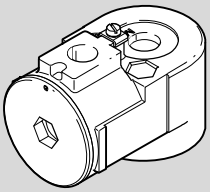
Solenoid coil
VACC-S18-...-...-...-EX4D

II 2G Ex d IIC T* Gb
II 2D Ex tb IIIC T* Db



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Operating instructions 8073483
(Translation of the original instructions) 2017-08c
[8073485]

Solenoid coil VACC-S18-...-...-...-EX4D ..... English

1 Further applicable documents

– Certification documents
– VOFC/VOFD assembly instructions

For all available product documentation ➔ www.festo.com/pk

2 Certified solenoid coils

Voltage	Type	Part no.
24 V DC/AC 40/65 Hz	VACC-S18-25-K5-1U-EX4D	562900
110 V DC/AC 40/65 Hz	VACC-S18-25-K5-2U-EX4D	562901
230 V DC/AC 40/65 Hz	VACC-S18-25-K5-3U-EX4D	562902
24 V DC/AC 40/65 Hz	VACC-S18-25-K4-1U-EX4D	562903
110 V DC/AC 40/65 Hz	VACC-S18-25-K4-2U-EX4D	562904
230 V DC/AC 40/65 Hz	VACC-S18-25-K4-3U-EX4D	562905
230 V AC 50/60 Hz	VACC-S18-18-K4-3A-EX4D	3504741
230 V AC 50/60 Hz	VACC-S18-18-K5-3A-EX4D	3546734
24 V DC/AC 40/65 Hz	VACC-S18-70-K4-1U-EX4D	3504563
230 V DC/AC 40/65 Hz	VACC-S18-70-K4-3U-EX4D	3504639
48 V DC/AC 40/65 Hz	VACC-S18-70-K4-7U-EX4D	3504574
120 V DC/AC 40/65 Hz	VACC-S18-70-K4-16U-EX4D	3504609
24 V DC/AC 40/65 Hz	VACC-S18-70-K5-1U-EX4D	3546549
110 V DC/AC 40/65 Hz	VACC-S18-70-K5-2U-EX4D	3546625
230 V DC/AC 40/65 Hz	VACC-S18-70-K5-3U-EX4D	3546662
48 V DC/AC 40/65 Hz	VACC-S18-70-K5-7U-EX4D	3546588
24 V DC	VACC-S18-220-K4-1-EX4D	3504707
24 V DC	VACC-S18-220-K5-1-EX4D	3546698

Fig. 1

3 Function

When the solenoid is energised, the valve is actuated. A built-in bridge rectifier, a built-in varistor, or a built-in diode limits the switch-off overvoltage.

4 Application

- The solenoid coil is intended to be used to actuate Festo valves.
- Use medium according to specification ➔ Technical data.
- The device is not intended to be used with other fluids.
- Suction the operating medium outside the potentially explosive area.
- The device can be used under the stated operating conditions in zones 1 and 2 of explosive gas atmospheres and in zones 21 and 22of explosive dust atmospheres.

Note

Label X: special conditions
- Only use specified solenoid valves.
- The range of application is dependent on the ambient temperature.
- Connect the solenoid coils only through cable and line entries and/or pipeline systems tested and certified according to EN 60079-1 and EN 60079-31.
- Use cables with increased heat resistance:
  – 1.8 ... 7 W/VA: At ambient temperatures ≥ 50 °C, the temperature at the cable entry increases by 20 K.
  – 22 W: At ambient temperatures ≥ 45 °C, the temperature at the cable entry increases by 35 K.
- Only operate the solenoid coils with upstream fuses.
  ➔ Technical data and product labelling.
- For information on the dimensions of the flameproof joints ➔ Technical data.

Hinweis

When using Festo solenoid valves:
- Operate the solenoid valve only with compressed air or neutral gases.
- The device is not intended for use with other fluids.
- Always draw in the operating medium outside the potentially explosive area.
- Use only solenoid valves approved for potentially explosive areas.

5 Requirements for product use

- Comply with all applicable national and international regulations.
- Installation and commissioning must be carried out by qualified electrical specialists, in accordance with the operating instructions.
- Use the device in its original status, without any unauthorised modifications. The certification is no longer valid if the device is altered in any way by anyone other than the manufacturer.

6 Commissioning

- Observe the specifications on the product labelling.
- Operate the solenoid coil only with an upstream fuse.
- Do not commission the solenoid coil until after mounting.

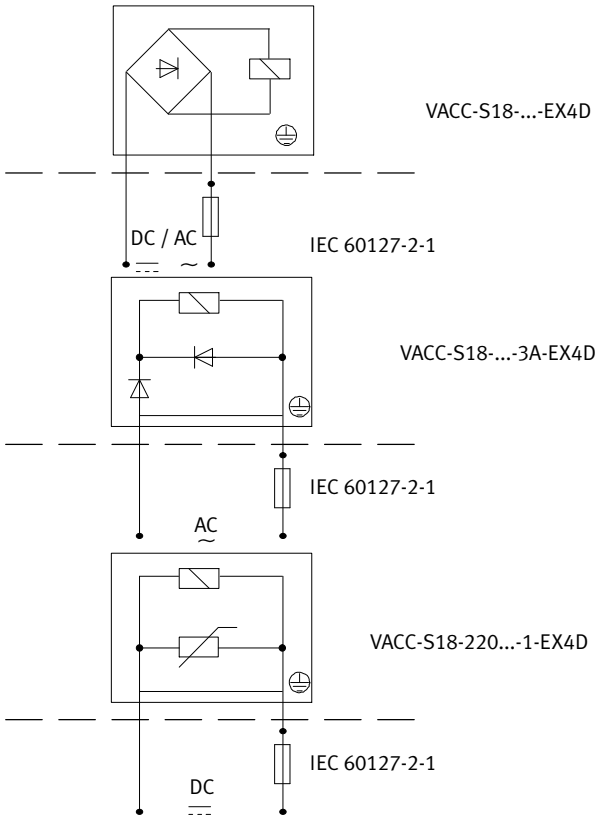
Warning

The discharge of electrostatically charged parts can lead to ignitable sparks.
- Prevent electrostatic discharge by taking appropriate installation and cleaning measures.
- Include the device in the system's equipotential bonding. Note that the surface coating of the solenoid valves is electrically non-conductive.
- Prevent processes that are strongly charge-generating.

Note

Escaping exhaust air can swirl up dust and create an explosive dust atmosphere.

Connection diagrams



7 Operation

- Observe the operating conditions.
- Comply with permissible limit values ➔ Technical data.

Warning

Risk of injury from hot surfaces.
The surfaces on the housing of the solenoid coil can be over 80 °C.
- Do not touch the housing.

8 Maintenance and care

- Changes or repairs to the solenoid coil are not permitted.
- The device is maintenance-free.

9 Certifications

Region/country	Certificate no.
Europe	BVS 15 ATEX E 135
International	IECEx BVS 15.0116
Brazil	DNV17.0040X
China	GYJ17.1236X
Korea	KGS16-GA4BO-0896X, KGS16-GA4BO-0897X
India	PESO P396315

Fig. 2

10 Technical data

Operating conditions		VACC-25-1U	VACC-25-2U	VACC-25-3U	VACC-70-7U	VACC-70-16U
Electrical limit values						
Nominal voltage U_N (–15 % / +10 %)	V DC/ AC	24	110	230	48	120
Type of voltage		Alternating voltage (40...65 Hz ± 2 %) DC or undulating voltage				
Power	W	2.5			7	7
Duty cycle		100 % (continuous operation)				
Degree of protection		IP65/67 according to FN 942017-2				
Overvoltage category		III in accordance with EN 60664-1				
Fuse connected in series in accordance with IEC 60127	mA	250	63	32	400	160
Limitation of switch-off overvoltage (internal)		Bridge rectifier				
Resistance R_{20}	Ω	227	4490	20900	296	2090
Temperature class at ambient temperature T_a						
–50 ≤ Ta ≤ +40 °C		T6, T80 °C				
–50 ≤ Ta ≤ +55 °C		T5, T95 °C				
–50 ≤ Ta ≤ +90 °C		T4, T130°C				
Storage temperature		–20 ... +130 °C				
Relative air humidity		95 % (non-condensing)				
Connecting cable						
Conductor cross-section	mm^2	0.75 ... 1.5				
Cable diameter	mm	6 ... 12				
Cable entry thread K4		M20 x 1.5				
Cable entry thread K5		NPT 1/2				
Connection		Individual mounting				
Materials						
Housing		Grey cast iron, polyester resin, wrought al. alloy				
Base		Galvanised steel				
Cover, terminal housing		Aluminium				
Mounting position		any				

Operating conditions		VACC-70-1U	VACC-70-2U	VACC-70-3U	VACC-18-3A	VACC-220-1
Electrical limit values						
Nominal voltage U_N (–15 % / +10 %)	V DC/ AC	24	110	230	230 V AC	24 V DC
Type of voltage		Alternating voltage (40...65 Hz ± 2 %) DC or undulating voltage			AC 50...60 Hz	DC
Power	W	7			1.8 VA	22 W
Duty cycle		100 % (continuous operation)				
Degree of protection		IP65/67 according to FN 942017-2				
Overvoltage category		III in accordance with EN 60664-1				
Fuse connected in series in accordance with IEC 60127	mA	800	160	80	32	2500
Limitation of switch-off overvoltage (internal)		Bridge rectifier			Diode	Varistor
Resistance R_{20}	Ω	76.8	1720	6580	6030	26.4
Temperature class at ambient temperature T_a						
–50 ≤ Ta ≤ +40 °C		T6, T80 °C				—
–50 ≤ Ta ≤ +55 °C		T5, T95 °C				—
–50 ≤ Ta ≤ +90 °C		T4, T130 °C				—
–50 ≤ Ta ≤ +40 °C		—				T4, T130 °C
Storage temperature		–20 ... +130 °C				
Relative air humidity		95 % (non-condensing)				
Connecting cable						
Conductor cross-section	mm^2	0.75 ... 1.5				
Cable diameter	mm	6 ... 12				
Cable entry thread K4		M20 x 1.5				
Cable entry thread K5		NPT 1/2				
Connection		Individual mounting				
Materials						
Housing		Grey cast iron, polyester resin, wrought aluminium alloy				
Base		Galvanised steel				
Cover, terminal housing		Aluminium				
Installation position		Any				

Fig. 3