DC rotary solenoid

6

Product group

G DP R 012

Function

- Rotation angle 45°
- Short correcting times through pre-magnetized system
- Clockwise and anti-clockwise by reversing the polarity
- Execution with/without self-aligning torque

Construction

- Armature guided in ball bearings
- Damped end stops
- Insulation materials of the excitation winding correspond to thermal class F
- Electrical connection via free flexible lead ends
- Protection class according to DIN VDE/DIN EN 60529 when properly installed: IP 20
- Fastening via flange and through holes

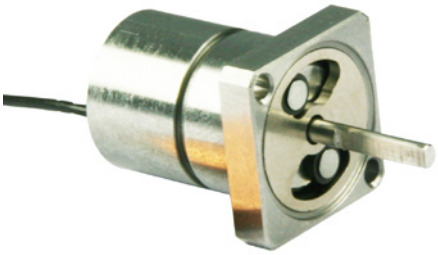

Fig. 1: Type G DP R 012 X00 A01

Application examples

- Actuation of shutters and deflections in the optical industry
- Display instruments

Options

- Proportional solenoid
- Please contact us for application related solutions

Standards

- Design and testing according to DIN VDE 0580
- Production according to ISO 9001

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Technical data DC rotary solenoids of the series G DP

G DP R 012 X00			A01					A12				
Rated voltage U_N	(V)		⎓ 24					⎓ 24				
Operating mode			S1	S3	S3	S3	S3	S1	S3	S3	S3	S3
rel. duty cycle			100 %	40 %	25 %	15 %	5 %	100 %	40 %	25 %	15 %	5 %
Torque M_d at rotation angle	(Nmm)	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				
Mass armature m	(g)		1,7					1,7				
Time constant τ	(ms)		1,5					1,6				
Moment of inertia of the armature	(kgm^2)		$1,6 \times 10^{-8}$					$1,6 \times 10^{-8}$				

Notes on the tables

The torques indicated in the tables refer to 90% of the rated voltage ⎓ 24 V and normal operating temperature. For other rated voltages deviations of the torque may occur. The torque values may deviate by approx. ±10% due to natural dispersion.

The normal operating temperature is based on

a) Mounting on heat-insulating base
b) Rated voltage ⎓ 24 V
c) Operating mode S3 5% - S1 according to part list G XX section 4
d) Reference temperature 35°C

Rated voltage

Rated voltage ⎓ 24 V,
other voltages

- with S1 (100% ED): max. 24 V
- with S3 (5% ED): max. 50 V

The devices correspond to protection class III. Electrical equipment of 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 inserted in any mounting position. In the interest of the service life and function of the bearing, please make sure that impacts and bigger pressures on the rotation axis in axial direction are avoided.

It is advisable to do not intercept bigger, with the axis connected masses with the stops inside the solenoid but by external stops or damping elements installed by the customer.

The device may not show any mechanical or electrical damages.

This part list is a document for technically qualified personnel.

The present publication is for informational purposes only and shall not be construed as mandatory illustration of the products unless otherwise confirmed expressively.

Please make sure that the described devices are suitable for your application. Supplementary information concerning its proper installation can be taken also from the –Technical Explanation, the effective DIN VDE0580 as well as the relevant specifications.

Information and remarks concerning European directives can be taken from the correspondent information sheet which is available under *Produktinfo.Magnet-Schultz.com*.

Note on the RoHS Directive

According to our current state of knowledge the devices pictured in this document do not contain any substances in concentration values or applications for which putting into circulation with products manufactured from them is prohibited in accordance to RoHS.

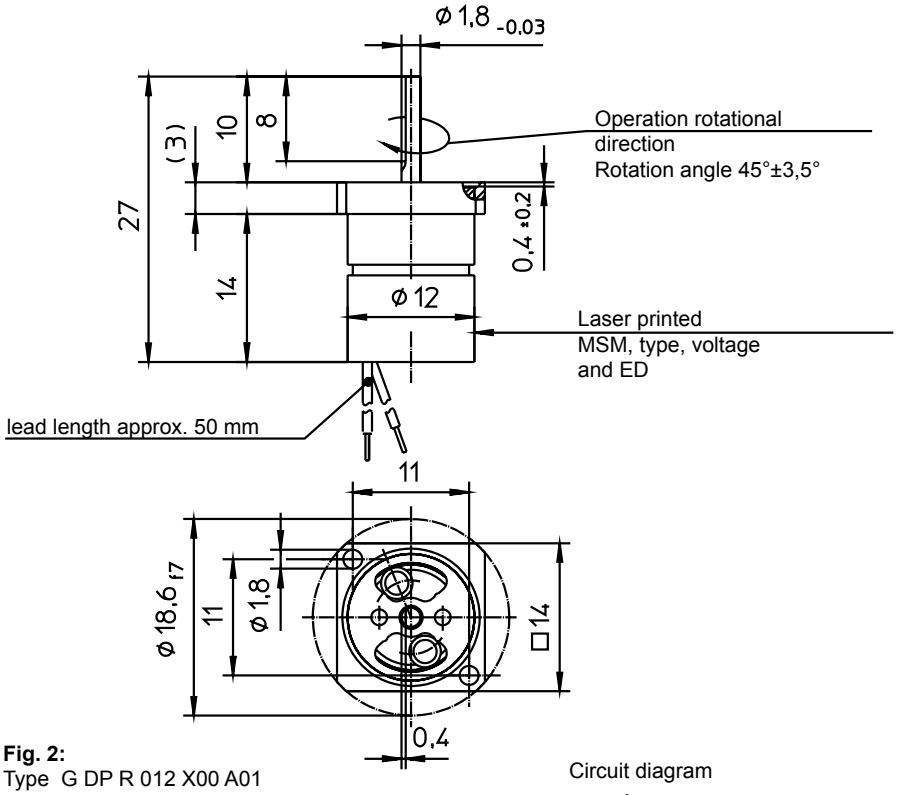


Fig. 2:
Type G DP R 012 X00 A01

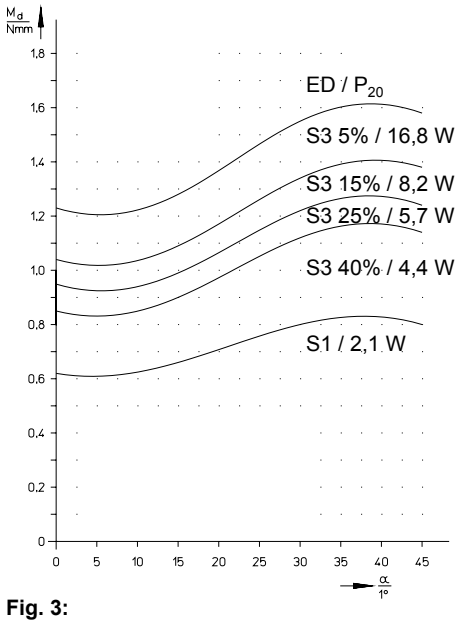
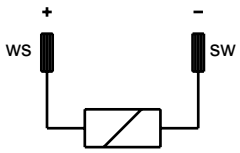


Fig. 3:
Characteristic M_d = f (d)
Type G DP R 012 X00 A01

Circuit diagram



If connected with the wrong pole the device works against the indicated operation rotational direction

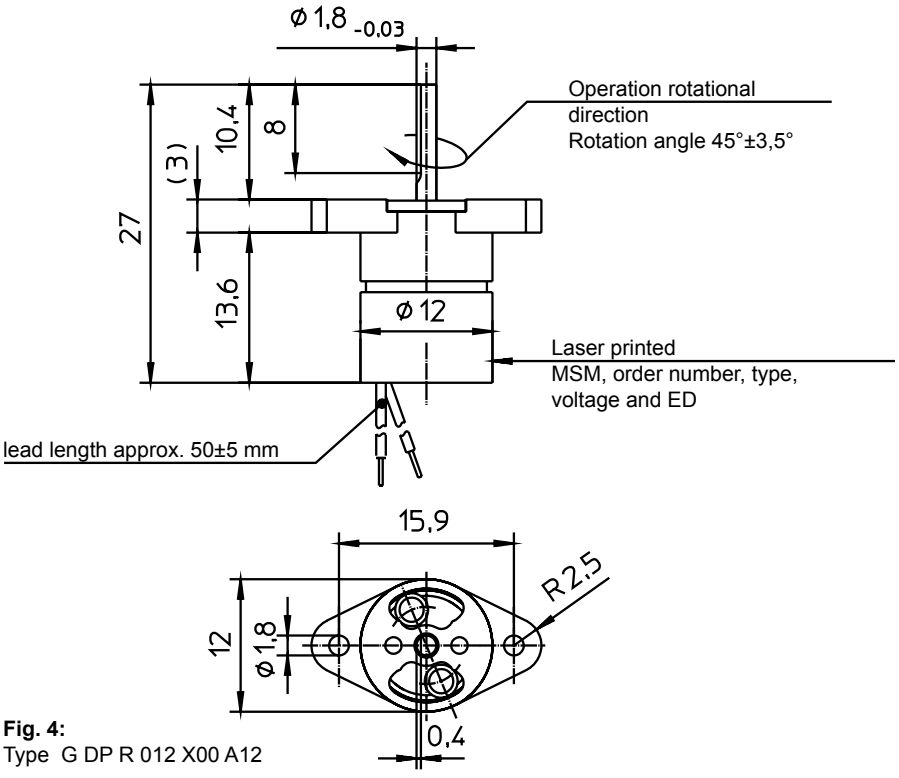


Fig. 4:
Type G DP R 012 X00 A12

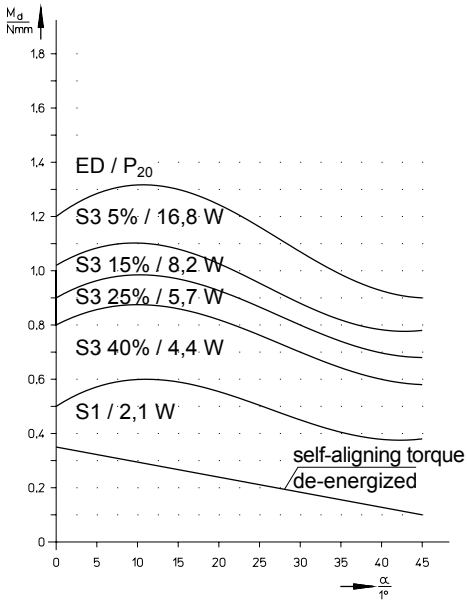


Fig. 5:
Characteristic M_d = f (d)
Type G DP R 012 X00 A12

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Type code

Designation	Version
G DP R 012 X00 A01	without self-aligning moment
G DP R 012 X00 A12	with self-aligning moment

Order example

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

Specials designs

Please do not hesitate to ask us for application-oriented problem solutions. In order to find rapidly a reliable solution we need complete details about your application conditions. The details should be specified as precisely as possible in accordance with the relevant -Technical Explanations.

If necessary, please request the support of our corresponding technical office.