Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 11 ATEX 2027 X

(4) Equipment: Solenoid, type 0519

(5) Manufacturer: nass magnet GmbH

(6) Address: Eckenerstraße 4-6, 30179 Hannover, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report PTB Ex 12-20290.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2009, EN 60079-7:2007, EN 60079-18:2009, EN 60079-31:2009

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2 G Ex e mb IIC T4,T6 Gb and
II 2 D Ex tb mb IIIC T130°C,T80°C Db IP 65 or IP67

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 30, 2012

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

Normal.dotm

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2027 X

(15) Description of equipment

The solenoid of type 0519 is used for the control in installations and systems where the occurrence of explosive atmospheres consisting of gas/air or dust/air mixtures is to be assumed. It is comprised of a magnet coil, an armature system and mounting accessories.

Technical data

Type of voltage	Alternating voltage, 50 Hz to 60 Hz or direct voltage with max. 45% residual ripple
Voltage tolerance	-10 % ... +10 %
Permissible operating pressure	≤ 40 bar (4000 kPa)
Butt mounting	yes, center-to-center distance ≥ 55 mm

Type	0519 00 / xxxx xx						
Marking	Ⓔx II 2 G Ex e mb IIC T4 Gb II 2 D Ex tb mb IIIC T130°C Db IP65, IP67						
Temperature class	T4						
Ambient temperature	-40°C ... +60°C						
Medium temperature	-40°C ... +70°C						
Type number	Rated voltage AC $U_{N,AC}$ [V]	Rated voltage DC $U_{N,DC}$ [V]	Rated current AC $I_{N,AC}$ [mA]	Rated current DC $I_{N,DC}$ [mA]	Limit power AC $P_{G,AC}$ [W]	Limit power DC $P_{G,DC}$ [W]	Fusing [mA]
0519 00/7148	12		898	990	7.54	8.93	1600
0519 00/7149	24		439	486	7.71	9.20	1000
0519 00/7153	36		291	322	7.77	9.29	600
0519 00/7150	48		189	209	6.93	8.31	400
0519 00/7151	110		90	100	7.58	9.10	200
	115	-	95	-	8.18	-	
	120	-	99	-	8.79	-	
0519 00/7152	125		79	87	7.51	9.0	150
0519 00/7137	220		47	53	7.90	9.51	100
	230	-	50	-	8.48	-	
	240	-	52	-	9.16	-	

Type	**0519 60 / xxxx xx**						
Marking	 II 2 G Ex e mb IIC T6 Gb II 2 D Ex tb mb IIIC T80°C Db IP65, IP67						
Temperature class	T6						
Ambient temperature	-40°C ... +50°C						
Medium temperature	-40°C ... +70°C						
Type number	Rated voltage AC $U_{N,AC}$ [V]	Rated voltage DC $U_{N,DC}$ [V]	Rated current AC $I_{N,AC}$ [mA]	Rated current DC $I_{N,DC}$ [mA]	Limit power AC $P_{G,AC}$ [W]	Limit power DC $P_{G,DC}$ [W]	Fusing [mA]
0519 60/7196	12		399	440	3.77	4.48	1000
0519 60/7156	24		179	198	3.57	4.28	500
0519 60/7154	36		108	119	3.30	3.97	250
0519 60/7197	48		90	100	3.68	4.43	200
0519 60/7198	110		40	44	3.74	4.51	100
	115	-	42	-	4.06	-	
	120	-	43	-	4.38	-	
0519 60/7155	125		31	35	3.41	4.11	75
0519 60/7195	220		20	22	3.74	4.52	50
	230	-	21	-	4.06	-	
	240	-	22	-	4.39	-	

(16) Test report PTB Ex12-20290

(17) Special conditions for safe use

1. An external fuse (according to DIN 41571 or IEC 60127-2-1) corresponding to the type shall be connected in series to each solenoid as short circuit protection. Alternatively, a motor protecting switch with short circuit- and thermal instantaneous tripping can be connected in series. This shall be adjusted to the respective rated current of the solenoid. The rated voltage of the fuse shall be higher than or equal to the specified rated voltage of the magnet. The breaking capacity of the fuse link shall be equal to or higher than the prospective maximum short-circuit current (usually 1500 A). The fuse may be accommodated inside the associated supply unit or shall be connected in series separately.
2. Connecting cables and connecting lines shall be suitable for permanent application in a temperature range of – 40 °C up to + 105 °C.
3. When using silicone or silicone-containing cables for connection or cables which are not scratch-proof, these shall be protected against mechanical damage.

(18) Essential health and safety requirements

Met by compliance with the standards mentioned above.

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 30, 2012

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1 SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2027 X

(Translation)

Equipment: Solenoid, type 0519

Marking:  **II 2 G Ex e mb IIC T4,T6 Gb and**
II 2 D Ex tD mb IIIC T130°C,T80°C Db with IP65, IP67

Manufacturer: nass magnet GmbH

Address: Eckenerstraße 4-6
30179 Hannover, Germany

Description of supplements and modifications

The solenoid of type 0519 is used for the control in installations and systems where the occurrence of explosive atmospheres consisting of gas/air or dust/air mixtures is to be assumed. It is comprised of a magnet coil, an armature system and mounting accessories.

In the future the technical data as well as the special conditions apply as follows:

Technical data

Type of voltage	Alternating voltage, 50 Hz to 60 Hz or direct voltage with max. 45% residual ripple
Voltage tolerance	-10 % ... +10 %
Butt mounting	yes, center-to-center distance ≥ 55 mm

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1 SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2027 X

Type	**0519 00 / xxxx xx**						
Marking	II 2 G Ex e mb IIC T4 Gb II 2 D Ex tb mb IIIC T130°C Db IP65, IP67						
Temperature class	T4						
Ambient temperature	-40°C … +60°C						
Medium temperature	-40°C … +70°C						
Type number	Rated voltage AC $U_{N,AC}$ [V]	Rated voltage DC $U_{N,DC}$ [V]	Rated current AC $I_{N,AC}$ [mA]	Rated current DC $I_{N,DC}$ [mA]	Limit power AC $P_{G,AC}$ [W]	Limit power DC $P_{G,DC}$ [W]	Fusing [mA]
0519 00/7148	12		898	990	7.54	8.93	1600
0519 00/7149	24		439	486	7.71	9.20	1000
0519 00/7153	36		291	322	7.77	9.29	600
0519 00/7150	48		189	209	6.93	8.31	400
0519 00/7151	110		90	100	7.58	9.10	200
	115	-	95	-	8.18	-	
	120	-	99	-	8.79	-	
0519 00/7152	125		79	87	7.51	9.0	150
0519 00/7137	220		47	53	7.90	9.51	100
	230	-	50	-	8.48	-	
	240	-	52	-	9.16	-	

Type	**0519 60 / xxxx xx**						
Marking	II 2 G Ex e mb IIC T6 Gb II 2 D Ex tb mb IIIC T80°C Db IP65, IP67						
Temperature class	T6						
Ambient temperature	-40°C … +50°C						
Medium temperature	-40°C … +70°C						
Type number	Rated voltage AC $U_{N,AC}$ [V]	Rated voltage DC $U_{N,DC}$ [V]	Rated current AC $I_{N,AC}$ [mA]	Rated current DC $I_{N,DC}$ [mA]	Limit power AC $P_{G,AC}$ [W]	Limit power DC $P_{G,DC}$ [W]	Fusing [mA]
0519 60/7196	12		399	440	3.77	4.48	1000
0519 60/7156	24		179	198	3.57	4.28	500
0519 60/7154	36		108	119	3.30	3.97	250
0519 60/7197	48		90	100	3.68	4.43	200
0519 60/7198	110		40	44	3.74	4.51	100
	115	-	42	-	4.06	-	
	120	-	43	-	4.38	-	
0519 60/7155	125		31	35	3.41	4.11	75
0519 60/7195	220		20	22	3.74	4.52	50
	230	-	21	-	4.06	-	
	240	-	22	-	4.39	-	

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1 SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2027 X

Special contitions for safe use

1. An external fuse (according to DIN 41571 or IEC 60127-2-1) corresponding to the type shall be connected in series to each solenoid as short circuit protection. Alternatively, a motor protecting switch with short circuit- and thermal instantaneous tripping can be connected in series. This shall be adjusted to the respective rated current of the solenoid. The rated voltage of the fuse shall be higher than or equal to the specified rated voltage of the magnet. The breaking capacity of the fuse link shall be equal to or higher than the prospective maximum short-circuit current (usually 1500 A). The fuse may be accommodated inside the associated supply unit or shall be connected in series separately.
2. Connecting cables and connecting lines shall be suitable for permanent application in a temperature range of – 40 °C up to + 105 °C.
3. When using silicone or silicone-containing cables for connection or cables which are not scratch-proof, these shall be protected against mechanical damage.
4. The armature tube should be subjected to a routine test with 1.5 fold the nominal operating pressure.

Applied standards

EN 60079-0:2009, EN 60079-7:2007, EN 60079-18:2009, EN 60079-31:2009

Test report: PTB Ex 12-22177

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, October 1, 2012

Dr.-Ing. T. Horn

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 24

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

2. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2027 X

(Translation)

Equipment: Solenoid, type 0519

Marking: **II 2 G Ex e mb IIC T4,T6 Gb and**
II 2 D Ex tD mb IIIC T130 °C,T80 °C Db with IP65, IP67

Manufacturer: nass magnet GmbH

Address: Eckenerstraße 4-6, 30179 Hannover, Germany

Description of supplements and modifications

The solenoid of type 0519 is provided with alternative cable entries.

In the future the marking will read as follows:

II 2 G Ex e mb IIC T4, T6 Gb
II 2 D Ex tb mb IIIC T130°C, T80°C Db
IP65, IP 67

All further specifications of the EC-type examination certificate and the 1st supplement apply without changes.

Applied standards

EN 60079-0:2012, EN 60079-7:2007, EN 60079-18:2009, EN 60079-31:2009

Test report: PTB Ex 15-24203

ZSEx10101e b

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, February 5, 2015

Dr.-Ing. T. Horn
Regierungsrat

Sheet 1/1

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate history:

Certificate No.: IECEx PTB 15.0015X issue No.:0

Status: **Current**

Date of Issue: **2015-05-20** Page 1 of 3

Applicant: **nass magnet GmbH**
Ecknerstraße 4-6
30179 Hannover
Germany

Electrical Apparatus: **solenoid, type 0519**
Optional accessory:

Type of Protection: **Increased Safety, Encapsulation, Dust Ignition Protection by Enclosure**

Marking: Ex e mb IIC T6, T4 Gb
Ex tb mb IIIC T80°C, T130°C Db

Approved for issue on behalf of the IECEx Certification Body: Dr. Ing. U. Gerlach

Position: Head of working group "Ignition Hazards of Modern Energy Supply Systems"

Signature:
(for printed version)

Date: 11.06.2015

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

IECEx Certificate of Conformity

Certificate No:	IECEx PTB 15.0015X	Issue No: 0
Date of Issue:	**2015-05-20**	Page 2 of 3
Manufacturer:	**nass magnet GmbH** Ecknerstraße 4-6 30179 Hannover **Germany**	
Additional Manufacturing location(s):		

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-18 : 2009 Edition:3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/PTB/ExTR15.0019/00

Quality Assessment Report:

DE/PTB/QAR08.0002/03

IECEx Certificate of Conformity

Certificate No:	IECEx PTB 15.0015X	Issue No: 0
Date of Issue:	**2015-05-20**	Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The solenoid of type 0519 is used for the control in installations and systems where the occurrence of explosive atmospheres consisting of gas/air or dust/air mixtures is to be assumed. It is comprised of a magnet coil, an armature system and mounting accessories.

For more details refer to attached file.

CONDITIONS OF CERTIFICATION: YES as shown below:

refer to attached file

Annex:

COCA150015-00.pdf

Applicant: nass magnet GmbH

Electrical Apparatus: solenoid, type 0519

Description of equipment

The solenoid of type 0519 is used for the control in installations and systems where the occurrence of explosive atmospheres consisting of gas/air or dust/air mixtures is to be assumed. It is comprised of a magnet coil, an armature system and mounting accessories.

Electrical data

Type of voltage	Alternating voltage, 50 Hz to 60 Hz or direct voltage with max. 45% residual ripple
Voltage tolerance	-10 % ... +10 %
Butt mounting	yes, center-to-center distance ≥ 55 mm

Type	**0519 00 / xxxx xx**						
Marking	Ex e mb IIC T4 Gb Ex tb mb IIIC T130°C Db IP65, IP67						
Temperature class	T4						
Ambient temperature	-40°C … +60°C						
Medium temperature	-40°C … +70°C						
Type number	Rated voltage		Rated current		Limit power		Fusing
	AC $U_{N,AC}$ [V]	DC $U_{N,DC}$ [V]	AC $I_{N,AC}$ [mA]	DC $I_{N,DC}$ [mA]	AC $P_{G,AC}$ [W]	DC $P_{G,DC}$ [W]	[mA]
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Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, 38116 Braunschweig, Germany
Postfach 33 45, 38023 Braunschweig, Germany
Telephone +49 531 592-0, Telefax +49 531 592-3605

Type	**0519 60 / xxxx xx**						
Marking	Ex e mb IIC T6 Gb Ex tb mb IIIC T80°C Db IP65, IP67						
Temperature class	T6						
Ambient temperature	-40°C … +50°C						
Medium temperature	-40°C … +70°C						
Type number	Rated voltage		Rated current		Limit power		Fusing
	AC $U_{N,AC}$ [V]	DC $U_{N,DC}$ [V]	AC $I_{N,AC}$ [mA]	DC $I_{N,DC}$ [mA]	AC $P_{G,AC}$ [W]	DC $P_{G,DC}$ [W]	[mA]
0519 60/7196	12		399	440	3.77	4.48	1000
0519 60/7156	24		179	198	3.57	4.28	500
0519 60/7154	36		108	119	3.30	3.97	250
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0519 60/7195	220		20	22	3.74	4.52	50
	230	-	21	-	4.06	-	
	240	-	22	-	4.39	-	

Special conditions for safe use

1. An external fuse (according to DIN 41571 or IEC 60127-2-1) corresponding to the type shall be connected in series to each solenoid as short circuit protection. Alternatively, a motor protecting switch with short circuit- and thermal instantaneous tripping can be connected in series. This shall be adjusted to the respective rated current of the solenoid. The rated voltage of the fuse shall be higher than or equal to the specified rated voltage of the magnet. The breaking capacity of the fuse link shall be equal to or higher than the prospective maximum short-circuit current (usually 1500 A). The fuse may be accommodated inside the associated supply unit or shall be connected in series separately.
2. Connecting cables and connecting lines shall be suitable for permanent application in a temperature range of – 40 °C up to + 105 °C.
3. When using silicone or silicone-containing cables for connection or cables which are not scratch-proof, these shall be protected against mechanical damage.
4. The armature tube should be subjected to a routine test with 1.5 fold the nominal operating pressure.

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, 38116 Braunschweig, Germany
Postfach 33 45, 38023 Braunschweig, Germany
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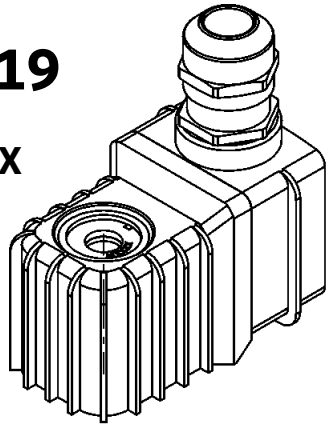
nass magnet GmbH
Eckenerstrasse 4-6
30179 Hannover
Germany

Doc. No. 113-720-0002
Revision No. 5
08 March 2021

EN

Ex m, e, t Solenoid Operator Type 0519



PTB 11 ATEX 2027 X **IECEx PTB 15.0015X**

Operating Instructions

Dear Customer!

To ensure the function and for your own safety, please read these operating instructions attentively before you begin with the installation. If you still have questions, please contact nass magnet GmbH.

Phone ++49 (0) 511 6746-0
Fax ++49 (0) 511 6746-222

www.nassmagnet.com
e-mail vertrieb@nassmagnet.de

General Conditions

- We are not liable for any damage caused by non-observation of this information as well as in case of improper intervention regarding this equipment. Furthermore, warranty for the equipment and accessories will become void. Our general terms and conditions apply.
- The EC-type-examination certificate exclusively covers solenoid operators with nass magnet armature assembly and with nass magnet solenoid coil; please consider the corresponding power levels.

  Applied standards by the certification bodies:

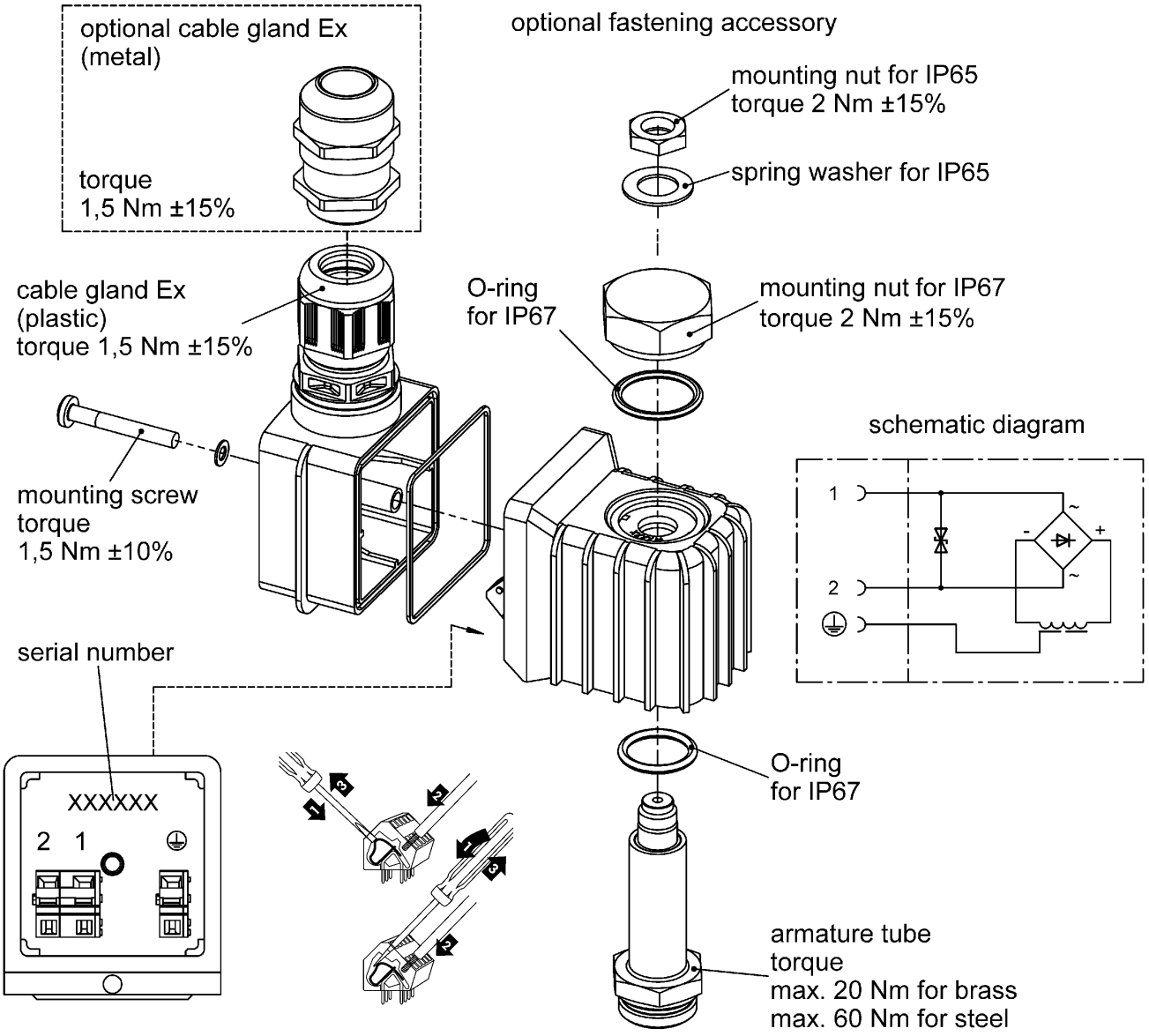
EN 60079-0:2012	IEC 60079-0:2011 (Ed. 6.0)
EN 60079-7:2007	IEC 60079-7:2006-07 (Ed. 4)
EN 60079-18:2009	IEC 60079-18:2009 (Ed. 3)
EN 60079-31:2009	IEC 60079-31:2008 (Ed. 1)

- In its installed state the equipment is appropriate for potentially explosive gas atmospheres of Group IIC (protection type “e mb”). The Equipment Protection Level (EPL) is Gb for intended application in Zone 1, ATEX Category 2G. Alternatively the equipment is appropriate for potentially explosive dust atmospheres of Group IIIC (protection type “tb mb”). The according Equipment Protection Level is Db for intended application in Zone 21, ATEX Category 2D.
- Beyond recognized rules of sound engineering practice, the EC type-examination certificate and these operating instructions refer to special conditions and further application conditions that must be observed in any case. However, these operating instructions cannot consider all possible conditions and applications completely and do not replace the specifications valid in each case.

Installation

- At installation and maintenance, it is essential to observe applicable standards for electrical safety and electrical installations in potentially explosive atmospheres, especially IEC/EN 60079-14.
- Take suitable measures to exclude unintentional activation or inadmissible impairment.

- Before mounting the valve system check that there is no dirt in the piping or the valve housing.
- Make sure not to damage O-rings and seals during assembly.
- Make sure not to detach pipes and valves of pressurised systems.
- The centre-to-centre spacing from one equipment to the other in a row must be at least 55mm.
- Mounting is admissible in any position. Preferably the solenoid coil points upwards.
- Fastening torque of the mounting nut: 2.0 Nm.
- The equipment is optionally available with ingress protection types IP65 or IP67, the according mounting accessories must be used, see below.
- Connecting cables and connecting lines shall be suitable for permanent application in a temperature range of -40 °C up to +105 °C and must be laid fixed to the equipment. The user shall provide for a strain relief. When using silicone or silicone-containing cables for connection or cables that are not resistant to scoring, these shall be protected against mechanical damage.
- The cable gland is suitable for sheathed cable diameters ranging from 7 to 13mm. Fastening torque: 2.0 Nm. Types 0519 ... 7J have impact protection corresponding to a high level of mechanical risk. Cable glands made of metal are optionally available; they must be included in equipotential bonding (e.g. by the cable shield) or to be protected against electrostatic charging by other means.
- The rated conductor cross-section may range from 0.5 mm^2 to 2.0 mm^2. Solid, stranded and fine-stranded conductors may be used.



- Prevent the cable and wires from being damaged and make sure that the conductor ends are properly inserted into the connection terminals. A suitable tool shall be used.
- **Attention! The terminal box cover must be installed for the equipment to operate and may only be opened when the equipment is de-energised.**
- **Attention! Each particular solenoid operator must be protected by a fuse.** Note the rated values according to the technical data charts of the associated temperature class (refer to 'Technical Data').
- For all DC voltage operated solenoids, the maximum permissible ripple is 45 %.
- At choice of the material of the valve bodies must be observed:
  - Metal: The maximum admissible weight percentage may not exceed the following limits for EPL Gb and Db: in total 7.5 % magnesium, titanium and zirconium.
  - Plastics: In order to avoid the build-up of electrostatic charges the requirements according to IEC/EN 60079-0 section 7.4 must be observed.
- In order to keep the maximum allowable temperature limits, the size of the attached valve body must meet the following material-related minimum dimensions:
  - Metal, box-shaped, length sum of the 3 dimensions min. 95 mm – or –
  - Metal, free surface area (not facing the solenoid), min. 5000 mm^2
- Check that all the connections have been mounted correctly before initial commissioning.
- Before operational start-up of the equipment it must be ensured that the entire machine or system complies with the local regulations, e.g. the EMC Directive.

Operation

- **Caution! Risk of injury! The solenoid valve can get very hot during continuous operation.**
- The operating pressure of the equipment depends on the armature system used. The nass magnet standard armature system is suited for up to 12 bars (1200 kPa) and has no extra identification. For other demands please enquire.
- Admissible media are gas and liquids that do not affect the system and the gasket material contained therein.
- Prevent the equipment's exterior surfaces from getting in contact with liquid or corrosive media.
- Frequent occurrence of condensate can lead to critical accumulation of water, for which the rated protection class IP65 is not sufficient. Exposure to natural weather is generally not permitted.
- Do not strain the system by bending or torsion.
- Pay attention to the technical data ratings according to the charts of the according temperature class.
- Regularly check the integrity of the equipment. The fins of the ribbed housing are part of the explosion protection. If parts are damaged, the equipment must be replaced to establish full protection.

Troubleshooting

- At malfunctioning check the cable connections, operating voltage and pressure.
- If the problem persists the equipment must be put out of operation. Make sure to disconnect pressure and electrical power supply.
- Damaged or defective equipment may not be repaired but must be replaced.

Technical Data – Temperature Class T4 / T130 °C

Solenoid operator Ex e mb IIC T4 Gb Ex tb mb IIIC T130°C Db

Protection provided by enclosure IP65 or IP67 (with appropriate accessories)

T4	Suitable for valves up to nass magnet power level 3
Electric Supply	AC–Voltage 50…60 Hz or DC–Voltage max. 45 % ripple
Supply Voltage Limit Deviation	-10 % … +10 %
Ambient Temperature	-40 °C … +60 °C
Media Temperature	-40 °C … +70 °C

Type Number	Nominal Voltage, Supply Voltage		Rated Current [1]		Rated Power [1]			Fuse [2]
	AC $U_{N,AC}$ [V]	DC $U_{N,DC}$ [V]	AC $I_{R,AC}$ [mA]	DC $I_{R,DC}$ [mA]	AC $S_{R,AC}$ [VA]	AC $P_{R,AC}$ [W]	DC $P_{R,DC}$ [W]	[mA]
0519 00 / 7148 …	12		898	990	10.8	8.8	11.9	1600
0519 00 / 7149 …	24		439	486	10.5	9.0	11.7	1000
0519 00 / 7153 …	36		291	322	10.5	9.1	11.6	600
0519 00 / 7150 …	48		189	209	9.1	8.0	10.0	400
0519 00 / 7151 …	110		90	100	9.9	8.8	11.0	200
	115	-	95	-	10.9	9.7	-	
	120	-	99	-	11.9	10.6	-	
0519 00 / 7152 …	125		79	87	9.9	8.8	10.9	150
0519 00 / 7137 …	220		47	53	10.3	9.2	11.7	100
	230	-	50	-	11.5	10.3	-	
	240	-	52	-	12.5	11.2	-	

Type Number suffix	Further Special Conditions of Safe Use
… 7J	Impact protection corresponding to high mechanical risk level (Group II or III). If the type number suffix is deviating please check if this is the appropriate documentation that belongs to the affected equipment or contact nass magnet.
not assigned	In case optionally available **Metallic Cable Glands** are used they must be included in equipotential bonding (e.g. by cable shield) or to be protected against electrostatic charging by other means.

1) Rated values
2) Each solenoid operator must be protected by a fuse according to the rated current (max. 3x rated current according to IEC 60127-2-1, the fuse ratings listed above are recommended) resp. motor protection switch with short-circuit and fast thermal tripping protection. The fuse can be accommodated in the associated equipment or must be added separately.
The rated fuse voltage must be equal or higher than the nominal solenoid voltage. The short-circuit breaking capacity must be equal or higher than the maximum assumed short-circuit current at the installation point (usually 1500 A).

Technical Data – Temperature Class T6 / T80 °C

Solenoid operator Ex e mb IIC T6 Gb Ex tb mb IIIC T80°C Db

Protection provided by enclosure IP65 or IP67 (with appropriate accessories)

T6	Suitable for valves up to nass magnet power level 2
Electric Supply	AC–Voltage 50...60 Hz or DC–Voltage max. 45 % ripple
Supply Voltage Limit Deviation	-10 % ... +10 %
Ambient Temperature	-40 °C ... +50 °C
Media Temperature	-40 °C ... +70 °C

Type Number	Nominal Voltage, Supply Voltage		Rated Current [1]		Rated Power [1]			Fuse [2]
	AC $U_{N,AC}$ [V]	DC $U_{N,DC}$ [V]	AC $I_{R,AC}$ [mA]	DC $I_{R,DC}$ [mA]	AC $S_{R,AC}$ [VA]	AC $P_{R,AC}$ [W]	DC $P_{R,DC}$ [W]	[mA]
0519 60 / 7196 ...	12		399	440	4.8	3.9	5.3	1000
0519 60 / 7156 ...	24		179	198	4.3	3.7	4.8	500
0519 60 / 7154 ...	36		108	119	3.9	3.4	4.3	250
0519 60 / 7197 ...	48		90	100	4.3	3.8	4.8	200
0519 60 / 7198 ...	110		40	44	4.4	3.9	4.8	100
	115	-	42	-	4.8	4.3	-	
	120	-	43	-	5.2	4.6	-	
0519 60 / 7155 ...	125		31	35	3.9	3.5	4.4	75
0519 60 / 7195 ...	220		20	22	4.4	3.9	4.8	50
	230	-	21	-	4.8	4.3	-	
	240	-	22	-	5.3	4.7	-	

Type Number suffix	Further Special Conditions of Safe Use
... 7J	Impact protection corresponding to high mechanical risk level (Group II or III). If the type number suffix is deviating please check if this is the appropriate documentation that belongs to the affected equipment or contact nass magnet.
not assigned	In case optionally available **Metallic Cable Glands** are used they must be included in equipotential bonding (e.g. by cable shield) or to be protected against electrostatic charging by other means.

1) Rated values

2) Each solenoid operator must be protected by a fuse according to the rated current (max. 3x rated current according to IEC 60127-2-1, the fuse ratings listed above are recommended) resp. motor protection switch with short-circuit and fast thermal tripping protection. The fuse can be accommodated in the associated equipment or must be added separately.
The rated fuse voltage must be equal or higher than the nominal solenoid voltage. The short-circuit breaking capacity must be equal or higher than the maximum assumed short-circuit current at the installation point (usually 1500 A).

DC-NDE-210308-04, language EN

CE 0102

EU Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

nass magnet GmbH
Eckenerstrasse 4-6
30179 Hannover, Germany

Product, Type-number / Object of the declaration:

Solenoid Operator Type 0519 00 to 0519 99

The object of the declaration described above is in conformity with the relevant Community harmonisation legislation:

2014/34/EU
...relating to equipment and protective systems intended for use in potentially explosive atmospheres
(recast of 26 February 2014)

2011/65/EU, with (EU) 2015/863 and (EU) 2018/741
on the restriction of the use of hazardous substances in electrical and electronic equipment
(recast of 8 June 2011, amended 31 March 2015 and 1 March 2018)

Regarding pressure-induced hazards, the relevant requirements of Directive 2014/68/EU are complied with.

Notified body (no.) that performed the EC-type examination and no. of the certificate:

Physikalisch Technische Bundesanstalt (No. 0102), PTB 11 ATEX 2027 X.

Relevant harmonised standards used and references to the specifications in relation to which conformity is declared. In case of newer editions as referenced in the certificate we confirm that the changed requirements are either not applicable or the products listed above comply with them:

EN IEC 60079-0:2018
Explosive atmospheres – Part 0: Equipment - General requirements

EN 60079-7:2015
Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

EN 60079-18:2015/A1:2017
Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"

EN 60079-31:2014
Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

EN IEC 63000:2018
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

DIN VDE 0580:2011
Electromagnetic devices and components - General specifications

Signed for and on behalf of

nass magnet GmbH, Hannover, 08 March 2021

Patrick Oelkers
General Manager