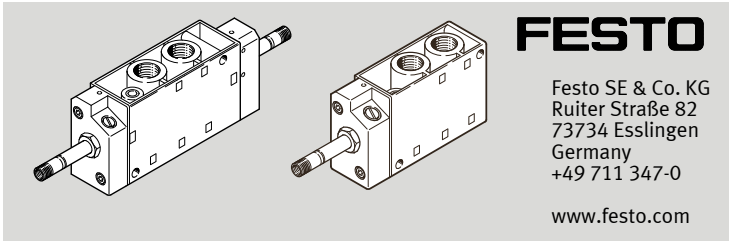


(J)M...FH-...-EX  
Solenoid valve Tiger Classic



Operating conditions | EX

8086862  
2018-05b  
[8086864]

CE Ex



Translation of the original instructions

1 Identification EX

Identification mark		
	II 2G	Ex h IIC T4 Gb
	II 2D	Ex h IIIC T130°C Db
		-5°C ≤ T <sub>a</sub> ≤ +40°C

Tab. 1

2 Further applicable documents

**NOTICE!**

Technical data for the product can have different values in other documents. For operation in an explosive atmosphere, the technical data in this document always have priority.

All available documents for the product → [www.festo.com/pk](http://www.festo.com/pk).

3 Safety

3.1 Intended use

The solenoid valve is intended for controlling pneumatic actuators.

3.2 General safety instructions

- The device can be used under the stated operating conditions in zones 1 and 2, explosive gas atmospheres, and in zones 21 and 22, explosive dust atmospheres.
- Carry out all work outside potentially explosive areas.
- Observe the operating instructions for the solenoid coil.
- Installation and commissioning should only be conducted by qualified personnel.
- Only use media in accordance with the specifications → 10 Technical data.

4 Function

By means of external electric switching, the valve pressurises the downstream compressed air flows alternately or simultaneously. The bi-stable valve is rerouted through reciprocal switching on of the voltage to the solenoid coils and maintains the switching position up to the counter-signal even after the signal is removed.

5 Application

The explosion protection category of the entire system is dependent on the category of the combination of the solenoid valve and the solenoid coil.

6 Commissioning

**WARNING!**

- The discharge of electrostatically charged parts can lead to ignitable sparks.
- Prevent electrostatic discharge through the use of appropriate installation and cleaning measures.
  - Include the device in the system’s potential equalisation.

**NOTICE!**

Related type of ignition protection: c (constructional safety)

**NOTICE!**

Strong charge-generating processes can charge non-conductive layers and coatings on metal surfaces.

**NOTICE!**

Particulate matter in the compressed air can cause electrostatic charges.

**NOTICE!**

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

- For battery/block mounting, mount the valves to the manifold rails or manifold blocks intended for it.
- The solenoid coil is mounted on the electrically actuated valves using the supplied spring washer and knurled nut.
- Push the solenoid coil and spring washer over the armature guide tube, tighten the knurled nut. Tightening torque: 1 ... 1.5 Nm

**WARNING!**

- Impact movements involving rust and light metals and their alloys can result in the formation of sparks.
- No not use any tools with corroded surfaces.
  - Protect the product from falling objects.

- Limit the number and dimensions of disassembled connections to a minimum and use short tubing.
- Ensure that no mechanical stresses can occur.
- Seal unused openings with blanking plugs or slot covers.
- Ensure that surfaces to be cleaned can be easily accessed.

7 Operation

- Draw in operating medium outside potentially explosive areas.
- Do not operate the device with separate pilot air. Do not turn coding.
- Do not use LR intermediate pressure regulator plates in potentially explosive areas. The vented air can stir up dust.

8 Malfunctions

Malfunction	Remedy
Audible leakage at the connections	Check fittings of the connections.
Incomplete ventilation of an output	Ensure constant pressure in the system.
Switching failures	Check switching function of the valve for fluctuations in current, signal errors or delays.
Considerably slower switching times	Protect against penetration of foreign matter. Replace device.

Tab. 2

9 Service and care

- Only clean the device with a damp cloth.
  - Service device after 5 million cycles or not later than after 6 months.
- The replacement of wearing and spare parts is possible in individual cases. Repairs of this type must only be carried out by trained and authorised specialists.
- Please contact your Festo technical consultant.

10 Technical data

Operating conditions		
Operating medium		Compressed air to ISO 8573-1:2010:[5:-:-]
Max. operating pressure	[bar]	8
Max. pilot pressure	[bar]	8
Mounting position		Any
Temperature ranges		
Ambient temperature (with solenoid coil)	[°C]	-5 ... 40
Temperature of medium	[°C]	-5 ... 40
Tightening torque		
Fitting	[Nm]	1.5 ... 2
Valve fastening	[Nm]	3.5 ... 4

Operating conditions	
Materials	
Housing	Die-cast aluminium
Seals	NBR
Information on materials	All aluminium alloys used contain less than 7.5% magnesium (Mg).

Tab. 3

11 Solenoid coils for entire system

Voltage	Type	Part number	Identification mark
24 V DC	VACF-B-K1-1-1-EX4-M	8059804	Ex II 2GD (zones 1, 21)
	VACF-B-K1-1-5-EX4-M	8059805	
	VACF-B-K1-1-10-EX4-M	8059806	
	VACF-B-K1-1-20-EX4-M	8059807	
24 V AC	VACF-B-K1-1A-1-EX4-M	8059808	
230 V AC	VACF-B-K1-3A-1-EX4-M	8059809	
	VACF-B-K1-3A-5-EX4-M	8059810	
110 V AC	VACF-B-K1-16B-1-EX4-M	8059811	
	VACF-B-K1-16B-5-EX4-M	8059812	
24 V DC	MSFG-24-EX	536931	Ex II 3GD <sup>1)</sup> (zones 2, 22)
24 V AC	MSFW-24-50/60-EX	536932	
110 V AC	MSFW-110-50/60-EX	536933	
230 V AC	MSFW-230-50/60-EX	536934	

1) Use the related plug socket MSSD-F-M16.

Tab. 4