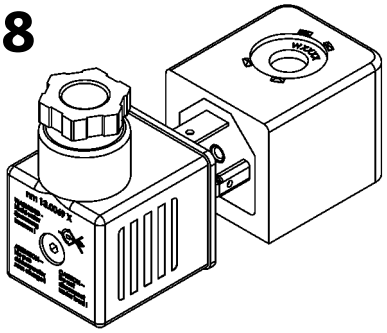
nass magnet GmbH
Eckenerstrasse 4-6
30179 Hannover
Germany

Doc. No. 108-720-0010
Revision 8
08 March 2021

EN

Ex nA, t Solenoid Coil Type 0558

Assessment no. nm 13 ATEX 0069 X



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.

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

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

General terms and 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 nass magnet solenoid coil is designed for operation with the nass magnet armature assemblies and nass magnet valve systems; please consider the corresponding power levels.**
- Applied standards in the Conformity Assessment:

  EN IEC 60079-0:2018
  EN 60079-15:2010
  EN 60079-31:2014

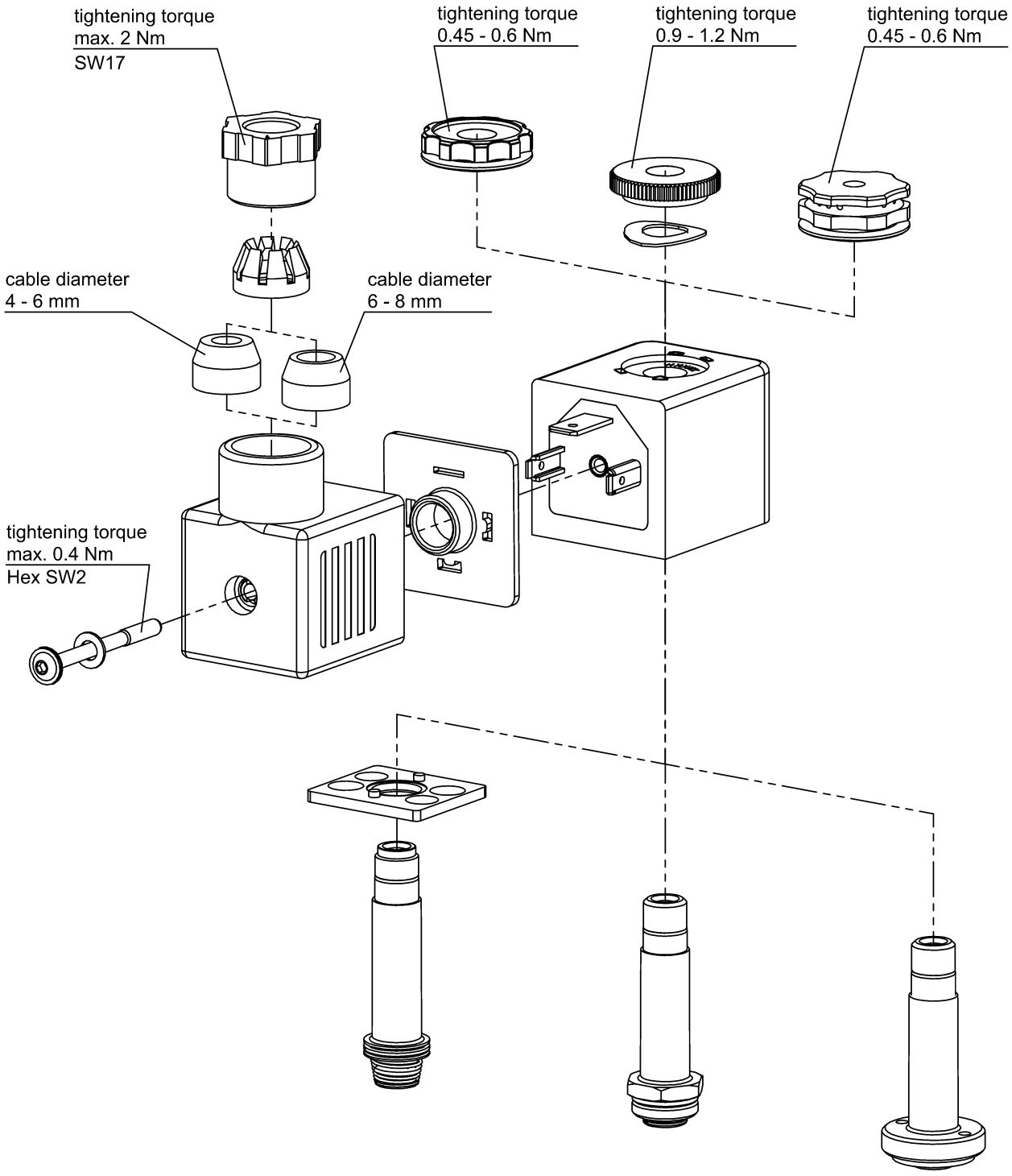
- In its installed state the equipment is appropriate for potentially explosive gas atmospheres of **Group IIC** (protection type "**nA**"). The Equipment Protection Level (EPL) is **Gc** for intended application in **Zone 2**, ATEX **Category 3G**. Alternatively the equipment is appropriate for potentially explosive dust atmospheres of **Group IIIC** (protection type "**tc**"). The according Equipment Protection Level is **Dc** for intended application in **Zone 22**, ATEX **Category 3D**.
- Beyond recognized rules of sound engineering practice, the certificate of conformity and these operating instructions refer to special conditions for safe use as well as to 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 EN 60079-14.
- Installation only in areas with low level of mechanical danger (in accordance with EN 60079-0, Tests of enclosures), the place of installation must be light-protected.
- Install the provided receptacle connector (same certificate number imprinted) with a suitable connecting cable together with the solenoid and valve according to these instructions. The Ex suitability is solely fulfilled when installed completely.
- 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.
- Only single assembly admissible: the minimum distance between solenoids in a row shall be at least 70 mm in order to keep the admissible temperatures.
- Mounting is admissible in any position. Preferably the solenoid coil points upwards. The solenoid coil can be locked when offset by 45°.
- In case of selection of the valve housing material, the following must be considered:

  Plastics: In order to avoid the build-up of electrostatic charges, the requirements according to EN IEC 60079-0, Section 7.4, must be observed.
- When properly installed ingress protection IP65 is achieved. Make use of the provided seals and the prescribed tightening torques pursuant to the assembly scheme. Only use original spare parts provided by nass magnet, the ATEX attestation of conformity is no longer applicable to modified equipment.
- The cable gland is suited for cable diameters of 4 mm to 6 mm or 6 mm to 8 mm, one gasket provided for each range. Only one gasket at a time shall be used in the gland.
- Observe the rated values of the cable corresponding to the respective requirements and ambient conditions at the point of wiring (see IEC/EN 60079-14).
- Prevent the connecting cables from being buckled and damaged in order to avoid short circuits and interruptions.
- Directly before the connector a strain relief must be provided in order to ensure that strain and torsion are not transmitted to the connector.
- The wire clamps are rated for wire cross sections from 0.5 mm^2 to 1.5 mm^2. The tightening torque of the clamp screw is $0.2\ ^{+0.1}$ Nm.
- Single-wired conductors may be used or either multi-wired or fine-wired conductors may be used if wire end sleeves are applied. The wire ends must be mounted into the screw joints properly and undamaged. Only one conductor respectively one end sleeve may be inserted per clamp.
- The terminal block can be offset in steps of 90° inside the connector housing such that the cable outlet direction is adjustable. No further settings are possible.
- 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.

Assembly scheme



Marking

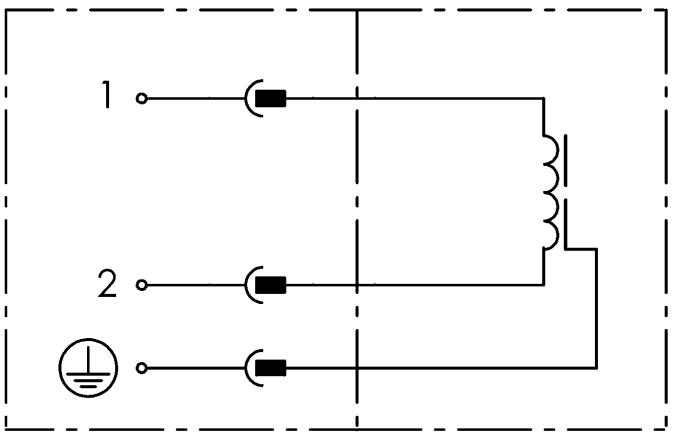
Typ 0558 xx/xxxx
nm 13.0069 X
II 3 G **Ex nA IIC T5 Gc**
II 3 D **Ex tc IIIC T95°C Dc**

Technical Data

Type No.	nass magnet Power Level	Nominal Voltage Supply Voltage	Rated Current	Rated Power	Ambient Temperature
0558 50/5146	3	24 V DC	87 mA	2.1 W	-20 °C ... +50 °C
0558 50/5143	3	24 V 50 Hz AC 24 V 60 Hz AC	166 mA 128 mA	4.0 VA 3.1 VA	-20 °C ... +50 °C
0558 50/5140	3	110 V 50 Hz AC 110 V 60 Hz AC 120 V 60 Hz AC	36 mA 28 mA 33 mA	4.0 VA 3.1 VA 4.0 VA	-20 °C ... +50 °C
0558 50/6395	3	230 V 50 Hz AC 230 V 60 Hz AC 240 V 60 Hz AC	17.5 mA 13.5 mA 14.5 mA	4.0 VA 3.1 VA 3.5 VA	-20 °C ... +50 °C
0558 50/5147	4	24 V DC	111 mA	2.7 W	-20 °C ... +50 °C

Admissible Media Temperature -20 °C ... +50 °C.
Voltage Limit Deviation +/- 10 %, max. 45 % ripple with DC voltage.
Ingress Protection by Enclosure IP 65

circuit diagram



Operation

- Caution! Danger of arcing! The connector receptacle must not be disconnected from the Ex-solenoid coil under electrical load!
- **Caution! Danger of ignition! Solenoid coils must not be energized without mounted valve!**
- **Caution! Risk of injury! The solenoid valve can get very hot during continuous operation.**
- The Ex-solenoid coils Type 0558 of temperature Class T5 are designed for an ambient temperature range from -20°C to +50°C and media temperatures of -20°C to +50°C.
- The operating pressure of the equipment depends on the armature system employed. The nass magnet standard armature system is suited for up to 1200 kPa (12 bars) 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 IP65 protection class is not sufficient. Exposure to natural weather is generally not permitted.
- Do not strain the system by bending or torsion.

Troubleshooting

- At malfunctioning check the cable connections, operating voltage and pressure.
- Should the problem persist, 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.

DC-NDE-210308-05, language EN

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 Coil Type 0558 00 to 0558 99

The object of the declaration described above is in conformity with the relevant Union 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, modified 31 March 2015 and 1 March 2018)

The manufacturer nass magnet has performed a conformity assessment following 2014/34/EU, Article 13 (1) c), Annex VIII, Module A, and issued the assessment no**. nm 13.0069 X**.

Relevant harmonised standards used and references to the specifications in relation to which conformity is declared:

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

EN 60079-15:2010
Explosive atmospheres – Part 15: Equipment protection by type of protection “n”

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

EN 175301-803:2007
rectangular connectors - flat contacts with a thickness of 0,8 mm, undetachable locking screw

Signed for and on behalf of

nass magnet GmbH, Hannover, 08 March 2021

Patrick Oelkers
General Manager