January 16, 2015

The attached documentation are certificates associated with AAA Products International ATEX/IEC coils. Each coil is covered under the same certificate based on voltage.

| AAA Part Number | Voltage | Nass Number |
|---|---|---|
| V-612-3 | 24 Volt D-C | 1215 30.1-00/6896 |

Russ McKenna
Engineer

nass magnet GmbH
Eckenerstrasse 4-6
D-30179 Hannover

Doc. No. 108-720-0030 2016-04-20
Revision No. 0
Amendment to
Operating Instructions 108-720-0006

# EU Declaration of Conformity

## Product: Type 0515/1215 Ex m Solenoid Operator

CE 0102

The manufacturer nass magnet GmbH, Hanover, declares and bears sole responsibility for the following products

| | | |
|---|---|---|
| Solenoid operator 0515 00 to 0515 29<br>Solenoid operator 1215 00 to 1215 29 | II 2 G<br>II 2 D | Ex mb IIC T4 Gb<br>Ex mb tb IIIC T130°C Db |
| Solenoid operator 0515 30 to 0515 59<br>Solenoid operator 1215 30 to 1215 59 | II 2 G<br>II 2 D | Ex mb IIC T5 Gb<br>Ex mb tb IIIC T95°C Db |
| Solenoid operator 0515 60 to 0515 99<br>Solenoid operator 1215 60 to 1215 99 | II 2 G<br>II 2 D | Ex mb IIC T6 Gb<br>Ex mb tb IIIC T80°C Db |

to be in conformity with the relevant Union harmonisation legislation:

| | |
|---|---|
| Directive 2014/34/EU | Equipment and protective systems intended for use in potentially explosive atmospheres (recast of 26 February 2014) |
| Directive 2011/65/EU | on the restriction of the use of hazardous substances in electrical and electronic equipment (recast of 8 June 2011) |
| Directive 97/23/EC | on the approximation of the laws of the Member States concerning pressure equipment (of 29 May 1997) |

The notified body Physikalisch Technische Bundesanstalt, no. 0102, performed the EC-type examination and issued the certificate PTB 03 ATEX 2018 X.

One or more of the standards referenced in the certificate have been replaced by new editions. nass magnet declares that the changed requirements are either not applicable or the Ex products listed above comply with them and are in compliance with the following standards:

| | |
|---|---|
| EN 60079-0:2012+A11:2013 | Explosive atmospheres – Part 0: Equipment - 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 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 |

Patrick Oelkers
General Manager

Hanover, 20 April 2016

nass magnet GmbH
Eckenerstrasse 4-6
D-30179 Hannover

# IECEx Manufacturer's Declaration

## - relating to EU Declaration of Conformity (Doc. No. 108-720-0030 Rev.0)

**Product:** **Type 0515/1215 Ex m Solenoid Operators**

**Ex mb IIC T4 / T5 / T6 Gb // Ex mb tb IIIC T130°C / T95°C / T80°C Db**

The IECEx Certification Body Physikalisch Technische Bundesanstalt (PTB) issued the Certificate of Conformity **IECEx PTB 04.0002X**.

One or more of the standards referenced in the certificate have been updated by new editions.

nass magnet GmbH, Hanover, has investigated all significant technical changes of the related standards and declares that the changed requirements are either not applicable or the Ex products listed above comply with them according to the following standards:

| | |
|---|---|
| IEC 60079-0:2011 (Ed.6) | Explosive atmospheres – Part 0: Equipment - General requirements |
| IEC 60079-18:2014 (Ed.4) | Explosive atmospheres – Part 18: Equipment protection by encapsulation "m" |
| IEC 60079-31:2013 (Ed.2) | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t" |

Patrick Oelkers
General Manager

Hanover, 19 May 2016

# Physikalisch-Technische Bundesanstalt

**Braunschweig und Berlin**

## 4. SUPPLEMENT

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

## to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2018 X

## (Translation)

Equipment: Valve magnet, type 0515.. and 1215

Marking: **II 2 G Ex mb II T6, T5, T4**
**II 2 D Ex tD A21 IP65 T80 °C, T95 °C, T130 °C**

Manufacturer: nass magnet GmbH

Address: Eckenerstraße 4-6
30179 Hannover, Germany

Description of supplements and modifications

In the future the valve magnet, type 0515.. and 1215 shall be marked as follows:

**II 2 G Ex mb IIC T6, T5, T4**

**II 2 D Ex mb tb IIIC T80 °C, T95 °C, T130 °C**
**IP 65**

Applied standards

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

Test report: PTB Ex 11-21300

ZSEx10101e.dotm

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, January 23, 2012

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

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 No.: | IECEx PTB 04.0002X issue No.:1 | Certificate history: Issue No. 1 (2012-3-19) Issue No. 0 (2004-5-25) |
| Status: | Current | |
| Date of Issue: | 2012-03-19 | Page 1 of 4 |

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

Electrical Apparatus: **Solenoid**
*Optional accessory:*

Type of Protection: **Encapsulation, protection by enclosure**

Marking: Ex mb IIC T6, T5, T4
Ex mb tb IIIC T80°C, T95°C, T130°C
IP65

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

*Position:* Head of Department "Intrinsic Safety and Safety of Systems"

*Signature:*
*(for printed version)*

*Date:* 2012-05-08

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 04.0002X

Date of Issue: **2012-03-19** Issue No.: **1**

Page 2 of 4

Manufacturer:

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

Manufacturing location(s):

**Precison Controls Bt.**
Henger utca 2
8200 Veszprem
Hungary

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**<br>Edition: 5 | Explosive atmospheres - Part 0:Equipment - General requirements |
| **IEC 60079-18 : 2009**<br>Edition: 3 | Explosive atmospheres Part 18: Equipment protection by encapsulation "m" |
| **IEC 60079-31 : 2008**<br>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/04-002**
**DE/PTB/ExTR12.0018/00**

File Reference:
**B032018X**

# IECEx Certificate of Conformity

Certificate No.: IECEx PTB 04.0002X

Date of Issue: **2012-03-19** Issue No.: **1**



**Schedule**

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

The solenoid consists of a magnet coil, an armature system and a fixing nut. The armature guide forms the pressure-proof part of the magnet, the guide tube is tested at 1.5 times the nominal operating pressure. The guide tube is specified either for thread-mounting or flange-mounting. The winding consists of varnished copper wire of insulation class H. The coil is injection-moulded with pre-plastified granules. A circuit board with electronic components is soldered onto the terminal posts of the encapsulated part of the coil. The terminals are mounted into a housing made of glass-fibre-reinforced polyimide 6 and casted afterwards.

Electrical data

| | |
|---|---|
| Type designation | 0515.. |
| Type of current | alternating current |
| Nominal voltage | 12 V ... 240 V |
| Nominal current | 0,158 A ... 0,010 A |
| Steady-state active power | 2,3 W |
| Max. perm. ambient temperature | 50 °C |
| Temperature class | T6 |
| Frequency | 50 Hz...60 Hz |
| Medium temperature | 50 °C |
| Single mounting | yes |

| | |
|---|---|
| Type designation | 0515.. |
| Type of current | alternating current |
| Nominal voltage | 12 V ... 240 V |
| Nominal current | 0,158 A ... 0,010 A |
| Steady-state active power | 2,3 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T6 |
| Frequency | 50 Hz...60 Hz |
| Medium temperature | 40 °C |
| Group mounting | yes, wall to wall |

| | |
|---|---|
| Type designation | 1215.. |
| Type of current | direct current |
| Nominal voltage | 6 V ...220 V |
| Nominal current | 0,435 A ... 0,012 A |
| Steady-state active power | 2,5 W |
| Max. perm. ambient temperature | 50 °C |
| Temperature class | T6 |
| Medium temperature | 50 °C |
| Single mounting | yes |

| | |
|---|---|
| Type designation | 1215.. |
| Type of current | direct current |
| Nominal voltage | 6 V ...220 V |
| Nominal current | 0,435 A ... 0,012 A |
| Steady-state active power | 2,5 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T6 |
| Medium temperature | 40 °C |
| Group mounting | yes, wall to wall |

| | |
|---|---|
| Type designation | 0515.. |
| Type of current | alternating current |
| Nominal voltage | 12 V ... 240 V |

| | |
|---|---|
| Nominal current | 0,212 A ... 0,015 A |
| Steady-state active power | 3,4 W |
| Max. perm. ambient temperature | 50 °C |
| Temperature class | T5 |
| Frequency | 50 Hz...60 Hz |
| Medium temperature | 50 °C |
| Single mounting | yes |

| | |
|---|---|
| Type designation | 0515 |
| Type of current | alternating current |
| Nominal voltage | 12 V ... 240 V |
| Nominal current | 0,212 A ... 0,015 A |
| Steady-state active power | 3,4 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T5 |
| Frequency | 50 Hz...60 Hz |
| Medium temperature | 40 °C |
| Group mounting | yes, wall to wall |

| | |
|---|---|
| Type designation | 1215.. |
| Type of current | direct current |
| Nominal voltage | 6 V ...220 V |
| Nominal current | 0,531 A ... 0,014 A |
| Steady-state active power | 3,3 W |
| Max. perm. ambient temperature | 50 °C |
| Temperature class | T5 |
| Medium temperature | 50 °C |
| Single mounting | yes |

| | |
|---|---|
| Type designation | 1215.. |
| Type of current | direct current |
| Nominal voltage | 6 V ...220 V |
| Nominal current | 0,531 A ... 0,014 A |
| Steady-state active power | 3,3 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T5 |
| Medium temperature | 40 °C |
| Group mounting | yes, wall to wall |

| | |
|---|---|
| Type designation | 0515.. |
| Type of current | alternating current |
| Nominal voltage | 12 V ... 240 V |
| Nominal current | 0,380 A ... 0,024 A |
| Steady-state active power | 4,6 W |
| Max. perm. ambient temperature | 60 °C |
| Temperature class | T4 |
| Frequency | 50 Hz...60 Hz |
| Medium temperature | 80 °C |
| Single mounting | yes |
| Group mounting | yes, wall to wall |

| | |
|---|---|
| Type designation | 1215.. |
| Type of current | direct current |
| Nominal voltage | 6 V ...220 V |
| Nominal current | 0,815 A ... 0,027 A |
| Steady-state active power | 5,0 W |
| Max. perm. ambient temperature | 50 °C |
| Temperature class | T4 |
| Medium temperature | 80 °C |
| Single mounting | yes |
| Group mounting | yes, wall to wall |

**CONDITIONS OF CERTIFICATION: YES as shown below:**

A fuse corresponding to the rated current (max. $3*I_{rat}$ according to IEC 60127-2-1) or a motor protecting switch with short-circuit and thermal instantaneous tripping (set to rated current) shall be connected in series to each solenoid as short circuit protection. For very low rated currents of the solenoid the fuse of lowest current value according to the indicated IEC standard will be sufficient. The fuse may be accommodated in the associated supply unit or shall be arranged separately. The rated voltage of the fuse shall be equal to or greater than the

stated rated voltage of the magnet coil. The breaking capacity of the fuse-link shall be as high as or higher than the maximum expected short circuit current at the location of the installation (usually 1500 A).
A maximum permissible ripple of 20 % is valid for all magnets of direct-current design.

# IECEx Certificate of Conformity

Certificate No.: IECEx PTB 04.0002X

Date of Issue: **2012-03-19** Issue No.: **1**

Page 4 of 4

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

protection by enclosure added