

## 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 exciter coil correspond to thermal class F
- Electrical connection via free flexible lead ends
- Protection class according to DIN VDE / EN 60529 when it is properly installed: IP 20
- Fastening via flange and through holes

### 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 test according to VDE 0580
- Production according to ISO 9001



Fig. 1: Type G DP R 012 X00 A01

## 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 rel. duty cycle		S1 100 %	S3 40 %	S3 25 %	S3 15 %	S3 5 %	S1 100 %	S3 40 %	S3 25 %	S3 15 %	S3 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 $\vartheta_{13}$	(°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 $\tau$	(ms)	1,5					1,6				
Moment of inertia of the armature	(kgm <sup>2</sup> )	1,6 x 10 <sup>-8</sup>					1,6 x 10 <sup>-8</sup>				

### Notes on the tables

The torques indicated in the tables refer to 90% of the rated voltage === 24V and normal operating temperature.

For other rated voltages deviations of the torques may occur. The torque values may deviate by approx. ±10% due to natural dispersion.

The normal operating temperature is based on:

- Mounting on heat-insulating base
- Rated voltage === 24 V
- Operating mode S3 5% - S1 according to part list G XX section 4
- 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 60364-4-41).

### 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 trained qualified personnel.

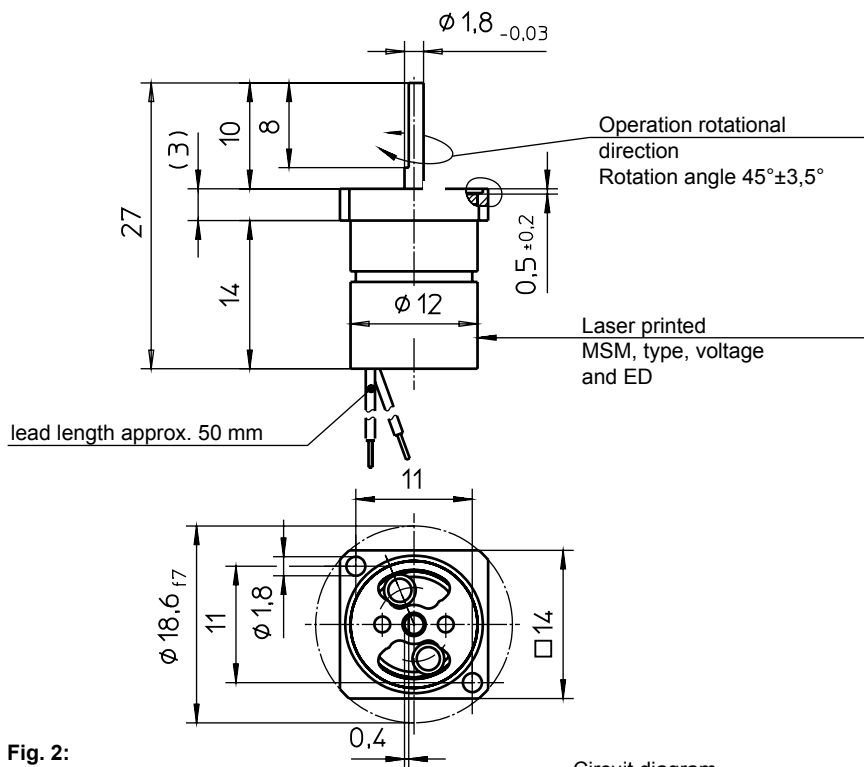
This publication is for informational purposes only and must not be considered as mandatory product description, unless this is confirmed expressively.

**Please make sure that the described devices are suitable for your application. Please find further information about the proper installation among others in the  -Technical Explanation, the valid DIN VDE 0580 as well as in the relevant prescriptions.**

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

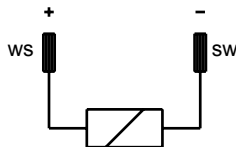
### Note on the RoHS Directive

The devices presented in this document do not fall into the scope of RoHS Directive and to our knowledge they do not become part of products which fall into this scope. In case of surfaces zinc coating with yellow chromating and zinc iron with black chromating separate agreements are necessary for applications within the scope of RoHS.

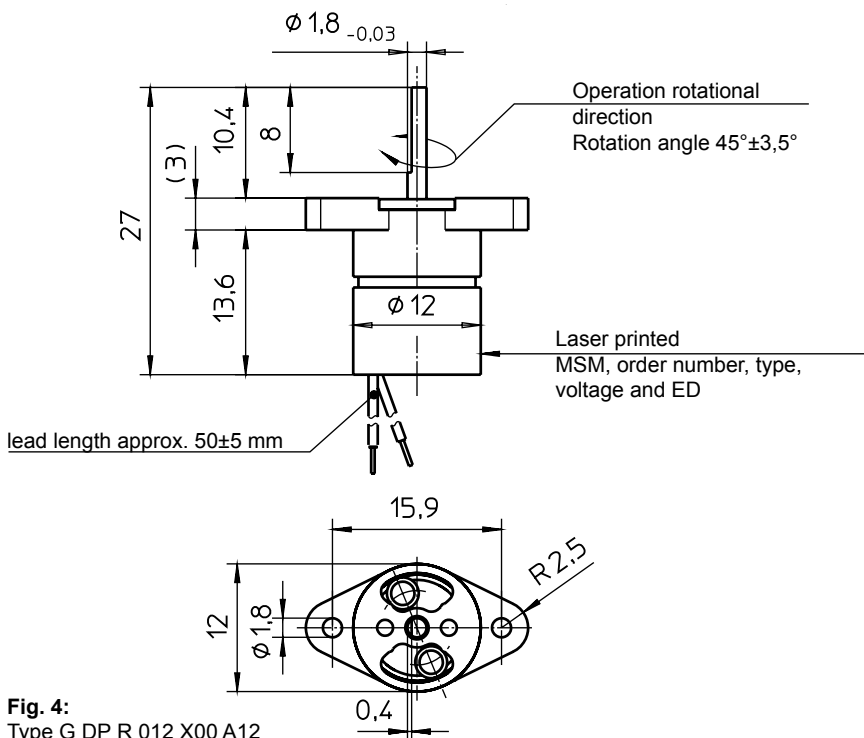


**Fig. 2:**  
Type G DP R 012 X00 A01

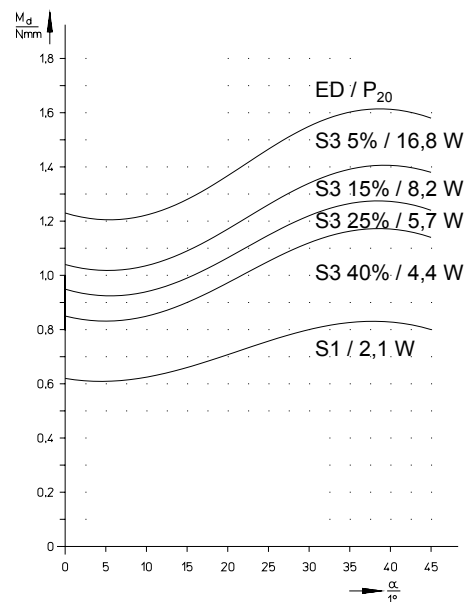
Circuit diagram



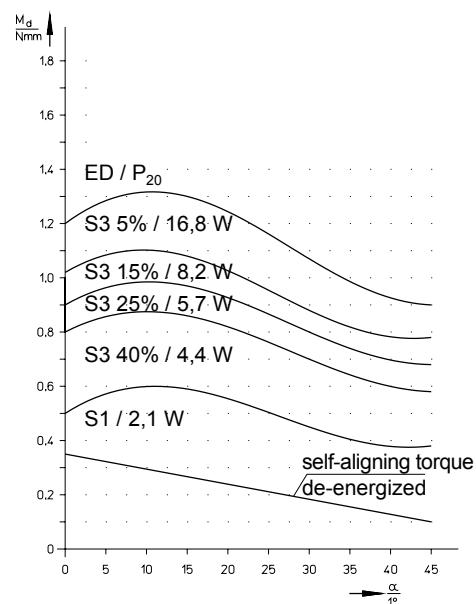
If connected with the wrong pole the device works against the indicated operation rotational direction



**Fig. 4:**  
Type G DP R 012 X00 A12



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



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


## Key for 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                 $\equiv$  24 V DC  
Operating mode      S1 (100 %)

## Special devices

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.