

# Solenoid coils

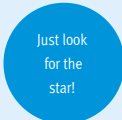


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Solves the majority of your automation tasks

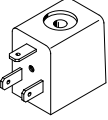
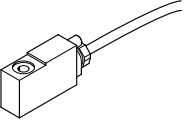
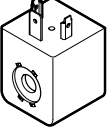
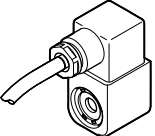
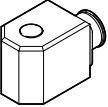

With the Festo Core Range, we have selected the most important products and functions from our broad product catalogue, and added the quickest delivery.


Worldwide: Quickest delivery – wherever, whenever  
Simply good: Expected high Festo quality  
Fast: Easy and fast to select

The Core Range offers you the best value for your automation tasks.



Product range overview

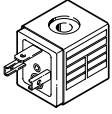
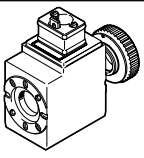
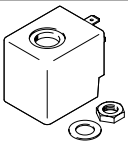
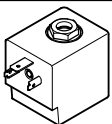
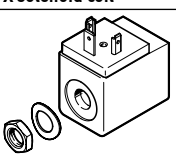
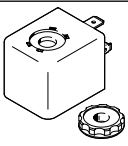
| Design   | Type          | For valve series |      |      |       |      |      |      |      |      |      | → Page/<br>Internet |
|--|---------------|------------------|------|------|-------|------|------|------|------|------|------|---------------------|
|  |               | MFH              | MOFH | JMFH | JMFDH | NVF3 | MUFH | VOFD | VOFC | VSNC | VUVS |                     |
| <b>F solenoid coil</b>   |               |                  |      |      |       |      |      |      |      |      |      |                     |
|    | MSF           | ■                | ■    | ■    | ■     | ■    | ■    | -    | -    | -    | -    | 5                   |
|  | VACF          | -                | -    | -    | -     | -    | -    | -    | -    | ■    | ■    | 11<br>10<br>15      |
| <b>F solenoid coil for potentially explosive atmospheres (→ certification)</b>     |               |                  |      |      |       |      |      |      |      |      |      |                     |
|    | MSF...EX      | ■                | ■    | ■    | ■     | ■    | ■    | -    | -    | -    | -    | 8                   |
|  | VACF...EX4-M  | ■                | ■    | ■    | ■     | ■    | -    | -    | -    | -    | -    | 17                  |
| <b>N solenoid coil</b>   |               |                  |      |      |       |      |      |      |      |      |      |                     |
|    | VACN-N        | -                | -    | -    | -     | -    | -    | -    | -    | ■    | -    | 19                  |
| <b>N solenoid coil for potentially explosive atmospheres (→ certification)</b>     |               |                  |      |      |       |      |      |      |      |      |      |                     |
|   | VACN...-EX2-N | -                | -    | -    | -     | -    | -    | -    | -    | ■    | -    | 22                  |
|  | VACN...-U4-M  | -                | -    | -    | -     | -    | -    | -    | -    | -    | -    | 24                  |
|  | VACN...-EX4-M | -                | -    | -    | -     | -    | -    | -    | -    | -    | -    | 26                  |
|  | VACN...-EX4-A | -                | -    | -    | -     | -    | -    | -    | -    | -    | -    | 28                  |
| <b>C solenoid coil</b>   |               |                  |      |      |       |      |      |      |      |      |      |                     |
|  | VACC-S13      | -                | -    | -    | -     | -    | -    | ■    | ■    | -    | -    | 30                  |
|  | VACC-S18      | -                | -    | -    | -     | -    | -    | ■    | -    | -    | -    | 37                  |


 **Note**

ATEX certification is only effective in combination with other ATEX-certified components.

→ [www.festo.com/de/ex](http://www.festo.com/de/ex)

## Product range overview

| Design  | Type       | For valve series |       |        |        |      |      | → Page/<br>Internet |
|---|------------|------------------|-------|--------|--------|------|------|---------------------|
|   |            | MN1H             | JMN1H | JMN1DH | VZWM-L | VUVS | VZWE |                     |
| <b>N1 solenoid coil</b>   |            |                  |       |        |        |      |      |                     |
|    | MSN1       | ■                | ■     | ■      | -      | -    | -    | 53                  |
| <b>S solenoid coil</b>  |            |                  |       |        |        |      |      |                     |
|    | VACS       | -                | -     | -      | -      | ■    | -    | 55                  |
| <b>H solenoid coil</b>  |            |                  |       |        |        |      |      |                     |
|    | MH-2       | -                | -     | -      | ■      | -    | -    | 60                  |
| <b>H1 solenoid coil</b>   |            |                  |       |        |        |      |      |                     |
|   | VACN-H1    | -                | -     | -      | -      | -    | ■    | 62                  |
| <b>X solenoid coil</b>  |            |                  |       |        |        |      |      |                     |
|  | VACN-X -V- | -                | -     | -      | -      | -    | ■    | 62                  |
| <b>D solenoid coil</b>  |            |                  |       |        |        |      |      |                     |
|  | MD-2       | -                | -     | -      | ■      | -    | -    | 65                  |

 **Note**



ATEX certification is only effective in combination with other ATEX-certified components.

→ [www.festo.com/de/ex](http://www.festo.com/de/ex)

## Selection aid

| Solenoid valves and corresponding solenoid coils |                        |               |   |   |   |    |   |    |   |
|--|------------------------|---------------|---|---|---|----|---|----|---|
| Valve series                                     | Valve type             | Solenoid coil |   |   |   |    |   |    |   |
|  |                        | C             | D | F | H | H1 | N | N1 | S |
| Standards-based valves to ISO 5599-1             | MN1H, JMN1H, JMN1DH    | -             | - | - | - | -  | - | ■  | - |
|  | MFH, JMFH, JMFDH       | -             | - | ■ | - | -  | - | -  | - |
|  | MDH, JMDH              | -             | ■ | - | - | -  | - | -  | - |
| Standards-based NAMUR valves                     | NVF3                   | -             | - | ■ | - | -  | - | -  | - |
|  | MN1H                   | -             | - | - | - | -  | - | ■  | - |
| Solenoid valves for process automation           | VOFC                   | ■             | - | - | - | -  | - | -  | - |
|  | VOFD                   | ■             | - | - | - | -  | - | -  | - |
|  | VSNC                   | -             | - | ■ | - | -  | ■ | -  | - |
| Tiger 2000                                       | MFH, JMFH              | -             | - | ■ | - | -  | - | -  | - |
| Tiger Classic                                    | MFH, MOFH, JMFH, JMFDH | -             | - | ■ | - | -  | - | -  | - |
| Directly actuated solenoid valves                | MDH, MODH              | -             | ■ | - | - | -  | - | -  | - |
| VS series  | VUVS                   | -             | - | ■ | - | -  | - | -  | ■ |
| M5 compact system                                | MUFH                   | -             | - | ■ | - | -  | - | -  | - |
| Process control valves                           | VZWM-L                 | -             | ■ | - | ■ | -  | - | -  | - |
|  | VZWE                   | -             | - | - | - | ■  | - | -  | - |

## Data sheet

-  Voltage  
12 ... 42 V DC  
24 ... 240 V AC
-  Temperature range  
-5 ... +40°C

- In accordance with VDE regulation 0580, insulation class F
- Can be changed without interrupting the pneumatic circuit
- Low power consumption and temperature rise

**General technical data**

|  |  |
|--|--|
| Type of mounting                           | Via knurled nut                                |
| Mounting position                          | Any (can be rotated 360° on the armature tube) |
| Max. tightening torque of plug socket [Nm] | 0.4  |
| Product weight [g]                         | 55   |

**Materials**

|                   |                          |
|-------------------|--------------------------|
| Solenoid coil     | Duroplast, copper, steel |
| Note on materials | RoHS-compliant           |

**Electrical data**

|                                      |                                   |                           |
|--------------------------------------|-----------------------------------|---------------------------|
| Electrical connection                | 3-pin                             |                           |
|                                      | Plug to industry standard, type B | Plug to EN 175301, type A |
| Min. pickup time [ms]                | 10                                |                           |
| Permissible voltage fluctuations [%] | -10 / +10                         |                           |
| Duty cycle [%]                       | 100                               |                           |
| Degree of protection to EN 60529     | IP65 with plug socket             |                           |

**Characteristic coil data**

| Operating voltage                      | 12 V DC | 24 V DC | 42 V DC | 24 V AC | 42 V AC | 48 V AC | 110 V AC | 230 V AC | 240 V AC |
|--|---------|---------|---------|---------|---------|---------|----------|----------|----------|
| Power [W]                              | 4.1     | 4.5     | 5.5     | -       | -       | -       | -        | -        | -        |
| Pickup power, 50 Hz [VA]               | -       | -       | -       | 9       | 9       | 9       | 9        | 9        | 9        |
| Holding power, 50 Hz [VA]              | -       | -       | -       | 7       | 7       | 7       | 7        | 7        | 7        |
| Power factor cos(phi)                  | -       | -       | -       | 0.7     | 0.7     | 0.7     | 0.7      | 0.7      | 0.7      |
| Frequency [Hz]                         | -       | -       | -       | 50/60   | 50/60   | 50/60   | 50/60    | 50/60    | 50/60    |
| Permissible frequency fluctuations [%] | -       | -       | -       | -5 / +5 | -5 / +5 | -5 / +5 | -5 / +5  | -5 / +5  | -5 / +5  |

**Operating and environmental conditions**

| Operating voltage  | 12 V DC    | 24 V DC | 42 V DC | 24 V AC | 42 V AC | 48 V AC | 110 V AC                                  | 230 V AC | 240 V AC |
|--|------------|---------|---------|---------|---------|---------|---|----------|----------|
| Ambient temperature [°C]                                 | -5 ... +40 |         |         |         |         |         | -5 ... +40                                |          |          |
| CE marking (see declaration of conformity) <sup>2)</sup> | -          |         |         |         |         |         | To EU Low Voltage Directive <sup>1)</sup> |          |          |

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

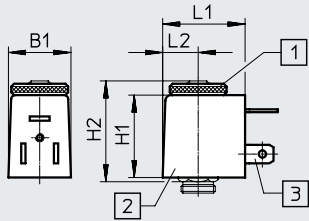
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

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

Data sheet

Dimensions

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



- [1] Retaining nut
- [2] Solenoid coil  
(can be rotated 360° on the armature tube)
- [3] Plug pins

**Note**  
Can only be used on aluminium valves with valve body dimensions ≥ 26 x 16 x 14 mm

| Type     | B1 | H1 | H2   | L1   | L2   |
|----------|----|----|------|------|------|
| MSFG-... | 22 | 29 | 33.8 | 29.5 | 12.5 |
| MSFW-... |    |    |      |      |      |


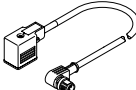
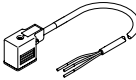

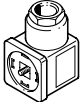
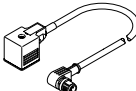
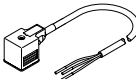

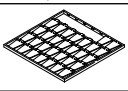
Ordering data

| Description   | Operating voltage                               | Part no.         | Type                 |                        |
|---|---|------------------|----------------------|------------------------|
| <b>Solenoid coil, plug to industry standard, type B</b>   |   |                  |                      |                        |
| Without plug socket   | 12 V DC   | 34410            | MSFG-12-OD           |                        |
|   | 24 V DC, 42 V AC                                | 34411            | MSFG-24/42-50/60-OD  |                        |
|   | 42 V DC   | 34413            | MSFG-42-OD           |                        |
|   | 24 V AC   | 34415            | MSFW-24-50/60-OD     |                        |
|   | 48 V AC   | 34418            | MSFW-48-50/60-OD     |                        |
|   | 110 V AC  | 34420            | MSFW-110-50/60-OD    |                        |
|   | 230 V AC  | 34422            | MSFW-230-50/60-OD    |                        |
| With plug socket  | 12 V DC   | 4526             | MSFG-12              |                        |
|   | 24 V DC, 42 V AC                                | 4527             | MSFG-24/42-50/60     |                        |
|   | 24 V AC   | 4534             | MSFW-24-50/60        |                        |
|   | 110 V AC  | 6720             | MSFW-110-50/60       |                        |
|   | 230 V AC  | 4540             | MSFW-230-50/60       |                        |
|   | <b>Solenoid coil, plug to EN 175301, type A</b> |                  |                      |                        |
|   | Without plug socket                             | 24 V DC, 42 V AC | 34412                | MSFG-24/42-50/60-DS-OD |
| 230 V AC  |   | 175118           | MSFW-230-50/60-DS-OD |                        |
| With plug socket, plug can be repositioned by 180°<br>Maritime classification <sup>1)</sup> see certificate | 24 V DC, 42 V AC                                | 13264            | MSFG-24/42-50/60-DS  |                        |
|   | 110 V AC  | 13265            | MSFW-110-50/60-DS    |                        |
|   | 230 V AC  | 13266            | MSFW-230-50/60-DS    |                        |

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

## Data sheet

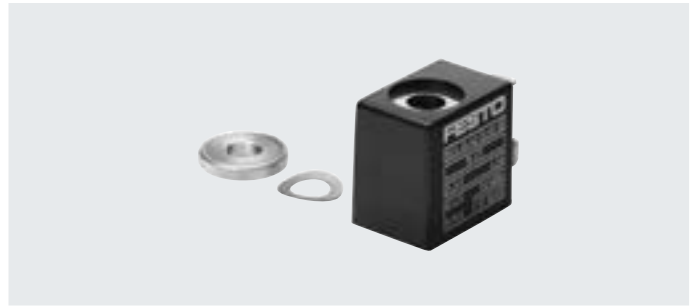
## ★ Core Range

| Ordering data  |   | Description                            | Cable length [m]           | Part no. | Type              |                            |
|--|---|--|----------------------------|----------|-------------------|----------------------------|
| <b>Accessories for solenoid coil with electrical connection to industry standard, type B</b> |   |  |                            |          |                   |                            |
|             | Angled socket   | Screw terminal                         | Cable connector Pg9        | –        | ★ 34431           | MSSD-F                     |
|  |   |  | Cable connector M16        | –        | 59710             | MSSD-F-M16                 |
|  |   | Insulation displacement technology     | Cable connector M16        | –        | 192746            | MSSD-F-S-M16               |
|             | PUR cable sheath, connection technology M12x1 A-coded | 24 AC/DC                               | • Signal status indication | 0.3      | 3679773           | NEBV-B2W3F-P-K-0.3-N-M12W3 |
|  |   |  | • Protective circuit       | 0.6      | 3679774           | NEBV-B2W3F-P-K-0.6-N-M12W3 |
|  |   | 110 AC/DC                              | –                          | 0.3      | 3579463           | NEBV-B2W3-K-0.3-N-M12W3    |
|  |   |  | –                          | 0.6      | 3579464           | NEBV-B2W3-K-0.6-N-M12W3    |
|             | PUR cable sheath                                      | 24 AC/DC                               | • Signal status indication | 0.6      | 3679778           | NEBV-B2W3F-P-K-0.6-N-LE3   |
|  |   | 230 AC/DC                              | –                          | 0.6      | 3579468           | NEBV-B2W3-K-0.6-N-LE3      |
|  | PVC cable sheath                                      | 24 V DC                                | Signal status indication   | 2.5      | ★ 30935           | KMF-1-24DC-2.5-LED         |
|  |   |  |                            | 5        | 30937             | KMF-1-24DC-5-LED           |
| 230 V AC   | –   | Signal status indication               | 10                         | 193458   | KMF-1-24DC-10-LED |                            |
|  |   |  | 2.5                        | 30936    | KMF-1-230AC-2.5   |                            |
|            | Illuminating seal                                     | 12 ... 24 V DC                         | Signal status indication   | –        | 19143             | MF-LD-12-24DC              |
|  |   | 230 V DC/V AC                          | Signal status indication   | –        | 19144             | MF-LD-230AC                |
| <b>Accessories for solenoid coil with electrical connection to EN 175301, type A</b>         |   |  |                            |          |                   |                            |
|           | Angled socket   | Screw terminal                         | Cable connector Pg9        | –        | 34583             | MSSD-C                     |
|  |   |  | Cable connector M16        | –        | 539709            | MSSD-C-M16                 |
|  |   | Insulation displacement technology     | Cable connector M16        | –        | 192748            | MSSD-C-S-M16               |
|           | PUR cable sheath, connection technology M12x1 A-coded | 24 AC/DC                               | • Signal status indication | 0.3      | 3679771           | NEBV-A1W3F-P-K-0.3-N-M12W3 |
|  |   |  | • Protective circuit       | 0.6      | 3679772           | NEBV-A1W3F-P-K-0.6-N-M12W3 |
|  |   | 110 AC/DC                              | –                          | 0.3      | 3579461           | NEBV-A1W3-K-0.3-N-M12W3    |
|  |   |  | –                          | 0.6      | 3579462           | NEBV-A1W3-K-0.6-N-M12W3    |
|           | PUR cable sheath                                      | 24 AC/DC                               | • Signal status indication | 0.6      | 3679776           | NEBV-A1W3F-P-K-0.6-N-LE3   |
|  |   | 230 AC/DC                              | –                          | 0.6      | 3579466           | NEBV-A1W3-K-0.6-N-LE3      |
|  | PVC cable sheath                                      | 24 V DC                                | Signal status indication   | 2.5      | 30931             | KMC-1-24DC-2.5-LED         |
|  |   |  |                            | 5        | 30933             | KMC-1-24DC-5-LED           |
| 230 V AC   | –   | Signal status indication               | 10                         | 193459   | KMC-1-24DC-10-LED |                            |
|  |   |  | 2.5                        | 30932    | KMC-1-230AC-2.5   |                            |
|           | Illuminating seal                                     | 12 ... 24 V DC                         | Signal status indication   | –        | 19145             | MC-LD-12-24DC              |
|  |   | 230 V DC/V AC                          | Signal status indication   | –        | 19146             | MC-LD-230AC                |
| <b>Inscription label</b>   |   |  |                            |          |                   |                            |
|           | –   | Scope of delivery: 35 labels in frames |                            | 33362    | KMC/F/V-BZ-35X    |                            |

## Data sheet



- In accordance with the ATEX Directive
- In accordance with VDE regulation 0580, insulation class F
- Plug connection
- Can be changed without interrupting the pneumatic circuit
- Manifold assembly permissible (minimum clearance from coil to coil 5 mm)

**General technical data**

|                    |  |
|--------------------|--|
| Type of mounting   | Via knurled nut                                |
| Mounting position  | Any (can be rotated 360° on the armature tube) |
| Product weight [g] | 55   |

**Materials**

|                   |                          |
|-------------------|--------------------------|
| Solenoid coil     | Steel, copper, duroplast |
| Winding           | Copper                   |
| Note on materials | RoHS-compliant           |

**Electrical data**

|  |   |
|--|---|
| Electrical connection                      | 3-pin<br>Plug pins with plug pattern to Festo standard for MSSD-F |
| Max. tightening torque of plug socket [Nm] | 0.4   |
| Min. pickup time [ms]                      | 10  |
| Permissible voltage fluctuations [%]       | -10 / +10   |
| Duty cycle [%]                             | 100   |
| Degree of protection to EN 60529           | IP65 with plug socket   |

**Characteristic coil data**

| Operating voltage                      | 24 V DC | 24 V AC | 110 V AC | 230 V AC |
|--|---------|---------|----------|----------|
| Power [W]                              | 4.5     | -       | -        | -        |
| Pickup power, 50 Hz [VA]               | -       | 9       | 9        | 9        |
| Holding power, 50 Hz [VA]              | -       | 7       | 7        | 7        |
| Power factor cos(phi)                  | -       | 0.7     | 0.7      | 0.7      |
| Frequency [Hz]                         | -       | 50/60   | 50/60    | 50/60    |
| Permissible frequency fluctuations [%] | -       | -5 / +5 | -5 / +5  | -5 / +5  |

**Operating and environmental conditions**

| Operating voltage  | 24 V DC    | 24 V AC | 110 V AC | 230 V AC                                  |
|--|------------|---------|----------|---|
| Ambient temperature [°C]                                 | -5 ... +40 |         |          | -5 ... +40                                |
| CE marking (see declaration of conformity) <sup>2)</sup> | -          |         |          | To EU Low Voltage Directive <sup>1)</sup> |

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

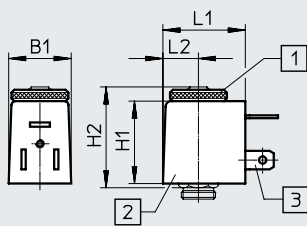
2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.




## Data sheet

| ATEX  |   |
|---|---|
| ATEX category gas                                 | II 3G                                       |
| Type of ignition protection for gas               | Ex nA IIC T4X Gc                            |
| ATEX category for dust                            | II 3D                                       |
| Type of ignition protection for dust              | Ex tc IIIC T130°C X Dc IP65                 |
| Explosion-proof ambient temperature [°C]          | $-5 \leq T_a \leq +40$                      |
| CE marking (see declaration of conformity)        | To EU Explosion Protection Directive (ATEX) |
| Explosion protection certification outside the EU | EPL Gc (CN)                                 |
|   | EPL Dc (CN)                                 |

## Dimensions

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

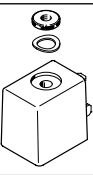
- [1] Retaining nut  
(tightening torque 0.4 Nm)
- [2] Solenoid coil
- [3] Plug pins for plug sockets  
MSSD-F

 **Note**

Can only be used on aluminium valves with valve body dimensions  $\geq 26 \times 16 \times 14$  mm

| Type        | B1 | H1 | H2   | L1   | L2   |
|-------------|----|----|------|------|------|
| MSFG-...-EX | 22 | 29 | 33.8 | 29.5 | 12.5 |
| MSFW-...-EX |    |    |      |      |      |

## Ordering data

| Description   |                                      | Operating voltage | Part no. | Type              |
|---|--------------------------------------|-------------------|----------|-------------------|
|  | Explosion-proof, without plug socket | 24 V DC           | 536931   | MSFG-24-EX        |
|   |                                      | 24 V AC           | 536932   | MSFW-24-50/60-EX  |
|   |                                      | 110 V AC          | 536933   | MSFW-110-50/60-EX |
|   |                                      | 230 V AC          | 536934   | MSFW-230-50/60-EX |

## Type codes

|             |                         |  |
|-------------|-------------------------|--|
| <b>001</b>  | <b>Series</b>           |  |
| <b>VACF</b> | Solenoid coil, series F |  |

|            |                           |  |
|------------|---------------------------|--|
| <b>002</b> | <b>Solenoid coil type</b> |  |
| <b>B</b>   | Solenoid coil, size 22/8  |  |
| <b>A</b>   | Solenoid coil size 30/8   |  |

|            |  |  |
|------------|--|--|
| <b>003</b> | <b>Electrical connection</b>                 |  |
| <b>A1</b>  | Connection pattern type A, to EN 175 301     |  |
| <b>B2</b>  | Connection pattern type B, industry standard |  |
| <b>C1</b>  | Connection pattern type C, to EN 175 301     |  |
| <b>K1</b>  | Cable  |  |



|            |                                     |  |
|------------|-------------------------------------|--|
| <b>004</b> | <b>Nominal operating voltage</b>    |  |
| <b>5</b>   | 12 V DC                             |  |
| <b>1</b>   | 24 V DC                             |  |
| <b>1A</b>  | 24 V AC/50-60 Hz                    |  |
| <b>7</b>   | 48 V DC                             |  |
| <b>7A</b>  | 48 V AC/50-60 Hz                    |  |
| <b>16B</b> | 120 V AC/60 Hz and 110V AC/50-60 Hz |  |
| <b>3A</b>  | 230 V AC/50-60 Hz                   |  |
| <b>3W</b>  | 230 V AC/240 V AC/50-60 Hz          |  |

|            |                         |  |
|------------|-------------------------|--|
| <b>005</b> | <b>Cable length [m]</b> |  |
| <b>1</b>   | 1                       |  |
| <b>5</b>   | 5                       |  |
| <b>10</b>  | 10                      |  |
| <b>20</b>  | 20                      |  |

|            |                         |  |
|------------|-------------------------|--|
| <b>006</b> | <b>EU certification</b> |  |
|            | None                    |  |
| <b>EX4</b> | II 2GD                  |  |

|            |                                    |  |
|------------|------------------------------------|--|
| <b>007</b> | <b>Type of ignition protection</b> |  |
|            | None                               |  |
| <b>M</b>   | Encapsulation                      |  |

## Data sheet

-  Voltage  
12 ... 48 V DC  
24 ... 240 V AC
-  Temperature range  
-20 ... +50°C

- In accordance with VDE regulation 0580, insulation class H
- Can be changed without interrupting the pneumatic circuit

**General technical data**

|                   |  |
|-------------------|--|
| Type of mounting  | Via knurled nut  |
| Mounting position | Any (can be rotated in increments of 45° on the armature tube) |

**Materials**

|                   |                 |
|-------------------|-----------------|
| Housing seal set  | Aluminium, HNBR |
| Housing           | PA, steel       |
| Winding           | Copper          |
| Note on materials | RoHS-compliant  |

**Electrical data**

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type A |
| Permissible voltage fluctuations [%] | -10 / +10  |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket  |
| Insulation class                     | H  |

**Characteristic coil data**

| Operating voltage         | 12 V DC | 24 V DC | 48 V DC | 24 V AC | 48 V AC | 110/120 V AC | 230/240 V AC |
|---------------------------|---------|---------|---------|---------|---------|--------------|--------------|
| Power [W]                 | 2.8     | 2.6     | 2.8     | -       | -       | -            | -            |
| Pickup power, 50 Hz [VA]  | -       | -       | -       | 2.5     | 2.5     | 2.7          | 3.9          |
| Holding power, 50 Hz [VA] | -       | -       | -       | 1.7     | 1.7     | 1.9          | 2.8          |
| Frequency [Hz]            | -       | -       | -       | 50/60   | 50/60   | 50/60        | 50/60        |

**Operating and environmental conditions**

| Operating voltage  | 12 V DC                   | 24 V DC | 48 V DC | 24 V AC                   | 48 V AC | 110/120 V AC                | 230/240 V AC |
|--|---------------------------|---------|---------|---------------------------|---------|-----------------------------|--------------|
| Ambient temperature [°C]                                 | -20 ... +50               |         |         |                           |         | -20 ... +50                 |              |
| Corrosion resistance class CRC <sup>1)</sup>             | 2                         |         |         |                           |         | 2                           |              |
| CE marking (see declaration of conformity) <sup>2)</sup> | -                         |         |         |                           |         | To EU Low Voltage Directive |              |
| Certification  | c UL us - Recognized (OL) |         | -       | c UL us - Recognized (OL) |         | -                           |              |
| Maritime classification <sup>2)</sup>                    | See certificate           |         |         |                           |         | See certificate             |              |
| Certificate issuing authority                            | DNVGL-TAA000011]          |         |         |                           |         | DNVGL-TAA000011]            |              |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

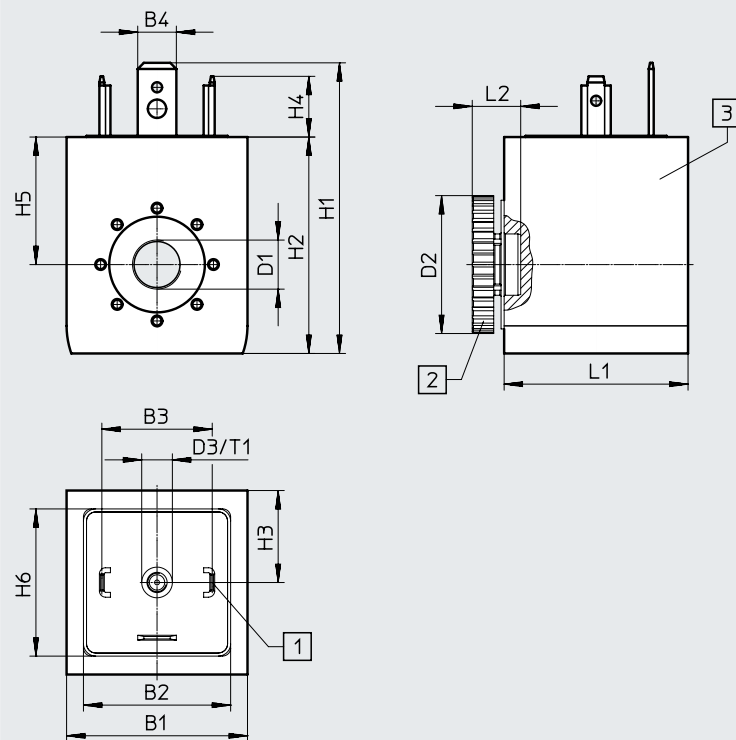
2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Data sheet

★ Core Range

Dimensions

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





- [1] Plug pattern to EN 175301-803, type A
- [2] Knurled nut (seal set for solenoid coil)
- [3] Solenoid coil  
(can be rotated in increments of 45° on the armature tube, can be pushed on in any direction)

| Type          | B1   | B2 | B3 | B4  | D1  | D2   | D3 | H1   | H2   | H3 | H4  | H5   | H6 | L1 | L2  | T1 |
|---------------|------|----|----|-----|-----|------|----|------|------|----|-----|------|----|----|-----|----|
| VACF-A-A1-... | 29.5 | 24 | 18 | 6.3 | 8.2 | 22.5 | M3 | 47.4 | 35.3 | 15 | 9.9 | 20.8 | 24 | 30 | 7.9 | 5  |

| Ordering data        |  | Description  | Operating voltage | Product weight  | Part no.      | Type |
|----------------------|--|--------------|-------------------|-----------------|---------------|------|
| <b>Solenoid coil</b> |  |              |                   |                 |               |      |
|                      | Without plug socket, plug pattern to EN 175301-803, type A | 12 V DC      | 83.1 g            | 8030821         | VACF-A-A1-5   |      |
|                      |  | 24 V DC      | 82.6 g            | ★ 8030822       | VACF-A-A1-1   |      |
|                      |  | 48 V DC      | 82.7 g            | 8030823         | VACF-A-A1-7   |      |
|                      |  | 24 V AC      | 83.4 g            | 8030824         | VACF-A-A1-1A  |      |
|                      |  | 48 V AC      | 82.3 g            | 8030825         | VACF-A-A1-7A  |      |
|                      |  | 110/120 V AC | 82.4 g            | 8030826         | VACF-A-A1-16B |      |
|                      |  | 230/240 V AC | 79.2 g            | 8030828         | VACF-A-A1-3W  |      |
| <b>Seal set</b>      |  |              |                   |                 |               |      |
|                      | To achieve protection to IP67                              | 12.6 g       | 8034611           | VAMC-B10-A-B-S8 |               |      |

## Data sheet

-  Voltage  
12 ... 48 V DC  
24 ... 240 V AC
-  Temperature range  
-10 ... +50°C

- In accordance with VDE regulation 0580, insulation class H
- Can be changed without interrupting the pneumatic circuit

**General technical data**

|                   |  |
|-------------------|--|
| Type of mounting  | Via knurled nut  |
| Mounting position | Any (can be rotated in increments of 45° on the armature tube) |

**Materials**

|                   |                 |
|-------------------|-----------------|
| Housing seal set  | Aluminium, HNBR |
| Housing           | PA, steel       |
| Winding           | Copper          |
| Note on materials | RoHS-compliant  |

**Electrical data**

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to industry standard, type B (11 mm) |
| Permissible voltage fluctuations [%] | -10 / +10  |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket  |
| Insulation class                     | H  |

**Characteristic coil data**

| Operating voltage         |  | 12 V DC | 24 V DC | 48 V DC | 24 V AC | 48 V AC | 110/120 V AC | 230/240 V AC |
|---------------------------|--|---------|---------|---------|---------|---------|--------------|--------------|
| Power [W]                 |  | 3.4     | 3.3     | 3.4     | -       | -       | -            | -            |
| Pickup power, 50 Hz [VA]  |  | -       | -       | -       | 3.9     | 3.9     | 4.4          | 5.8          |
| Holding power, 50 Hz [VA] |  | -       | -       | -       | 2.6     | 2.7     | 3.3          | 4.6          |
| Frequency [Hz]            |  | -       | -       | -       | 50/60   | 50/60   | 50/60        | 50/60        |
| Surge resistance [kV]     |  | -       | -       | -       | -       | -       | 2.5          | 4            |

**Operating and environmental conditions**

| Operating voltage  |  | 12 V DC                   | 24 V DC | 48 V DC | 24 V AC                   | 48 V AC | 110/120 V AC                | 230/240 V AC |
|--|--|---------------------------|---------|---------|---------------------------|---------|-----------------------------|--------------|
| Ambient temperature [°C]                                 |  | -20 ... +50               |         |         |                           |         | -20 ... +50                 |              |
| Corrosion resistance class CRC <sup>1)</sup>             |  | 2                         |         |         |                           |         | 2                           |              |
| Pollution degree   |  | -                         |         |         |                           |         | 3                           |              |
| CE marking (see declaration of conformity) <sup>2)</sup> |  | -                         |         |         |                           |         | To EU Low Voltage Directive |              |
| Certification  |  | c UL us - Recognized (OL) |         | -       | c UL us - Recognized (OL) |         | -                           | -            |
| Maritime classification <sup>2)</sup>                    |  | See certificate           |         |         |                           |         | See certificate             |              |
| Certificate issuing authority                            |  | DNVGL-TAA000011J          |         |         |                           |         | DNVGL-TAA000011J            |              |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

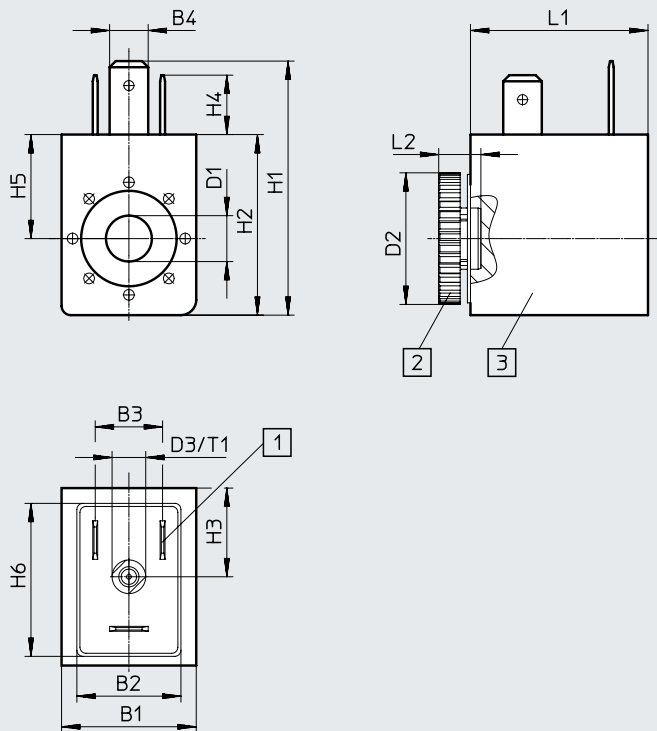
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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

Data sheet

Dimensions

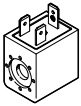

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- [1] Plug pattern to industry standard, type B
- [2] Knurled nut (seal set for solenoid coil)
- [3] Solenoid coil (can be rotated in increments of 45° on the armature tube, can be pushed on in any direction)

| Type          | B1 | B2 | B3 | B4  | D1  | D2   | D3 | H1   | H2   | H3   | H4  | H5 | H6 | L1 | L2  | T1 |
|---------------|----|----|----|-----|-----|------|----|------|------|------|-----|----|----|----|-----|----|
| VACF-B-B2-... | 22 | 17 | 11 | 6.3 | 8.2 | 21.5 | M3 | 41.5 | 29.5 | 14.5 | 9.7 | 17 | 25 | 29 | 6.9 | 5  |

Ordering data

| Description   | Operating voltage | Product weight | Part no.        | Type          |
|---|-------------------|----------------|-----------------|---------------|
| <b>Solenoid coil</b>  |                   |                |                 |               |
|  Without plug socket, plug pattern to industry standard, type B (11 mm) | 12 V DC           | 55.6 g         | 8030801         | VACF-B-B2-5   |
|   | 24 V DC           | 56.5 g         | 8030802         | VACF-B-B2-1   |
|   | 48 V DC           | 55.9 g         | 8030803         | VACF-B-B2-7   |
|   | 24 V AC           | 55.8 g         | 8030804         | VACF-B-B2-1A  |
|   | 48 V AC           | 55.3 g         | 8030805         | VACF-B-B2-7A  |
|   | 110/120 V AC      | 52.3 g         | 8030806         | VACF-B-B2-16B |
|   | 230/240 V AC      | 53 g           | 8030808         | VACF-B-B2-3W  |
| <b>Seal set</b>   |                   |                |                 |               |
|  To achieve protection to IP67  | 10 g              | 8034609        | VAMC-B10-B-B-S8 |               |

## Data sheet

-  Voltage  
12 ... 48 V DC  
24 ... 240 V AC
-  Temperature range  
-10 ... +50°C

- In accordance with VDE regulation 0580, insulation class H
- Can be changed without interrupting the pneumatic circuit



## General technical data

|                   |  |
|-------------------|--|
| Type of mounting  | Via knurled nut  |
| Mounting position | Any (can be rotated in increments of 45° on the armature tube) |

## Materials

|                   |                 |
|-------------------|-----------------|
| Housing seal set  | Aluminium, HNBR |
| Housing           | PA, steel       |
| Winding           | Copper          |
| Note on materials | RoHS-compliant  |

## Electrical data

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type C |
| Permissible voltage fluctuations [%] | -10 / +10  |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket  |
| Insulation class                     | H  |

## Characteristic coil data

| Operating voltage         |  | 12 V DC | 24 V DC | 48 V DC | 24 V AC | 48 V AC | 110/120 V AC | 230/240 V AC |
|---------------------------|--|---------|---------|---------|---------|---------|--------------|--------------|
| Power [W]                 |  | 3.4     | 3.3     | 3.4     | –       | –       | –            | –            |
| Pickup power, 50 Hz [VA]  |  | –       | –       | –       | 3.9     | 3.9     | 4.4          | 5.8          |
| Holding power, 50 Hz [VA] |  | –       | –       | –       | 2.6     | 2.7     | 3.3          | 4.6          |
| Frequency [Hz]            |  | –       | –       | –       | 50/60   | 50/60   | 50/60        | 50/60        |
| Surge resistance [kV]     |  | –       | –       | –       | –       | –       | 2.5          | 4            |

## Operating and environmental conditions

| Operating voltage  |  | 12 V DC                   | 24 V DC | 48 V DC | 24 V AC                   | 48 V AC | 110/120 V AC                              | 230/240 V AC |
|--|--|---------------------------|---------|---------|---------------------------|---------|---|--------------|
| Ambient temperature [°C]                                 |  | -20 ... +50               |         |         |                           |         | -20 ... +50                               |              |
| Corrosion resistance class CRC <sup>1)</sup>             |  | 2                         |         |         |                           |         | 2   |              |
| Pollution degree   |  | –                         |         |         |                           |         | 3   |              |
| CE marking (see declaration of conformity) <sup>3)</sup> |  | –                         |         |         |                           |         | To EU Low Voltage Directive <sup>2)</sup> |              |
| Certification  |  | c UL us - Recognized (OL) |         | –       | c UL us - Recognized (OL) | –       | –   |              |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

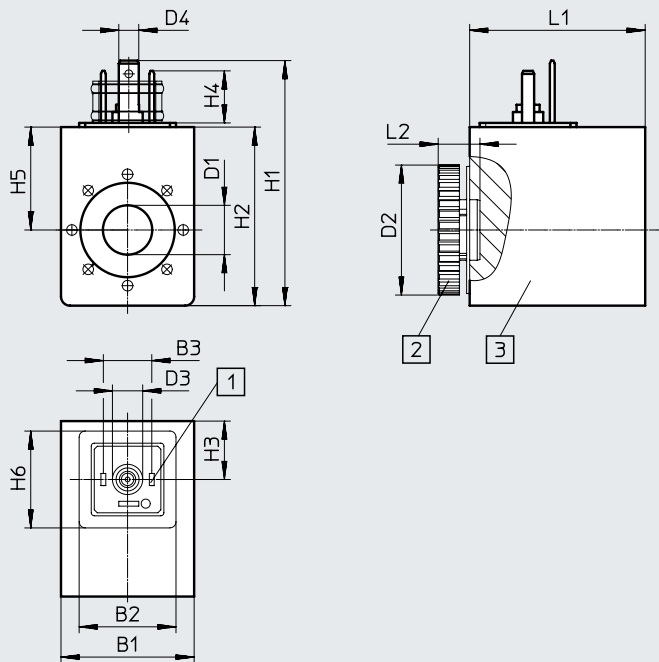
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

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

Data sheet

Dimensions

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



- [1] Plug pattern to EN 175301-803, type C
- [2] Knurled nut (seal set for solenoid coil)
- [3] Solenoid coil (can be rotated in increments of 45° on the armature tube, push on in any direction)



| Type          | B1 | B2 | B3 | D1  | D2   | D3 | D4  | H1   | H2   | H3  | H4  | H5 | H6 | L1 | L2  |
|---------------|----|----|----|-----|------|----|-----|------|------|-----|-----|----|----|----|-----|
| VACF-B-C1-... | 22 | 16 | 8  | 8.2 | 21.5 | 27 | 3.3 | 40.5 | 29.5 | 9.7 | 8.6 | 17 | 16 | 29 | 6.9 |

Ordering data

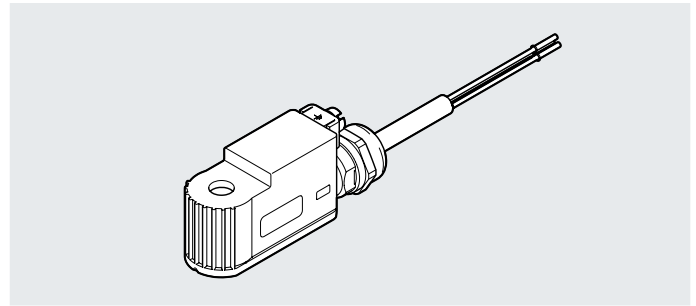
|                      | Description  | Operating voltage | Product weight      | Part no.       | Type                   |
|----------------------|--|-------------------|---------------------|----------------|------------------------|
| <b>Solenoid coil</b> |  |                   |                     |                |                        |
|                      | Without plug socket, plug pattern to EN 175301-803, type C | 12 V DC           | 54.1 g              | <b>8030810</b> | <b>VACF-B-C1-5</b>     |
|                      |  | 24 V DC           | 52.4 g              | <b>8030811</b> | <b>VACF-B-C1-1</b>     |
|                      |  | 48 V DC           | 54.3 g              | <b>8030812</b> | <b>VACF-B-C1-7</b>     |
|                      |  | 24 V AC           | 54 g                | <b>8030813</b> | <b>VACF-B-C1-1A</b>    |
|                      |  | 48 V AC           | 53.5 g              | <b>8030814</b> | <b>VACF-B-C1-7A</b>    |
|                      |  | 110/120 V AC      | 51 g                | <b>8030815</b> | <b>VACF-B-C1-16B</b>   |
| 230/240 V AC         | 51.1 g   | <b>8030817</b>    | <b>VACF-B-C1-3W</b> |                |                        |
| <b>Seal set</b>      |  |                   |                     |                |                        |
|                      | To achieve protection to IP67                              |                   | 10 g                | <b>8034609</b> | <b>VAMC-B10-B-B-S8</b> |



## Data sheet

-  Voltage  
24 V DC  
24 ... 230 V AC
-  Temperature range  
-30 ... +40°C

- In accordance with the ATEX Directive
- Can be changed without interrupting the pneumatic circuit

**General technical data**

|                               |  |
|-------------------------------|--|
| Type of mounting              | Via knurled nut  |
| Mounting position             | Any (can be rotated in increments of 45° on the armature tube) |
| Switching position indication | No   |
| Product weight [g]            | 170  |

**Materials**

|                   |                                       |
|-------------------|---------------------------------------|
| Solenoid coil     | Aluminium, epoxy resin, copper, steel |
| Winding           | Copper                                |
| Note on materials | RoHS-compliant                        |

**Electrical data**

|  |                             |
|--|-----------------------------|
| Electrical connection                              | Cable with open end, 3-wire |
| Nominal conductor cross section [mm <sup>2</sup> ] | 0.75                        |
| Permissible voltage fluctuations [%]               | -10 / +10                   |
| Duty cycle [%]                                     | 100                         |
| Degree of protection to EN 60529                   | IP65                        |

**Characteristic coil data**

| Operating voltage                  |      | 24 V DC | 24 V AC | 110 V AC | 230 V AC |
|------------------------------------|------|---------|---------|----------|----------|
| Power                              | [W]  | 4.36    | -       | -        | -        |
|                                    | [VA] | -       | 3.85    | 4.18     | 5        |
| Frequency                          | [Hz] | -       | 50/60   | 50/60    | 50/60    |
| Permissible frequency fluctuations | [%]  | -       | -5 / +5 | -5 / +5  | -5 / +5  |
| Min. pickup time                   | [ms] | 10      | 10      | 10       | 10       |

**Operating and environmental conditions**

|  |   |
|--|---|
| Ambient temperature [°C]                                 | -30 ... +40                                 |
| Corrosion resistance class CRC <sup>1)</sup>             | 0 - No corrosion stress                     |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX) |
|  | To EU RoHS Directive                        |

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

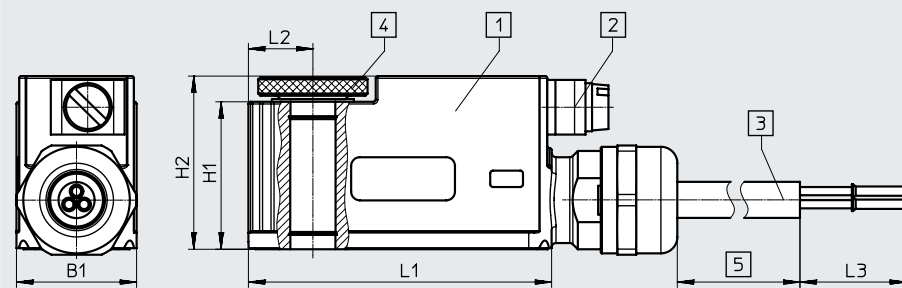
2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Data sheet

| ATEX  |                     |
|---|---------------------|
| ATEX category gas                                 | II 2G               |
| Type of ignition protection for gas               | Ex mb IIC T5 Gb     |
| ATEX category for dust                            | II 2D               |
| Type of ignition protection for dust              | Ex mb IIIC T95°C Db |
| Explosion-proof ambient temperature [°C]          | -30 ≤ Ta ≤ +40      |
| Explosion protection certification outside the EU | EPL Gb (IECEX)      |
|   | EPL Db (IEC Ex)     |
|   | EPL Gb (BR)         |
|   | EPL Db (BR)         |
|   | EPL Gb (CN)         |
| Certificate issuing authority                     | IBExU 16 ATEX1146X  |
|   | IECEX IBE16.0024X   |
|   | DNV17.0013X         |
|   | GYJ17.1077X         |

Dimensions

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



- [1] Solenoid coil
- [2] Equipotential bonding terminal
- [3] Heat-resistant rubber tubing
- [4] Knurled nut
- [5] Length depending on order

| Type          | B1 | H1 | H2   | L1   | L2   | L3 |
|---------------|----|----|------|------|------|----|
| VACF-B-K1-... | 22 | 27 | 31.7 | 55.5 | 11.8 | 50 |

Ordering data

|  | Description                 | Operating voltage | Cable length | Part no. | Type                  |
|--|-----------------------------|-------------------|--------------|----------|-----------------------|
|  | Cable with open end, 3-wire | 24 V DC           | 1 m          | 8059804  | VACF-B-K1-1-1-EX4-M   |
|  |                             |                   | 5 m          | 8059805  | VACF-B-K1-1-5-EX4-M   |
|  |                             |                   | 10 m         | 8059806  | VACF-B-K1-1-10-EX4-M  |
|  |                             |                   | 20 m         | 8059807  | VACF-B-K1-1-20-EX4-M  |
|  |                             | 24 V AC           | 1 m          | 8059808  | VACF-B-K1-1A-1-EX4-M  |
|  |                             |                   | 110 V AC     | 1 m      | 8059811               |
|  |                             | 230 V AC          | 5 m          | 8059812  | VACF-B-K1-16B-5-EX4-M |
|  |                             |                   | 1 m          | 8059809  | VACF-B-K1-3A-1-EX4-M  |
|  |                             |                   | 5 m          | 8059810  | VACF-B-K1-3A-5-EX4-M  |

## Type codes

|             |                         |
|-------------|-------------------------|
| <b>001</b>  | <b>Series</b>           |
| <b>VACN</b> | Solenoid coil, series N |

|            |  |
|------------|--|
| <b>002</b> | <b>Solenoid coil type</b>                |
| <b>N</b>   | Solenoid coil N for armature tube 9 mm   |
| <b>H1</b>  | Solenoid coil H1 for armature tube 14 mm |
| <b>X</b>   | Solenoid coil X for armature tube 14 mm  |

|            |  |
|------------|--|
| <b>003</b> | <b>Electrical connection</b>             |
| <b>A1</b>  | Connection pattern type A, to EN 175 301 |
| <b>K1</b>  | Cable                                    |
| <b>K11</b> | Cable with insulating conduit connection |

|            |                                     |
|------------|-------------------------------------|
| <b>004</b> | <b>Nominal operating voltage</b>    |
| <b>1</b>   | 24 V DC                             |
| <b>2A</b>  | 110 V AC/50-60 Hz                   |
| <b>16B</b> | 120 V AC/60 Hz and 110V AC/50-60 Hz |
| <b>3A</b>  | 230 V AC/50-60 Hz                   |



|            |                         |
|------------|-------------------------|
| <b>005</b> | <b>Cable length [m]</b> |
| <b>0.5</b> | 0.5                     |
| <b>10</b>  | 10                      |

|            |                         |
|------------|-------------------------|
| <b>006</b> | <b>EU certification</b> |
|            | None                    |
| <b>EX4</b> | II 2GD                  |
| <b>EX2</b> | II 3GD                  |

|            |                        |
|------------|------------------------|
| <b>007</b> | <b>Certification</b>   |
|            | None                   |
| <b>U4</b>  | Class1 Div1 to NEC 500 |

|            |                                    |
|------------|------------------------------------|
| <b>008</b> | <b>Type of ignition protection</b> |
|            | None                               |
| <b>A</b>   | Intrinsically safe                 |
| <b>M</b>   | Encapsulation                      |
| <b>N</b>   | Non-sparking                       |

## Data sheet

-  Voltage  
24 V DC  
110, 230 V AC
-  Temperature range  
-20 ... +60°C

- Can be changed without interrupting the pneumatic circuit

**General technical data**

|                    |  |
|--------------------|--|
| Type of mounting   | Via knurled nut  |
| Mounting position  | Any (can be rotated in increments of 45° on the armature tube) |
| Product weight [g] | 95   |

**Materials**

|                   |                |
|-------------------|----------------|
| Housing           | Steel, polymer |
| Winding           | Copper         |
| Pin contacts      | Brass          |
| Note on materials | RoHS-compliant |

**Electrical data**

|                                      |  |  |  |  |  |
|--------------------------------------|--|--|--|--|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type A |  |  |  |  |
| Permissible voltage fluctuations [%] | -10 / +10  |  |  |  |  |
| Duty cycle [%]                       | 100  |  |  |  |  |
| Insulation class                     | F  |  |  |  |  |
| Enamelled wire insulation class      | F  |  |  |  |  |
| Degree of protection to EN 60529     | IP65 with plug socket  |  |  |  |  |

**Characteristic coil data**

|                       | 24 V DC | 110 V AC |     | 230 V AC |     |
|-----------------------|---------|----------|-----|----------|-----|
| Frequency [Hz]        | –       | 50       | 60  | 50       | 60  |
| Power [W]             | 0.7     | –        | –   | –        | –   |
| Pickup power [VA]     | –       | 5.2      | 4.2 | 6.2      | 4.9 |
| Holding power [VA]    | –       | 3.1      | 2.5 | 3.7      | 2.9 |
| Surge resistance [kV] | –       | 2.5      |     | 4        |     |

**Operating and environmental conditions**

|  | 24 V DC          | 110 V AC                    |  | 230 V AC |  |
|--|------------------|-----------------------------|--|----------|--|
| Ambient temperature [°C]                                 | -20 ... +60      | -20 ... +60                 |  |          |  |
| Corrosion resistance class CRC <sup>1)</sup>             | 2                | 2                           |  |          |  |
| Pollution degree   | –                | 3                           |  |          |  |
| CE marking (see declaration of conformity) <sup>2)</sup> | –                | To EU Low Voltage Directive |  |          |  |
| Maritime classification <sup>2)</sup>                    | See certificate  |                             |  |          |  |
| Certificate issuing authority                            | DNVGL-TAA000011] |                             |  |          |  |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

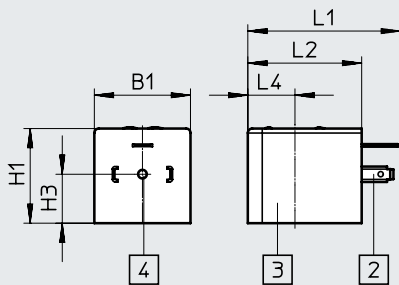
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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

## Data sheet



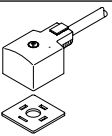
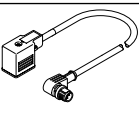


## ★ Core Range

## Dimensions

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

- [2] Plug pattern to EN 175301-803, type A
- [3] Solenoid coil
- [4] Mounting screw M3

| Type          | B1 | H1   | H3   | L1   | L2   | L4   |
|---------------|----|------|------|------|------|------|
| VACN-N-A1-... | 30 | 29.5 | 15.3 | 47.6 | 35.5 | 14.7 |

| Ordering data   |  | Description   | Part no.             | Type                       |
|---|--|---|----------------------|----------------------------|
| <b>Solenoid coil</b>  |  |   |                      |                            |
|    | Without plug socket, plug pattern to EN 175301-803, type A   | 24 V DC   | ★ 8029144            | VACN-N-A1-1                |
|   |  | 110 V AC  | 8029134              | VACN-N-A1-16B              |
|   |  | 230 V AC  | 8029135              | VACN-N-A1-3A               |
| <b>Plug socket</b>  |  |   |                      |                            |
|  | Operating voltage 230 V DC/VAC   | Cable connector Pg9   | 34583                | MSSD-C                     |
|   |  | Cable connector M16   | 539709               | MSSD-C-M16                 |
|   |  | Operating voltage 24 V DC,<br>Signal status indication with LED | Cable connector Pg11 | 177617                     |
| <b>Connecting cable</b>   |  |   |                      |                            |
|  | Operating voltage 24 V DC,<br>Signal status indication with LED  | Cable length 0.6 m  | 3679776              | NEBV-A1W3F-P-K-0.6-N-LE3   |
|   |  | Cable length 2.5 m  | 30931                | KMC-1-24DC-2.5-LED         |
|   |  | Cable length 5 m  | 30933                | KMC-1-24DC-5-LED           |
|   | Operating voltage 230 V DC/VAC   | Cable length 10 m   | 193459               | KMC-1-24-10-LED            |
|   |  | Cable length 0.6 m  | 3579466              | NEBV-A1W3-K-0.6-N-LE3      |
|   |  | Cable length 2.5 m  | 30932                | KMC-1-230AC-2.5            |
|  | Electrical connection 2, M12x1, A-coded<br>Operating voltage 24 V DC,<br>Signal status indication with LED | Cable length 5 m  | 30934                | KMC-1-230AC-5              |
|   |  | Cable length 0.3 m  | 3679771              | NEBV-A1W3F-P-K-0.3-N-M12W3 |
|   | Electrical connection 2, M12x1, A-coded<br>Operating voltage 230 V DC/VAC                                  | Cable length 0.6 m  | 3679772              | NEBV-A1W3F-P-K-0.6-N-M12W3 |
|   |  | Cable length 0.3 m  | 3579461              | NEBV-A1W3-K-0.3-N-M12W3    |
|  | Operating voltage 24 V DC  | Cable length 0.6 m  | 3579462              | NEBV-A1W3-K-0.6-N-M12W3    |
|   |  | <b>Illuminating seal</b>  |                      |                            |
|  | Operating voltage 230 V DC/VAC   | Operating voltage 24 V DC                                       | 19145                | MC-LD-12-24DC              |
|   |  | Operating voltage 230 V DC/VAC                                  | 19146                | MC-LD-230AC                |

## Data sheet



- Non-sparking solenoid coil
- Category "II 3G" and "II 3D"
- Type of ignition protection for gas "Ex nA"
- ATEX certification
- Can be changed without interrupting the pneumatic circuit



| General technical data |  |
|------------------------|--|
| Type of mounting       | Via knurled nut  |
| Mounting position      | Any (can be rotated in increments of 45° on the armature tube) |
| Product weight [g]     | 95   |

| Materials         |                |
|-------------------|----------------|
| Housing           | Steel, polymer |
| Winding           | Copper         |
| Pin contacts      | Brass          |
| Note on materials | RoHS-compliant |

| Electrical data                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type A |
| Permissible voltage fluctuations [%] | -10 / +10  |
| Duty cycle [%]                       | 100  |
| Insulation class                     | F  |
| Enamelled wire insulation class      | H  |
| Degree of protection to EN 60529     | IP65 with plug socket  |

| Characteristic coil data | 24 V DC           |     | 110 V AC |     | 230 V AC |  |
|--------------------------|-------------------|-----|----------|-----|----------|--|
|                          | Operating voltage |     |          |     |          |  |
| Frequency [Hz]           | -                 | 50  | 60       | 50  | 60       |  |
| Power [W]                | 2.1               | -   | -        | -   | -        |  |
| Pickup power [VA]        | -                 | 6.9 | 5.4      | 6.9 | 5.4      |  |
| Holding power [VA]       | -                 | 4.1 | 3.2      | 4.1 | 3.3      |  |

| Operating and environmental conditions                   |   |
|--|---|
| Ambient temperature [°C]                                 | -20 ... +60                                 |
| Corrosion resistance class CRC <sup>1)</sup>             | 2   |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX) |
| Maritime classification <sup>2)</sup>                    | See certificate                             |
| Certificate issuing authority                            | DNVGL-TAA000011]                            |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

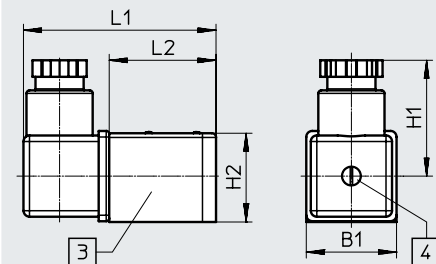
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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

## Data sheet

| ATEX                                     |                              |
|--|------------------------------|
| ATEX category gas                        | II 3G                        |
| Type of ignition protection for gas      | Ex nA IIC T5/T4 X Gc         |
| ATEX category for dust                   | II 3D                        |
| Type of ignition protection for dust     | Ex tc IIIC T95°C/T105°C X Dc |
| Explosion-proof ambient temperature [°C] | $-20 \leq T_a \leq +60$      |

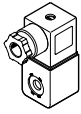
## Dimensions

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

- [3] Solenoid coil  
[4] Mounting screw M3

| Type                | B1 | H1   | H2   | L1 | L2   |
|---------------------|----|------|------|----|------|
| VACN-N-A1-...-EX2-N | 30 | 38.5 | 29.5 | 64 | 35.5 |

## Ordering data

|   | Description   | Operating voltage | Part no.       | Type                |
|---|---|-------------------|----------------|---------------------|
|  | With plug socket included in the scope of delivery, plug pattern to EN 175301-803, type A | 24 V DC           | <b>8029136</b> | VACN-N-A1-1-EX2-N   |
|   |   | 110 V AC          | <b>8029137</b> | VACN-N-A1-16B-EX2-N |
|   |   | 230 V AC          | <b>8029138</b> | VACN-N-A1-3A-EX2-N  |

## Data sheet



- Encapsulated solenoid coil with insulating conduit connection
- Explosion protection certification "Class I", "Class II" and "Class III"
- FM certification
- Can be changed without interrupting the pneumatic circuit



| General technical data |  |
|------------------------|--|
| Type of mounting       | Via knurled nut  |
| Mounting position      | Any (can be rotated in increments of 45° on the armature tube) |
| Product weight [g]     | 207  |

| Materials         |  |
|-------------------|--|
| Housing           | Steel, polymer                               |
| Winding           | Copper                                       |
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

| Electrical data                      |           |
|--------------------------------------|-----------|
| Electrical connection                | Cable     |
| Cable length [m]                     | 0.61      |
| Permissible voltage fluctuations [%] | -10 / +10 |
| Duty cycle [%]                       | 100       |
| Insulation class                     | H         |
| Enamelled wire insulation class      | H         |
| Degree of protection to EN 60529     | IP65      |

| Characteristic coil data |         |          |          |
|--------------------------|---------|----------|----------|
| Operating voltage        | 24 V DC | 110 V AC | 230 V AC |
| Frequency [Hz]           | -       | 60       | 50       |
| Power [W]                | 4.6     | -        | -        |
| Pickup power [VA]        | -       | 10       | 11.5     |
| Holding power [VA]       | -       | 6.8      | 8        |

| Operating and environmental conditions                   |                  |                             |          |
|--|------------------|-----------------------------|----------|
| Operating voltage  | 24 V DC          | 110 V AC                    | 230 V AC |
| Ambient temperature [°C]                                 | -20 ... +60      | -20 ... +60                 |          |
| Corrosion resistance class CRC <sup>1)</sup>             | 2                | 2                           |          |
| CE marking (see declaration of conformity) <sup>2)</sup> | -                | To EU Low Voltage Directive |          |
| Maritime classification <sup>2)</sup>                    | See certificate  |                             |          |
| Certificate issuing authority                            | DNVGL-TAA000011] |                             |          |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

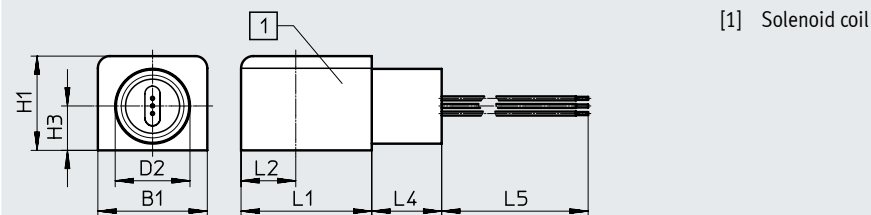
2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.



## Data sheet

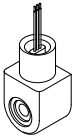
| ATEX  |                           |                        |
|---|---------------------------|------------------------|
| Type of ignition protection for gas               | AEx m II T4<br>Ex m II T4 |                        |
| Explosion-proof ambient temperature [°C]          | -20 ≤ Ta ≤ +60            |                        |
| Explosion protection certification outside the EU | EPL Gb (US)               |                        |
|   | Class I, Div. 1 (US)      | Class I, Div. 1 (CA)   |
|   | -                         | Class I, Div. 2 (CA)   |
|   | Class II, Div. 1 (US)     | Class II, Div. 1 (CA)  |
|   | Class III, Div. 1 (US)    | Class III, Div. 1 (CA) |
| Certificate issuing authority                     | CSA 265489                |                        |
|   | FM 3053936                |                        |

## Dimensions

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| Type           | B1 | D2   | H1 | H3   | L1 | L2 | L4 | L5  |
|----------------|----|------|----|------|----|----|----|-----|
| VACN-N-K11-... | 36 | 24.6 | 31 | 14.5 | 43 | 18 | 23 | 610 |

## Ordering data

|   | Description      | Operating voltage | Part no. | Type                    |
|---|------------------|-------------------|----------|-------------------------|
|  | Moulded-in cable | 24 V DC           | 8029146  | VACN-N-K11-1-0.5-U4-M   |
|   |                  | 110 V AC          | 8029145  | VACN-N-K11-16B-0.5-U4-M |
|   |                  | 230 V AC          | 8029140  | VACN-N-K11-3A-0.5-U4-M  |

## Data sheet



- Category "II 2G" and "II 2D"
- Type of ignition protection for gas "Ex mb"
- ATEX certification
- Can be changed without interrupting the pneumatic circuit



| General technical data |  |
|------------------------|--|
| Type of mounting       | Via knurled nut  |
| Mounting position      | Any (can be rotated in increments of 45° on the armature tube) |

| Materials         |                |
|-------------------|----------------|
| Housing           | Steel, polymer |
| Winding           | Copper         |
| Note on materials | RoHS-compliant |

| Electrical data                      |                       |
|--------------------------------------|-----------------------|
| Electrical connection                | Cable                 |
| Cable diameter [mm]                  | 7                     |
| Permissible voltage fluctuations [%] | -10 / +10             |
| Duty cycle [%]                       | 100                   |
| Insulation class                     | F                     |
| Enamelled wire insulation class      | H                     |
| Degree of protection to EN 60529     | IP65 with plug socket |

| Characteristic coil data |       |        |        |     |
|--------------------------|-------|--------|--------|-----|
| Operating voltage [V]    | 24 DC | 110 AC | 230 AC |     |
| Frequency [Hz]           | -     | 50/60  | 50/60  |     |
| Power [W]                | 2.6   | -      | -      |     |
|                          | [VA]  | -      | 2.4    | 2.1 |

| Operating and environmental conditions                   |   |    |
|--|---|----|
| Cable length [m]   | 3   | 10 |
| Ambient temperature [°C]                                 | -20 ... +50   |    |
| Corrosion resistance class CRC <sup>1)</sup>             | 2   |    |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX)<br>To EU RoHS Directive |    |
| Maritime classification <sup>2)</sup>                    | See certificate   |    |
| Certificate issuing authority                            | DNVGL-TAA000011   | -  |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

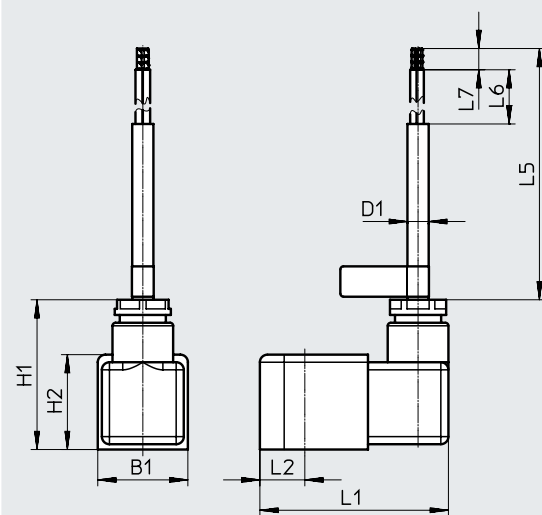
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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

## Data sheet

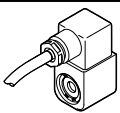
|   |                        |                        |
|---|------------------------|------------------------|
| <b>ATEX</b>                                       |                        |                        |
| Cable length [m]                                  | 3                      | 10                     |
| ATEX category gas                                 | II 2G                  | II 2G                  |
| Type of ignition protection for gas               | Ex mb IIC T6 Gb        | Ex mb IIC T6 Gb        |
| ATEX category for dust                            | II 2D                  | II 2D                  |
| Type of ignition protection for dust              | Ex mb tb IIIC T80°C Db | Ex mb tb IIIC T80°C Db |
| Explosion-proof ambient temperature [°C]          | $-20 \leq Ta \leq +50$ | $-20 \leq Ta \leq +50$ |
| Explosion protection certification outside the EU | -                      | EPL Gb (IEC-EX)        |
|   | EPL Db (IEC-EX)        | EPL Db (IEC-EX)        |
|   | EPL Gb (BR)            | -                      |
|   | EPL Db (BR)            | -                      |
| Certificate issuing authority                     | IECEx PTB 15.0016X     | IECEx PTB 15.0016X     |
|   | PTB 14 ATEX 2027 X     | PTB 14 ATEX 2027 X     |
|   |                        |                        |
|   | EPL Db (CN)            | -                      |

## Dimensions

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| Type                 | B1   | D1 | H1   | H2   | L1 | L2   | L5    | L6 | L7 |
|----------------------|------|----|------|------|----|------|-------|----|----|
| VACN-N-K1-1-EX4-M    | 29.7 | 7  | 49.3 | 31.3 | 67 | 14.8 | 3000  | 43 | 7  |
| VACN-N-K1-1-10-EX4-M | 29.7 | 7  | 49.3 | 31.3 | 67 | 14.8 | 10000 | 43 | 7  |
| VACN-N-K1-16B-EX4-M  | 29.7 | 7  | 49.3 | 31.3 | 67 | 14.8 | 3000  | 43 | 7  |
| VACN-N-K1-3A-EX4-M   | 29.7 | 7  | 49.3 | 31.3 | 67 | 14.8 | 3000  | 43 | 7  |

## Ordering data

|   | Description                  | Operating voltage | Cable length | Product weight | Part no.       | Type                        |
|---|------------------------------|-------------------|--------------|----------------|----------------|-----------------------------|
|  | With plug socket, with cable | 24 V DC           | 3 m          | 353 g          | <b>8029143</b> | <b>VACN-N-K1-1-EX4-M</b>    |
|   |                              |                   | 10 m         | 762 g          | <b>8141606</b> | <b>VACN-N-K1-1-10-EX4-M</b> |
|   |                              | 110 V AC          | 3 m          | 353 g          | <b>8029142</b> | <b>VACN-N-K1-16B-EX4-M</b>  |
|   |                              |                   | 230 V AC     | 3 m            | 353 g          | <b>8029141</b>              |

## Data sheet



- Intrinsically safe solenoid coil
- Category "II 2G" and "II 2D"
- Type of ignition protection for gas "Ex ia"
- ATEX certification
- Can be changed without interrupting the pneumatic circuit



## General technical data

|                    |  |
|--------------------|--|
| Type of mounting   | Via knurled nut  |
| Mounting position  | Any (can be rotated in increments of 45° on the armature tube) |
| Product weight [g] | 114  |

## Materials

|                   |                |
|-------------------|----------------|
| Housing           | Steel, polymer |
| Winding           | Copper         |
| Note on materials | RoHS-compliant |

## Electrical data

|                                      |   |
|--------------------------------------|---|
| Electrical connection                | Plug, plug pattern to EN 175301-803, type A |
| Permissible voltage fluctuations [%] | -10 / +10                                   |
| Duty cycle [%]                       | 100   |
| Insulation class                     | F   |
| Enamelled wire insulation class      | H   |
| Degree of protection to EN 60529     | IP65 with plug socket                       |

## Characteristic coil data

|                                   |                |
|-----------------------------------|----------------|
| Operating voltage [V]             | 24 DC          |
| Max. input voltage [V]            | 28 DC          |
| Max. input current [mA]           | 115            |
| Required current consumption [mA] | ≥27            |
| Effective internal capacitance    | Negligibly low |
| Effective internal inductance     | Negligibly low |

## Operating and environmental conditions

|  |   |
|--|---|
| Ambient temperature [°C]                                 | -20 ... +50                                 |
| Corrosion resistance class CRC <sup>1)</sup>             | 2   |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX) |
| Maritime classification <sup>2)</sup>                    | See certificate                             |
| Certificate issuing authority                            | DNVGL-TAA000011]                            |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

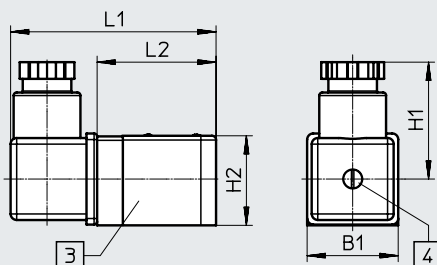
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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

## Data sheet

| ATEX  |                                     |
|---|-------------------------------------|
| ATEX category gas                                 | II 2G                               |
| Type of ignition protection for gas               | Ex ia IIC T6, T4 Ga                 |
| ATEX category for dust                            | II 2D                               |
| Type of ignition protection for dust              | Ex tb IIIC T80°C, T130°C Db IP65    |
| Explosion-proof ambient temperature               | [°C] T4, T130°C: -40°C ≤ Ta ≤ +85°C |
|   | [°C] T6, T80°C: -40°C ≤ Ta ≤ +50°C  |
| Explosion protection certification outside the EU | EPL Gb (IEC-EX)                     |
|   | EPL Db (IEC-EX)                     |
|   | EPL Gb (IN)                         |
|   | EPL Db (IN)                         |
|   | EPL Db (CN)                         |
|   | EPL Ga (BR)                         |
| Certificate issuing authority                     | DNV 15.0188                         |
|   | IECEX PTB 15.0013                   |
|   | PTB 09 ATEX 2043                    |
|   | GYJ21.1326X                         |

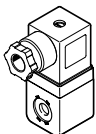
## Dimensions

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

- [3] Solenoid coil  
[4] Mounting screw M3

| Type                | B1 | H1   | H2   | L1   | L2   |
|---------------------|----|------|------|------|------|
| VACN-N-A1-...-EX4-A | 30 | 38.5 | 29.5 | 67.7 | 39.2 |

## Ordering data

|   | Description  | Operating voltage | Part no.       | Type                     |
|---|--|-------------------|----------------|--------------------------|
|  | Intrinsically safe solenoid coil with plug socket included in the scope of delivery, plug pattern to EN 175301-803, type A | 24 V DC           | <b>8029139</b> | <b>VACN-N-A1-1-EX4-A</b> |

## Type codes

|             |                          |  |
|-------------|--------------------------|--|
| <b>001</b>  | <b>Series</b>            |  |
| <b>VACC</b> | Solenoid valve, series C |  |

|            |                             |  |
|------------|-----------------------------|--|
| <b>002</b> | <b>Solenoid coil type</b>   |  |
| <b>S13</b> | Solenoid coil, shaft 13 mm  |  |
| <b>S18</b> | Solenoid valve, shaft 18 mm |  |

|            |                          |  |
|------------|--------------------------|--|
| <b>003</b> | <b>Power consumption</b> |  |
| <b>11</b>  | 1.1 W                    |  |
| <b>18</b>  | 1.8 W                    |  |
| <b>25</b>  | 2.5 W                    |  |
| <b>35</b>  | 3.5 W                    |  |
| <b>70</b>  | 7 W                      |  |
| <b>120</b> | 12 W                     |  |

|            |  |  |
|------------|--|--|
| <b>004</b> | <b>Electrical connection</b>             |  |
| <b>A1</b>  | Connection pattern type A, to EN 175 301 |  |
| <b>K4</b>  | Cable connector metric                   |  |
| <b>K5</b>  | Cable connector NPT                      |  |

|            |                                  |  |
|------------|----------------------------------|--|
| <b>005</b> | <b>Nominal operating voltage</b> |  |
| <b>1</b>   | 24 V DC                          |  |
| <b>1A</b>  | 24 V AC/50-60 Hz                 |  |
| <b>1U</b>  | 24 V DC and AC                   |  |
| <b>2A</b>  | 110 V AC/50-60 Hz                |  |
| <b>2U</b>  | 110 V DC and AC                  |  |
| <b>3</b>   | 230 V DC                         |  |
| <b>3A</b>  | 230 V AC/50-60 Hz                |  |
| <b>3U</b>  | 230 V DC and AC                  |  |
| <b>7</b>   | 48 V DC                          |  |
| <b>7U</b>  | 48 V DC and AC                   |  |
| <b>16</b>  | 120 V DC                         |  |
| <b>16U</b> | 120 V DC and AC                  |  |
| <b>27</b>  | 60 V DC                          |  |
| <b>27U</b> | 60 V DC and AC                   |  |



|            |                  |  |
|------------|------------------|--|
| <b>006</b> | <b>Circuitry</b> |  |
|            | None             |  |
| <b>F</b>   | Fuse             |  |

|            |                         |  |
|------------|-------------------------|--|
| <b>007</b> | <b>EU certification</b> |  |
|            | None                    |  |
| <b>EX4</b> | II 2GD                  |  |

|            |  |  |
|------------|--|--|
| <b>008</b> | <b>Certification</b>                                   |  |
|            | None   |  |
| <b>U2</b>  | cULus, hazardous environment, USA and Canada (NEC 500) |  |
| <b>NE4</b> | NEPSI, II 2GD  |  |
| <b>NM4</b> | INMETRO, II 2GD  |  |

|            |                                    |  |
|------------|------------------------------------|--|
| <b>009</b> | <b>Type of ignition protection</b> |  |
|            | None                               |  |
| <b>A</b>   | Intrinsically safe                 |  |
| <b>D</b>   | Flameproof encapsulation           |  |
| <b>ME</b>  | Encapsulation, enhanced security   |  |

## Data sheet

|   |                   |                   |
|---|-------------------|-------------------|
| -  - | Voltage           | Nominal power     |
|   | 24 V DC           | 2 watt at 24 V DC |
|   | 24 V AC/DC        |                   |
|   | 110 V AC/DC       |                   |
|   | 230 V AC/DC       |                   |
| -  - | Temperature range |                   |
|   | -20 ... +60°C     |                   |

**General technical data**

|                    |                 |
|--------------------|-----------------|
| Type of mounting   | Via knurled nut |
| Actuation type     | Electrical      |
| Mounting position  | Any             |
| Product weight [g] | 210             |

**Materials**

|                   |  |
|-------------------|--|
| Housing           | PA, UP                                       |
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

**Electrical data**

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type A |
| Permissible voltage fluctuations [%] | -15 ... 10   |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket  |
| Insulation class                     | H  |

**Characteristic coil data**

| Operating voltage | 24 V DC | 24 V AC/DC |     | 110 V AC/DC |     | 230 V AC/DC |     |
|-------------------|---------|------------|-----|-------------|-----|-------------|-----|
| Frequency [Hz]    | -       | 50/60      | -   | 50/60       | -   | 50/60       | -   |
| Power [W]         | 1.8     | -          | 1.8 | -           | 1.8 | -           | 1.8 |
|                   | [VA]    | -          | 1.8 | -           | 1.8 | -           | 1.8 |

**Operating and environmental conditions**

| Operating voltage  | 24 V DC    | 24 V AC/DC | 110 V AC/DC  | 230 V AC/DC |
|--|------------|------------|--|-------------|
| Ambient temperature [°C]                                 | -20 ... 60 |            | -20 ... 60   |             |
| Corrosion resistance class CRC <sup>1)</sup>             | 4          |            | 4  |             |
| CE marking (see declaration of conformity) <sup>2)</sup> | -          |            | To EU Low Voltage Directive<br>(only for alternating voltage AC) |             |

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

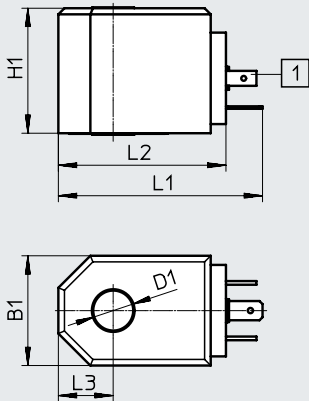
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

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

Data sheet

Dimensions

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



[1] Plug pattern type A, to EN 175301-803

| Type               | B1 | D1   | H1 | L1 | L2 | L3 |
|--------------------|----|------|----|----|----|----|
| VACC-S13-18-A1-... | 36 | 13.1 | 41 | 67 | 55 | 18 |

Ordering data

|  | Description                   | Operating voltage | Part no. | Type              |
|--|-------------------------------|-------------------|----------|-------------------|
|  | Plug type A, to EN 175301-803 | 24 V DC           | 562889   | VACC-S13-18-A1-1  |
|  |                               | 24 V AC/DC        | 562890   | VACC-S13-18-A1-1U |
|  |                               | 110 V AC/DC       | 562891   | VACC-S13-18-A1-2U |
|  |                               | 230 V AC/DC       | 562892   | VACC-S13-18-A1-3U |

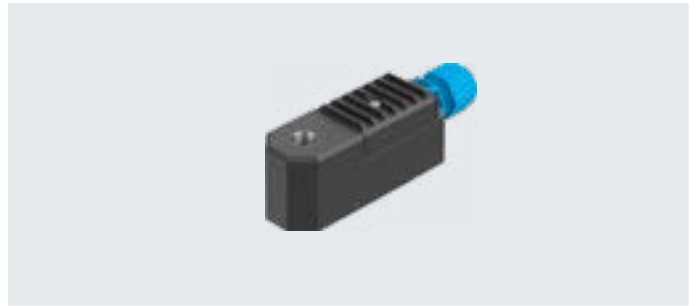


## Data sheet

Voltage  
14 ... 32 V DC

- Intrinsically safe solenoid coil
- Type of ignition protection for gas "Ex ia"

Nominal power  
0.22 ... 1.1 watt



## General technical data

|                               |            |
|-------------------------------|------------|
| Actuation type                | Electrical |
| Mounting position             | Any        |
| Switching position indication | No         |
| Product weight [g]            | 330        |

## Materials

|                   |  |
|-------------------|--|
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

## Electrical data

|   |  |
|---|--|
| Electrical connection                               | Terminal box, cable entry thread M20x1.5 |
| Permissible voltage fluctuations [%]                | -15 ... 10                               |
| Duty cycle [%]                                      | 100                                      |
| Maximum input power, P <sub>i</sub> [W]             | 1.2                                      |
| Maximum input voltage, U <sub>i</sub> [V]           | 32                                       |
| Maximum input current, I <sub>i</sub> [A]           | 0.2                                      |
| Required current consumption, I <sub>min</sub> [mA] | 16                                       |
| Degree of protection to EN 60529                    | IP65                                     |
| Insulation class                                    | H  |

## Characteristic coil data

|  |                |
|--|----------------|
| Operating voltage [V DC]                       | 14 ... 32      |
| Power [W]                                      | 0.22 ... 1.1   |
| Effective internal capacitance, C <sub>i</sub> | Negligibly low |
| Effective internal inductance, L <sub>i</sub>  | Negligibly low |

## Operating and environmental conditions

| Type   | VACC-S13-11-K4-1-EX4A                       | VACC-S13-11-K4-1-NE4A | VACC-S13-11-K4-1-NM4A |
|--|---|-----------------------|-----------------------|
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU EMC Directive <sup>1)</sup>           | -                     | -                     |
|  | To EU Explosion Protection Directive (ATEX) | -                     | -                     |

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

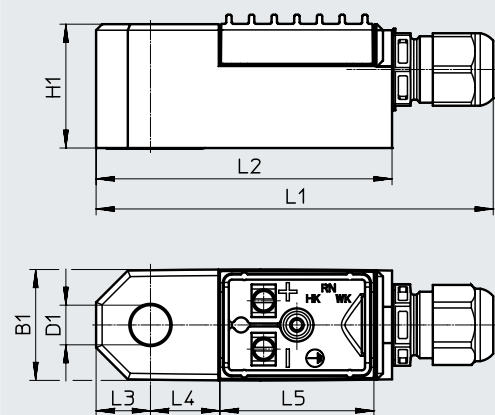
2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Data sheet

| ATEX Type   | VACC-S13-11-K4-1-EX4A           | VACC-S13-11-K4-1-NE4A         | VACC-S13-11-K4-1-NM4A           |
|---|---------------------------------|-------------------------------|---------------------------------|
| ATEX category gas                                 | II 2G                           | -                             | -                               |
| Type of ignition protection for gas               | Ex ia IICT6, T5 Gb              | Ex ia IICT5/T6 Gb             | Ex ia IICT6, T5 Gb              |
| ATEX category for dust                            | II 2D                           | -                             | -                               |
| Type of ignition protection for dust              | Ex ia IIIC T80°C, T95°C IP65 Db | Ex iaD 21 T95/T80             | Ex ia IIIC T80°C, T95°C IP65 Db |
| Explosion-proof ambient temperature               | T5, T95°C: -30°C ≤ Ta ≤ +65°C   | T5, T95°C: -30°C ≤ Ta ≤ +65°C | T5, T95°C: -30°C ≤ Ta ≤ +65°C   |
|   | T6, T80°C: -30°C ≤ Ta ≤ +50°C   | T6, T80°C: -30°C ≤ Ta ≤ +50°C | T6, T80°C: -30°C ≤ Ta ≤ +50°C   |
| Explosion protection certification outside the EU | EPL Db (IEC Ex)                 | -                             | -                               |
|   | EPL Gb (IECEX)                  | -                             | -                               |
| Certificate issuing authority                     | BVS15 ATEXE030X                 | GYJ20.1094X                   | DNV 17.0043X                    |
|   | IECEX BVS 15.0020X              | -                             | -                               |

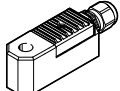
Dimensions

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| Type             | B1 | D1   | H1 | L1  | L2 | L3 | L4 | L5 |
|------------------|----|------|----|-----|----|----|----|----|
| VACC-S13-11-K4-1 | 37 | 13.1 | 41 | 131 | 98 | 18 | 23 | 51 |

Ordering data

| Description   | Certification                               | Part no.       | Type                         |
|---|---|----------------|------------------------------|
|  Terminal box, cable entry thread M20x1.5 | To EU Explosion Protection Directive (ATEX) | <b>8109401</b> | <b>VACC-S13-11-K4-1-EX4A</b> |
|   | NEPSI                                       | <b>8114135</b> | <b>VACC-S13-11-K4-1-NE4A</b> |
|   | INMETRO                                     | <b>8114078</b> | <b>VACC-S13-11-K4-1-NM4A</b> |

## Data sheet

Voltage  
 24 V AC/DC  
 60 V AC/DC  
 110 V AC/DC  
 230 V AC/DC

- Encapsulated solenoid coil with enhanced safety
- Type of ignition protection for gas "Ex e mb"

Nominal power  
 1.8 watt

**General technical data**

|                               |            |
|-------------------------------|------------|
| Actuation type                | Electrical |
| Mounting position             | Any        |
| Switching position indication | No         |
| Product weight [g]            | 330        |

**Materials**

|                   |  |
|-------------------|--|
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

**Electrical data**

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Terminal box, cable entry thread M20x1.5 |
| Permissible voltage fluctuations [%] | -15 ... 10                               |
| Duty cycle [%]                       | 100                                      |
| Insulation class                     | H  |
| Degree of protection to EN 60529     | IP65                                     |

**Characteristic coil data**

| Operating voltage | 24 V AC/DC     |       | 24 V AC/DC<br>With fuse |       | 60 V AC/DC |       | 110 V AC/DC |       | 230 V AC/DC |       |
|-------------------|----------------|-------|-------------------------|-------|------------|-------|-------------|-------|-------------|-------|
|                   | Frequency [Hz] | 50/60 | -                       | 50/60 | -          | 50/60 | -           | 50/60 | -           | 50/60 |
| Power [W]         | -              | 1.8   | -                       | 1.8   | -          | 1.8   | -           | 1.8   | -           | 1.8   |
|                   | [VA]           | 1.8   | -                       | 1.8   | -          | 1.8   | -           | 1.8   | -           | 1.8   |

**Operating and environmental conditions**

|  |   |                          |                          |
|--|---|--------------------------|--------------------------|
| Type   | VACC-S13-18-K4-...-EX4A                     | VACC-S13-18-K4-...-NE4ME | VACC-S13-18-K4-...-NM4ME |
| CE marking (see declaration of conformity) <sup>1)</sup> | To EU Explosion Protection Directive (ATEX) | -                        | -                        |

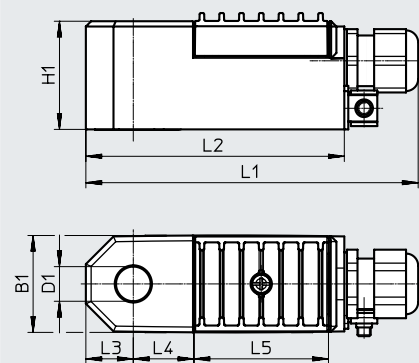
1) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Data sheet

| ATEX  |                                    |                                   |                                    |
|---|------------------------------------|-----------------------------------|------------------------------------|
| Type  | VACC-S13-18-K4-...-EX4ME           | VACC-S13-18-K4-...-NE4ME          | VACC-S13-18-K4-...-NM4ME           |
| ATEX category gas                                 | II 2G                              | -                                 | -                                  |
| Type of ignition protection for gas               | Ex eb mb IIC T6, T5, T4 Gb         | Ex e mb IIC T4/T5/T6 Gb           | Ex eb mb IIC T6, T5, T4 Gb         |
| ATEX category for dust                            | II 2D                              | -                                 | -                                  |
| Type of ignition protection for dust              | Ex tb IIIC T85°C, T95°C, T130°C Db | Ex tD A21 IP65 T130°C/T95°C/T85°C | Ex tb IIIC T85°C, T95°C, T130°C Db |
| Explosion-proof ambient temperature [°C]          | T4, T130°C: -30°C ≤ Ta ≤ +60°C     | T4, T130°C: -30°C ≤ Ta ≤ +60°C    | T4, T130°C: -30°C ≤ Ta ≤ +60°C     |
|   | T5, T95°C: -30°C ≤ Ta ≤ +60°C      | T5, T95°C: -30°C ≤ Ta ≤ +60°C     | T5, T95°C: -30°C ≤ Ta ≤ +60°C      |
|   | T6, T85°C: -30°C ≤ Ta ≤ +50°C      | T6, T85°C: -30°C ≤ Ta ≤ +50°C     | T6, T85°C: -30°C ≤ Ta ≤ +50°C      |
| Explosion protection certification outside the EU | EPL Db (IEC Ex)                    | -                                 | -                                  |
|   | EPL Gb (IECEX)                     | -                                 | -                                  |
| Certificate issuing authority                     | BVS 15ATEXE029X                    | GYJ17.1235X                       | INMETRO DNV 17.0042X               |
|   | IECEX BVS 15.0075X                 | -                                 | -                                  |

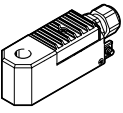
Dimensions

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




| Type           | B1 | D1   | H1 | L1  | L2 | L3 | L4 | L5 |
|----------------|----|------|----|-----|----|----|----|----|
| VACC-S13-18-K4 | 37 | 13.1 | 41 | 126 | 98 | 18 | 23 | 51 |


Ordering data

|  | Description                              | Certification                               | Operating voltage       | Internal fuse protection | Part no.  | Type                     |
|--|--|---|-------------------------|--------------------------|-----------|--------------------------|
|  | Terminal box, cable entry thread M20x1.5 | To EU Explosion Protection Directive (ATEX) | 24 V AC/DC              | -                        | ★ 8109396 | VACC-S13-18-K4-1U-EX4ME  |
|  |  |   |                         | Fuse                     | ★ 8109399 | VACC-S13-18-K4-1UF-EX4ME |
|  |  |   | 60 V AC/DC              | -                        | ★ 8109400 | VACC-S13-18-K4-27U-EX4ME |
|  |  |   |                         | -                        | ★ 8109397 | VACC-S13-18-K4-2U-EX4ME  |
|  |  |   | 230 V AC/DC             | -                        | ★ 8109398 | VACC-S13-18-K4-3U-EX4ME  |
|  |  |   |                         | -                        | -         | -                        |
|  |  | NEPSI                                       | 24 V AC/DC              | -                        | 8118329   | VACC-S13-18-K4-1U-NE4ME  |
|  |  |   |                         | Fuse                     | 8118332   | VACC-S13-18-K4-1UF-NE4ME |
|  |  |   | 60 V AC/DC              | -                        | 8118333   | VACC-S13-18-K4-27U-NE4ME |
|  |  |   |                         | -                        | 8118330   | VACC-S13-18-K4-2U-NE4ME  |
|  |  |   | 230 V AC/DC             | -                        | 8118331   | VACC-S13-18-K4-3U-NE4ME  |
|  |  |   |                         | -                        | -         | -                        |
| INMETRO  | 24 V AC/DC                               | -   | 8118324                 | VACC-S13-18-K4-1U-NM4ME  |           |                          |
|  |  | Fuse  | 8118327                 | VACC-S13-18-K4-1UF-NM4ME |           |                          |
|  | 60 V AC/DC                               | -   | 8118328                 | VACC-S13-18-K4-27U-NM4ME |           |                          |
|  |  | -   | 8118325                 | VACC-S13-18-K4-2U-NM4ME  |           |                          |
| 230 V AC/DC  | -  | 8118326                                     | VACC-S13-18-K4-3U-NM4ME |                          |           |                          |

## Data sheet

-  Voltage  
24 V DC  
24 V AC  
110 V AC  
230 V AC

Nominal power  
3.6 watt at 24 V DC

-  Temperature range  
-20 ... +60°C



| General technical data |                 |         |          |          |
|------------------------|-----------------|---------|----------|----------|
| Operating voltage      | 24 V DC         | 24 V AC | 110 V AC | 230 V AC |
| Type of mounting       | Via knurled nut |         |          |          |
| Actuation type         | Electrical      |         |          |          |
| Mounting position      | Any             |         |          |          |
| Product weight [g]     | 530             |         |          | 580      |

| Materials         |  |
|-------------------|--|
| Solenoid coil     | Steel, PA  |
| Note on materials | Contains paint-wetting impairment substances<br>RoHS-compliant |

| Electrical data                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern type A, to EN 175301-803 |
| Permissible voltage fluctuations [%] | -15 ... 10   |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket  |
| Insulation class                     | H  |

| Characteristic coil data |         |         |          |          |
|--------------------------|---------|---------|----------|----------|
| Operating voltage        | 24 V DC | 24 V AC | 110 V AC | 230 V AC |
| Frequency [Hz]           | -       | 50/60   | 50/60    | 50/60    |
| Power [W]                | 3.5     | -       | -        | -        |
| [VA]                     | -       | 3.5     | 3.5      | 3.5      |

| Operating and environmental conditions                   |            |         |                             |          |
|--|------------|---------|-----------------------------|----------|
| Operating voltage  | 24 V DC    | 24 V AC | 110 V AC                    | 230 V AC |
| Ambient temperature [°C]                                 | -20 ... 60 |         | -20 ... 60                  |          |
| Corrosion resistance class CRC <sup>1)</sup>             | 4          |         | 4                           |          |
| CE marking (see declaration of conformity) <sup>2)</sup> | -          |         | To EU Low Voltage Directive |          |

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

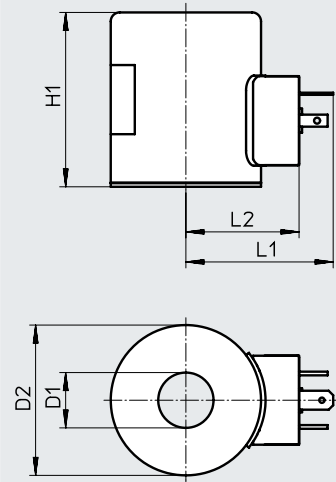
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

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

Data sheet


Dimensions

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





| Type              | D1<br>∅ | D2<br>∅ | H1 | L1 | L2 |
|-------------------|---------|---------|----|----|----|
| VACC-S18-35-A1-1  | 18.2    | 50      | 58 | 50 | 38 |
| VACC-S18-35-A1-1A |         |         |    |    |    |
| VACC-S18-35-A1-2A |         |         |    |    |    |
| VACC-S18-35-A1-3A |         |         |    |    |    |

Ordering data

|  | Description                   | Operating voltage | Part no. | Type              |
|--|-------------------------------|-------------------|----------|-------------------|
|  | Plug type A, to EN 175301-803 | 24 V DC           | 562906   | VACC-S1-35-A1-1   |
|  |                               | 24 V AC           | 562907   | VACC-S18-35-A1-1A |
|  |                               | 110 V AC          | 562908   | VACC-S18-35-A1-2A |
|  |                               | 230 V AC          | 562909   | VACC-S18-35-A1-3A |

## Data sheet

|   |                   |                    |
|---|-------------------|--------------------|
| -  - | Voltage           | Nominal power      |
|   | 24 V DC           | 12 watt at 24 V DC |
|   | 24 V AC           |                    |
|   | 110 V AC          |                    |
|   | 230 V AC          |                    |
| -  - | Temperature range |                    |
|   | -20 ... +60°C     |                    |

**General technical data**

|                    |                 |
|--------------------|-----------------|
| Type of mounting   | Via knurled nut |
| Actuation type     | Electrical      |
| Mounting position  | Any             |
| Product weight [g] | 530             |

**Materials**

|                   |  |
|-------------------|--|
| Housing           | PA, steel                                    |
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

**Electrical data**

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type A |
| Permissible voltage fluctuations [%] | -15 ... 10   |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket  |
| Insulation class                     | H  |

**Characteristic coil data**

| Operating voltage | 24 V DC | 24 V AC | 110 V AC | 230 V AC |
|-------------------|---------|---------|----------|----------|
| Frequency [Hz]    | -       | 50/60   | 50/60    | 50/60    |
| Power [W]         | 12.0    | -       | -        | -        |
|                   | [VA]    | 12.0    | 12.0     | 12.0     |

**Operating and environmental conditions**

| Operating voltage  | 24 V DC    | 24 V AC | 110 V AC                    | 230 V AC |
|--|------------|---------|-----------------------------|----------|
| Ambient temperature [°C]                                 | -20 ... 60 |         | -20 ... 60                  |          |
| Corrosion resistance class CRC <sup>1)</sup>             | 4          |         | 4                           |          |
| CE marking (see declaration of conformity) <sup>2)</sup> | -          |         | To EU Low Voltage Directive |          |

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

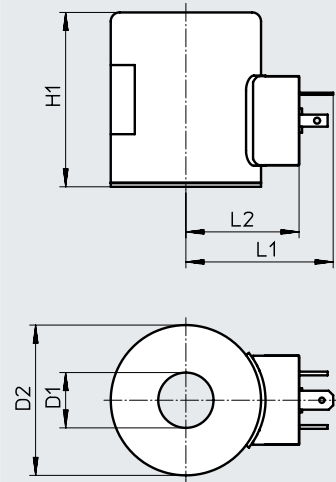
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

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

Data sheet


Dimensions

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| Type               | D1<br>∅ | D2<br>∅ | H1 | L1 | L2 |
|--------------------|---------|---------|----|----|----|
| VACC-S18-120-A1-1  | 18.2    | 50      | 58 | 50 | 38 |
| VACC-S18-120-A1-1A |         |         |    |    |    |
| VACC-S18-120-A1-2A |         |         |    |    |    |
| VACC-S18-120-A1-3A |         |         |    |    |    |

Ordering data

|  | Description                   | Operating voltage | Part no. | Type               |
|--|-------------------------------|-------------------|----------|--------------------|
|  | Plug type A, to EN 175301-803 | 24 V DC           | 8040580  | VACC-S18-120-A1-1  |
|  |                               | 24 V AC           | 8040890  | VACC-S18-120-A1-1A |
|  |                               | 110 V AC          | 8040582  | VACC-S18-120-A1-2A |
|  |                               | 230 V AC          | 8040584  | VACC-18-120-A1-3A  |



## Data sheet

Voltage  
230 V AC

Temperature range  
-50 ... +90°C

Nominal power  
3 watt at 230 V AC

- Solenoid coil with flame-proof enclosure
- ATEX category: "II 2G" and "II 2D"
- Type of ignition protection for gas "Ex d"



## General technical data

|                    |                 |
|--------------------|-----------------|
| Type of mounting   | Via knurled nut |
| Actuation type     | Electrical      |
| Mounting position  | Any             |
| Product weight [g] | 1700            |

## Materials

|                   |  |
|-------------------|--|
| Housing           | Wrought aluminium alloy, grey cast iron                        |
| Note on materials | Contains paint-wetting impairment substances<br>RoHS-compliant |

## Electrical data

|                                      |    |  |
|--------------------------------------|----|--|
| Electrical connection                | K4 | Terminal box, cable entry thread metric, M20x1.5 |
|                                      | K5 | Terminal box, cable entry thread NPT, 1/2 NPT    |
| Permissible voltage fluctuations [%] |    | -15 ... 10                                       |
| Duty cycle [%]                       |    | 100  |
| Degree of protection to EN 60529     |    | IP65 with plug socket                            |
| Insulation class                     |    | H  |

## Characteristic coil data

|                          |  |       |
|--------------------------|--|-------|
| Operating voltage [V AC] |  | 230   |
| Frequency [Hz]           |  | 50/60 |
| Power [VA]               |  | 1.8   |

## ATEX

|   |  |   |
|---|--|---|
| ATEX category gas                                 |  | II 2G   |
| Type of ignition protection for gas               |  | Ex d IIC T6, T5, T4 Gb  |
| ATEX category for dust                            |  | II 2D   |
| Type of ignition protection for dust              |  | Ex tb IIIC T80°C, T95°C, T130°C Db                                  |
| Explosion-proof ambient temperature [°C]          |  | T4, T130°C: -50°C ≤ Ta ≤ +90°C                                      |
|   |  | T5, T95°C: -50°C ≤ Ta ≤ +55°C                                       |
|   |  | T6, T80°C: -50°C ≤ Ta ≤ +40°C                                       |
| Explosion protection certification outside the EU |  | EPL Db (BR), EPL Db (CN), EPL Db (IEC-EX), EPL Db (IN), EPL Db (KR) |
|   |  | EPL Gb (BR), EPL Gb (CN), EPL Gb (IEC-EX), EPL Gb (IN), EPL Gb (KR) |
| Certificate issuing authority                     |  | NEPSI GY17.1236X  |
|   |  | BVS15ATEXE135   |
|   |  | IECEXBVS.15.0116  |
|   |  | PESO P396315  |
|   |  | INMETRO DNV 17.0040X  |
|   |  | KGS 16-GA4BO-0897X<br>KGS 16-GA4BO-0896X                            |

## Data sheet

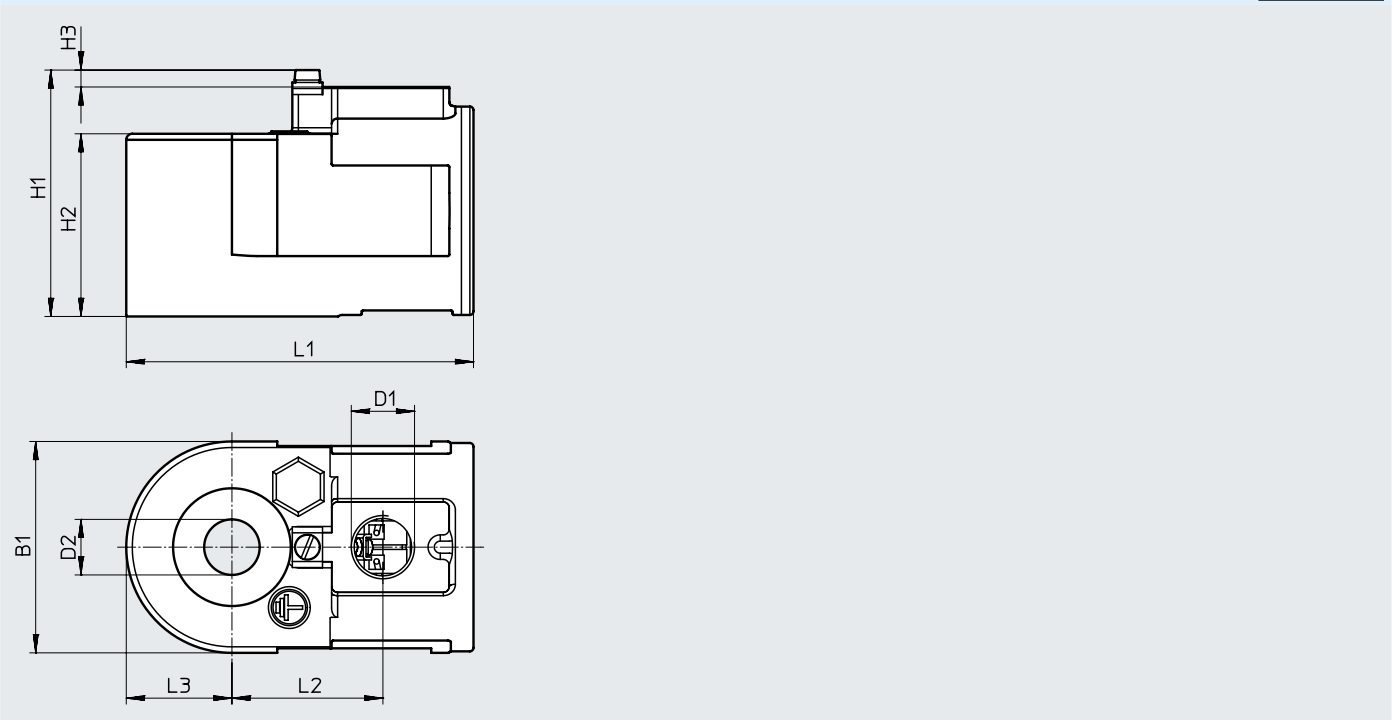
### Operating and environmental conditions

|  |   |
|--|---|
| Corrosion resistance class CRC <sup>1)</sup>             | 4   |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX) |

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

### Dimensions

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| Type                   | B1 | D1      | D2<br>∅ | H1 | H2   | H3 | L1  | L2 | L3 |
|------------------------|----|---------|---------|----|------|----|-----|----|----|
| VACC-S18-18-K4-3A-EX4D | 70 | M20x1.5 | 18.2    | 82 | 60.5 | 6  | 115 | 50 | 35 |
| VACC-S18-18-K5-3A-EX4D |    | 1/2 NPT |         |    |      |    |     |    |    |

### Ordering data

|  | Description                                   | Part no. | Type                   |
|--|---|----------|------------------------|
|  | Terminal box, cable connector metric, M20x1.5 | 3504741  | VACC-S18-18-K4-3A-EX4D |
|  | Terminal box, cable connector NPT, 1/2 NPT    | 3546734  | VACC-S18-18-K5-3A-EX4D |

## Data sheet

## Voltage

24 V AC/DC  
110 V AC/DC  
230 V AC/DC

## Temperature range

-20 ... +60°C

## Nominal power

2.5 W at 24 V DC

- Solenoid coil with flame-proof enclosure
- ATEX category: "II 2G" and "II 2D"
- Type of ignition protection for gas "Ex d"
- Explosion protection certification outside the EU EPL Db and EPL Gb



## General technical data

|                    |                 |
|--------------------|-----------------|
| Type of mounting   | Via knurled nut |
| Actuation type     | Electrical      |
| Mounting position  | Any             |
| Product weight [g] | 1700            |

## Materials

|                   |  |
|-------------------|--|
| Housing           | Wrought aluminium alloy, grey cast iron                        |
| Note on materials | Contains paint-wetting impairment substances<br>RoHS-compliant |

## Electrical data

|                                      |    |  |
|--------------------------------------|----|--|
| Electrical connection                | K4 | Terminal box, cable entry thread metric, M20x1.5 |
|                                      | K5 | Terminal box, cable entry thread NPT, 1/2 NPT    |
| Permissible voltage fluctuations [%] |    | -15 ... 10                                       |
| Duty cycle [%]                       |    | 100  |
| Degree of protection to EN 60529     |    | IP65   |
| Insulation class                     |    | H  |

## Characteristic coil data

| Operating voltage | 24 V AC/DC | 110 V AC/DC | 230 V AC/DC |
|-------------------|------------|-------------|-------------|
| Frequency [Hz]    | 50/60      | 50/60       | 50/60       |
| Power [W]         | 2.5        | 2.5         | 2.5         |
|                   | [VA]       | 2.5         | 2.5         |

## ATEX

|   |  |
|---|--|
| ATEX category gas                                 | II 2G  |
| Type of ignition protection for gas               | Ex d IIC T6, T5, T4 Gb   |
| ATEX category for dust                            | II 2D  |
| Type of ignition protection for dust              | Ex tb IIIC T80°C, T95°C, T130°C Db   |
| Explosion-proof ambient temperature [°C]          | T4, T130°C: -50°C ≤ Ta ≤ +90°C   |
|   | T5, T95°C: -50°C ≤ Ta ≤ +55°C  |
|   | T6, T80°C: -50°C ≤ Ta ≤ +40°C  |
| Explosion protection certification outside the EU | EPL Db (BR), EPL Db (CN), EPL Db (IEC-EX), EPL Db (IN), EPL Db (KR)<br>EPL Gb (BR), EPL Gb (CN), EPL Gb (IEC-EX), EPL Gb (IN), EPL Gb (KR) |
|   | Certificate issuing authority  |
|   | NEPSI GYJ17.1236X<br>BVS15ATEXE135<br>IECExBVS.15.0116<br>PESO P396315<br>INMETRO DNV 17.0040X<br>KGS 16-GA4BO-0897X<br>KGS 16-GA4BO-0896X |

## Data sheet

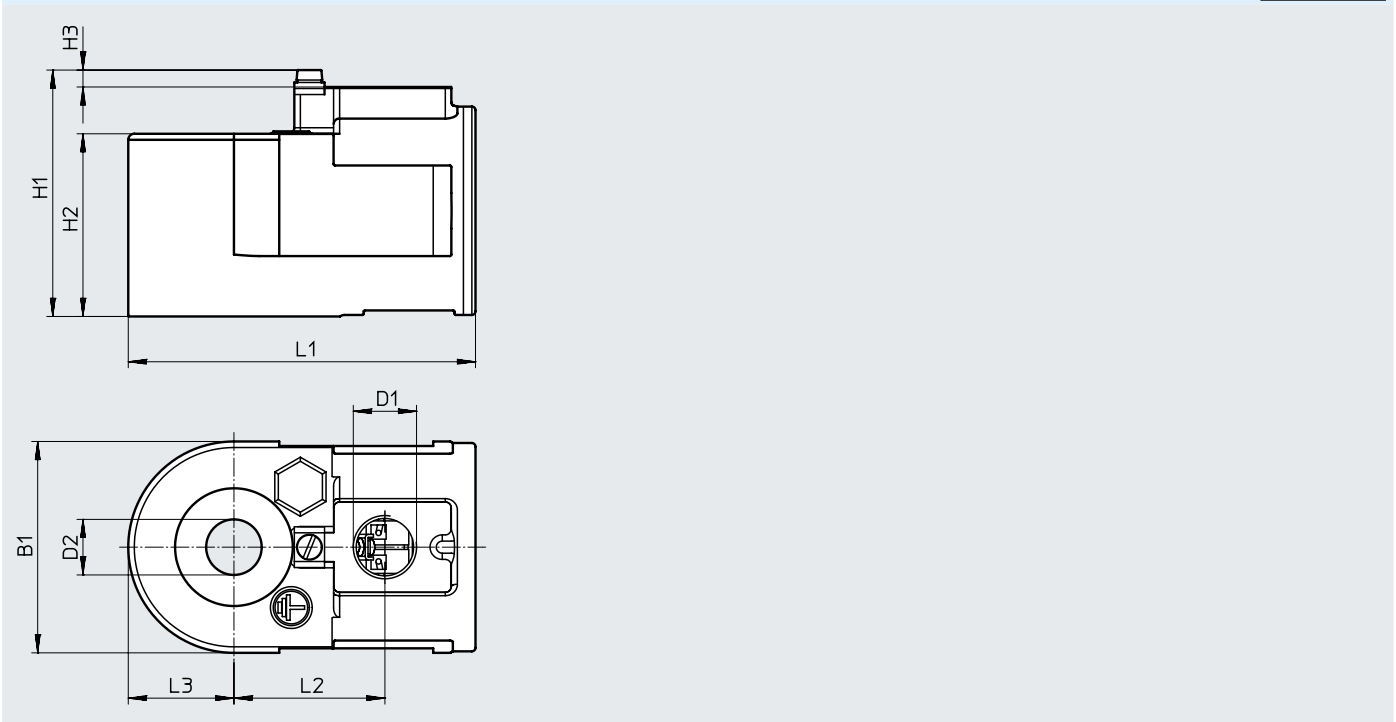
### Operating and environmental conditions

|  |   |
|--|---|
| Corrosion resistance class CRC <sup>1)</sup>             | 4   |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX) |

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

### Dimensions

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| Type                     | B1 | D1      | D2<br>∅ | H1 | H2   | H3 | L1  | L2 | L3 |
|--------------------------|----|---------|---------|----|------|----|-----|----|----|
| VACC-S18-25-K4-...U-EX4D | 70 | M20x1.5 | 18.2    | 82 | 60.5 | 6  | 115 | 50 | 35 |
| VACC-S18-25-K5-...U-EX4D |    | 1/2 NPT |         |    |      |    |     |    |    |

### Ordering data

|  | Description                                      | Operating voltage | Part no. | Type                   |
|--|--|-------------------|----------|------------------------|
|  | Terminal box, cable entry thread metric, M20x1.5 | 24 V AC/DC        | 562903   | VACC-S18-25-K4-1U-EX4D |
|  |  | 110 V AC/DC       | 562904   | VACC-S18-25-K4-2U-EX4D |
|  |  | 230 V AC/DC       | 562905   | VACC-S18-25-K4-3U-EX4D |
|  | Terminal box, cable entry thread NPT, 1/2 NPT    | 24 V AC/DC        | 562900   | VACC-S18-25-K5-1U-EX4D |
|  |  | 110 V AC/DC       | 562901   | VACC-S18-25-K5-2U-EX4D |
|  |  | 230 V AC/DC       | 562902   | VACC-S18-25-K5-3U-EX4D |

## Data sheet

Voltage  
 24 V AC/DC  
 48 V AC/DC  
 110 V AC/DC  
 120 V AC/DC  
 230 V AC/DC

- Solenoid coil with flame-proof enclosure
- ATEX category: "II 2G" and "II 2D"
- Type of ignition protection for gas "Ex d"
- Explosion protection certification outside the EU EPL Db and EPL Gb



Temperature range  
 -20 ... +90°C

Nominal power  
 7 W at 24 V DC

| General technical data |                 |
|------------------------|-----------------|
| Type of mounting       | Via knurled nut |
| Actuation type         | Electrical      |
| Mounting position      | Any             |
| Product weight [g]     | 1700            |

| Materials         |  |
|-------------------|--|
| Housing           | Wrought aluminium alloy, grey cast iron                        |
| Note on materials | Contains paint-wetting impairment substances<br>RoHS-compliant |

| Electrical data                      |    |  |
|--------------------------------------|----|--|
| Electrical connection                | K4 | Terminal box, cable entry thread metric, M20x1.5 |
|                                      | K5 | Terminal box, cable entry thread NPT, 1/2 NPT    |
| Permissible voltage fluctuations [%] |    | -15 ... 10                                       |
| Duty cycle [%]                       |    | 100  |
| Degree of protection to EN 60529     |    | IP65   |
| Insulation class                     |    | H  |

| Characteristic coil data |      |            |            |             |             |             |
|--------------------------|------|------------|------------|-------------|-------------|-------------|
| Operating voltage        |      | 24 V AC/DC | 48 V AC/DC | 110 V AC/DC | 120 V AC/DC | 230 V AC/DC |
| Frequency [Hz]           |      | 50/60      | 50/60      | 50/60       | 50/60       | 50/60       |
| Power [W]                |      | 7          | 7          | 7           | 7           | 7           |
|                          | [VA] | 7          | 7          | 7           | 7           | 7           |

| ATEX  |  |
|---|--|
| ATEX category gas                                 | II 2G  |
| Type of ignition protection for gas               | Ex d IIC T6, T5, T4 Gb   |
| ATEX category for dust                            | II 2D  |
| Type of ignition protection for dust              | Ex tb IIIC T80°C, T95°C, T130°C Db   |
| Explosion-proof ambient temperature [°C]          | T4, T130°C: -50°C ≤ Ta ≤ +90°C   |
|   | T5, T95°C: -50°C ≤ Ta ≤ +55°C  |
|   | T6, T80°C: -50°C ≤ Ta ≤ +40°C  |
| Explosion protection certification outside the EU | EPL Db (BR), EPL Db (CN), EPL Db (IEC-EX), EPL Db (IN), EPL Db (KR)<br>EPL Gb (BR), EPL Gb (CN), EPL Gb (IEC-EX), EPL Gb (IN), EPL Gb (KR)                                 |
|   | Certificate issuing authority<br>NEPSI GY17.1236X<br>BVS15ATEXE135<br>IECExBVS.15.0116<br>PESO P396315<br>INMETRO DNV 17.0040X<br>KGS 16-GA4BO-0897X<br>KGS 16-GA4BO-0896X |

## Data sheet

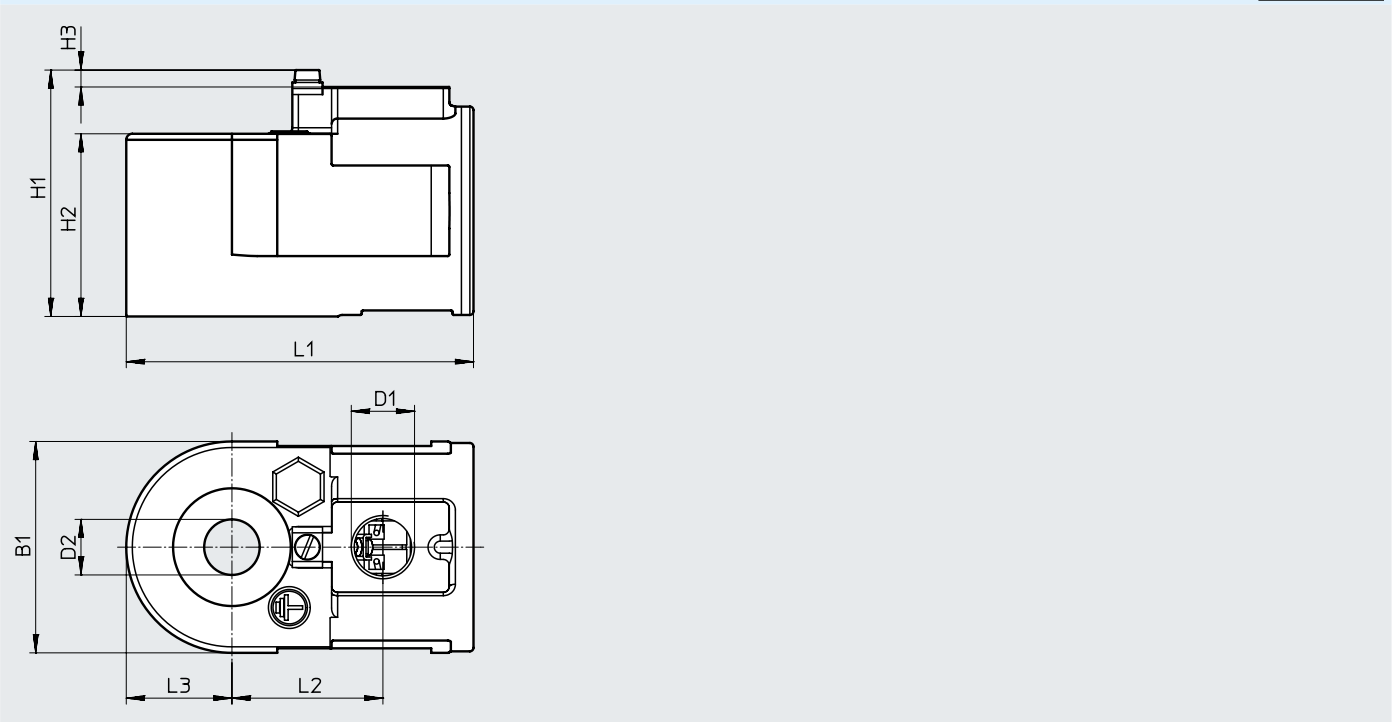
### Operating and environmental conditions

|  |   |
|--|---|
| Corrosion resistance class CRC <sup>1)</sup>             | 4   |
| CE marking (see declaration of conformity) <sup>2)</sup> | To EU Explosion Protection Directive (ATEX) |

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.


### Dimensions

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| Type                    | B1 | D1      | D2<br>∅ | H1 | H2   | H3 | L1  | L2 | L3 |
|-------------------------|----|---------|---------|----|------|----|-----|----|----|
| VACC-S18-70-K4-...-EX4D | 70 | M20x1.5 | 18.2    | 82 | 60.5 | 6  | 115 | 50 | 35 |
| VACC-S18-70-K5-...-EX4D | 70 | 1/2 NPT | 18.2    | 82 | 60.5 | 6  | 115 | 50 | 35 |

### Ordering data

|  | Description                                   | Operating voltage | Part no. | Type                    |
|--|---|-------------------|----------|-------------------------|
|  | Terminal box, cable connector metric, M20x1.5 | 24 V AC/DC        | 3504563  | VACC-S18-70-K4-1U-EX4D  |
|  |   | 48 V AC/DC        | 3504574  | VACC-S18-70-K4-7U-EX4D  |
|  |   | 120 V AC/DC       | 3504609  | VACC-S18-70-K4-16U-EX4D |
|  |   | 230 V AC/DC       | 3504639  | VACC-S18-70-K4-3U-EX4D  |
|  | Terminal box, cable connector NPT, 1/2 NPT    | 24 V AC/DC        | 3546549  | VACC-S18-70-K5-1U-EX4D  |
|  |   | 48 V AC/DC        | 3546588  | VACC-S18-70-K5-7U-EX4D  |
|  |   | 110 V AC/DC       | 3546625  | VACC-S18-70-K5-2U-EX4D  |
|  |   | 230 V AC/DC       | 3546662  | VACC-S18-70-K5-3U-EX4D  |

## Data sheet

Voltage  
24 V AC/DC  
110 V AC/DC  
230 V AC/DC

- Encapsulated solenoid coil with enhanced safety

Nominal power  
3.5 watt



## General technical data

|                               |            |
|-------------------------------|------------|
| Actuation type                | Electrical |
| Mounting position             | Any        |
| Switching position indication | No         |
| Product weight [g]            | 580        |

## Materials

|                   |  |
|-------------------|--|
| Housing           | PA, steel  |
| Note on materials | Contains paint-wetting impairment substances<br>RoHS-compliant |

## Electrical data

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Terminal box, cable entry thread M20x1.5 |
| Permissible voltage fluctuations [%] | -15 ... 10                               |
| Duty cycle [%]                       | 100                                      |
| Degree of protection to EN 60529     | IP66                                     |
| Insulation class                     | H  |

## Characteristic coil data

| Operating voltage | 24 V AC/DC     |       | 24 V AC/DC<br>With fuse |       | 110 V AC/DC |       | 230 V AC/DC |       |
|-------------------|----------------|-------|-------------------------|-------|-------------|-------|-------------|-------|
|                   | Frequency [Hz] | 50/60 | -                       | 50/60 | -           | 50/60 | -           | 50/60 |
| Power [W]         | -              | 3.5   | -                       | 3.5   | -           | 3.5   | -           | 3.5   |
|                   | [VA]           | 3.5   | -                       | 3.5   | -           | 3.5   | -           | 3.5   |

## Operating and environmental conditions

|  |   |                          |                          |
|--|---|--------------------------|--------------------------|
| Type   | VACC-S18-35-K4-...-EX4A                     | VACC-S18-35-K4-...-NE4ME | VACC-S18-35-K4-...-NM4ME |
| CE marking (see declaration of conformity) <sup>1)</sup> | To EU Explosion Protection Directive (ATEX) | -                        | -                        |

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

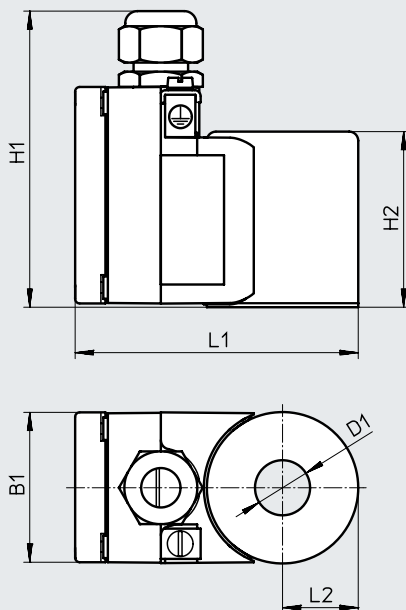
## ATEX

| Type  | VACC-S18-35-K4-...-EX4A       | VACC-S18-35-K4-...-NE4ME      | VACC-S18-35-K4-...-NM4ME      |
|---|-------------------------------|-------------------------------|-------------------------------|
| ATEX category gas                                 | II 2G                         | -                             | -                             |
| Type of ignition protection for gas               | Ex eb mb IIC T6, T5 Gb        | Ex e mb IIC T5/T6 Gb          | Ex eb mb IIC T6, T5 Gb        |
| ATEX category for dust                            | II 2D                         | -                             | -                             |
| Type of ignition protection for dust              | Ex tb IIIC T80°C, T95°C Db    | Ex tD A21 IP66 T95°C/T80°C    | Ex tb IIIC T80°C, T95°C Db    |
| Explosion-proof ambient temperature [°C]          | T5, T95°C: -25°C ≤ Ta ≤ +60°C | T5, T95°C: -25°C ≤ Ta ≤ +60°C | T5, T95°C: -25°C ≤ Ta ≤ +60°C |
|   | T6, T80°C: -25°C ≤ Ta ≤ +50°C | T6, T80°C: -25°C ≤ Ta ≤ +50°C | T6, T80°C: -25°C ≤ Ta ≤ +50°C |
| Explosion protection certification outside the EU | EPL Db (IEC Ex)               | -                             | -                             |
|   | EPL Gb (IECEx)                | -                             | -                             |
| Certificate issuing authority                     | BVS 16ATEXE036X               | GY 17.1237X                   | INMETRO DNV 19.0135X          |
|   | IECEX BVS16.0028X             | -                             | -                             |

Data sheet

Dimensions

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| Type           | B1 | D1<br>∅ | H1  | H2 | L1 | L2 |
|----------------|----|---------|-----|----|----|----|
| VACC-S18-35-K4 | 50 | 18.2    | 100 | 58 | 95 | 25 |

Ordering data

|  | Description                              | Certification                               | Operating voltage | Internal fuse protection | Part no.       | Type                     |                          |
|--|--|---|-------------------|--------------------------|----------------|--------------------------|--------------------------|
|  | Terminal box, cable entry thread M20x1.5 | To EU Explosion Protection Directive (ATEX) | 24 V AC/DC        | -                        | <b>8109389</b> | VACC-S18-35-K4-1U-EX4ME  |                          |
|  |  |   |                   | Fuse                     | <b>8109388</b> | VACC-S18-35-K4-1UF-EX4ME |                          |
|  |  |   | 110 V AC/DC       | -                        | <b>8109387</b> | VACC-S18-35-K4-2U-EX4ME  |                          |
|  |  |   | 230 V AC/DC       | -                        | <b>8109386</b> | VACC-S18-35-K4-3U-EX4ME  |                          |
|  |  |   | NEPSI             | 24 V AC/DC               | -              | <b>8118257</b>           | VACC-S18-35-K4-1U-NE4ME  |
|  |  |   |                   |                          | Fuse           | <b>8118256</b>           | VACC-S18-35-K4-1UF-NE4ME |
|  |  | 110 V AC/DC                                 |                   | -                        | <b>8118255</b> | VACC-S18-35-K4-2U-NE4ME  |                          |
|  |  | 230 V AC/DC                                 |                   | -                        | <b>8118254</b> | VACC-S18-35-K4-3U-NE4ME  |                          |
|  |  | INMETRO                                     |                   | 24 V AC/DC               | -              | <b>8118182</b>           | VACC-S18-35-K4-1U-NM4ME  |
|  |  |   |                   |                          | Fuse           | <b>8118179</b>           | VACC-S18-35-K4-1UF-NM4ME |
|  |  |   | 110 V AC/DC       | -                        | <b>8118174</b> | VACC-S18-35-K4-2U-NM4ME  |                          |
|  |  |   | 230 V AC/DC       | -                        | <b>8118180</b> | VACC-S18-35-K4-3U-NM4ME  |                          |



## Data sheet

Voltage  
 24 V AC/DC  
 48 V DC  
 60 V DC  
 110 V AC/DC  
 230 V AC/DC

- Encapsulated solenoid coil with enhanced safety

Nominal power  
 12.0 watt



| General technical data        |            |
|-------------------------------|------------|
| Actuation type                | Electrical |
| Mounting position             | Any        |
| Switching position indication | No         |
| Product weight [g]            | 580        |

| Materials         |  |
|-------------------|--|
| Housing           | PA, steel                                    |
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

| Electrical data                      |  |
|--------------------------------------|--|
| Electrical connection                | Terminal box, cable entry thread M20x1.5 |
| Permissible voltage fluctuations [%] | -15 ... 10                               |
| Duty cycle [%]                       | 100                                      |
| Degree of protection to EN 60529     | IP66                                     |
| Insulation class                     | H  |

| Characteristic coil data |  | 24 V AC/DC |    | 24 V AC/DC<br>With fuse |    | 48 V DC | 60 V DC | 110 V AC/DC |    | 230 V AC/DC |    |
|--------------------------|--|------------|----|-------------------------|----|---------|---------|-------------|----|-------------|----|
| Operating voltage        |  |            |    |                         |    |         |         |             |    |             |    |
| Frequency [Hz]           |  | 50/60      | -  | 50/60                   | -  | -       | -       | 50/60       | -  | 50/60       | -  |
| Power [W]                |  | -          | 12 | -                       | 12 | 12      | 12      | -           | 12 | -           | 12 |
|                          |  | [VA]       | 12 | -                       | 12 | -       | -       | 12          | -  | 12          | -  |

| Operating and environmental conditions                   |   |                           |                           |
|--|---|---------------------------|---------------------------|
| Type   | VACC-S18-120-K4-...-EX4A                    | VACC-S18-120-K4-...-NE4ME | VACC-S18-120-K4-...-NM4ME |
| CE marking (see declaration of conformity) <sup>1)</sup> | To EU Explosion Protection Directive (ATEX) | -                         | -                         |

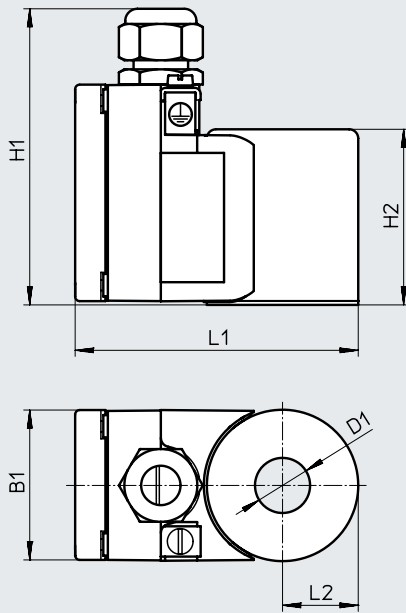
1) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

| ATEX  |                                      |                                |                                |
|---|--------------------------------------|--------------------------------|--------------------------------|
| Type  | VACC-S18-120-K4-...-EX4A             | VACC-S18-120-K4-...-NE4ME      | VACC-S18-120-K4-...-NM4ME      |
| ATEX category gas                                 | II 2G                                | -                              | -                              |
| Type of ignition protection for gas               | Ex eb mb IIC T4 Gb                   | Ex e mb IIC T4 Gb              | Ex eb mb IIC T4 Gb             |
| ATEX category for dust                            | II 2D                                | -                              | -                              |
| Type of ignition protection for dust              | Ex tb IIIC T120°C Db                 | Ex tD A21 IP66 T120°C          | Ex tb IIIC T120°C Db           |
| Explosion-proof ambient temperature [°C]          | T4, T120°C: -25°C ≤ Ta ≤ +40°C       | T4, T120°C: -25°C ≤ Ta ≤ +40°C | T4, T120°C: -25°C ≤ Ta ≤ +40°C |
| Explosion protection certification outside the EU | EPL Db (IEC Ex)<br>EPL Gb (IECEx)    | -<br>-                         | -<br>-                         |
| Certificate issuing authority                     | BVS 16ATEXE036X<br>IECEx BVS16.0028X | GY17.1237X<br>-                | INMETRO DNV 19.0135X<br>-      |

Data sheet

Dimensions

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| Type            | B1 | D1<br>∅ | H1  | H2 | L1 | L2 |
|-----------------|----|---------|-----|----|----|----|
| VACC-S18-120-K4 | 50 | 18.2    | 100 | 58 | 95 | 25 |

Ordering data

|             | Description                              | Certification                               | Operating voltage | Internal fuse protection | Part no.                 | Type                      |                          |
|-------------|--|---|-------------------|--------------------------|--------------------------|---------------------------|--------------------------|
|             | Terminal box, cable entry thread M20x1.5 | To EU Explosion Protection Directive (ATEX) | 24 V AC/DC        | -                        | 8109395                  | VACC-S18-120-K4-1U-EX4ME  |                          |
|             |  |   |                   | Fuse                     | 8109394                  | VACC-S18-120-K4-1UF-EX4ME |                          |
|             |  |   | 48 V DC           | -                        | 8109390                  | VACC-S18-120-K4-7-EX4ME   |                          |
|             |  |   | 60 V DC           | -                        | 8109393                  | VACC-S18-120-K4-27-EX4ME  |                          |
|             |  |   | 110 V AC/DC       | -                        | 8109392                  | VACC-S18-120-K4-2U-EX4ME  |                          |
|             |  |   | 230 V AC/DC       | -                        | 8109391                  | VACC-S18-120-K4-3U-EX4ME  |                          |
|             |  | NEPSI                                       | 24 V AC/DC        | -                        | 8118263                  | VACC-S18-120-K4-1U-NE4ME  |                          |
|             |  |   |                   | Fuse                     | 8118262                  | VACC-S18-120-K4-1UF-NE4ME |                          |
|             |  |   |                   | 48 V DC                  | -                        | 8118258                   | VACC-S18-120-K4-7-NE4ME  |
|             |  |   |                   | 60 V DC                  | -                        | 8118261                   | VACC-S18-120-K4-27-NE4ME |
|             |  |   |                   | 110 V AC/DC              | -                        | 8118260                   | VACC-S18-120-K4-2U-NE4ME |
|             |  |   |                   | 230 V AC/DC              | -                        | 8118259                   | VACC-S18-120-K4-3U-NE4ME |
|             |  | INMETRO                                     | 24 V AC/DC        | Fuse                     | 8118181                  | VACC-S18-120-K4-1U-NM4ME  |                          |
|             |  |   |                   | -                        | 8118177                  | VACC-S18-120-K4-1UF-NM4ME |                          |
|             |  |   |                   | 48 V DC                  | -                        | 8118175                   | VACC-S18-120-K4-7-NM4ME  |
| 60 V DC     | -  |   |                   | 8118176                  | VACC-S18-120-K4-27-NM4ME |                           |                          |
| 110 V AC/DC | -  |   |                   | 8118178                  | VACC-S18-120-K4-2U-NM4ME |                           |                          |
| 230 V AC/DC | -  |   |                   | 8118173                  | VACC-S18-120-K4-3U-NM4ME |                           |                          |

## Data sheet

Voltage  
24 V DC  
48 V DC  
125 V DC  
220 V DC

- Solenoid coil with flame-proof enclosure
- Class I, Div. 2 (CA)
- Class I, Div. 2 (US)

Nominal power  
7.0 W at 24 V DC



| General technical data        |                 |
|-------------------------------|-----------------|
| Type of mounting              | Via knurled nut |
| Actuation type                | Electrical      |
| Mounting position             | Any             |
| Switching position indication | No              |
| Product weight [g]            | 1700            |

| Materials         |  |
|-------------------|--|
| Housing           | Grey cast iron, wrought aluminium alloy                        |
| Note on materials | Contains paint-wetting impairment substances<br>RoHS-compliant |

| Electrical data                      |   |
|--------------------------------------|---|
| Electrical connection                | Terminal box, cable entry thread NPT1/2 |
| Permissible voltage fluctuations [%] | -15 ... 10                              |
| Duty cycle [%]                       | 100                                     |
| Degree of protection to EN 60529     | IP65                                    |
| Insulation class                     | H                                       |

| Characteristic coil data |         |         |          |          |
|--------------------------|---------|---------|----------|----------|
| Operating voltage        | 24 V DC | 48 V DC | 125 V DC | 220 V DC |
| Power [W]                | 7.0     | 7.0     | 7.0      | 7.0      |

| Operating and environmental conditions                   |         |         |                             |          |
|--|---------|---------|-----------------------------|----------|
| Operating voltage  | 24 V DC | 48 V DC | 125 V DC                    | 220 V DC |
| Corrosion resistance class CRC <sup>1)</sup>             | 4       |         | 4                           |          |
| CE marking (see declaration of conformity) <sup>2)</sup> | -       |         | To EU Low Voltage Directive |          |

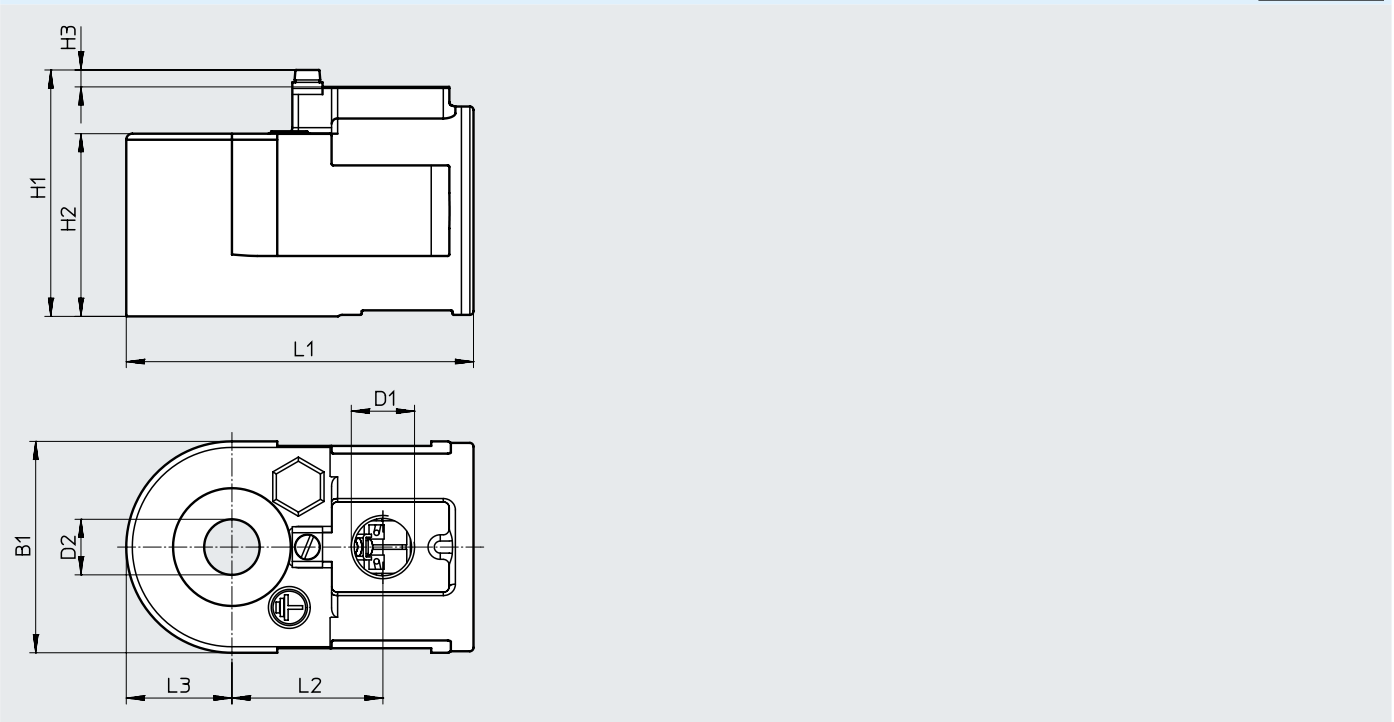
- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

| ATEX  |  |
|---|--|
| Explosion-proof ambient temperature               | T4A, 120°C: -25°C ≤ Ta ≤ +80°C               |
| Explosion protection certification outside the EU | Class I, Div. 2 (CA)<br>Class I, Div. 2 (US) |

Data sheet


Dimensions

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





| Type                   | B1 | D1      | D2<br>∅ | H1 | H2   | H3 | L1  | L2 | L3 |
|------------------------|----|---------|---------|----|------|----|-----|----|----|
| VACC-S18-70-K5-...-U2D | 70 | 1/2 NPT | 18.2    | 82 | 60.5 | 6  | 115 | 50 | 35 |

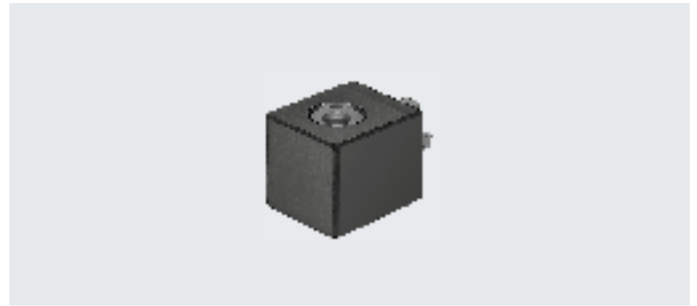
Ordering data

|  | Description | Operating voltage                        | Part no.       | Type                  |
|--|-------------|--|----------------|-----------------------|
|  |             | Terminal box, cable entry thread 1/2 NPT | 24 V DC        | <b>3546816</b>        |
|  |             | 48 V DC                                  | <b>3546876</b> | VACC-S18-70-K5-7-U2D  |
|  |             | 125 V DC                                 | <b>3546913</b> | VACC-S18-70-K5-16-U2D |
|  |             | 220 V DC                                 | <b>3546949</b> | VACC-S18-70-K5-3-U2D  |

## Data sheet

-  Voltage  
12 V DC  
24 V DC  
24 ... 230 V AC
-  Temperature range  
-10 ... +50°C

- Can be changed without interrupting the pneumatic circuit
- Plug pattern to EN 175301-803, type A
- Free of copper, PTFE and silicone

**General technical data**

|                    |  |
|--------------------|--|
| Type of mounting   | Clamped using retaining clamp                  |
| Mounting position  | Any (can be rotated 360° on the armature tube) |
| Product weight [g] | 80   |

**Materials**

|                   |                         |
|-------------------|-------------------------|
| Housing           | PA                      |
| Pin contact       | Steel                   |
| Winding           | Copper                  |
| Note on materials | Free of copper and PTFE |

**Electrical data**

| Operating voltage                    | 12 V DC  | 24 V DC   | 24 V AC                                    | 110 V AC              | 120 V AC | 230 V AC  |
|--------------------------------------|--|-----------|--|-----------------------|----------|-----------|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type A |           |  |                       |          |           |
|                                      | Clip-on  | -         | Clip-on                                    | -                     | -        | -         |
| Min. pickup time [ms]                | 10   | 10        | 10   |                       |          | 10        |
| Permissible voltage fluctuations [%] | -15 / +10  | -15 / +10 | At 50 Hz: -10 / +10<br>At 60 Hz: -10 / +20 |                       |          | -10 / +10 |
| Duty cycle [%]                       | 100  | 100       | 100  |                       |          | 100       |
| Degree of protection to EN 60529     | IP65 with plug socket  |           |  | IP65 with plug socket |          |           |

**Characteristic coil data**

| Operating voltage         | 12 V DC | 24 V DC | 24 V AC | 110 V AC | 120 V AC | 230 V AC |     |    |     |
|---------------------------|---------|---------|---------|----------|----------|----------|-----|----|-----|
| Power [W]                 | 5       | 2.5     | -       | -        | -        | -        |     |    |     |
| Pickup power, 50 Hz [VA]  | -       | -       | 7.5     | 5        | 7.5      | 5        | 7.5 | 5  |     |
| Holding power, 50 Hz [VA] | -       | -       | 5       | 3.7      | 5        | 3.7      | 3.7 | 5  | 3.7 |
| Power factor cos(phi)     | -       | -       | 0.7     |          | 0.7      |          | 0.7 |    |     |
| Frequency [Hz]            | -       | -       | 50      | 60       | 50       | 60       | 60  | 50 | 60  |

**Operating and environmental conditions**

| Operating voltage  | 12 V DC     | 24 V DC                   | 24 V AC     | 110 V AC    | 120 V AC                    | 230 V AC |
|--|-------------|---------------------------|-------------|-------------|-----------------------------|----------|
| Ambient temperature [°C]                                 | -10 ... +50 | -10 ... +50               | -10 ... +50 | -10 ... +50 |                             |          |
| Temperature of medium [°C]                               | -10 ... +50 | -10 ... +50               | -10 ... +50 | -10 ... +50 |                             |          |
| CE marking (see declaration of conformity) <sup>1)</sup> | -           | -                         | -           | -           | To EU Low Voltage Directive |          |
| Certification  | -           | c UL us - Recognized (OL) | -           | -           |                             |          |
| Maritime classification <sup>1)</sup>                    | -           | -                         | -           | -           | See certificate             |          |

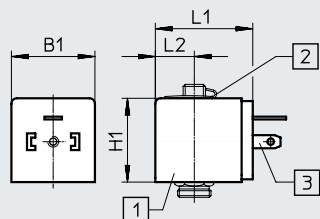
1) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

# Solenoid coils MSN1

## Data sheet

### Dimensions

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- [1] Safety clip
- [2] Solenoid coil  
(can be rotated 360° on the armature tube)
- [3] Plug pins with plug pattern to EN 175301-803, type A

| Type    | B1 | H1 | L1   | L2   |
|---------|----|----|------|------|
| MSN1... | 30 | 30 | 35.5 | 14.5 |

### Ordering data

| Description              |   | Part no.           | Type                                      |
|--------------------------|---|--------------------|---|
| <b>Solenoid coil</b>     |   |                    |   |
|                          | Without plug socket, plug pattern to EN 175301-803, type A  | 24 V DC            | <b>123060</b> MSN1G-24DC-OD               |
|                          |   | 12 V DC, 24 V AC   | <b>170152</b> MSN1W-24AC/12DC             |
|                          |   | 110 V AC, 120 V AC | <b>123061</b> MSN1W-110AC-OD              |
|                          |   | 230 V AC           | <b>123062</b> MSN1W-230AC-OD              |
| <b>Plug socket</b>       |   |                    |   |
|                          | Cable connection using locking screws   | <b>34583</b>       | MSSD-C                                    |
|                          | Cable connection using insulation displacement technology   | <b>192748</b>      | MSSD-C-S-M16                              |
| <b>Connecting cable</b>  |   |                    |   |
|                          | Operating voltage 24 V DC, Signal status indication with LED  | Cable length 0.6 m | <b>3679776</b> NEBV-A1W3F-P-K-0.6-N-LE3   |
|                          |   | Cable length 2.5 m | <b>30931</b> KMC-1-24DC-2.5-LED           |
|                          |   | Cable length 5 m   | <b>30933</b> KMC-1-24DC-5-LED             |
|                          | Operating voltage up to 240 V   | Cable length 10 m  | <b>193459</b> KMC-1-24-10-LED             |
|                          |   | Cable length 0.6 m | <b>3579466</b> NEBV-A1W3-K-0.6-N-LE3      |
|                          |   | Cable length 2.5 m | <b>30932</b> KMC-1-230AC-2.5              |
|                          | Electrical connection 2, M12x1, A-coded<br>Operating voltage 24 V DC, Signal status indication with LED | Cable length 5 m   | <b>30934</b> KMC-1-230AC-5                |
|                          |   | Cable length 0.3 m | <b>3679771</b> NEBV-A1W3F-P-K-0.3-N-M12W3 |
|                          | Electrical connection 2, M12x1, A-coded<br>Operating voltage up to 240 V                                | Cable length 0.6 m | <b>3679772</b> NEBV-A1W3F-P-K-0.6-N-M12W3 |
|                          |   | Cable length 0.3 m | <b>3579461</b> NEBV-A1W3-K-0.3-N-M12W3    |
| Cable length 0.6 m       | <b>3579462</b> NEBV-A1W3-K-0.6-N-M12W3  |                    |   |
| <b>Illuminating seal</b> |   |                    |   |
|                          | Operating voltage 12 ... 24 V DC  | <b>19145</b>       | MC-LD-12-24DC                             |
|                          | Operating voltage 230 V DC/V AC   | <b>19146</b>       | MC-LD-230AC                               |
| <b>Inscription label</b> |   |                    |   |
|                          | Scope of delivery: 35 labels in frames  | <b>33362</b>       | KMC/F/V-BZ-35X                            |

## Type codes

|             |                         |
|-------------|-------------------------|
| 001         | Series                  |
| <b>VACS</b> | Solenoid coil, series S |

|          |                         |
|----------|-------------------------|
| 002      | Solenoid coil type      |
| <b>C</b> | Solenoid coil size 18/8 |



|           |  |
|-----------|--|
| 003       | Electrical connection                    |
| <b>C1</b> | Connection pattern type C, to EN 175 301 |
| <b>R3</b> | Individual connector M12                 |

|            |                                     |
|------------|-------------------------------------|
| 004        | Nominal operating voltage           |
| <b>1</b>   | 24 V DC                             |
| <b>1A</b>  | 24 V AC/50-60 Hz                    |
| <b>3W</b>  | 230 V AC/240 V AC/50-60 Hz          |
| <b>5</b>   | 12 V DC                             |
| <b>7</b>   | 48 V DC                             |
| <b>7A</b>  | 48 V AC/50-60 Hz                    |
| <b>16B</b> | 120 V AC/60 Hz and 110V AC/50-60 Hz |

|          |  |
|----------|--|
| 005      | Circuitry  |
| <b>R</b> | Holding current reduction with integrated protective circuit |

|          |         |
|----------|---------|
| 006      | Display |
| <b>L</b> | LED     |

## Data sheet

-  Voltage  
12 ... 48 V DC  
24 ... 240 V AC
-  Temperature range  
-10 ... +50°C
- In accordance with VDE regulation 0580, insulation class H
- Plug pattern to EN 175301-803, type C
- Can be changed without interrupting the pneumatic circuit

**General technical data**

|                   |  |
|-------------------|--|
| Type of mounting  | Via knurled nut  |
| Mounting position | Any (can be rotated in increments of 45° on the armature tube) |

**Materials**

|                   |                 |
|-------------------|-----------------|
| Housing seal set  | Aluminium, HNBR |
| Housing           | PA, steel       |
| Winding           | Copper          |
| Note on materials | RoHS-compliant  |

**Electrical data**

|                                      |  |  |  |  |  |  |  |
|--------------------------------------|--|--|--|--|--|--|--|
| Electrical connection                | Plug pins, 3-pin, with plug pattern to EN 175301-803, type C |  |  |  |  |  |  |
| Permissible voltage fluctuations [%] | -10 / +10  |  |  |  |  |  |  |
| Duty cycle [%]                       | 100  |  |  |  |  |  |  |
| Degree of protection to EN 60529     | IP65 with plug socket  |  |  |  |  |  |  |
| Insulation class                     | H  |  |  |  |  |  |  |

**Characteristic coil data**

| Operating voltage         | 12 V DC | 24 V DC | 48 V DC | 24 V AC | 48 V AC | 110/120 V AC | 230/240 V AC |
|---------------------------|---------|---------|---------|---------|---------|--------------|--------------|
| Power [W]                 | 2.6     | 2.6     | 2.4     | -       | -       | -            | -            |
| Pickup power, 50 Hz [VA]  | -       | -       | -       | 2.5     | 2.5     | 2.3          | 3.0          |
| Holding power, 50 Hz [VA] | -       | -       | -       | 1.8     | 1.9     | 1.7          | 2.3          |
| Frequency [Hz]            | -       | -       | -       | 50/60   | 50/60   | 50/60        | 50/60        |
| Surge resistance [kV]     | -       | -       | -       | -       | -       | 2.5          | 4            |

**Operating and environmental conditions**

| Operating voltage  | 12 V DC                   | 24 V DC | 48 V DC | 24 V AC                   | 48 V AC | 110/120 V AC                | 230/240 V AC |
|--|---------------------------|---------|---------|---------------------------|---------|-----------------------------|--------------|
| Ambient temperature [°C]                                 | -10 ... +50               |         |         |                           |         | -10 ... +50                 |              |
| Corrosion resistance class CRC <sup>1)</sup>             | 2                         |         |         |                           |         | 2                           |              |
| Pollution degree   | -                         |         |         |                           |         | 3                           |              |
| CE marking (see declaration of conformity) <sup>2)</sup> | -                         |         |         |                           |         | To EU Low Voltage Directive |              |
| Certification  | c UL us - Recognized (OL) |         | -       | c UL us - Recognized (OL) | -       | -                           |              |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

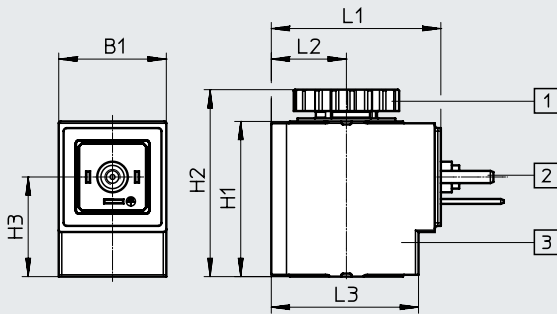
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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



## Data sheet

## Dimensions

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

[1] Knurled nut (seal set for solenoid coil)



[2] Plug pattern to EN 175301-803, type C

[3] Solenoid coil



(can be rotated in increments of 45° on the armature tube, push on in any direction)

| Type          | B1   | H1   | H2   | H3   | L1   | L2   | L3   |
|---------------|------|------|------|------|------|------|------|
| VACS-C-C1-... | 17.6 | 25.4 | 30.6 | 16.3 | 27.8 | 12.3 | 24.1 |

## Ordering data

| Description  | Operating voltage | Product weight | Part no.        | Type          |
|--|-------------------|----------------|-----------------|---------------|
| <b>Solenoid coil</b>   |                   |                |                 |               |
|  Without plug socket, plug pattern to EN 175301-803, type C | 12 V DC           | 36.1 g         | 8025331         | VACS-C-C1-5   |
|  | 24 V DC           | 35.2 g         | 8025330         | VACS-C-C1-1   |
|  | 48 V DC           | 37.1 g         | 8025336         | VACS-C-C1-7   |
|  | 24 V AC           | 35.8 g         | 8025335         | VACS-C-C1-1A  |
|  | 48 V AC           | 35.6 g         | 8025337         | VACS-C-C1-7A  |
|  | 110/120 V AC      | 34.8 g         | 8025334         | VACS-C-C1-16B |
|  | 230/240 V AC      | 34.6 g         | 8025338         | VACS-C-C1-3W  |
| <b>Seal set</b>  |                   |                |                 |               |
|  To achieve protection to IP67                            | 6 g               | 2643771        | VAMC-B10-C-B-S8 |               |

## Data sheet

-  Voltage  
24 V DC
-  Temperature range  
-10 ... +50°C
- In accordance with VDE regulation 0580, insulation class H
- Plug M12, A-coded to EN 61076-2-101
- Can be changed without interrupting the pneumatic circuit

**General technical data**

|                          |  |
|--------------------------|--|
| Type of mounting         | Via knurled nut  |
| Mounting position        | Any (can be rotated in increments of 45° on the armature tube) |
| Signal status indication | LED  |

**Materials**

|                   |                              |
|-------------------|------------------------------|
| Housing           | PA, steel                    |
| Winding           | Copper                       |
| Solenoid coil     | Copper, steel, thermoplastic |
| Note on materials | RoHS-compliant               |

**Electrical data**

|                                      |                                  |
|--------------------------------------|----------------------------------|
| Electrical connection                | M12x1, A-coded to EN 61076-2-101 |
| Permissible voltage fluctuations [%] | -10 / +10                        |
| Duty cycle [%]                       | 100                              |
| Degree of protection to EN 60529     | IP65                             |
| Enamelled wire insulation class      | H                                |
| Maximum cable length [m]             | 30                               |

**Characteristic coil data**

|   |                        |      |
|---|------------------------|------|
| Operating voltage                             | 24 V DC                |      |
| Power   | High-current phase [W] | 2.6  |
|   | Low-current phase [W]  | 0.36 |
| Nominal pickup current per solenoid coil [mA] | 108 up to 80 ms        |      |
| Nominal current with current reduction [mA]   | 15 after 80 ms         |      |
| Maximum switching frequency [Hz]              | 5                      |      |
| Surge resistance [kV]                         | -                      |      |

**Operating and environmental conditions**

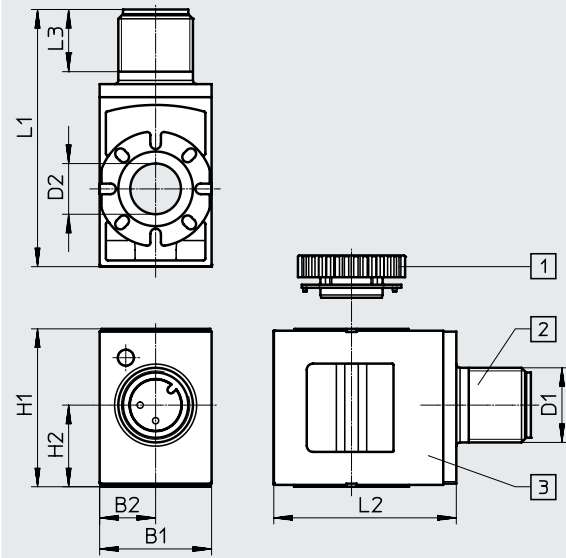
|  |                                   |
|--|-----------------------------------|
| Ambient temperature [°C]                                 | -10 ... +60                       |
| Corrosion resistance class CRC <sup>1)</sup>             | 2                                 |
| CE marking (see declaration of conformity) <sup>3)</sup> | To EU EMC Directive <sup>2)</sup> |
| Certification  | RCM                               |
| Pollution degree   | -                                 |

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.
- 2) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.  
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
- 3) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Data sheet

Dimensions

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


- [1] Nut
- [2] Plug, M12x1, A-coded to EN 61076-2-101

- [3] Solenoid coil  
(can be rotated in increments of 45° on the armature tube, push on in any direction)



| Type          | B1 | B2 | D1    | D2  | H1   | H2   | L1   | L2   | L3 |
|---------------|----|----|-------|-----|------|------|------|------|----|
| VACS-C-R3-... | 18 | 9  | M12x1 | 8.2 | 25.4 | 13.1 | 41.4 | 29.4 | 10 |

Ordering data

| Description   |  | Operating voltage | Part no.       | Type                 |
|---|--|-------------------|----------------|----------------------|
|  Without socket, straight plug M12x1, 4-pin, A-coded to EN 61076-2-101 |  | 24 V DC           | <b>8135822</b> | <b>VACS-C-R3-1RL</b> |

## Solenoid coils MH-2

### Data sheet

-  Voltage  
24 V DC  
110, 230 V AC
-  Temperature range  
-20 ... +50°C

- Can be changed without interrupting the pneumatic circuit
- Plug pattern to EN 175301-803, type A



#### General technical data

|  |               |
|--|---------------|
| Type of mounting                       | With lock nut |
| Max. tightening torque of fitting [Nm] | 2             |
| Mounting position                      | Any           |
| Product weight [g]                     | 150           |

#### Materials

|                   |  |
|-------------------|--|
| Solenoid coil     | Duroplast, copper, steel                     |
| Winding           | Copper                                       |
| Note on materials | Contains paint-wetting impairment substances |

#### Electrical data

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins with plug pattern to EN 175301-803, type A |
| Min. pickup time [ms]                | 12   |
| Permissible voltage fluctuations [%] | -10 / +10  |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket                                |

#### Characteristic coil data

| Operating voltage                      | 24 V DC   | 110 V AC  | 230 V AC  |
|--|-----------|-----------|-----------|
| Power [W]                              | 7.9       | -         | -         |
| [VA]                                   | -         | 14        | 14        |
| Power factor cos(phi)                  | -         | 0.7       | 0.7       |
| Frequency [Hz]                         | -         | 50/60     | 50/60     |
| Permissible frequency fluctuations [%] | -10 / +10 | -10 / +10 | -10 / +10 |

#### Operating and environmental conditions

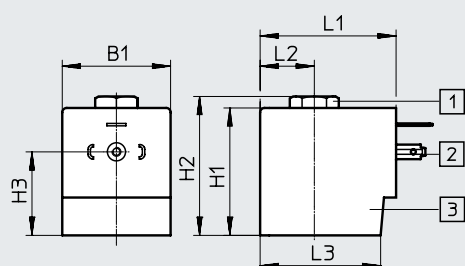
| Operating voltage  | 24 V DC    | 110 V AC                    | 230 V AC |
|--|------------|-----------------------------|----------|
| Ambient temperature [°C]                                 | -20 ... 50 | -20 ... 50                  |          |
| CE marking (see declaration of conformity) <sup>1)</sup> | -          | To EU Low Voltage Directive |          |

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

## Data sheet

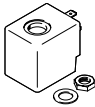

## ★ Core Range

## Dimensions

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

- [1] Lock nut (hex nut) G1/8
- [2] Plug pattern to EN 175301-803, type A
- [3] Solenoid coil

| Type     | B1   | H1   | H2   | H3   | L1   | L2 | L3   |
|----------|------|------|------|------|------|----|------|
| MH-2-... | 35.8 | 42.1 | 45.9 | 27.6 | 45.5 | 18 | 39.8 |

| Ordering data   |   | Description | Operating voltage | Part no. | Type           |
|---|---|-------------|-------------------|----------|----------------|
| <b>Solenoid coil</b>  |   |             |                   |          |                |
|    | Without plug socket, plug pattern to EN 175301-803, type A  |             | 24 V DC           | 549906   | MH-2-24VDC-PA  |
|   |   |             | 110 V AC          | 549907   | MH-2-110VAC-PA |
|   |   |             | 230 V AC          | 549908   | MH-2-230VAC-PA |
| <b>Plug socket</b>  |   |             |                   |          |                |
|  | 3-pin, square design, plug pattern to EN 175301-803, type A |             |                   | ★ 550067 | MSSD-N         |

## Type codes

|             |                         |  |
|-------------|-------------------------|--|
| <b>001</b>  | <b>Series</b>           |  |
| <b>VACN</b> | Solenoid coil, series N |  |

|            |  |  |
|------------|--|--|
| <b>002</b> | <b>Solenoid coil type</b>                |  |
| <b>N</b>   | Solenoid coil N for armature tube 9 mm   |  |
| <b>H1</b>  | Solenoid coil H1 for armature tube 14 mm |  |
| <b>X</b>   | Solenoid coil X for armature tube 14 mm  |  |

|            |  |  |
|------------|--|--|
| <b>003</b> | <b>Electrical connection</b>             |  |
| <b>A1</b>  | Connection pattern type A, to EN 175 301 |  |
| <b>K1</b>  | Cable                                    |  |
| <b>K11</b> | Cable with insulating conduit connection |  |

|            |                                     |  |
|------------|-------------------------------------|--|
| <b>004</b> | <b>Nominal operating voltage</b>    |  |
| <b>1</b>   | 24 V DC                             |  |
| <b>2A</b>  | 110 V AC/50-60 Hz                   |  |
| <b>16B</b> | 120 V AC/60 Hz and 110V AC/50-60 Hz |  |
| <b>3A</b>  | 230 V AC/50-60 Hz                   |  |


|            |                         |  |
|------------|-------------------------|--|
| <b>005</b> | <b>Cable length [m]</b> |  |
| <b>0.5</b> | 0.5                     |  |
| <b>10</b>  | 10                      |  |

|            |                         |  |
|------------|-------------------------|--|
| <b>006</b> | <b>EU certification</b> |  |
|            | None                    |  |
| <b>EX4</b> | II 2GD                  |  |
| <b>EX2</b> | II 3GD                  |  |

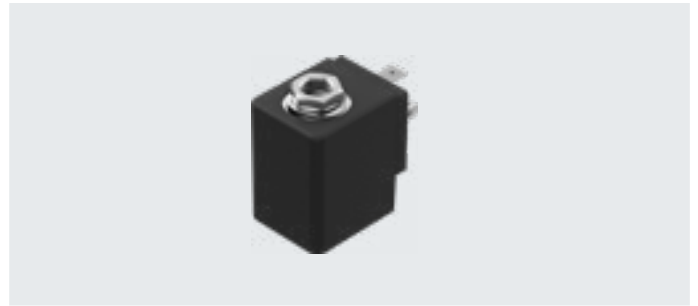
|            |                        |  |
|------------|------------------------|--|
| <b>007</b> | <b>Certification</b>   |  |
|            | None                   |  |
| <b>U4</b>  | Class1 Div1 to NEC 500 |  |

|            |                                    |  |
|------------|------------------------------------|--|
| <b>008</b> | <b>Type of ignition protection</b> |  |
|            | None                               |  |
| <b>A</b>   | Intrinsically safe                 |  |
| <b>M</b>   | Encapsulation                      |  |
| <b>N</b>   | Non-sparking                       |  |

## Data sheet

-  - Voltage  
24 V DC  
110, 230 V AC

- Can be changed without interrupting the pneumatic circuit
- Plug pattern to EN 175301-803, type A
- For 14 mm armature tube



| General technical data                 |               |
|--|---------------|
| Type                                   | VACN-H1       |
| Type of mounting                       | With lock nut |
| Max. tightening torque of fitting [Nm] | 2             |
| Mounting position                      | Any           |
| Switching position indication          | No            |
| Product weight [g]                     | 150           |

| Materials         |  |
|-------------------|--|
| Type              | VACN-H1                                      |
| Solenoid coil     | Copper                                       |
|                   | Steel  |
|                   | Thermoplastic                                |
| Winding           | Copper                                       |
| Note on materials | Contains paint-wetting impairment substances |
|                   | RoHS-compliant                               |

| Electrical data                      |                    |
|--------------------------------------|--------------------|
| Electrical connection                | Plug               |
|                                      | Square design      |
|                                      | To EN 175301-803   |
|                                      | Type A             |
| Permissible voltage fluctuations [%] | -10 / +10          |
| Duty cycle [%]                       | 100                |
| Degree of protection                 | IP65               |
| Note on degree of protection         | In assembled state |

| Characteristic coil data               |      | VACN-H1   |           |           |
|--|------|-----------|-----------|-----------|
|  |      | 24 V DC   | 110 V AC  | 230 V AC  |
| Frequency [Hz]                         |      | -         | 50/60     | 50/60     |
| Permissible frequency fluctuations [%] |      | -10 / +10 | -10 / +10 | -10 / +10 |
| Power                                  | [W]  | 11.9      | -         | -         |
|  | [VA] | -         | -         | -         |
| Pickup power [VA]                      |      | -         | 36        | 36        |
| Holding power [VA]                     |      | -         | 18.5      | 18.9      |
| Power factor cos(phi)                  |      | 0.7       | 0.7       | 0.7       |
| Surge resistance [kV]                  |      | -         | 2.5       | 4         |
| Min. pickup time [ms]                  |      | 12        | 12        | 12        |

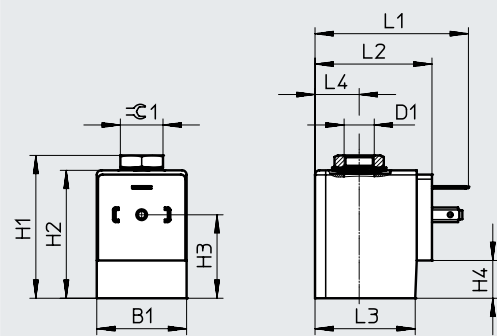
Data sheet

| Operating and environmental conditions                   |      | VACN-H1                                 |                             |          |
|--|------|---|-----------------------------|----------|
|  |      | 24 V DC                                 | 110 V AC                    | 230 V AC |
| Ambient temperature                                      | [°C] | -20 ... +50                             |                             |          |
| Restricted ambient and media temperature                 |      | -20 ... +60°C (with limited duty cycle) |                             |          |
| Corrosion resistance class CRC <sup>1)</sup>             |      | 4                                       |                             |          |
| Pollution degree   |      | -                                       | 3                           |          |
| CE marking (see declaration of conformity) <sup>2)</sup> |      | -                                       | To EU Low Voltage Directive |          |

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.


Dimensions

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| Type           | B1   | D1   | H1   | H2   | H3   | H4   | L1 | L2 | L3   | L4   | ⌀ C1  |
|----------------|------|------|------|------|------|------|----|----|------|------|-------|
| VACN-H1-A1-... | 35.8 | G1/8 | 45.9 | 42.1 | 27.6 | 12.5 | 57 | 45 | 39.8 | 17.9 | 14 mm |

Ordering data

| Description  |  | Operating voltage | Part no. | Type          |
|--|--|-------------------|----------|---------------|
|  Solenoid coil<br>Without plug socket, plug pattern to EN 175301-803, type A |  | 24 V DC           | 8022877  | VACN-H1-A1-1  |
|  |  |                   | 8049752  | VACN-X-A1-1   |
|  |  | 110 V AC          | 8022878  | VACN-H1-A1-2A |
|  |  |                   | 8049753  | VACN-X-A1-2A  |
|  |  | 230 V AC          | 8022879  | VACN-H1-A1-3A |
|  |  |                   | 8049754  | VACN-X-A1-3A  |



## Data sheet

-  Voltage  
24 V DC  
110, 230 V AC
-  Temperature range  
-20 ... +50°C

- Can be changed without interrupting the pneumatic circuit
- Plug pattern to EN 175301-803, type A

**General technical data**

|  |                 |
|--|-----------------|
| Type of mounting                       | Via knurled nut |
| Max. tightening torque of fitting [Nm] | 0.5             |
| Mounting position                      | Any             |
| Product weight [g]                     | 110             |

**Materials**

|               |                          |
|---------------|--------------------------|
| Solenoid coil | Duroplast, copper, steel |
| Winding       | Copper                   |

**Electrical data**

|                                      |  |
|--------------------------------------|--|
| Electrical connection                | Plug pins with plug pattern to EN 175301-803, type A |
| Permissible voltage fluctuations [%] | -10 / +10  |
| Duty cycle [%]                       | 100  |
| Degree of protection to EN 60529     | IP65 with plug socket                                |

**Characteristic coil data**

| Operating voltage                      | 24 V DC | 110 V AC  | 230 V AC  |
|--|---------|-----------|-----------|
| Power [W]                              | 6.8     | -         | -         |
| Pickup power, 50 Hz [VA]               | -       | 14.5      | 14.5      |
| Holding power, 50 Hz [VA]              | -       | 10.5      | 10.5      |
| Power factor cos(phi)                  | -       | 0.7       | 0.7       |
| Frequency [Hz]                         | -       | 50/60     | 50/60     |
| Permissible frequency fluctuations [%] | -       | -10 / +10 | -10 / +10 |

**Operating and environmental conditions**

| Operating voltage  | 24 V DC    | 110 V AC                    | 230 V AC   |
|--|------------|-----------------------------|------------|
| Ambient temperature [°C]                                 | -20 ... 50 | -20 ... 50                  | -20 ... 50 |
| CE marking (see declaration of conformity) <sup>1)</sup> | -          | To EU Low Voltage Directive |            |

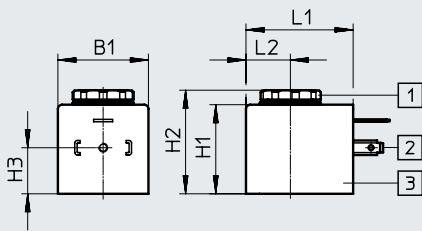
1) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Data sheet

★ Core Range

Dimensions

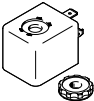

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- [1] Knurled nut M8x0.75
- [2] Plug pattern to EN 175301-803, type A
- [3] Solenoid coil

| Type     | B1 | H1   | H2   | H3   | L1   | L2   |
|----------|----|------|------|------|------|------|
| MD-2-... | 30 | 29.5 | 34.3 | 15.3 | 35.5 | 14.7 |

Ordering data

|   | Description   | Operating voltage | Part no. | Type           |
|---|---|-------------------|----------|----------------|
| <b>Solenoid coil</b>  |   |                   |          |                |
|   | Without plug socket, plug pattern to EN 175301-803, type A  | 24 V DC           | ★ 549903 | MD-2-24VDC-PA  |
|   |   | 110 V AC          | 549904   | MD-2-110VAC-PA |
|   |   | 230 V AC          | 549905   | MD-2-230VAC-PA |
| <b>Plug socket</b>  |   |                   |          |                |
|  | 3-pin, square design, plug pattern to EN 175301-803, type A |                   | ★ 550067 | MSSD-N         |