

# PY9000



## Pressure sensor with display

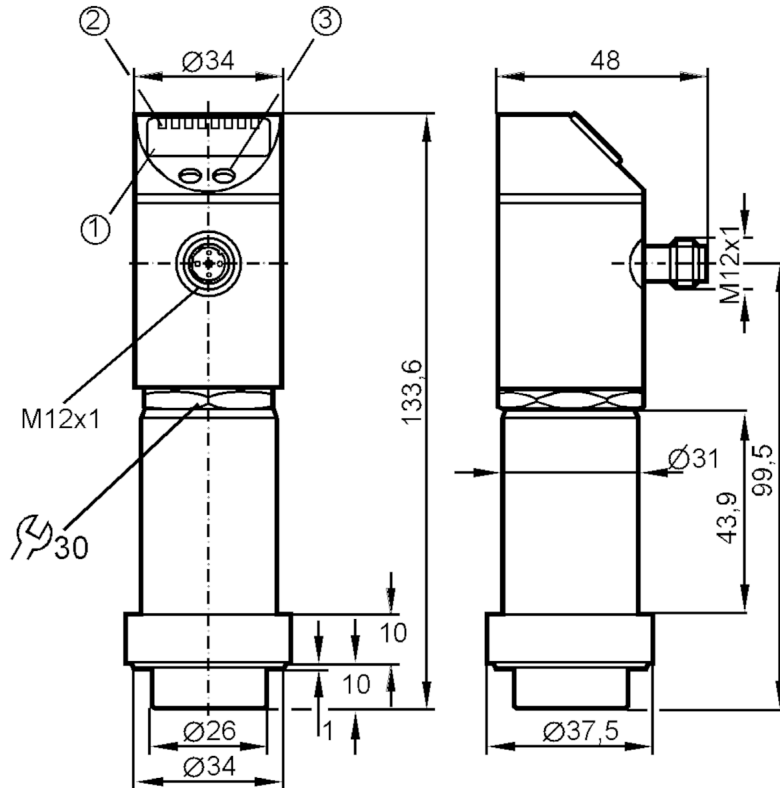
PY-600-SE MFRKG/US/ IV

phase-out article

Discontinuation date: 03/31/2024

Alternative articles: PY9060

When selecting an alternative article and accessories please note that technical data may differ!



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



### Product characteristics

|                              |   |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |
| Measuring range [bar]        | 0...600   |
| Process connection           | homogeniser connection                                      |

### Application

|                            |  |
|----------------------------|--|
| Special feature            | Gold-plated contacts   |
| Application                | flush mountable for the food and beverage industry           |
| Media                      | liquids and gases  |
| Conditionally suitable for | For gaseous media the application is limited to max. 25 bar. |
| Medium temperature [°C]    | -25...100; (145 max 1h)                                      |
| Min. bursting pressure     | 1200 bar   120 MPa   |
| Pressure rating            | 800 bar   80 MPa   |
| Type of pressure           | relative pressure  |

### Electrical data

|                       |            |
|-----------------------|------------|
| Operating voltage [V] | 20...30 DC |
|-----------------------|------------|

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|                             |      |                 |
|-----------------------------|------|-----------------|
| Current consumption         | [mA] | < 65            |
| 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; (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] | < 170  |
| 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      | [bar] | 0...600   |
| Set point SP         | [bar] | 6...600   |
| Reset point rP       | [bar] | 3...597   |
| Analogue start point | [bar] | 0...240   |
| Analogue end point   | [bar] | 150...600 |
| In steps of          | [bar] | 3         |

### Accuracy / deviations

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

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|  |                                     |
|--|-------------------------------------|
| Long-term stability<br>[% of the span]                       | < ± 0,25; (Turn down 1:1; per year) |
| Temperature coefficient zero point<br>[% of the span / 10 K] | < ± 0,2; (0...80 °C)                |
| Temperature coefficient span<br>[% of the span / 10 K]       | < ± 0,2; (0...80 °C)                |

### Response times

|  |                     |
|--|---------------------|
| Response time [ms]                               | < 3                 |
| Damping process value dAP [s]                    | 0...4               |
| Damping for the analogue output dAA in steps [s] | 0 - 0; 1 - 0; 5 - 2 |
| 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 |
|---------------------------|---|

### 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  |                     |
|                      | 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 EN 60068-2-27         | 50 g (11 ms)        |
| Vibration resistance | DIN EN 60068-2-6          | 20 g (10...2000 Hz) |
| MTTF [years]         |                           | 145                 |

### Mechanical data

|                          |   |
|--------------------------|---|
| Weight [g]               | 384   |
| Materials                | stainless steel (304/1.4301); stainless steel (316L/1.4404); PC; PBT; PA; FKM; EPDM/X |
| Materials (wetted parts) | stainless steel (316L/1.4404); ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); FKM |
| Min. pressure cycles     | 50 million  |
| Process connection       | homogeniser connection  |

### 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 |
| Display unit | bar; psi; MPa    |                               |

### Remarks

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

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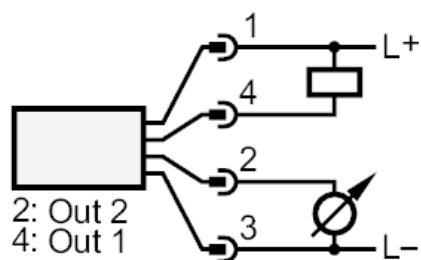
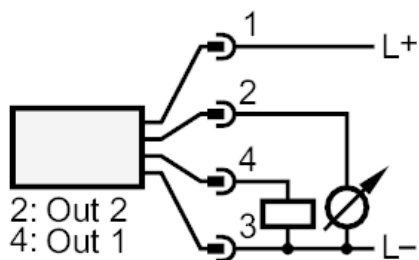
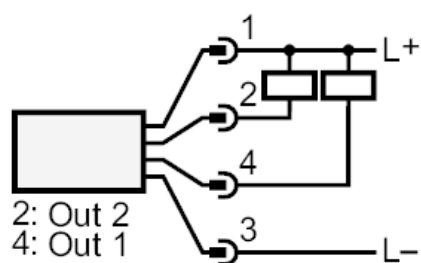
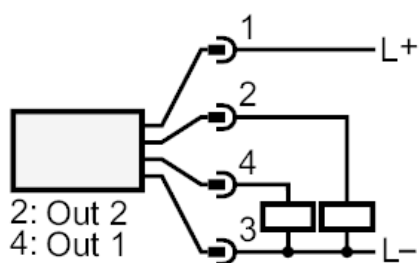
PY-600-SE MFRKG/US/ IV

### Electrical connection

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



### Connection



OUT1                    switching output  
OUT2                    switching output  
                             analogue output