

Polarised Single-Acting D. C. 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 4 tapped holes in frame
- Modifications and special designs on request
- Application:
Textile and packaging machines, office equipment,
control technology, general locking applications

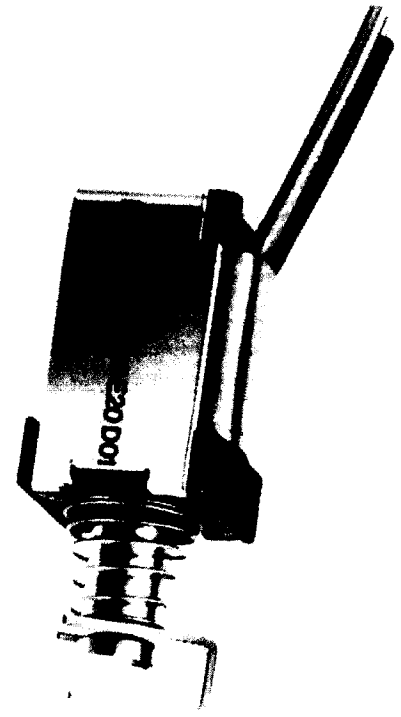


Fig. 1: Type M GB P 010 E20 D01



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

The magnetic-force values mentioned in the diagram refer to 90 % of the rated voltage, (U_N = == 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 ± 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:

- rated voltage == 24 VDC
- operating mode S3 5%
- reference temperature 35° C
- mounting on heat-insulating base

Please find further details and definitions in our -Technical Bulletin and in VDE 0580.

Note on the technical harmonisation guidelines within the EU



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 end 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.

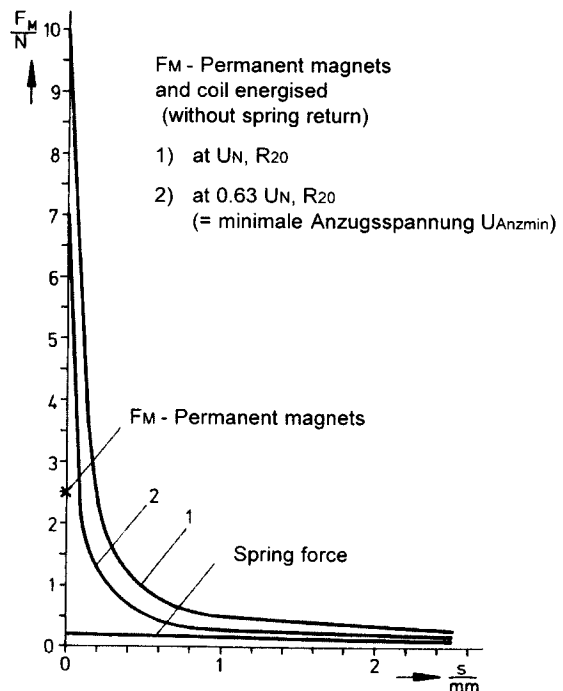
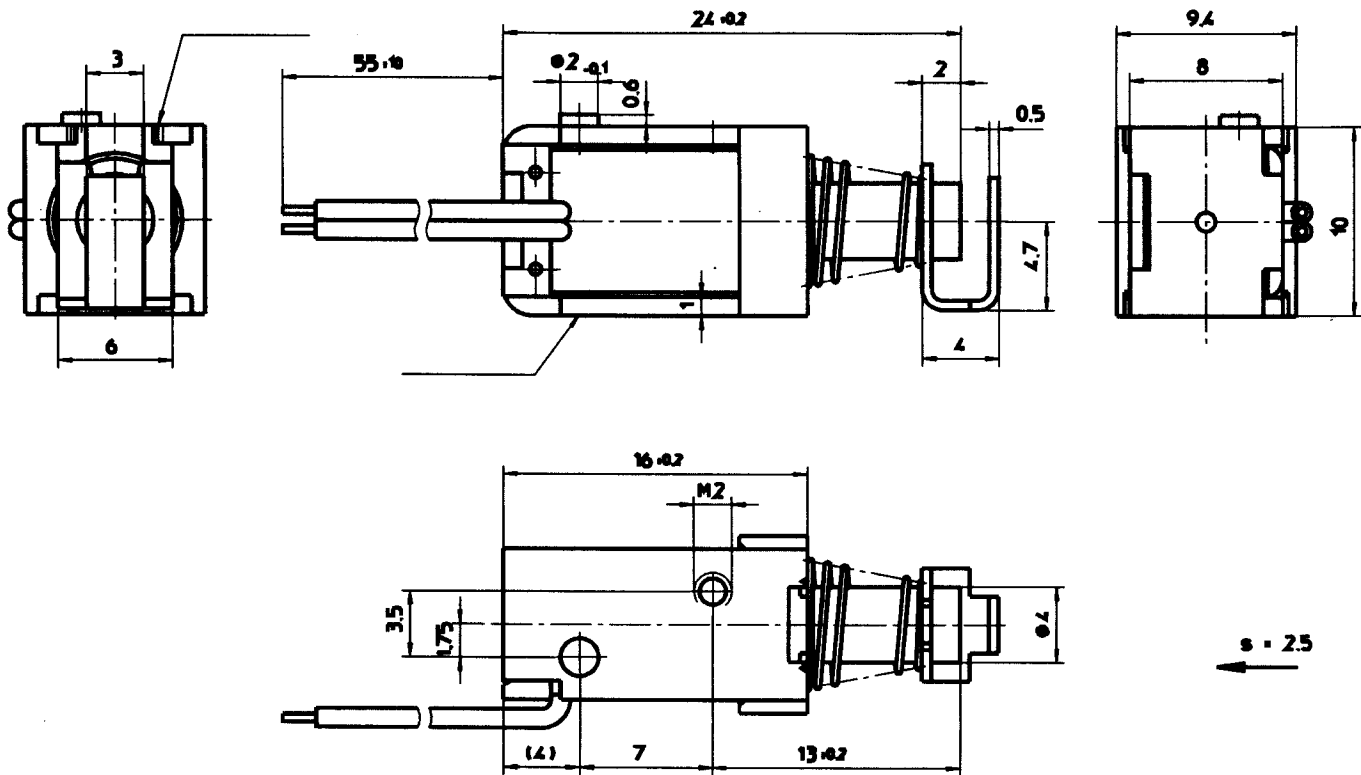


Fig. 2: Magnetic force vs stroke
M GB P 010 E20 D01

Note on the EMV (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 EMV guideline has to be guaranteed by the user through appropriate circuitry wiring. Examples for protection circuits can be taken from the corresponding technical documents.



Circuit diagram

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

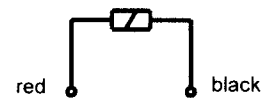


Fig. 3: Type M GB P 010 E20 D01

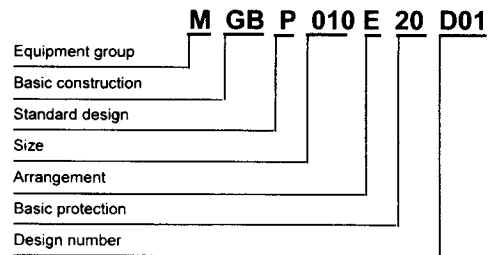
The solenoid shown is not a ready-to-use device in the sense of DIN VDE 0580. The general requirements and protective measures, which have to be taken by the user, are included in DIN VDE 0580.



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Type code



Order Example

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

Specials

Special designs are available on request for which full application conditions should be specified in accordance with our -Technical bulletins.