



(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 03 ATEX 2086 X

- (4) Equipment: Valve solenoid type 0518 and type 1218
- (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 report PTB Ex 03-22229 .

- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + A1 + A2 EN 50028:1987 EN 50281-1-1:1998
- (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 EEx m II T4...T6 and II 2 D IP 65 T 80 °C, T 95 °C, T 130 °C

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, September 23, 2003

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2086 X

(15) Description of equipment

The valve solenoid consists of a solenoid, an armature system and a fixing nut. The armature guide forms the flameproof part of the magnet, the guide tube is tested with 1.5 times the nominal operating pressure. Depending on its design, the guide tube is suitable for thread mounting or flange mounting. The winding consists of enamel-insulated copper wires of insulation class H. This coil is injection-moulded with pre-plastified plastic granules. A PCB with electronic components is soldered onto the terminal posts of the encapsulated part of the coil. A housing made of fibre-reinforced polyimide 6 is mounted over the terminal area and then sealed with compound.

Electrical data

Type designation	1218..
Type of current	Direct current
Rated voltage	6 V ... 220 V
Rated current	0.845 A ... 0.022 A
Limit power	4.9 W
Max. perm. ambient temperature	40 °C
Temperature class	T6
Medium temperature	70 °C
Single mounting	yes
Butt mounting	no

Type designation	0518..
Type of current	Alternating current
Rated voltage	12 V ... 240 V
Rated current	0.366 A ... 0.021 A
Limit power	4.8 W
Max. perm. ambient temperature	50 °C
Temperature class	T6
Medium temperature	70 °C
Frequency	50 Hz ... 60 Hz
Single mounting	yes
Butt mounting	no

Type designation	1218..
Type of current	Direct current
Rated voltage	6 V ... 220 V
Rated current	0.845 A ... 0.022 A
Limit power	4.6 W
Max. perm. ambient temperature	50 °C
Temperature class	T5
Medium temperature	80 °C
Single mounting	yes
Butt mounting	yes, wall to wall

Type designation	0518..
Type of current	Alternating current
Rated voltage	12 V ... 240 V
Rated current	0.366 A ... 0.021 A
Limit power	4.9 W
Max. perm. ambient temperature	50 °C
Temperature class	T5
Frequency	50 Hz ... 60 Hz
Medium temperature	80 °C
Single mounting	yes
Butt mounting	yes, wall to wall

Type designation	1218..
Type of current	Direct current
Rated voltage	6 V ... 220 V
Rated current	1.58 A ... 0.043 A
Limit power	10.1 W
Max. perm. ambient temperature	50 °C
Temperature class	T4
Medium temperature	80 °C
Single mounting	yes
Butt mounting	yes, wall to wall

Type designation	0518..
Type of current	Alternating current
Rated voltage	12 V ... 240 V
Rated current	0.623 A ... 0.039 A
Limit power	9.2 W
Max. perm. ambient temperature	50 °C
Temperature class	T4
Frequency	50 Hz ... 60 Hz
Medium temperature	80 °C
Single mounting	yes
Butt mounting	yes, wall to wall

(16) Test report PTB Ex 03-22229

(17) Special conditions for safe use

A fuse corresponding to the rated current of the magnet (max. $3 \times I_B$ according to IEC 60127-2-1) or a motor protecting switch with short-circuit- or thermal instantaneous tripping (adjusted to rated current) must be connected in series to each magnet. For very low rated currents of the magnet the fuse with the lowest current value according to the aforementioned IEC-standard will be sufficient. This fuse may be accommodated inside the associated power supply unit or has to be connected in series separately. The rated voltage of the fuse shall be the same as or higher than the rated voltage specified for the magnet. The breaking capacity of the fuse link shall be the same as or higher than the maximum short-circuit current expected to occur at the place of installation (normally 1500 A).

A maximum permissible ripple of 20 % applies to all magnets of DC-design.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, September 23, 2003


1. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2086 X

(Translation)

Equipment: Valve solenoid, type 0518 / 1218

Marking:  II 2 G EEx m II T4, T5, T6 and II 2 D IP 65 T80 °C, T95 °C,
T 130 °C

Manufacturer: nass magnet GmbH

Address: Eckenerstraße 4-6
30179 Hannover, Germany

Description of supplements and modifications

In addition to the modifications of the input circuitry an alternative impregnating agent may be used for the coil.

In the future the equipment shall be marked as follows:

 II 2 G Ex mb II T6, T5, T4

 II 2 D Ex tD A21 IP 65 T80 °C, T95 °C, T130 °C

All other specifications of the examination certificate as well as the "Special Conditions" apply without changes.

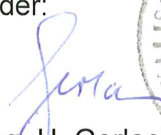
Applied standards

EN 60079-0:2006 EN 60079-18:2004 EN 61241-0:2006 EN 61241-1:2004

Assessment and test report: PTB Ex 09-28111

Zertifizierungssektor Explosionsschutz
By order:

Braunschweig, October 5, 2009


Dr.-Ing. U. Gerlach
Oberregierungsrat




2. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2086 X

(Translation)

Equipment: Valve solenoid, type 0518/1218

Marking:  II 2 D Ex mb II T6, T5, T4 resp.
II 2 G Ex mtD A21 IP 65 T 80 °C, T95 °C, T 130 °C

Manufacturer: nass magnet GmbH

Address: Eckenerstraße 4-6, 30179 Hannover, Deutschland

Description of supplements and modifications

In the future the valve solenoid type 0518 / 1218 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

or

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

 II 2 D Ex mb tb IIIC T80 °C, T95 °C, T130 °C Db

All other specifications of the examination certificate and the supplement apply without changes.

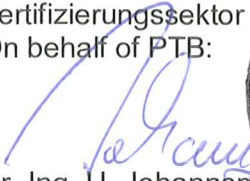
Applied standards

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

Test report: PTB Ex 12-22111

Zertifizierungssektor Explosionschutz
On behalf of PTB:

Braunschweig, May 7, 2012


Dr.-Ing. U. Johannsmeyer
Direktor und Professor



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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.