

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
- flying leads
- mounting via flange, through holes and centring spigot
- high quality rare earth magnets

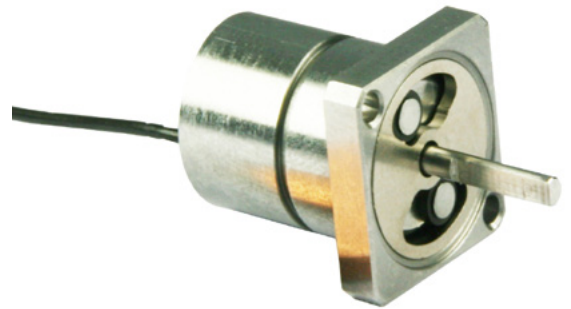


Fig.1 Type G DP R 012 X00 A01

Applications

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

Options

- special versions on request

Standards

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



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 (Ncm) at Δ	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 inertia	(kgm ²)	1,6 x 10 ⁻⁸					1,6 x 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 $\pm 10\%$ from the values indicated in the tables.

The normal operating temperature is based on:

- Mounting on heat-insulating base
- Rated voltage 24 V dc
- Operating mode S3 5% -S1 according to Technical Definitions G XX, section 4
- 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 60364-4-41).

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

A statement on compliance with European Directives is available on our website under "Our Technology".

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.

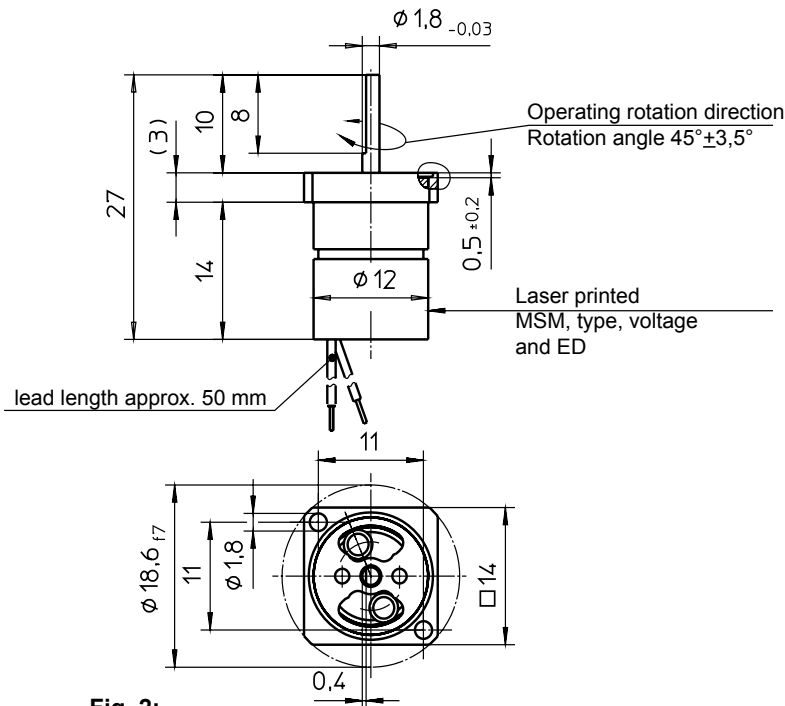


Fig. 2:
Type G DP R 012 X00 A01

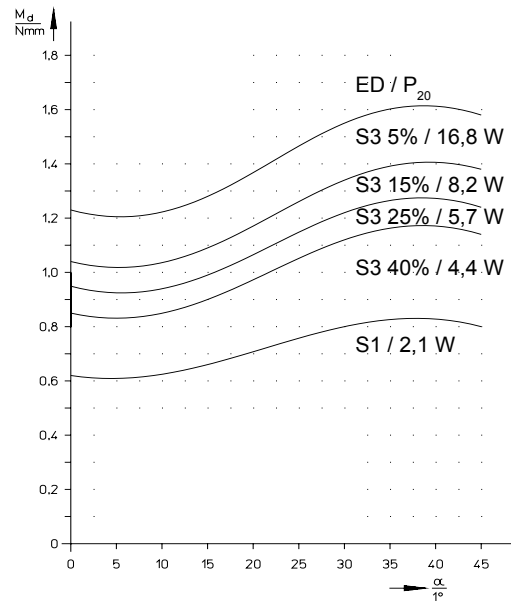


Fig. 3:
Characteristic $M_d = f(d)$
Type G DP R 012 X00 A01

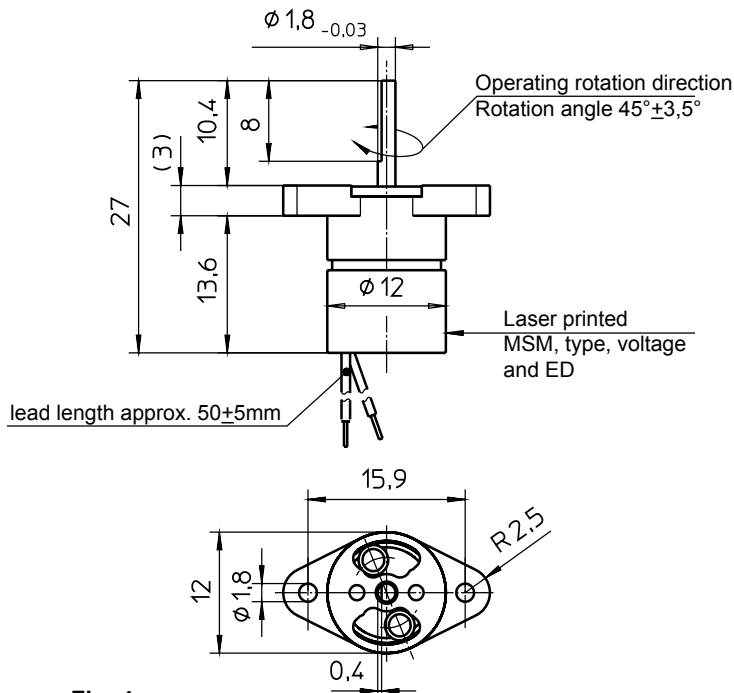
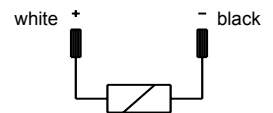


Fig. 4:
Type G DP R 012 X00 A12

Circuit diagram



If connected with the opposite polarity to that shown in the circuit diagram, the operating rotation direction will reverse

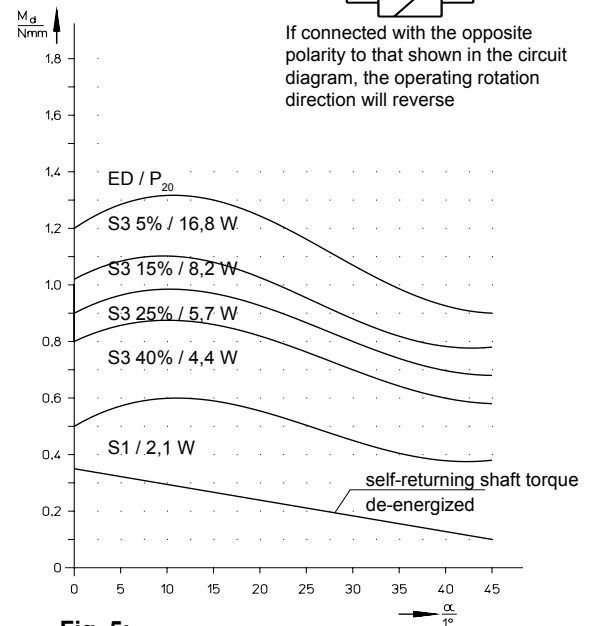


Fig. 5:
Characteristic $M_d = f(d)$
Type G DP R 012 X00 A12



Key for type code

Designation

G DP R 012 X00 A01
G DP R 012 X00 A12

Version

without self-returning shaft
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.