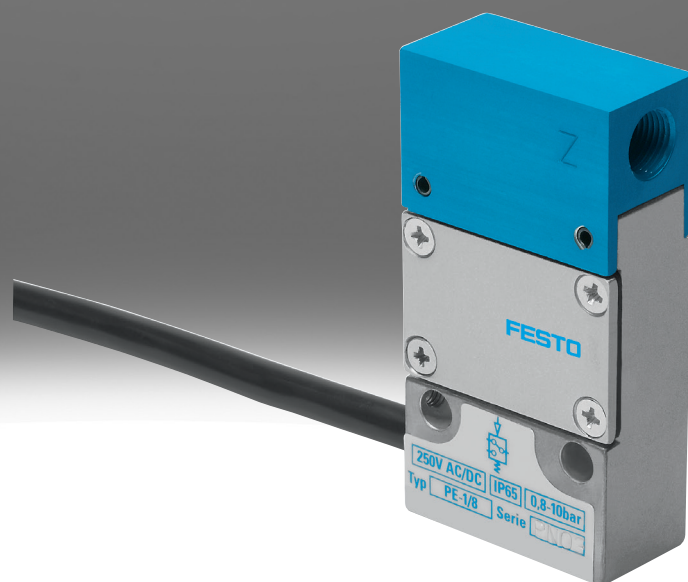


## PE converter PE, VPE

**FESTO**



## Characteristics

### At a glance

Pressure or vacuum indicator with permanently set switching point.

- Pneumatic/electric differential pressure switch
- Pneumatic/electric pressure transducer
- Designed for vacuum
- Mounting on mounting frame 2N
- Splash-proof design (SW)
- Product complies with ISO 1179-1 and ISO 228-1

### Type of mounting

[F1] Mounting frame 1N

Mounting on mounting frame 1N possible

[F2] Mounting frame 2N

Mounting on mounting frame 2N possible

## Datasheet

| General technical data |  |  |  |  |
|------------------------|--|--|--|--|
| Short type code        | PE                                     |  |  | VPE  |
| Pneumatic connection   | M5                                     | G1/8   | PK-4   | G1/8   |
| Type of mounting       | With through-hole                      | Either:<br>On 1n mounting frame<br>On 2n mounting frame<br>With through-hole | Either:<br>On 1n mounting frame<br>With through-hole | Either:<br>On 1n mounting frame<br>On 2n mounting frame<br>With through-hole |
| Mounting position      | optional                               |  |  |  |
| Setting options        | Permanently set                        |  |  |  |
| Measured variable      | Relative pressure                      |  |  |  |
| Measurement method     | Pneumatic/electric pressure transducer |  |  |  |

| Electrical data                           |                                       |                                  |                   |
|---|---------------------------------------|----------------------------------|-------------------|
| Pneumatic connection                      | M5                                    | G1/8                             | PK-4              |
| Electrical connection                     | 4-wire, Cable                         | 3 connector leads, 4-wire, Cable | 3 connector leads |
| Electrical connection 1, connection type  | Cable                                 |                                  | –                 |
| Electrical connection 1, connector system | Open end                              |                                  |                   |
| Switching output                          | Contacting                            |                                  |                   |
| Switching function                        | Threshold value with fixed hysteresis |                                  |                   |
| Switching element function                | Changeover switch                     |                                  |                   |
| Switch-on point                           | 0.001 ... 0.05 bar                    | -0.25 bar                        | –                 |
| Switch-off point                          | 0 ... 0.05 bar                        | ≤0.1 bar                         | –                 |
| Switch-on point max.                      | –                                     | 0.8 ... 2 bar                    | 0.25 bar          |
| Switch-off point min.                     | –                                     | 0.2 ... 0.5 bar                  | 0.07 bar          |
| Max. switching frequency                  | –                                     | 1 Hz                             |                   |
| Max. switching output voltage AC          | 250 V                                 |                                  | –                 |
| Max. switching output voltage DC          | 250 V                                 |                                  | –                 |
| Min. load current                         | –                                     | 100 mA                           |                   |
| Operational voltage range AC              | –                                     | 12 ... 250 V                     |                   |
| Operational voltage range DC              | –                                     | 12 ... 250 V                     |                   |
| Utilisation category - inductive load     | AC-14, DC-13                          |                                  |                   |
| Utilisation category - resistive load     | AC-12, DC-12                          |                                  |                   |
| Insulation voltage                        | 2 kV                                  |                                  |                   |

| Operating and ambient conditions – PE, VPE               |  |            |   |
|--|--|------------|---|
| Pneumatic connection                                     | M5   | G1/8       | PK-4                                      |
| Operating medium   | Compressed air to ISO 8573-1:2010 [7:-:]   |            | Compressed air to ISO 8573-1:2010 [7:4:4] |
| Note on operating and pilot medium                       | Lubricated operation not possible          |            | Lubricated operation possible             |
| Pollution degree   | 3  |            |   |
| Conforms to standard                                     | EN 60947-5-1                               |            |   |
| Approval <sup>1)</sup>                                   | CCC  |            | –   |
| CE mark (see declaration of conformity) <sup>2)</sup>    | To EU Low Voltage Directive                |            |   |
| CE marking (see declaration of conformity) <sup>3)</sup> | To UK regulations for electrical equipment |            |   |
| Degree of protection <sup>4)</sup>                       | IP62                                       | IP65, IP67 | IP67                                      |

1) More information [www.festo.com/catalogue/pe](http://www.festo.com/catalogue/pe) → Support/Downloads.

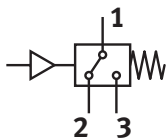
2) More information [www.festo.com/catalogue/pe](http://www.festo.com/catalogue/pe) → Support/Downloads.

3) More information [www.festo.com/catalogue/pe](http://www.festo.com/catalogue/pe) → Support/Downloads.

4) Splash-proof design: IP67

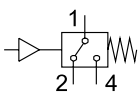
## Datasheet

### Specific operating conditions – PE-1/8



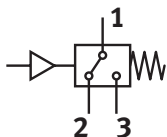
|                     |                |
|---------------------|----------------|
| Operating pressure  | 0.08 ... 1 MPa |
| Operating pressure  | 0.8 ... 10 bar |
| Ambient temperature | -10 ... 60°C   |

### Specific operating conditions - PE-1/8-...N-SW



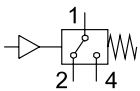
|                        |               |
|------------------------|---------------|
| Operating pressure     | 0 ... 0.8 MPa |
| Operating pressure     | 0 ... 116 psi |
| Operating pressure     | 0 ... 8 bar   |
| Media temperature      | 0 ... 60°C    |
| Ambient temperature    | 0 ... 60°C    |
| Max. overload pressure | 12 bar        |

### Specific operating conditions – PE-1000



|                     |                |
|---------------------|----------------|
| Operating pressure  | 0 ... 0.1 MPa  |
| Operating pressure  | 0 ... 1 bar    |
| Operating pressure  | 0 ... 14.5 psi |
| Ambient temperature | -10 ... 50°C   |

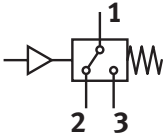
### Specific operating conditions – PE-PK-4-SW



|                        |                 |
|------------------------|-----------------|
| Operating pressure     | 0 ... 0.025 MPa |
| Operating pressure     | 0 ... 0.25 bar  |
| Operating pressure     | 0 ... 3.625 psi |
| Media temperature      | 0 ... 60°C      |
| Ambient temperature    | 0 ... 60°C      |
| Max. overload pressure | 8 bar           |

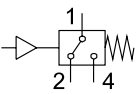
## Datasheet

### Specific operating conditions – PE-VK-5.1



|                     |                 |
|---------------------|-----------------|
| Operating pressure  | 0 ... 0.025 MPa |
| Operating pressure  | 0 ... 0.25 bar  |
| Ambient temperature | -10 ... 50°C    |

### specific operating conditions – VPE



|                        |                   |
|------------------------|-------------------|
| Operating pressure     | -0.095 ... 0 MPa  |
| Operating pressure     | -0.95 ... 0 bar   |
| Operating pressure     | -13.775 ... 0 psi |
| Media temperature      | 0 ... 60°C        |
| Ambient temperature    | 0 ... 60°C        |
| Max. overload pressure | 1 bar             |

### Materials – PE-1/8

|                        |                                     |
|------------------------|-------------------------------------|
| Material housing       | Anodised aluminium<br>Die-cast zinc |
| Material membrane      | Chloroprene rubber                  |
| Material cable sheath  | PVC                                 |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L                   |

### Materials - PE-1/8-...N-SW

|                                |  |
|--------------------------------|--|
| Material housing               | Die-cast aluminium<br>PA-reinforced<br>Steel<br>VMQ (silicone) |
| Material switch contact        | Silver   |
| Material electrical connection | Tin-plated   |
| Material membrane              | TPE-U(PU)  |
| Material cable sheath          | PVC  |
| LABS (PWIS) conformity         | VDMA24364-B1/B2-L  |

### Materials – PE-1000

|                        |  |
|------------------------|--|
| Material housing       | Die-cast aluminium<br>Anodised aluminium |
| Material cable sheath  | PVC                                      |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L                        |

## Datasheet

**Materials – PE-PK-4-SW**

|                                |   |
|--------------------------------|---|
| Material housing               | PA-reinforced<br>POM<br>Steel<br>VMQ (silicone) |
| Material switch contact        | Silver  |
| Material electrical connection | Tin-plated                                      |
| Material membrane              | Chloroprene rubber                              |
| Material cable sheath          | PVC   |
| LABS (PWIS) conformity         | VDMA24364-B1/B2-L                               |

**Materials – PE-VK-5.1**

|                        |   |
|------------------------|---|
| Material housing       | ABS<br>Die-cast aluminium<br>Anodised aluminium |
| Material cable sheath  | PVC   |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L                               |

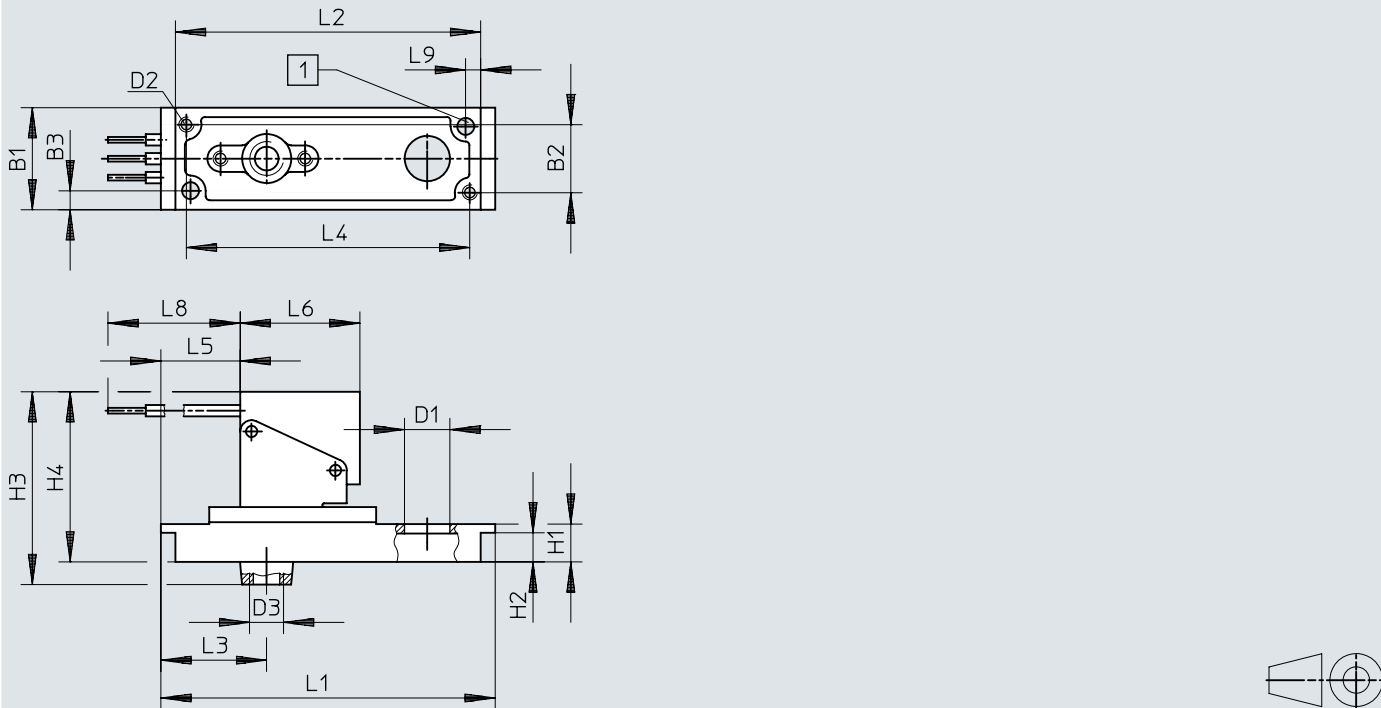
**Materials – VPE**

|                                |   |
|--------------------------------|---|
| Material housing               | PA-reinforced<br>POM<br>Steel<br>VMQ (silicone) |
| Material switch contact        | Silver  |
| Material electrical connection | Tin-plated                                      |
| Material membrane              | Chloroprene rubber                              |
| Material cable sheath          | PVC   |
| LABS (PWIS) conformity         | VDMA24364-B1/B2-L                               |

## Dimensions

Dimensions – Dimensions – PE-1/8-2N-SW

Download CAD data [www.festo.com](http://www.festo.com)



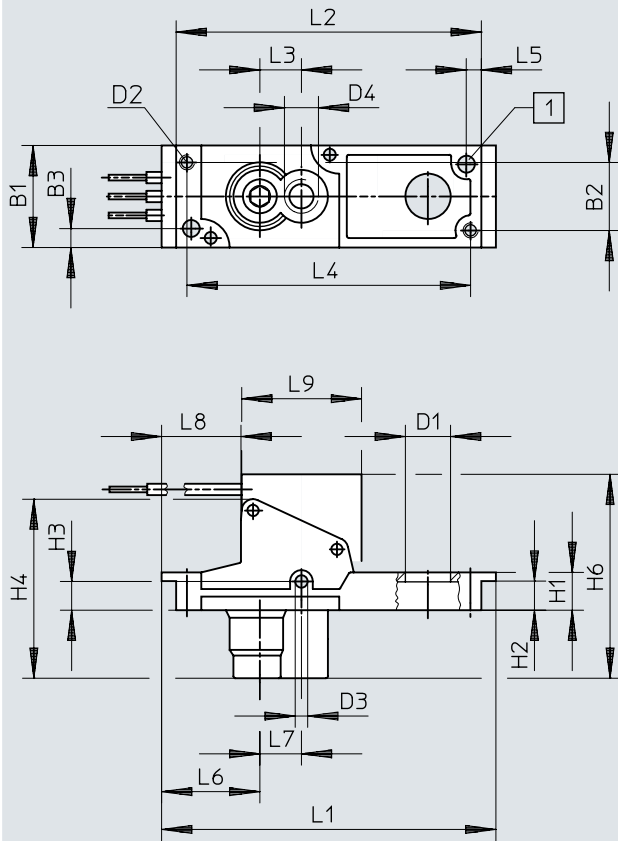
[1] For M4 thread

|    | B1 | B2 | B3 | D1      | D2 | D3  | H1 | H2  | H3 | H4 | L1   | L2   | L3 | L4 | L5 | L6   | L8  | L9 |
|----|----|----|----|---------|----|-----|----|-----|----|----|------|------|----|----|----|------|-----|----|
| PE | 27 | 18 | 5  | 12<br>∅ | M4 | 3,3 | 10 | 7,7 | 51 | 45 | 88,5 | 80,8 | 28 | 75 | 21 | 31,7 | 500 | 4  |

## Dimensions

Dimensions – Dimensions – VPE-1/8-2N-SW

Download CAD data [www.festo.com](http://www.festo.com)



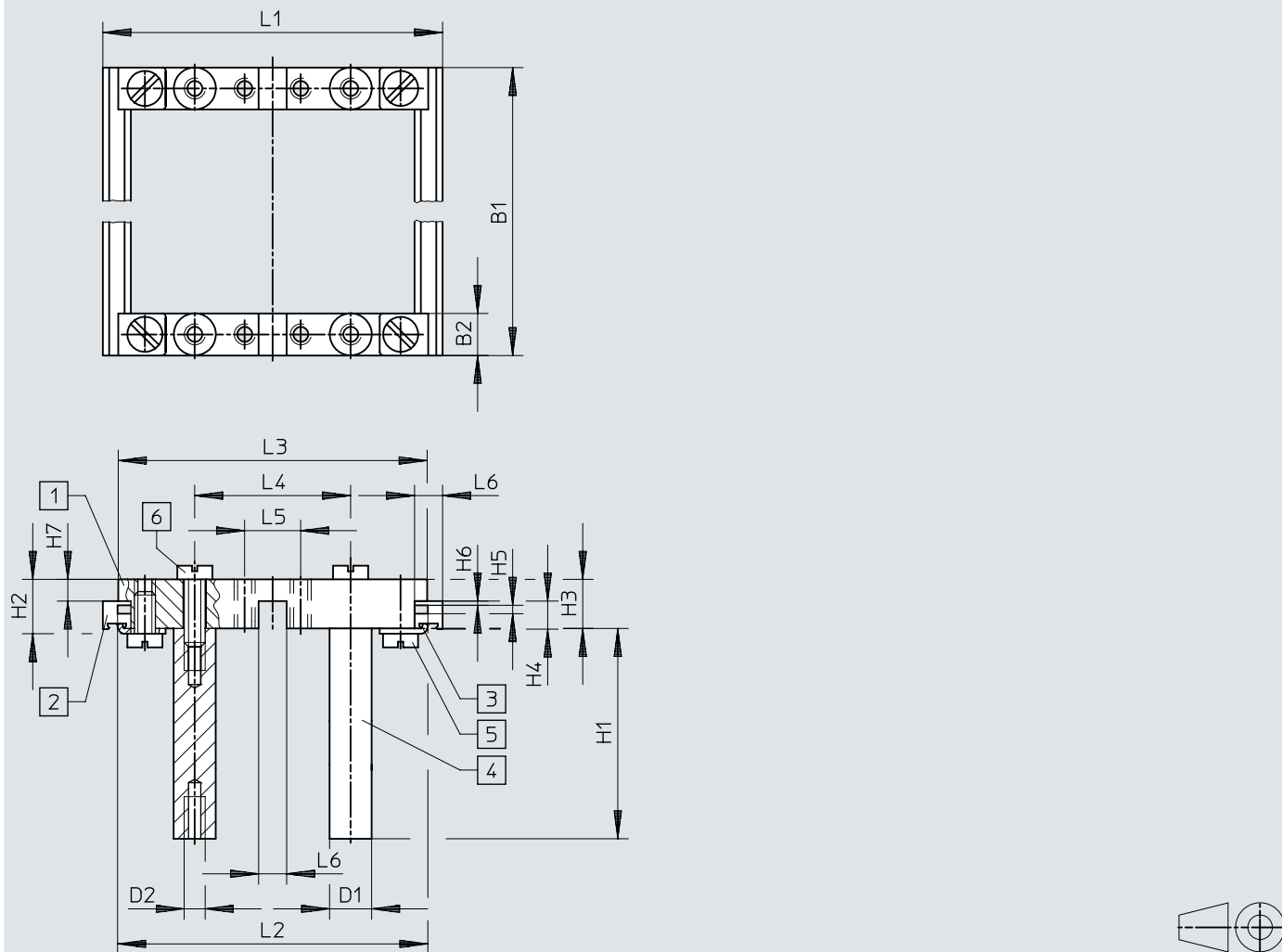
[1] For M4 thread

|     | B1 | B2 | B3 | D1<br>∅ | D2 | D3   | H1 | H2  | H3  | H4   | H6 | L1   | L2   | L3 | L4 | L5   | L6 | L7 | L8 | L9 | L10  |
|-----|----|----|----|---------|----|------|----|-----|-----|------|----|------|------|----|----|------|----|----|----|----|------|
| VPE | 27 | 18 | 5  | 12      | M4 | G1/8 | 10 | 7,7 | 7,6 | 47,4 | 54 | 88,5 | 80,8 | 11 | 75 | G1/8 | 4  | 26 | 11 | 21 | 31,7 |



## Dimensions

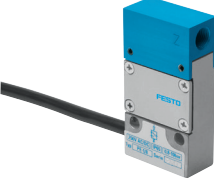
Download CAD data [www.festo.com](http://www.festo.com)

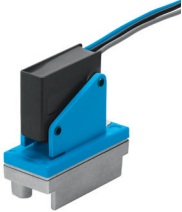



- [1] Connecting component NRV-2N
- [2] Profile strip NRQ-8-480
- [3] Mounting bracket NRW-12/3
- [4] Bolt NRB-12/60
- [5] Socket head screw DIN 84-M6X18-4.8
- [6] Socket head screw DIN 84-M6X12-4.8


|      | B1  | B2 | D1<br>∅ | D2 | H1 | H2   | H3 | H4 | H5  | H6  | H7  | L1 | L2   | L3   | L4   | L5 | L6 |
|------|-----|----|---------|----|----|------|----|----|-----|-----|-----|----|------|------|------|----|----|
| NRRQ | 480 | 12 | 12      | M6 | 60 | 15,5 | 14 | 8  | 2,4 | 1,2 | 6,2 | 97 | 88,6 | 88,2 | 44,5 | 16 | 8  |


## Ordering data

| Ordering data – PE-1/8   |                      |                       |              |                |             |               |
|--|----------------------|-----------------------|--------------|----------------|-------------|---------------|
|  | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no.    | Type          |
|  | G1/8                 | 4-wire, Cable         | 1 m          | 225 g          | <b>3344</b> | <b>PE-1/8</b> |

| Ordering data – PE-1/8-1N-SW   |                      |                       |              |                |             |                     |
|--|----------------------|-----------------------|--------------|----------------|-------------|---------------------|
|  | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no.    | Type                |
|  | G1/8                 | 3 connector leads     | 0.5 m        | 50 g           | <b>6484</b> | <b>PE-1/8-1N-SW</b> |


| Ordering data – PE-1/8-2N-SW   |                      |                       |              |                |             |                     |
|--|----------------------|-----------------------|--------------|----------------|-------------|---------------------|
|  | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no.    | Type                |
|  | G1/8                 | 3 connector leads     | 0.5 m        | 65 g           | <b>7862</b> | <b>PE-1/8-2N-SW</b> |

| Ordering data – PE-1000  |                      |                       |              |                |             |                |
|--|----------------------|-----------------------|--------------|----------------|-------------|----------------|
|  | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no.    | Type           |
|  | M5                   | 4-wire, Cable         | 1 m          | 230 g          | <b>3719</b> | <b>PE-1000</b> |


| Ordering data – PE-PK-4-SW   |                      |                       |              |                |             |                   |
|--|----------------------|-----------------------|--------------|----------------|-------------|-------------------|
|  | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no.    | Type              |
|  | PK-4                 | 3 connector leads     | 0.5 m        | 40 g           | <b>7471</b> | <b>PE-PK-4-SW</b> |

## Ordering data


## Ordering data – PE-VK-5.1

|   | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no. | Type      |
|---|----------------------|-----------------------|--------------|----------------|----------|-----------|
|  | M5                   | 4-wire, Cable         | 1 m          | 250 g          | 7451     | PE-VK-5.1 |

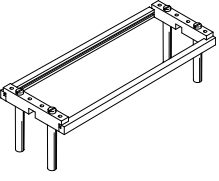
## Ordering data – VPE-1/8-SW

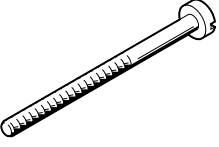
|   | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no. | Type       |
|---|----------------------|-----------------------|--------------|----------------|----------|------------|
|  | G1/8                 | 3 connector leads     | 0.5 m        | 38 g           | 12593    | VPE-1/8-SW |


## Ordering data – VPE-1/8-2N-SW

|   | Pneumatic connection | Electrical connection | Cable length | Product weight | Part no. | Type          |
|---|----------------------|-----------------------|--------------|----------------|----------|---------------|
|  | G1/8                 | 3 connector leads     | 0.5 m        |                | 12595    | VPE-1/8-2N-SW |

## Accessories

| Mounting frame NRRQ  |                 |                        |          |         |
|--|-----------------|------------------------|----------|---------|
|  | Short type code | LABS (PWIS) conformity | Part no. | Type    |
|  | NRRQ            | VDMA24364-B1/B2-L      | 9364     | NRRQ-1N |
|  |                 |                        | 9365     | NRRQ-2N |

| Socket head screws   |                   |                        |          |                  |
|--|-------------------|------------------------|----------|------------------|
|  | Based on standard | LABS (PWIS) conformity | Part no. | Type             |
|  | DIN 84            | VDMA24364-C1-L         | 208938   | DIN 84-M6X12-4.8 |
|  |                   |                        | 200568   | DIN 84-M6X18-4.8 |

| Mounting bracket NRW  |                 |                        |          |             |
|---|-----------------|------------------------|----------|-------------|
|   | Short type code | LABS (PWIS) conformity | Part no. | Type        |
|  | NRW             | VDMA24364-B1/B2-L      | 11571    | NRW-9/1,5-B |

| Cover cap SPE-B  |                 |                        |          |       |
|--|-----------------|------------------------|----------|-------|
|  | Short type code | LABS (PWIS) conformity | Part no. | Type  |
|  | SPE             |                        | 165614   | SPE-B |