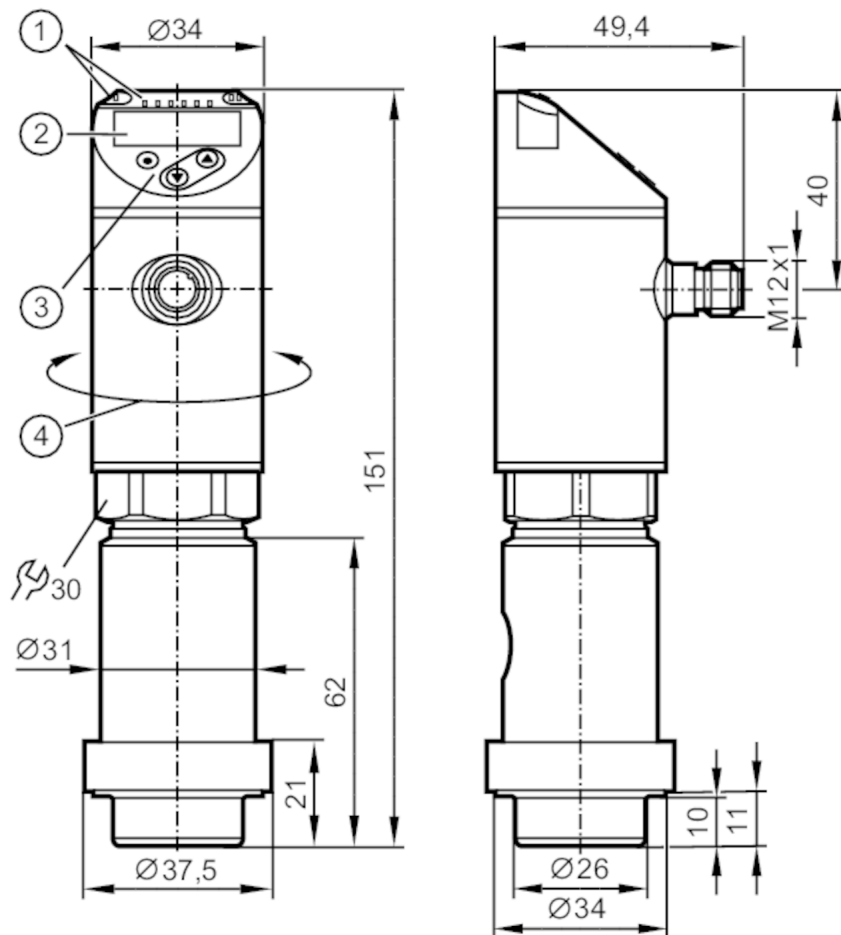




## Pressure sensor with display

PN-250-SE MFRKG/US/ I



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



### Product characteristics

|                              |                                                             |              |
|------------------------------|-------------------------------------------------------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |              |
| Measuring range              | 0...250 bar                                                 | 0...3625 psi |
| Measuring range [MPa]        | 0...25                                                      |              |
| Process connection           | homogeniser connection                                      |              |

### Application

|                              |                                                               |           |
|------------------------------|---------------------------------------------------------------|-----------|
| Special feature              | Gold-plated contacts                                          |           |
| Measuring element            | diaphragm seal                                                |           |
| Application                  | flush mountable for the food and beverage industry            |           |
| Media                        | liquids and gases                                             |           |
| Medium temperature [°C]      | 5...90; (for further details see section Diagrams and graphs) |           |
| Min. bursting pressure       | 1000 bar                                                      | 14500 psi |
| Min. bursting pressure [MPa] | 100                                                           |           |
| Pressure rating              | 500 bar                                                       | 7250 psi  |
| Pressure rating [MPa]        | 50                                                            |           |
| Vacuum resistance [mbar]     | -1000                                                         |           |



## Pressure sensor with display

PN-250-SE MFRKG/US/ I

|                                                 |                                                             |                            |
|-------------------------------------------------|-------------------------------------------------------------|----------------------------|
| 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                        |
| 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 1:5)     |
| Max. load                                       | [Ω]                                                         | 500                        |
| Analogue voltage output                         | [V]                                                         | 0...10; (scalable 1:5)     |
| Min. load resistance                            | [Ω]                                                         | 2000                       |
| Short-circuit protection                        | yes                                                         |                            |
| Type of short-circuit protection                | pulsed                                                      |                            |
| Overload protection                             | yes                                                         |                            |
| Measuring/setting range                         |                                                             |                            |
| Measuring range                                 | 0...250 bar                                                 | 0...3625 psi               |
| Measuring range                                 | [MPa]                                                       | 0...25                     |
| Set point SP                                    | 1.5...250 bar                                               | 25...3625 psi              |
| Set point SP                                    | [MPa]                                                       | 0.15...25                  |
| Reset point rP                                  | 0.5...249 bar                                               | 10...3610 psi              |
| Reset point rP                                  | [MPa]                                                       | 0.05...24.9                |
| Analogue start point                            | 0...200 bar                                                 | 0...2900 psi               |
| Analogue start point                            | [MPa]                                                       | 0...20                     |
| Analogue end point                              | 50...250 bar                                                | 725...3625 psi             |
| Analogue end point                              | [MPa]                                                       | 5...25                     |
| In steps of                                     | 0.5 bar                                                     | 5 psi                      |
| In steps of                                     | [MPa]                                                       | 0.05                       |



## Pressure sensor with display

PN-250-SE MFRKG/US/ /

| Accuracy / deviations                                           |                                                                                                                                     |          |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------|
| Switch point accuracy<br>[% of the span]                        | < ± 0,4; (Turn down 1:1)                                                                                                            |          |
| Repeatability<br>[% of the span]                                | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                                                      |          |
| Characteristics deviation<br>[% of the span]                    | < ± 1; (linearity, incl. hysteresis and repeatability;<br>limit value setting to DIN EN IEC 62828-1)                                |          |
| Hysteresis deviation<br>[% of the span]                         | < ± 0,1; (Turn down 1:1)                                                                                                            |          |
| Long-term stability<br>[% of the span]                          | < ± 0,05; (Turn down 1:1; per 6 months)                                                                                             |          |
| Temperature coefficient zero<br>point<br>[% of the span / 10 K] | 0,2; (5...80 °C)                                                                                                                    |          |
| Temperature coefficient span<br>[% of the span / 10 K]          | 0,2; (5...80 °C)                                                                                                                    |          |
| Response times                                                  |                                                                                                                                     |          |
| Response time [ms]                                              | < 1.5                                                                                                                               |          |
| Delay time programmable dS,<br>dr [s]                           | 0...50                                                                                                                              |          |
| Damping process value dAP [s]                                   | 0...4                                                                                                                               |          |
| Damping for the analogue<br>output dAA [s]                      | 0...4                                                                                                                               |          |
| Max. response time analogue<br>output [ms]                      | 3                                                                                                                                   |          |
| Software / programming                                          |                                                                                                                                     |          |
| Parameter setting options                                       | hysteresis / window; normally open / normally closed; switch-on/<br>switch-off delay; Damping; Display unit; current/voltage output |          |
| 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                                                                                                                             | 460      |
| Operating conditions                                            |                                                                                                                                     |          |
| Ambient temperature [°C]                                        | 5...80                                                                                                                              |          |
| Storage temperature [°C]                                        | -40...100                                                                                                                           |          |
| Protection                                                      | IP 67                                                                                                                               |          |

# PY9001



## Pressure sensor with display

PN-250-SE MFRKG/US/ /

| 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                                                                                                              | 10 g (10...2000 Hz)                     |
| MTTF                          | [years]                                                                                                                       | 143                                     |
| Mechanical data               |                                                                                                                               |                                         |
| Weight                        | [g]                                                                                                                           | 675                                     |
| Materials                     | stainless steel (630/1.4542/17-4 PH); stainless steel (316L/1.4404); stainless steel (316L/1.4435); PBT+PC-GF30; PBT-GF20; PC |                                         |
| Materials (wetted parts)      | stainless steel (316L/1.4435)                                                                                                 |                                         |
| Min. pressure cycles          | 60 million; (at 1.2 times nominal pressure)                                                                                   |                                         |
| Process connection            | homogeniser connection                                                                                                        |                                         |
| 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.                                                                                                                        |                                         |

# PY9001

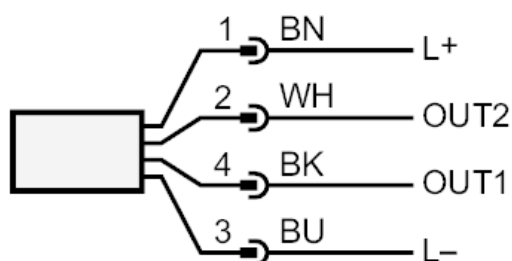


## Pressure sensor with display

PN-250-SE MFRKG/US/ I

### Electrical connection

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

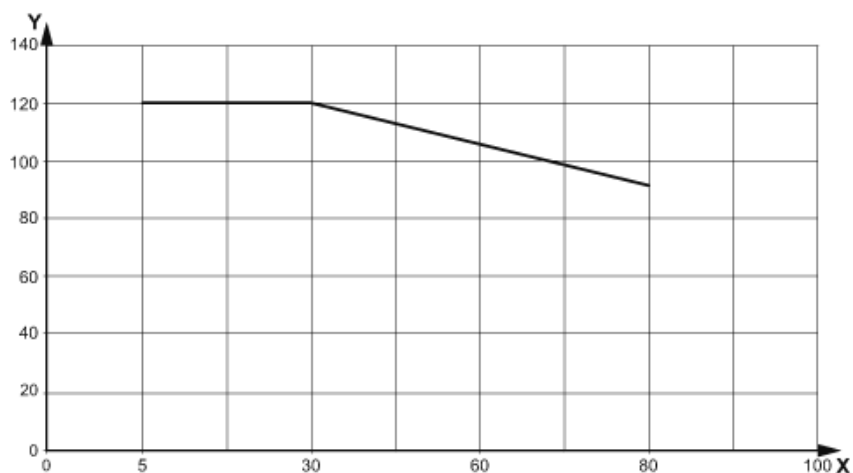


OUT1                    switching output or IO-Link  
OUT2                    switching output or analogue output  
                         colours to DIN EN 60947-5-2

Core colours :

BK =                    black  
BN =                    brown  
BU =                    blue  
WH =                    white

### Diagrams and graphs



X    Ambient temperature

Y    Medium temperature