

Polarised Single-Acting DC Solenoid

10

Product group

M GB P 010

- To VDE 0580 and ISO 9001
- Miniature design
- For push and pull operation
- Bi-stable operation allows two stable, de-energised positions of armature
- Increased holding force using integrated permanent magnets
- Impulse operation for low power consumption and minimal temperature rise
- Short closing time
- Coil to insulation rating B
- Protection rating
 - DIN VDE 0470 / EN 60 529 - IP 20
- Mounting via tapped hole and location pin in frame
- Special designs on request
- Application:
Textile and packaging machines, office equipment,
control technology, general locking applications



Fig. 1: Type M GB P 010 E20 D01



Technical data

M GB P 010 E20 D01		
Operating mode		S3 5 %
Rated voltage	(V)	24
Retracting voltage *	(V)	ca. 0.5 ... 0.7 U _N
Stroke s	(mm)	2.5
Work rating A _N	(Ncm)	0.075
Rated Power P ₂₀	(W)	6.7
Closing time t ₁ *	(ms)	8
Armature weight m _A	(kg)	0.0025
Solenoid weight m _M	(kg)	0.0066

* Function of counter-load and impulse duration.

Rated voltage \equiv 24 VDC, on request the coil winding can be adjusted to a rated voltage of \equiv 60 VDC maximum.

The magnetic-force values mentioned in the diagram refer to 90 % of the rated voltage, (U_N = \equiv 24 VDC, for other voltages the magnetic force may deviate) and in cold condition.

Owing to natural dispersion, the magnetic-force values may deviate by \pm 10 % from the values indicated in the tables.

Attracting and retracting times are a function of counterload and impulse duration. The attracting time values mentioned in the table were taken at rated voltage, R₂₀, with return spring.

Hot condition is based on:

- a) rated voltage \equiv 24 VDC
- b) operating mode S3 5%
- c) reference temperature 35° C
- d) mounting on heat-insulating base

Please make sure that the described devices are suitable for your application. Please find further details and definitions in our Technical Explanation or, respectively, in VDE 0580.

Note on the technical harmonisation

Electromagnetic solenoids of this product range are subject to the low-voltage guideline 73 / 23 EWG.

To guarantee the targets of this regulation, products are manufactured and inspected to the valid edition of DIN VDE 0580. This also equals a declaration of conformity by the manufacturer.

Function

Solenoid type M GB P 010 E20 D01 is a bi-stable design. In extended position, in which the stroke has to be limited externally, the armature is held by a return spring.

By electrical impulse energisation of the coil, the armature moves into its seated position. In this retracted position the armature is held by the holding force of a permanent magnet.

Reverse polarity returns the armature. Size of the counter-impulse depends on counter-load and impulse duration.

The technical data were taken from sample solenoids and are estimated values. In production, deviations may occur owing to natural dispersion.

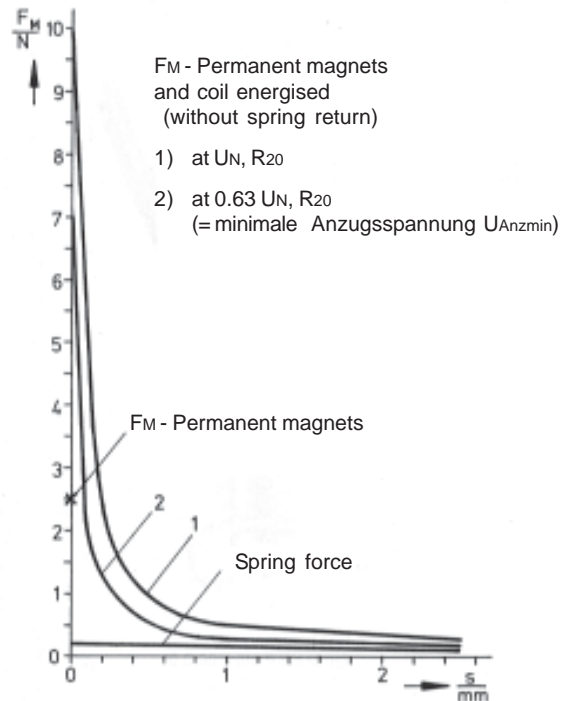
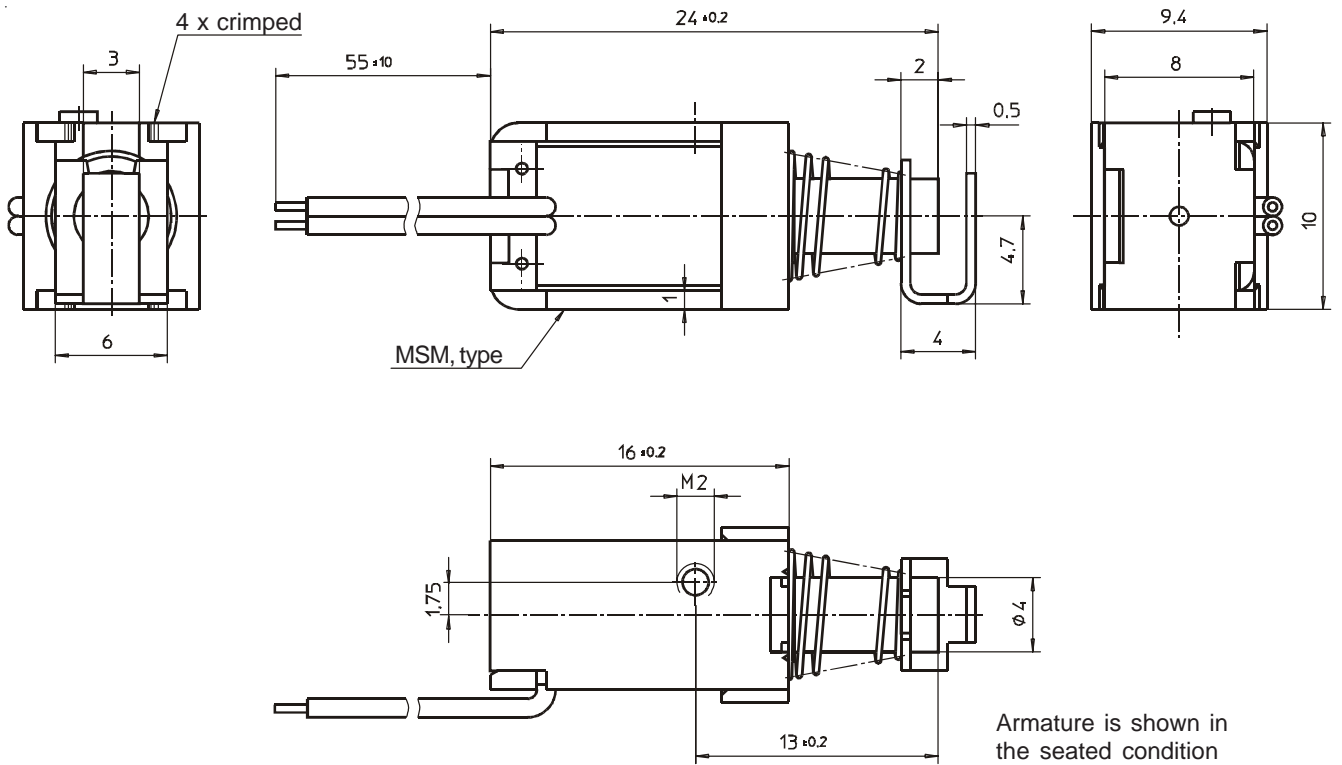


Fig. 2: Magnetic force vs stroke M GB P 010 E20 D01

Note on the EMC (electromagnetic compatibility) guideline 89/336 EWG

Electromagnetic solenoids are not affected by this guideline because neither do they cause electromagnetic disturbances nor can they be disturbed through electromagnetic disturbances. Therefore, the adherence to the EMC guideline has to be guaranteed by the user through appropriate circuitry wiring. Examples for protection circuits can be taken from the corresponding technical documents.

Dimension



Circuit diagram

closing red (+) black (-)
 opening red (-) black (+)

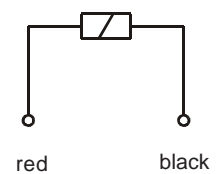
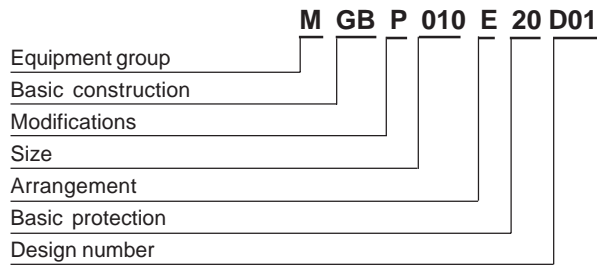


Fig. 3: Type M GB P 010 E20 D01

The solenoid shown is not a ready-to-use device in the sense of DIN VDE 0580. The general requirements and protective measures to be taken by the user, are included in DIN VDE 0580. The use of the shown device in safety relevant applications needs always the written agreement of MSM.




Type code



Order Example

Type	M GB P 010 E20 D01
Voltage	== 24 V DC
Operating mode	S3 5 %

Specials

Please do not hesitate to ask us for application-oriented problem solutions. In order to find a reliable solution quickly 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.