------|----------------------|
| Temperature coefficient zero point<br>[% of the span / 10 K] | 0,2; (Turn down 1:1) |
| Temperature coefficient span<br>[% of the span / 10 K]       | 0,2; (Turn down 1:1) |

| Reaction times                        |           |
|---------------------------------------|-----------|
| Response time [ms]                    | 6         |
| Damping process value dAP [s]         | 0...4     |
| Damping for the analog output dAA [s] | 0...99.99 |

| Software / programming    |                                                                                                                                          |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter setting options | display can be rotated and switched off; analog output selectable and scalable; Teach function; simulation function; Diagnostic function |

| Interfaces                        |                                                                    |                                                              |
|-----------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------|
| Communication interface           | IO-Link                                                            |                                                              |
| Transmission type                 | COM3 (230,4 kBaud)                                                 |                                                              |
| IO-Link revision                  | 1.1.3                                                              |                                                              |
| SDCI standard                     | IEC 61131-9: 2019-06                                               |                                                              |
| Profiles                          | Smart Sensor - SSP 4.1.1                                           | Measuring and Switching Sensor, 1 channel                    |
|                                   | BLOB                                                               | Binary Large Object transfer                                 |
|                                   | Common - I&D                                                       | Identification and Diagnosis                                 |
|                                   | Extension                                                          | Quantity detection, switches when value exceeds the setpoint |
|                                   | Function                                                           | Locator                                                      |
|                                   | Function                                                           | ProductURI                                                   |
| SIO mode                          | yes                                                                |                                                              |
| Required master port class        | A                                                                  |                                                              |
| Process data analog               | 1                                                                  |                                                              |
| Process data binary               | 2                                                                  |                                                              |
| Min. process cycle time [ms]      | 0.6                                                                |                                                              |
| IO-Link resolution pressure [bar] | 0.0001                                                             |                                                              |
| IO-Link process data (cyclical)   | Function                                                           | bit length                                                   |
|                                   | pressure                                                           | 16                                                           |
|                                   | device status                                                      | 4                                                            |
|                                   | SSC1.1                                                             | 1                                                            |
|                                   | SSC1.2                                                             | 1                                                            |
| IO-Link functions (acyclical)     | application specific tag; internal temperature; Medium temperature |                                                              |
| Supported DeviceIDs               | Type of operation                                                  | DeviceID                                                     |
|                                   | default                                                            | 1725                                                         |

| Operating conditions     |          |  |
|--------------------------|----------|--|
| Ambient temperature [°C] | 0...60   |  |
| Storage temperature [°C] | -25...85 |  |
| Protection               | IP 65    |  |

| Tests / approvals    |                   |                     |
|----------------------|-------------------|---------------------|
| EMC                  | DIN EN 61326-1    |                     |
| Shock resistance     | DIN EN 60068-2-27 | 50 g (11 ms)        |
| Vibration resistance | DIN EN 60068-2-6  | 20 g (10...2000 Hz) |

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|                              |                                                                        |         |
|------------------------------|------------------------------------------------------------------------|---------|
| MTTF                         | [years]                                                                | 392     |
| UL approval                  | UL approval number                                                     | J067    |
|                              | File number UL                                                         | E174189 |
| Pressure equipment directive | sound engineering practice; can be used for stable gases fluid group 2 |         |

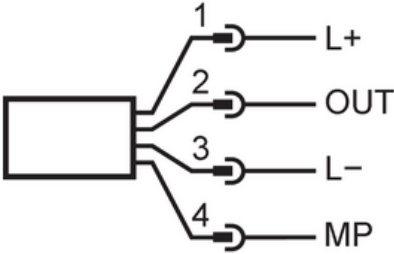
|                          |      |                                                 |
|--------------------------|------|-------------------------------------------------|
| Mechanical data          |      |                                                 |
| Weight                   | [g]  | 53                                              |
| Housing                  |      | rectangular                                     |
| Dimensions               | [mm] | 37.7 x 30 x 38.6                                |
| Material                 |      | PBT; PC; TPE; NBR; FKM; brass; silicon (coated) |
| Materials (wetted parts) |      | PBT; FKM; brass; silicon (coated)               |
| Min. pressure cycles     |      | 50 million                                      |
| Process connection       |      | threaded connection G 1/8 Internal thread (2x)  |

|                               |                          |                 |
|-------------------------------|--------------------------|-----------------|
| Displays / operating elements |                          |                 |
| Display                       | Display 1"               | 128 x 96 pixels |
|                               | Switching status         | 1 x LED, yellow |
| Display unit                  | mbar; kPa; mmHg; kgf/cm² |                 |

|                |                                 |  |
|----------------|---------------------------------|--|
| Accessories    |                                 |  |
| Items supplied | head cap screw: 2 x (M3 x 8 mm) |  |

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

|                                                                                     |  |  |
|-------------------------------------------------------------------------------------|--|--|
| Electrical connection                                                               |  |  |
| Connector: 1 x M8; coding: A; Contacts: 4, gold-plated                              |  |  |
|  |  |  |

|                                                                                      |  |  |
|--------------------------------------------------------------------------------------|--|--|
| Connection                                                                           |  |  |
|  |  |  |

|                                                                      |     |             |
|----------------------------------------------------------------------|-----|-------------|
| Electrical connection - plug                                         |     |             |
| 1                                                                    | L+  |             |
| 2                                                                    | OUT | AO          |
| 3                                                                    | L-  |             |
| 4                                                                    | MP  | DO, IO-Link |
| AO: analog output; DO: digital output; MP: multi-function connection |     |             |

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## Diagrams and graphs

drilling template

