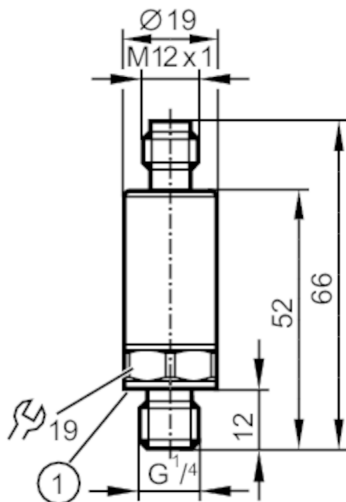


# PV8060



## Pressure switch with IO-Link

PV-600-SEG14-UFRVG/US



1 Sealing



### Product characteristics

|                              |                                                                                   |              |            |
|------------------------------|-----------------------------------------------------------------------------------|--------------|------------|
| Number of inputs and outputs | Number of digital outputs: 2                                                      |              |            |
| Measuring range              | 0...600 bar                                                                       | 0...8700 psi | 0...60 MPa |
| Process connection           | threaded connection G 1/4 external thread (DIN EN ISO 1179-2); internal thread:M5 |              |            |

### Application

|                          |                             |           |         |
|--------------------------|-----------------------------|-----------|---------|
| Measuring element        | metallic thin film cell     |           |         |
| Application              | for industrial applications |           |         |
| Media                    | liquids and gases           |           |         |
| Medium temperature [°C]  | -40...90                    |           |         |
| Min. bursting pressure   | 2500 bar                    | 36255 psi | 250 MPa |
| Pressure rating          | 1500 bar                    | 21755 psi | 150 MPa |
| Note on pressure rating  | static                      |           |         |
| Vacuum resistance [mbar] | -1000                       |           |         |
| Type of pressure         | relative pressure           |           |         |

### Electrical data

|                                 |                 |  |  |
|---------------------------------|-----------------|--|--|
| Operating voltage [V]           | 18...30 DC      |  |  |
| Current consumption [mA]        | < 15            |  |  |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |  |  |
| Protection class                | III             |  |  |
| Reverse polarity protection     | yes             |  |  |
| Power-on delay time [s]         | < 0.3           |  |  |

### 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                                   |



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|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| 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] | 100                                                |
| Switching frequency DC [Hz]                          | < 130                                              |
| Short-circuit protection                             | yes                                                |
| Type of short-circuit protection                     | pulsed                                             |
| Overload protection                                  | yes                                                |

| Measuring/setting range |                 |                |                  |
|-------------------------|-----------------|----------------|------------------|
| Measuring range         | 0...600 bar     | 0...8700 psi   | 0...60 MPa       |
| Set point SP            | 6...600 bar     | 87...8702 psi  | 0.6...60 MPa     |
| Reset point rP          | 3.1...597.1 bar | 44...8660 psi  | 0.31...59.71 MPa |
| In steps of             | 0.1 bar         | 1 psi          | 0.01 MPa         |
| Factory setting         | SP1 = 150 bar   | rP1 = 138 bar  | ou1 = Hno;       |
|                         | SP2 = 450 bar   | rP2 = 438 bar  | ou2 = Hno;       |
|                         | dS1/dS2 = 0 ms  | dr1/dr2 = 0 ms |                  |
|                         | coF = 0 %       | P-n = PnP      | dAP= 60 ms       |

| Temperature monitoring |             |                |
|------------------------|-------------|----------------|
| Measuring range        | -40...90 °C | -40...194 °F   |
| Set point SP           | -38...90 °C | -36.4...194 °F |
| Reset point rP         | -40...88 °C | -40...190.4 °F |
| In steps of            | 0.1 °C      | 0.1 °F         |

| Accuracy / deviations                                     |                                                                                                    |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Switch point accuracy [% of the span]                     | < ± 0,5 (nach DIN EN 61298-2)                                                                      |
| Repeatability [% of the span]                             | < ± 0,05; (with temperature fluctuations < 10 K)                                                   |
| Characteristics deviation [% of the span]                 | < ± 0,5; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1) |
| Linearity deviation [% of the span]                       | < ± 0,1 (BFSL) / < ± 0,2 (LS)                                                                      |
| Hysteresis deviation [% of the span]                      | < ± 0,2                                                                                            |
| Long-term stability [% of the span]                       | < ± 0,1; (per 6 months)                                                                            |
| Temperature coefficient zero point [% of the span / 10 K] | < 0,1 (-25...90 °C) / < 0,2 (-40...-25 °C)                                                         |
| Temperature coefficient span [% of the span / 10 K]       | < 0,1 (-25...90 °C) / < 0,2 (-40...-25 °C)                                                         |

| Temperature monitoring            |                                                            |
|-----------------------------------|------------------------------------------------------------|
| Accuracy [K]                      | ± 2 K + (0.1 x (ambient temperature - medium temperature)) |
| Notes on the accuracy / deviation | temperature range -10 to 80 °C                             |

| Response times     |     |
|--------------------|-----|
| Response time [ms] | < 3 |



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|                                 |                                                                                                                                                    |                                                 |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Temperature monitoring          |                                                                                                                                                    |                                                 |
| Dynamic response T05 / T09      | [s]                                                                                                                                                | < 80 / < 210 ( under ifm reference conditions ) |
| Software / programming          |                                                                                                                                                    |                                                 |
| Parameter setting options       | hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping                                         |                                                 |
| Interfaces                      |                                                                                                                                                    |                                                 |
| Communication interface         | IO-Link                                                                                                                                            |                                                 |
| Transmission type               | COM2 (38,4 kBaud)                                                                                                                                  |                                                 |
| IO-Link revision                | 1.1                                                                                                                                                |                                                 |
| SDCI standard                   | IEC 61131-9                                                                                                                                        |                                                 |
| Profiles                        | Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A)                                                                           |                                                 |
| SIO mode                        | yes                                                                                                                                                |                                                 |
| Required master port type       | A                                                                                                                                                  |                                                 |
| Process data analogue           | 5                                                                                                                                                  |                                                 |
| Process data binary             | 2                                                                                                                                                  |                                                 |
| Min. process cycle time         | [ms]                                                                                                                                               | 4.5                                             |
| IO-Link resolution pressure     | [bar]                                                                                                                                              | 0.2                                             |
| IO-Link resolution pressure     | [MPa]                                                                                                                                              | 0.02                                            |
| IO-Link resolution temperature  | [K]                                                                                                                                                | 0.2                                             |
| IO-Link process data (cyclical) | function                                                                                                                                           | bit length                                      |
|                                 | pressure                                                                                                                                           | 16                                              |
|                                 | temperature                                                                                                                                        | 16                                              |
|                                 | device status                                                                                                                                      | 4                                               |
|                                 | binary switching information                                                                                                                       | 2                                               |
| IO-Link functions (acyclical)   | application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter; Temperature peak counter |                                                 |
| Supported DeviceIDs             | Type of operation                                                                                                                                  | DeviceID                                        |
|                                 | default                                                                                                                                            | 1216                                            |
| Operating conditions            |                                                                                                                                                    |                                                 |
| Ambient temperature             | [°C]                                                                                                                                               | -40...90                                        |
| Storage temperature             | [°C]                                                                                                                                               | -40...100                                       |
| Protection                      | IP 67; IP 69K                                                                                                                                      |                                                 |
| Tests / approvals               |                                                                                                                                                    |                                                 |
| EMC                             | DIN EN 61326-1                                                                                                                                     |                                                 |
| Shock resistance                | DIN EN 60068-2-27                                                                                                                                  | 500 g (1 ms)                                    |
| Vibration resistance            | DIN EN 60068-2-6                                                                                                                                   | 20 g (10...2000 Hz)                             |
| UL approval                     | UL Approval no.                                                                                                                                    | J038                                            |
|                                 | 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]                                                                                                                                                | 57                                              |
| Materials                       | stainless steel (630/1.4542/17-4 PH); stainless steel (316L/1.4404); PEI                                                                           |                                                 |
| Materials (wetted parts)        | stainless steel (303/1.4305); stainless steel (630/1.4542/17-4 PH)                                                                                 |                                                 |
| Min. pressure cycles            | 60 million; ( at 1.2 times nominal pressure)                                                                                                       |                                                 |

PV8060



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|                               |      |                                                                                            |
|-------------------------------|------|--------------------------------------------------------------------------------------------|
| Tightening torque             | [Nm] | 25...35; (recommended tightening torque; depends on lubrication, seal and pressure rating) |
| Process connection            |      | threaded connection G 1/4 external thread (DIN EN ISO 1179-2); internal thread:M5          |
| Process connection sealing    |      | FKM (DIN EN ISO 1179-2)                                                                    |
| Restrictor element integrated |      | yes                                                                                        |

Remarks

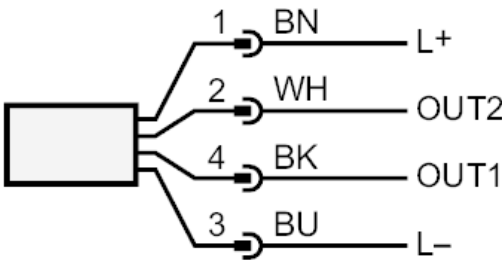
|               |                               |
|---------------|-------------------------------|
| Remarks       | BFSL = Best Fit Straight Line |
|               | LS = limit value setting      |
| Pack quantity | 1 pcs.                        |

Electrical connection

Connector: 1 x M12; coding: A



Connection



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