Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

5. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2001 X

(Translation)

Equipment: Valve magnet, types 0513, 1213, 0514 and 1214

Marking: **II 2 G Ex mb II T4, T5 and II 2 D Ex tD A21 IP65 T95 °C, T130 °C**

Manufacturer: nass magnet GmbH

Address: Eckenerstraße 4-6, 30179 Hannover, Germany

Description of supplements and modifications

The equipment will be marked as follows

II 2 G Ex mb IIC T5, T4

II 2 D Ex mb tb IIIC T95 °C, T130 °C IP 65

or

II 2 G Ex mb IIC T5, T4 Gb

II 2 D Ex mb tb IIIC T95 °C, T130 °C Db IP 65

All further specifications given in the examination certificate and its supplements as well as the „Special Conditions" apply without changes.

ZSEx10101e.dotm

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

5. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2001 X

Applied standards

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

Test report: PTB Ex 12-22128

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, July 18, 2012

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

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 00 ATEX 2001 X

(4) Equipment: Valve magnet 0513 and 1213; valve magnet 0514 and 1214

(5) Manufacturer: nass magnet GmbH

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

(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 report PTB Ex 00-29248.

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

EN 50014:1997 **EN 50028:1987**

(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 and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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

II 2 G EEx m II T4 und T5

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, March 06, 2000

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2001 X

(15) Description of equipment

The valve magnets are intended for installation and operation in explosion hazardous areas. The coil assembly is plastic-sheathed, the terminal housing consists of glass-fibre-reinforced polyimide and is filled with casting compound. The breaking overvoltage is limited by a diode resp. a varistor connected in parallel to the coil. To protect the diodes against voltage peaks from the mains a varistor is connected in parallel to the supply terminal. The strain relief of the connecting cable is carried out by a cable tie which is completely potted.

Electrical data

type designation	0513 00.1-00/.... to 0513 49.1-00/....
	single coil
type of current	alternating current
rated voltage	12 V...240 V tolerance ±10 %
rated current	0.392 A...0.023 A
maximum power	4.8 W
max. permissible ambient temperature	40 °C resp. 50 °C
temperature class	T4
frequency	40 Hz...60 Hz
single mounting	yes, ambient temperature max. 50 °C
butt mounting	yes, ambient temperature max. 40 °C
type designation	0514 00.1-00/.... to 0514 49.1-00/....
	double coil
type of current	alternating current
rated voltage	12...240 V tolerance ±10 %
rated current	0.392 A...0.023 A
maximum power	4.8 W
max. permissible ambient temperature	60 °C
temperature class	T4
frequency	40 Hz...60 Hz
single mounting	yes
dimensions of the valve body	47 x 22 x 20 mm
material of the valve body	cast alloy with Mg content below 6 %
medium temperature	max. 60 °C
operating time	100 %, both magnet heads simultaneous

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2001 X

type designation	1213 00.1-00/.... to 1213 49.1-00/....
	single coil
type of current	direct current
rated voltage	6... 125 V tolerance ±10 %
rated current	0.83...0.04 A
maximum power	5 W
max. permissible ambient temperature	40 °C resp. 50 °C
temperature class	T4
single mounting	yes, ambient temperature max. 50 °C
butt mounting	yes, ambient temperature max. 40 °C
type designation	1214 00.1-00/.... to 1214 49.1-00/....
	double coil
type of current	direct current
rated voltage	6...125 V tolerance ±10 %
rated current	0.83...0.04 A
maximum power	5 W
max. permissible ambient temperature	60 °C
temperature class	T4
single mounting	yes
dimensions of the valve body	47 x 22 x 20 mm
material of the valve body	cast alloy with Mg content below 6 %
medium temperature	max. 60 °C
operating time	100 %, both magnet heads simultaneous
type designation	0513 50.1-00/.... to 0513 99.1-00/....
	single coil
type of current	alternating current
rated voltage	12...240 V tolerance ±10 %
rated current	0.19...0.01 A
maximum power	2.5 W
max. permissible ambient temperature	40 °C resp. 50 °C
temperature class	T5
frequency	40...60 Hz
single mounting	yes, ambient temperature max. 50 °C
butt mounting	yes, ambient temperature max. 40 °C
type designation	0514 50.1-00/.... to 0514 99.1-00/....
	double coil
type of current	alternating current
rated voltage	12...240 V tolerance ±10 %
rated current	0.19...0.01 A
maximum power	2.5 W
max. permissible ambient temperature	60 °C
temperature class	T5
frequency	40... 60 Hz
single mounting	yes
dimensions of the valve body	47 x 22 x 20 mm
material of the valve body	cast alloy with Mg content below 6 %

medium temperature	max. 60 °C
operating time	100 %, both magnet heads simultaneous
type designation	1213 50.1-00/.... to 1213 99.1-00/.... single coil
type of current	direct current
rated voltage	6...125 V tolerance ±10 %
rated current	0.45...0.02 A
maximum power	2.8 W
max. permissible ambient temperature	40 °C resp. 50 °C
temperature class	T5
single mounting	yes, ambient temperature max. 50 °C
butt mounting	yes, ambient temperature max. 40 °C
type designation	1214 50.1-00/.... to 1214 99.1-00/.... double coil
type of current	direct current
rated voltage	6...125 V tolerance ±10 %
rated current	0.45...0.02 A
maximum power	2.8 W
max. permissible ambient temperature	60 °C
temperature class	T5
single mounting	yes
dimensions of the valve body	47 x 22 x 20 mm
material of the valve body	cast alloy with Mg content below 6 %
medium temperature	max. 60 °C
operating time	100 %, both magnet heads simultaneous

(16) Test report PTB Ex 00-29248

(17) Special conditions for safe use

1. A fuse corresponding to the rated current (max. 3 x I_{rat} according to DIN 41571 or IEC 127) resp. a motor protecting switch with short circuit- and thermal instantaneous tripping (adjusted to rated current) must be connected in series to each magnet as short circuit protection. This fuse may be located inside the associated supply unit or must be connected in series seperately. The rated voltage of the fuse shall be higher than or equal to the indicated 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).
2. The maxium permissible ripple for all magnets of DC-design is 20 %.
3. The magnets of double coil design may only be operated with the associated valve. A larger valve body with improved thermal conductivity may be mounted any time.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2001 X

(18) Essential health and safety requirements

met by standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, March 06, 2000

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 No.: IECEx PTB 05.0006X issue No.:1

Status: **Current**

Certificate history:
Issue No. 1 (2014-5-14)
Issue No. 0 (2005-4-22)

Date of Issue: **2014-05-14**

Applicant: **Nass Magnet GmbH**
Eckenerstraße 4-6
30179 Hannover
Germany

Electrical Apparatus: **Solenoid operator, Type 0513, 1213, 0514 and 1214**
Optional accessory:

Type of Protection: **encapsulation 'mb' and protection by enclusure 'tb'**

Marking:

	Ex mb IIC T5,T4	and	Ex mb tb IIIC T95°C, T130°C
or	Ex mb IIC T5,T4 Gb	and	Ex mb tb IIIC T95°C, T130°C Db

Approved for issue on behalf of the IECEx Certification Body: Dr.-Ing. Ulrich Johannsmeyer

Position: Head of Department "Explosion Protection in Sensor Technology and Instrumentation"

Signature:
(for printed version) _____

Date: _____

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

IECEx Certificate of Conformity

Certificate No.: IECEx PTB 05.0006X

Date of Issue: **2014-05-14** Issue No.: **1**

Manufacturer:

Nass Magnet GmbH
Eckenerstraße 4-6
30179 Hannover
Germany

Additional Manufacturing location(s):

Precision Controls Kft
Henger utca 2
8200 Veszprem
Hungary

Nass Magnet GmbH
Eckenerstraße 4-6
30179 Hannover
Germany

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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - 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'

*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

IECEx ATR:
DE/PTB/05-009
DE/PTB/ExTR14.0032/00
DE/PTB/QAR08.0002

File Reference:
B002001

IECEx Certificate of Conformity

Certificate No.: IECEx PTB 05.0006X

Date of Issue: **2014-05-14** Issue No.: **1**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The valve magnets are intended for installation and operation in explosion hazardous areas. The coil assembly is plastic-sheathed, the terminal housing consists of glass-fibre-reinforced polyimide and is filled with casting compound. The breaking overvoltage is limited by a diode resp. a varistor connected in parallel to the coil. To protect the diodes against voltage peaks from the mains a varistor is connected in parallel to the supply terminal. The strain relief of the connecting cable is carried out by a cable tie which is completely potted.
Electrical data see Annex.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. A fuse corresponding to the rated current (max. 3 x I-rated according to DIN 41571 or IEC 127) resp. a motor protecting switch with short circuit- and thermal instantaneous tripping (adjusted to rated current) must be connected in series to each magnet as short circuit protection. This fuse may be located inside the associated supply unit or must be connected in series separately. The rated voltage of the fuse shall be higher than or equal to the indicated 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)
2. The maximum permissible ripple for all magnets of DC-design is 20 %
3. The magnets of double coil design may only be operated with the associated valve. A larger valve body with improved thermal conductivity may be mounted any time.

IECEx Certificate of Conformity

Certificate No.: IECEx PTB 05.0006X

Date of Issue: **2014-05-14** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

applied standards changed
marking changed depending on normative requirements

Annex: Annexe to Certificate N1.pdf

DC-NDE-180201-01, 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 0513 00 to 0513 99 and 1213 00 to 1213 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
on the restriction of the use of hazardous substances in electrical and electronic equipment
(recast of 8 June 2011)

2014/68/EU
... relating to the making available on the market of pressure equipment
(recast of 15 Mai 2014)

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

Physikalisch Technische Bundesanstalt (No. 0102), PTB 00 ATEX 2001 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 60079-0:2012+A11:2013
Explosive atmospheres – Part 0: Equipment - General requirements

EN 60079-18:2015
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 60529:2000
Degrees of protection provided by enclosures (IP code)

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

Signed for and on behalf of

nass magnet GmbH, Hannover, 01 February 2018

Patrick Oelkers
General Manager

DC-NDE-180201-01, Sprache DE

CE 0102

EU-Konformitätserklärung

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller:

nass magnet GmbH
Eckenerstraße 4-6
30179 Hannover, Deutschland

Produkt, Typennummer / Gegenstand der Erklärung:

Ventilmagnet Typ 0513 00 bis 0513 99 und 1213 00 bis 1213 99

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:

2014/34/EU
... für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen (Neufassung vom 26 Februar 2014)

2011/65/EU
zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (Neufassung vom 8. Juni 2011)

2014/68/EU
... über die Bereitstellung von Druckgeräten auf dem Markt (Neufassung vom 15. Mai 2014)

Benannte Stelle (Nr.), welche die EG Baumusterprüfung durchgeführt hat, und Nummer des Zertifikats:

Physikalisch Technische Bundesanstalt (Nr. 0102), PTB 00 ATEX 2001 X.

Einschlägige harmonisierte Normen und andere technische Spezifikationen, die der Konformitätserklärung zugrunde gelegt wurden. Bei neueren Ausgaben, als in der Prüfbescheinigung benannt, wird bestätigt, dass die Normänderungen entweder nicht anzuwenden sind, oder von den obigen Produkten erfüllt werden:

EN 60079-0:2012+A11:2013
Explosionsfähige Atmosphäre Teil 0: Geräte - Allgemeine Anforderungen

EN 60079-18:2015
Explosionsfähige Atmosphäre Teil 18: Geräteschutz durch Vergusskapselung „m“

EN 60079-31:2014
Explosionsfähige Atmosphäre Teil 31: Geräte-Staubexplosionsschutz durch Gehäuse „t“

EN 60529:2000
Schutzarten durch Gehäuse (IP-Code)

DIN VDE 0580:2011
Elektromagnetische Geräte und Komponenten - Allgemeine Bestimmungen

Unterzeichnet für und im Namen von

nass magnet GmbH, Hannover, 01. Februar 2018

Patrick Oelkers
Geschäftsführer

DC-NDE-180201-01, langue FR

CE 0102

Déclaration UE de Conformité

La présente déclaration de conformité est établie sous la seule responsabilité du fabricant:

nass magnet GmbH
Eckenerstrasse 4-6
30179 Hannover, Allemagne

Produit, numéro de type / objet de la déclaration:

Aimant d'Electrovanne Type 0513 00 à 0513 99 et 1213 00 à 1213 99

L'objet de la déclaration décrit ci-dessus est conforme à la législation communautaire d'harmonisation applicable:

2014/34/UE
... concernant les appareils et les systèmes de protection destinés à être utilisés en atmosphères explosibles (refonte du 26 février 2014)

2011/65/UE
à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques (refonte du 8 juin 2011)

2014/68/UE
... concernant la mise à disposition sur le marché des équipements sous pression (refonte du 15 mai 2014)

L'organisme notifié (numéro), qui a effectué l'attestation d'examen de type, et le numéro du certificat:

Physikalisch Technische Bundesanstalt (no 0102), PTB 00 ATEX 2001 X.

Références des normes harmonisées pertinentes appliquées et des spécifications par rapport auxquelles la conformité est déclarée. Avec les éditions nouvelles que celles notifié dans le certificat, nous confirmons que les nouvelles règles normatives ne sont pas applicables ou sont satisfait par les produits ci-dessus:

EN 60079-0:2012+A11:2013
Atmosphères explosives – Partie 0: Matériel - Exigences générales

EN 60079-18:2015
Atmosphères explosives – Partie 18: Protection du matériel par encapsulage «m»

EN 60079-31:2014
Atmosphères explosives – Partie 31: Protection du matériel contre l'inflammation des poussières par enveloppe «t»

EN 60529:2000
Degrés de protection procurés par les enveloppes (Code IP)

DIN VDE 0580:2011
(Appareils électromagnétiques et composantes - Règles générales)

Signé par et au nom de

nass magnet GmbH, Hannover, le 01 février 2018

Patrick Oelkers
Directeur Général

nass magnet GmbH
Eckenerstrasse 4-6
30179 Hannover
Germany

Doc. No. 108-720-0004
Revision 10
01 Feb 2018

Ex m, t Solenoid Operator Type 0513/1213

PTB 00 ATEX 2001 X IECEx PTB 05.0006X

Operating Instructions

Dear Customer!

In order to guarantee the function and for your own safety, please read the enclosed operating instructions attentively before starting installation. Should there still arise any question or queries, please contact nass magnet GmbH.

Phone ++49 (0) 511 6746-0
Fax ++49 (0) 511 6746-222
e-mail vertrieb@nassmagnet.de

www.nassmagnet.com

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 device. Furthermore, warranty for the devices 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 60079-0:2009	IEC 60079-0:2007-10 (Ed. 5)
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 device is appropriate for potentially explosive gas atmospheres of Group IIC (protection type “m”). The Equipment Protection Level (EPL) is Gb for intended application in Zone 1, ATEX Category 2G. Alternatively the device is appropriate for potentially explosive dust atmospheres of Group IIIC (protection type „mb tb“). 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.
- After removing the packing, make sure that dirt cannot penetrate into the system.
- Before mounting the valve system, check that there is no dirt in the piping or the valve housing.

- Make sure not to detach pipes and valves of pressurized systems.
- Take suitable measures to exclude unintentional activation or inadmissible impairment.
- Make sure not to damage O-rings and seals during assembly.
- If coils are used in a side by side manifold assembly, pay attention to the minimum distance according to the temperature class (see ‘Technical Data’).
- Mounting is admissible in any position. Preferably the solenoid coil points upwards.
- The solenoid coil can be locked when offset by 90°. Fastening torque of the mounting nut: 0.5 Nm.
- Electrical connection with the integral cable of the solenoid coil (wire ends suitable for screw terminals/clamps) in the hazardous area with approved explosion-protected equipment (e.g. terminal box with type of protection Increased Safety "e" according IEC/EN 60079-7).
- The cable is of type H05 V2V2-F 3G1,0 (PVC isolated) and is suitable for a temperature range of -30°C to +105°C in fixed installations. The minimum bending radius is 3xD (= 21mm). For other demands please enquire.
- Observe the properties of the cable in regards to respective requirements and ambient conditions at the point of wiring (see IEC/EN 60079-14).
- Prevent the cable and wires from being damaged and make sure that the conductor ends are properly inserted into the connection terminals.
- **Each particular solenoid operator has to be protected by a fuse.** Pay attention to the rating according to the technical data charts of the associated temperature class attached to these operating instructions (refer to ‘Technical Data’).
- For all DC voltage operated solenoids, the maximum permissible ripple is 20 %.
- 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.
- Before operational start-up of the device in the European Union it must be ensured that the entire machine or system corresponds to the determinations of the applicable directives of the EU (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 device 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 operating pressures greater than 12 bars further documents are available.
- Admissible media are gas and liquids that do not affect the system and the gasket material contained therein.
- Prevent the device’s exterior surfaces from getting in contact with liquid or corrosive media.
- 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.

Troubleshooting

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

Technical Data – Temperature Class T4 / T130 °C

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

Degree of protection provided by enclosure IP65

Type	**0513 00 ... 0513 49**				**1213 00 ... 1213 49**			
Electric supply	AC - voltage 50...60 Hz				DC - voltage, max. 20 % ripple			
Supply voltage tolerance	+/- 10 %				+/- 10 %			
Ambient Temperature - Single assembly - Manifold assembly	 -20 °C ... +50 °C -20 °C ... +40 °C				 -20 °C ... +50 °C -20 °C ... +40 °C			
Max. permissible media temperature	–				–			
Manifold assembly Min. distance	yes 0 mm				yes 0 mm			
Nominal Voltage U_N [V]	Nominal current I_N [1)] [mA]	Nominal Power P_N [VA]	Limit Power P_G [2)] [W]	Fuse [3)] [mA]	Nominal current I_N [1)] [mA]	Nominal Power P_N [W]	Limit Power P_G [2)] [W]	Fuse [3)] [mA]
6	–	–	–	–	833	5.0	4.4	1250
12	392	4.7	4.1	800	375	4.5	4.0	630
24	192	4.6	4.0	400	207	5.0	4.4	315
36	–	–	–	–	138	5.0	4.4	200
42	117	4.9	4.3	250	–	–	–	–
48	98	4.7	4.1	200	98	4.7	4.1	160
60	–	–	–	–	77	4.6	4.1	125
110	41	4.5	3.9	80	45.3	5.0	4.4	80
120	44	5.3	4.6	80	–	–	–	–
125	–	–	–	–	39.7	4.96	4.4	63
220	22	4.8	4.2	50	–	–	–	–
230	22	5.1	4.4	50	–	–	–	–
240	23	5.5	4.8	50	–	–	–	–

1) Rated current
2) Steady-state power, maximum power at the thermal load limit
3) Each solenoid operator has to 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 device or must be added separately.
The rated fuse voltage has to be equal or higher than the nominal solenoid voltage. The short-circuit breaking capacity has to be equal or higher than the maximum assumed short-circuit current at the installation point (usually 1500 A).

Technical Data – Temperature Class T5 / T95 °C

Solenoid operator **Ex mb IIC T5 Gb** **Ex mb tb IIIC T95°C Db**

Degree of protection provided by enclosure IP65

Type	**0513 50 ... 0513 99**				**1213 50 ... 1213 99**			
Electric supply	AC - voltage 50...60 Hz				DC - voltage, max. 20 % ripple			
Supply voltage tolerance	+/- 10 %				+/- 10 %			
Ambient Temperature - Single assembly - Manifold assembly	 -20 °C ... +50 °C -20 °C ... +40 °C				 -20 °C ... +50 °C -20 °C ... +40 °C			
Max. permissible media temperature	–				–			
Manifold assembly Min. distance	yes 0 mm				yes 0 mm			
Nominal Voltage U_N [V]	Nominal current I_N [1)] [mA]	Nominal Power P_N [VA]	Limit Power P_G [2)] [W]	Fuse [3)] [mA]	Nominal current I_N [1)] [mA]	Nominal Power P_N [W]	Limit Power P_G [2)] [W]	Fuse [3)] [mA]
6	–	–	–	–	451	2.71	2.5	800
12	192	2.3	2.1	400	231	2.77	2.6	400
24	121	2.9	2.5	250	115	2.76	2.6	200
32	-	-	–	–	73	2.64	2.5	125
36	52	2.2	2.0	100	–	–	–	–
42	54	2.6	2.3	100	38.4	1.84	1.7	63
110	–	–	–	–	29.8	1.79	1.7	50
120	21	2.3	2.1	40	23.2	2.55	2.4	32
125	23	2.7	2.4	50	–	–	–	–
220	–	–	–	–	17.8	2.23	2.1	32
230	9	2.1	1.9	32	–	–	–	–
240	10	2.3	2.1	32	–	–	–	–

1) Rated current
2) Steady-state power, maximum power at the thermal load limit
3) Each solenoid operator has to 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 device or must be added separately.
The rated fuse voltage has to be equal or higher than the nominal solenoid voltage. The short-circuit breaking capacity has to be equal or higher than the maximum assumed short-circuit current at the installation point (usually 1500 A).

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DC-NDE-180201-01, 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 0513 00 to 0513 99 and 1213 00 to 1213 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
on the restriction of the use of hazardous substances in electrical and electronic equipment
(recast of 8 June 2011)

2014/68/EU
... relating to the making available on the market of pressure equipment
(recast of 15 Mai 2014)

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

Physikalisch Technische Bundesanstalt (No. 0102), PTB 00 ATEX 2001 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 60079-0:2012+A11:2013
Explosive atmospheres – Part 0: Equipment - General requirements

EN 60079-18:2015
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 60529:2000
Degrees of protection provided by enclosures (IP code)

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

Signed for and on behalf of

nass magnet GmbH, Hannover, 01 February 2018

Patrick Oelkers
General Manager

中国国家强制性产品认证证书

证书编号：2020322307002566

认证委托人名称：	nass magnet GmbH
认证委托人地址：	Eckenerstrasse 4-6, 30179 Hannover, Germany
生产者名称：	nass magnet GmbH
生产者地址：	Eckenerstrasse 4-6, 30179 Hannover, Germany
生产企业名称：	nass magnet Hungária Kft
生产企业地址：	Henger utca 2., 8200 Veszprém, Hungary
产品名称：	电磁线圈
系列、规格、型号：	0513/1213 系列
标准：	GB 3836.1-2010、GB 3836.9-2014、GB 12476.1-2013、GB 12476.6-2010

上述产品符合强制性产品认证实施规则 CNCA-C23-01:2019 的要求，特发此证。

发证日期：2020 年 9 月 30 日　　有效期至：2025 年 9 月 29 日

首次发证日期：2020 年 9 月 30 日

证书有效期内本证书的有效性依据发证机构的定期监督获得保持。

本证书的相关信息可通过国家认监委网站 www.cnca.gov.cn 查询

批准：

上海仪器仪表自控系统检验测试所有限公司

http://www.sitiias.com.cn　　中国·上海·漕宝路103号200233　　电话：+86 21 64510844

S 0002656

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

CERTIFICATE NO: 2020322307002566

APPLICANT:	**nass magnet GmbH**
ADDRESS:	Eckenerstrasse 4-6, 30179 Hannover, Germany
MANUFACTURER:	nass magnet GmbH
ADDRESS:	Eckenerstrasse 4-6, 30179 Hannover, Germany
FACTORY:	nass magnet Hungária Kft
ADDRESS:	Henger utca 2., 8200 Veszprém, Hungary
PRODUCTNAME:	Solenoid
SERIES,SPECIFICATION,MODEL:	0513/1213 series
STANDARDS:	GB 3836.1-2010、GB 3836.9-2014、GB 12476.1-2013、GB 12476.6-2010

This is to certify that the above mentioned product(s)complies with the requirements of implementation rules for compulsory certification (REFNO. CNCA-C23-01:2019).

Valid from: September 30, 2020 **Valid until:** September 29, 2025

Date of original certification: September 30, 2020

The validity of this certificate is subject to positive result of the regular follow up inspection by issuing certification body until the expiry date.

This certificate is available through CNCA's website: www.cnca.gov.cn

APPROVAL:

Xu JianPing

上海仪表自控系统检验测试所有限公司

Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd.

http://www.sitias.com.cn Building 9,103 Cao Bao Road, Shanghai 200233,China Tel: +86 21 64510844

S 0001655

中国国家强制性产品认证证书

证书编号：2020322307002566

附　件

产品名称： 电磁线圈

型号规格： 0513/1213 系列
0513 XX / aaaa
1213 XX / aaaa
XX: 温度组别代码，
00～49（T4/T130℃）
50～99（T5/T95℃）
aaaa: 线圈代码，0000～9999。

防爆标志： Ex mb IIC T4/T5 Gb
Ex mbD 21 T130℃/T95℃

电气参数： 型号、电气参数、使用环境温度、最高介质温度与温度级别的对应关系如下:

电磁线圈	0513 系列电磁线圈	
电源类型	交流（AC，40Hz～60Hz）	
额定电压	12V～240V (±10%)	
温度组别	T4/T130℃	T5/T95℃
型　　号	0513 00～0513 49	0513 50～0513 99
额定电流	0.392A～0.022A	0.19A～0.009A
稳态功率	4.8W	2.5W
使用环境温度	独立式安装：-20℃～+50℃ 密集式安装：-20℃～+40℃	

批　准：

上海仪器仪表自控系统检验测试所有限公司

http://www.sitiias.com.cn　　中国•上海•漕宝路103号200233　　电话：+86 21 64510844

中国国家强制性产品认证证书

证书编号：2020322307002566

附　件

电气参数：

电磁线圈	1213 系列电磁线圈	
电源类型	直流（DC）	
额定电压	6V ~ 220V (±10%)	
温度组别	T4/T130℃	T5/T95℃
型　　号	1213 00 ~ 1213 49	1213 50 ~ 1213 99
额定电流	0.83A ~ 0.04A	0.45A ~ 0.018A
稳态功率	5.0W	2.8W
使用环境温度	独立式安装：-20℃ ~ +50℃ 密集式安装：-20℃ ~ +40℃	

批　准：

上海仪器仪表自控系统检验测试所有限公司

中国国家强制性产品认证证书

证书编号：2020322307002566

认证委托人名称：	nass magnet GmbH
认证委托人地址：	Eckenerstrasse 4-6, 30179 Hannover, Germany
生产者名称：	nass magnet GmbH
生产者地址：	Eckenerstrasse 4-6, 30179 Hannover, Germany
生产企业名称：	nass magnet Hungária Kft
生产企业地址：	Henger utca 2., 8200 Veszprém, Hungary
产品名称：	电磁线圈
系列、规格、型号：	0513/1213 系列
标准：	GB/T 3836.1-2021、GB/T 3836.9-2021、GB/T 3836.31-2021

认证模式：型式试验+初始工厂检查+获证后监督

上述产品符合 CNCA-C23-01:2019 《强制性产品认证实施规则 防爆电气》的要求，特发此证。

产品相关信息详见附件。

发证日期：2023 年 04 月 29 日　　**有效期至：**2025 年 09 月 29 日

首次发证日期：2020 年 09 月 30 日

证书有效期内本证书的有效性依据发证机构的定期监督获得保持。

本证书的相关信息可通过国家认监委网站 www.cnca.gov.cn 查询

批　准：

上海仪器仪表自控系统检验测试所有限公司

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S 0011437

中国国家强制性产品认证证书

证书编号：2020322307002566

附　件

产品名称： 电磁线圈

型号规格： 0513/1213 系列

0513 *XX* / *aaaa*

1213 *XX* / *aaaa*

XX 温度组别/粉尘最高表面温度代码，00（T4/T130℃）、50（T5/T95℃）。

aaaa 线圈额定电压/最大功率代码：0000～9999。

防爆标志： Ex mb ⅡC T5/T4 Gb、Ex mb tb ⅢC T95℃/T130℃ Db

电气参数： 产品型号、电气参数、使用环境温度范围与温度组别之间的关系见下表：

产品系列	0513 系列	
电源类型	交流（40Hz～60Hz）	
额定电压	12Va.c.～240Va.c.（误差±10%）	
温度组别	T4/T130℃	T5/T95℃
型号	0513 00/ *aaaa*	0513 50/ *aaaa*
额定电流	0.392A～0.023A	0.19A～0.01A
最大功率	4.8W	2.5W
使用环境温度范围	独立安装时：-20℃～+50℃ 密集安装时：-20℃～+40℃	

批　准：

上海仪器仪表自控系统检验测试所有限公司

中国国家强制性产品认证证书

证书编号：2020322307002566

附　件

产品系列	1213 系列	
电源类型	直流	
额定电压	6Vd. c. ～125Vd. c. (误差±10%)	
温度组别	T4/T130℃	T5/T95℃
型号	1213 00/ *aaaa*	1213 50/ *aaaa*
额定电流	0. 83A～0. 04A	0. 45A～0. 02A
最大功率	5W	2. 8W
使用环境温度范围	独立安装时：-20℃～+50℃ 密集安装时：-20℃～+40℃	

相关报告编号： 2023S17402-010894
2020S17402-001851

使用条件： 特殊（限制）使用条件：

1. 安全特殊限制使用条件：

1）产品在危险区域安装使用时，需要在输入端串联额定电压高于或等于电磁线圈额定输入电压，分断能力至少为 1500A 保险丝，同时该保险丝须安装在安全区。

2）产品供电为直流输入时，允许直流纹波电压和电流，最大不能超过额定值的 20%。

批　准：

上海仪器仪表自控系统检验测试所有限公司

中国国家强制性产品认证证书

证书编号：2020322307002566

附　件

3）产品型号、电气参数、使用环境温度范围与温度组别之间的关系见下表：

产品系列	0513 系列	
电源类型	交流（40Hz～60Hz）	
额定电压	12Va. c. ～240Va. c.（误差±10%）	
温度组别	T4/T130℃	T5/T95℃
型号	0513 00/ *aaaa*	0513 50/ *aaaa*
额定电流	0. 392A～0. 023A	0. 19A～0. 01A
最大功率	4. 8W	2. 5W
使用环境温度范围	独立安装时：-20℃～+50℃ 密集安装时：-20℃～+40℃	

产品系列	1213 系列	
电源类型	直流	
额定电压	6Vd. c. ～125Vd. c.（误差±10%）	
温度组别	T4/T130℃	T5/T95℃
型号	1213 00/ *aaaa*	1213 50/ *aaaa*
额定电流	0. 83A～0. 04A	0. 45A～0. 02A
最大功率	5W	2. 8W
使用环境温度范围	独立安装时：-20℃～+50℃ 密集安装时：-20℃～+40℃	

2. 其他：产品外壳防护等级 IP65。

批　准：

上海仪器仪表自控系统检验测试所有限公司