Miniature Rotary Solenoid

6
Product Group

G DP R 012

Function

- rotation angle 45°
- short operating times through pre-magnetized system
- clockwise and anti-clockwise rotation by reversing polarity
- options of with/without self-returning shaft

Construction

- armature guided in ball bearings
- coil insulation to class F
- electrical connection and protection class with duly executed installation
- protection class IP 20 - DIN VDE 0470-1/EN 60529 when installed correctly
- flying leads
- mounting via flange, through holes and centring spigot
- high quality rare earth magnets

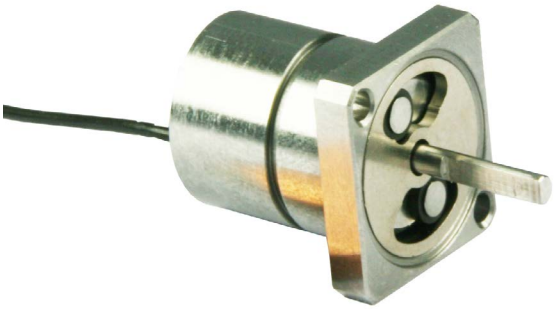

Fig.1 Type G DP R 012 X00 A01

Applications

- optical shutters, beam deflectors
- instruments
- micro diverters
- miniature valves

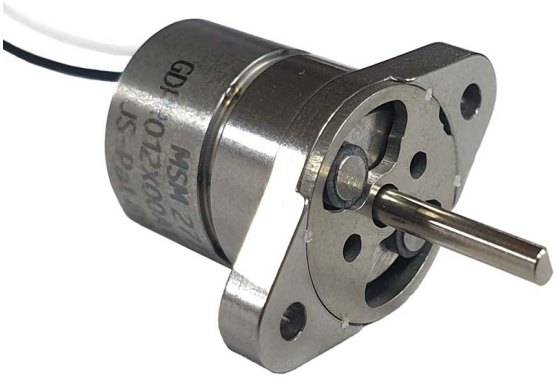

Fig.2 Type G DP R 012 X00 A12

Options

- special versions on request

Standards

- designed and tested to VDE 0580
- manufactered to ISO 9001

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Technical data

G DP R 012 X00		A01					A12				
Rated voltage U_N	(V)	24					24				
Operating mode		S1 100%	S3 40%	S3 25%	S3 15%	S3 5%	S1 100%	S3 40%	S3 25%	S3 15%	S3 5%
Torque M_d (Nmm) at ∆	0°	0.62	0.85	0.95	1.04	1.23	0.5	0.8	0.9	1.02	1.2
	15°	0.66	0.9	0.99	1.09	1.28	0.59	0.86	0.97	1.08	1.31
	30°	0.8	1.12	1.22	1.34	1.55	0.45	0.7	0.8	0.88	1.07
	45°	0.8	1.14	1.24	1.38	1.58	0.38	0.58	0.68	0.78	0.9
Rated power P_{20}	(W)	2.1	4.4	5.7	8.2	16.8	2.1	4.4	5.7	8.2	16.8
Self-aligning torque (Nmm)	min	-					0.1				
	max	-					0.35				
Reference temperature ϑ_{13}	(°C)	35					35				
Rotation angle	(°)	45					45				
Solenoid weight m	(g)	10.8					10.8				
Armature mass m	(g)	1.7					1.7				
Time constant τ	(ms)	1.5					1.6				
Moment of intertia	(kgm^2)	1.6×10^{-8}					1.6×10^{-8}				

Table Basis
The torque values indicated in the tables are based on 90% of the rated voltage of 24 V dc and the normal operating temperature. For other voltages the torque may differ.
Due to natural dispersion the torque values may deviate by ± 10% from the values indicated in the tables.
The normal operating temperature is based on:
a) Mounting on heat-insulating base
b) Rated voltage 24 V dc
c) Operating mode S3 5% -S1 according to Technical Definitions GXX, section 4
d) Reference temperature 35 °C
Rated voltage 24 V dc
other voltages:
- at S1 (100% ED): max. 24 V dc
- at S3 (5% ED): max. 50 V dc

The devices correspond to protection class III. Electrical equipment to protection class III may be only connected to low voltage systems (PELV, SELV)(IEC 60364-4-4-41).

Installation instructions
The rotary solenoids may be installed in any mounting position. In the interest of the service life and function of the bearing, please make sure that impacts and larger loads on the rotation shaft are avoided particularly in an axial direction.

For heavy masses connected to the shaft we advise the use of external end-stops, and not to rely on the internal stops in the solenoid.

Directives
Information and remarks concerning European Directives can be found in the corresponding information sheet available on our website.

Safety

It is important that the user selects equipment that is suitable for the application, especially if safety would otherwise be compromised. We supply Technical Explanation documents to help users understand our products and assistance is always available from our Technical department.

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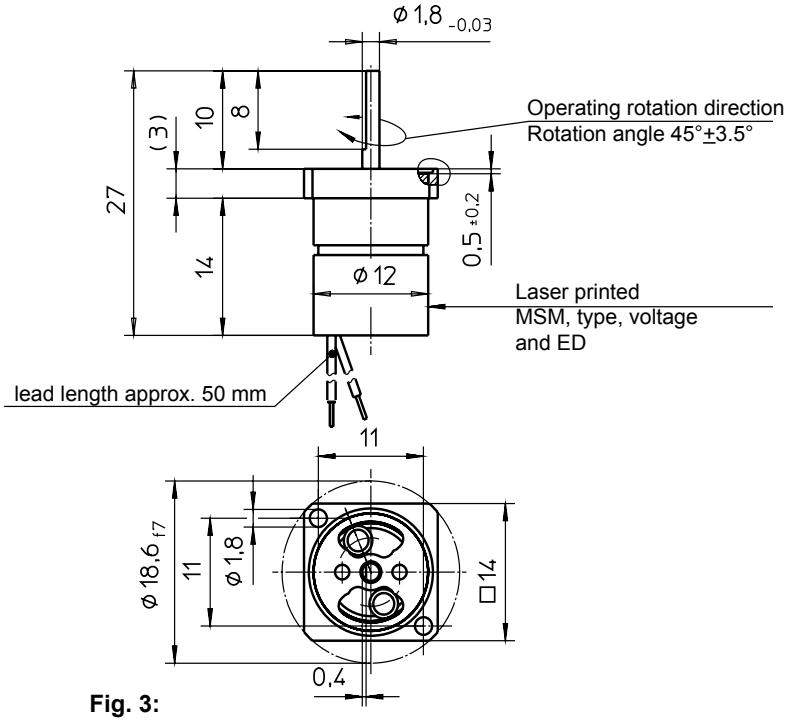

Fig. 3:
Type G DP R 012 X00 A01

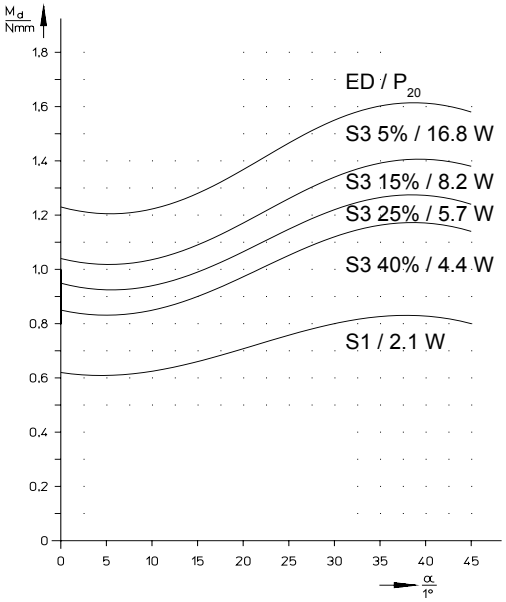

Fig. 4:
Characteristic M_d = f (d)
Type G DP R 012 X00 A01

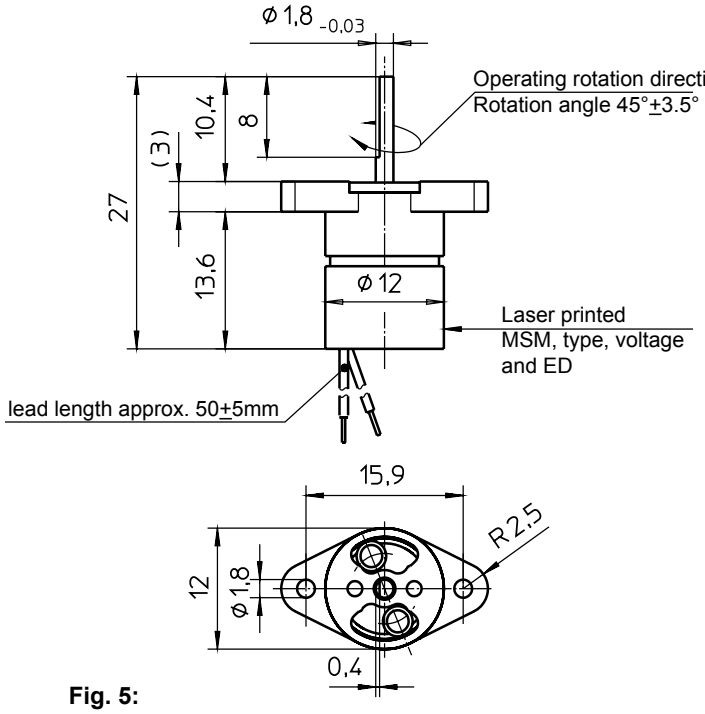

Fig. 5:
Type G DP R 012 X00 A12

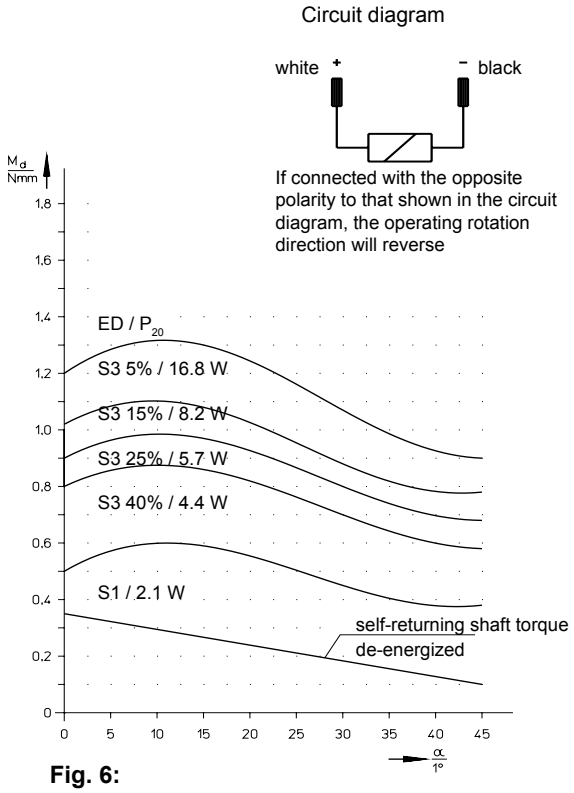

Fig. 6:
Characteristic M_d = f (d)
Type G DP R 012 X00 A12

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Key for type code

Designation	Version
G DP R 012 X00 A01	without self-returning shaft
G DP R 012 X00 A12	with self-returning shaft

Order example

Type	G DP R 012 X00 A01
Voltage	⎓ 24 V DC
Operating mode	S1 (100 %)

Special
Special solenoids are available to meet the requirements of specific applications, such as short duty rating, high ambient temperature, special voltages, double acting etc., for which full operating, application and working conditions as well as environment should be specified in accordance with Technical Definitions GXX.

This document is intended for technically qualified personnel. It is for information purposes only and should not be construed as a mandatory illustration of the products unless otherwise expressly confirmed.