

operating instructions and EC declaration of conformity for solenoid 0518 / 1218

dear customer!

In order to guarantee the function and for your own safety, please read the enclosed operating instructions carefully, before starting installation.

Should there still arise any question or queries, please contact STASTO Automation KG.

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1 operating instructions - general conditions

- 1.1 No responsibility can be accepted for damage which may result from non-observance of these instructions. Furthermore, warranty for the devices and accessories will become void.
- 1.2 Please observe the information given in the present operating instructions as well as the application conditions and admissible data indicated on the imprints / type plates of the respective devices.
- 1.3 **The PTB approval exclusively covers solenoid operators with STASTO magnet armature assembly and STASTO magnet solenoid coil.**
- 1.4 Follow the generally accepted technical rules when selecting and operating a unit.
- 1.5 Take suitable measures to exclude unintentional activation or inadmissible impairment.
- 1.6 Make sure not to detach pipes and valves of pressurized systems.
- 1.7 However, these operating instructions cannot fully take into account all possible conditions and applications and do not replace the relevant applicable regulations.
- 1.8 **Caution, risk of injury! The solenoid's surface can get very hot during continuous operation.**

2 operating instructions - installation

- 2.1 After removing the packing, make sure that dirt cannot penetrate into the system.
- 2.2 Before mounting the system, check that there is no dirt in the pipe or the valve housing.
- 2.3 Make sure that seals are not damaged during installation.
- 2.4 If coils are used in manifold assembly (directly side by side) pay attention to the minimum distance according to the temperature class (see technical data).
- 2.5 Mounting is admissible in any position, preferably the solenoid system has to point upwards. The solenoid coil can be locked in 90° steps.
- 2.6 Tightening torque for fastening nut: 1,2 Nm
- 2.7 Electrical connection, with the integrated connection cable for the solenoid coil (wire-end designed for screw/clamping connections). In safe areas or in hazardous areas with approved explosion-proof equipment (eg. terminal box type of protection "e" according to EN60079-7).
- 2.8 If connecting the lead wires ensure proper wire end connection to the electrical terminal.
- 2.9 Connecting cable and wires should be free of sharp bends in order to avoid short circuits and interruptions.
- 2.10 Before initial operation of the device, ensure that the entire machine or system complies with the requirement of the applicable EU directives (e.g. the EMC Directive).
- 2.11 Please order spare parts completely by indicating the identification number provided on the units (imprint / type plate).
- 2.12 For installation and maintenance all relevant regulations and explosion protection, especially EN 60079-14, should be considered. The electrical installation must be done with additional consideration of relevant national regulations (VDE 0100) by a qualified electrician or under his/her supervision.
- 2.13 A fuse must be connected upstream of each valve solenoid. Observe the dimensioning according to the tables for the respective temperature classes in the appendix (see "Technical data"). For all DC solenoids a max. allowable ripple of 20% is permitted.
- 2.14 Notice following considerations before selecting valve housing material:
metal: The maximum permissible mass fractions must not exceed 7.5% magnesium, titanium and zirconium in total if there is a risk of ignition due to friction, impact or friction sparks in accordance with the ignition hazard assessment.
plastic: To avoid a formation of electrostatic charge, the conditions according to EN 60079-0 Section 7.4 should be considered.

3 operating instructions - operation




- 3.1 Admissible media are gas and liquids that do not affect the system and the sealing material contained therein.
- 3.2 Prevent contact of the outside surfaces of the solenoid with liquids or corrosives.
- 3.3 The device's operating pressure depends on the armature/valve system used and is written on the label of the valve.
- 3.4 Do not strain the system by bending or torsion.

4 operating instructions - malfunction

- 4.1 Check the cable connections, operating voltage and pressure.
- 4.2 Should the problem persist, remove pressure, disconnect from power supply and contact an authorized and trained expert regarding the problem device.
- 4.3 Defective devices must not be repaired, but must be replaced.

5 EC declaration of conformity

- 5.1 STASTO Automation KG, Innsbruck, declare and bear sole responsibility for the following EEx products to be in compliance with following safety standards:

item	type			
	of	to		
solenoid	0518 00	0518 29		II 2G Ex mb IIC T4
solenoid	1218 00	1218 29		II 2D Ex mb tb IIIC T130°C
solenoid	0518 30	0518 59		III 2G Ex mb IIC T5
solenoid	1218 30	1218 59		II 2D Ex mb tb IIIC T95°C
solenoid	0518 60	0518 99		II 2G Ex mb IIC T6
solenoid	1280 60	1218 99		II 2D Ex mb tb IIIC T80°C

- 5.2 The homologation certificate for solenoids with the number **PTB 03 ATEX 2221X** issued by PTB (registration entity no. 0102).
- 5.3 The solenoid operator is an encapsulated safe electrical work equipment group II, designed for application in atmospheres according to category 2G and 2D (temperature class and surface temperature as per imprint).
- 5.4 The device, which is provided with the CE symbol, meets the following standards:

standard	characteristics
EN 60079-0: 2012+A11:2013	Explosive atmospheres - Part 0: General requirements
EN 60079-18: 2009	Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"
EN 60079-31:2009	Explosive atmospheres - Part 31: Equipment dust protection by enclosure "t"
DIN EN 60 529: 2000	Degrees of protection provided by enclosures (IP code)
DIN VDE 0580: 2011	Electromagnetic devices and components - General specifications
directive 2014/34/EU	Equipment and protective systems intended for use in potentially explosive atmospheres

- 5.5 Remark to the electromagnetic compatibility (emitted interferences):
At the moment there are no regulations (standards) defining wire bounded interferences for DC operated devices. A newer power supply unit suppresses interferences caused by switch off effects in the coil.
- 1 In AC operated coils / solenoids a rectifier is internally inserted between winding and cable. Therefore at AC coils no inadmissibly interferences can appear..
- 2 For DC operated units a shielded cable is required.

Innsbruck, 01.01.2017




Christof Stocker
General management

6 technical specifications

6.1 temperature class T4

operating voltage tolerance +/- 10%

item									
solenoid			II 2G Ex mb IIC T4						
			II 2D Ex mb tb IIIC T130°C						
type	0518 00 ... 0518 29				1218 00 ... 1218 29				
current type	AC 50Hz ... 60Hz				DC, max. 20% ripple				
ambient temperature	single assembly	-20°C ... +50°C			-20°C ... +50°C				
	manifold assembly	-20°C ... +50°C			-20°C ... +50°C				
max. allowed media temperature	80°C				80°C				
manifold assembly minimum distance	yes 0mm				yes 0mm				
nominal voltage U_N [V]	rated current $I_N^{1)}$ [mA]	rated power P_N [VA]	ultimate power $P_G^{2)}$ [VA]	fuse [mA] ³⁾	rated current $I_N^{1)}$ [mA]	rated power P_N [VA]	ultimate power $P_G^{2)}$ [VA]	fuse [mA] ³⁾	
6	-	-	-	-	1580	9,5	7,7	3150	
12	623	7,5	6,5	1600	822	9,9	8,0	1600	
24	315	7,2	6,3	800	421	10,1	8,2	800	
32	-	-	-	-	291	9,3	7,5	630	
36	232	8,4	7,0	630	-	-	-	-	
42	192	8,1	6,7	500	-	-	-	-	
48	-	-	-	-	186	8,9	7,2	315	
60	-	-	-	-	134	8,1	6,5	250	
110	83	9,1	7,5	200	76	8,4	6,8	160	
115	70	8,1	6,8	200	-	-	-	-	
120	72	8,6	7,3	200	-	-	-	-	
125	-	-	-	-	73	9,1	7,4	160	
220	35	7,7	6,4	100	43	9,5	7,7	100	
230	37	8,5	6,9	100	-	-	-	-	
240	39	9,2	7,6	100	-	-	-	-	

1) (rated current)

2) Maximum power at the thermal load limit

3) Each solenoid must have a short circuit protection with a fuse designed for its respective rated current (max. of 3 times of rated current due to DIN 41571 or IEC 60127-2-1) or a preceding motor protection switch with a short circuit and thermal protection element should be installed. This fuse may be mounted in the associated supply device or may be connected in series separately. The rated voltage of the fuse must be equal to or greater than the rated voltage of the solenoid. The breaking of the installed backup set must be equal to or greater than the assumed maximum short circuit current (usually 1500 A). For all DC solenoids a max. allowable ripple of 20% is permitted.

The latest instructions can be found under www.stasto.eu in our STASTO Store.

illustrations are non-binding

all designs, configurations, measurements and materials are subject to change without prior notice