DC Bi-Stable Solenoid

10
Productgroup

M GP U 019

- To VDE 0580
- Pull and push type
- Short attraction and retraction times (change-over times)
- Function principle
  De-energised: maximum holding force in both stroke-end positions through integrated permanent magnet, bi-stable function, two de-energised positions
  Energised: Switchover of stroke-end position
- Energy-saving impulse power supply, electrical impulse only necessary during change-over
- Long life
- Coil to insulation rating A
- Electrical connection and protection rating if mounted properly:
  - Free plug contacts
    Protection to DIN VDE 0470 / EN 60529 – IP00
- Mounting with tapping screws on frame or clamping
- Special designs on request
- Application examples:
  textile and packaging machines, all sorts of shotbolts, safety systems

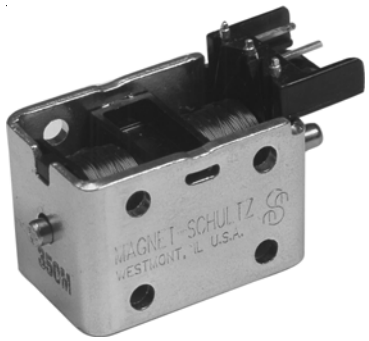

Fig. 1: M GP U 019 X00 D05

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Technical data

M BP U 019 X00 D05		
Rated Voltage	(V)	⎓ 12
Operating mode		S2 (impulse oeration)
Reference temperature ϑ_{11}	(°C)	35
Rated Power P_{20}	(W)	16
Rated Stroke	(mm)	5
Magnetic force F_M	(N)	0.6
Permanent holding force	(N)	5.6
Solenoid weight mM	(g)	35
Armature weightmA	(g)	4
Closing time t_1	(ms)	9

Through optimal design of the magnetic circuit, short change-over times are being achieved in the range of rectangular impulses. When the solenoid is supplied with an additional load, change-over time increases and, of course, also the necessary duration of the voltage impulse. The optimal winding design or power supply resp. has to be adjusted to the application conditions.

Rated voltage ⎓ 12 VDC, on request the coil winding can be adjusted to a rated voltage of ⎓ 60 VDC maximum.

The force values mentioned in the tables refer to 100 % of the rated voltage, (U_N = ⎓12 VDC, for other voltages the force may differ) and cold condition.

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

Hot condition is based on:

a) mounting on poorly heat-conducting base

b) rated voltage ⎓12 VDC

c) operating mode S2 (impulse operation)

d) reference temperature 20° C

Solenoid function

A strong permanent magnet integrated in the reversing-stroke solenoid keeps the armature in one of the two end positions with a holding force of about 5.6 N (de-energised) (can be increased with a modified design).

Change from one end position into the other is achieved through voltage impulses of changing polarity, e.g. rectangular impulses 24V 10ms.

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 guidelines within the EU CE

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.

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 protective circuits can be taken from the corresponding technical documents.

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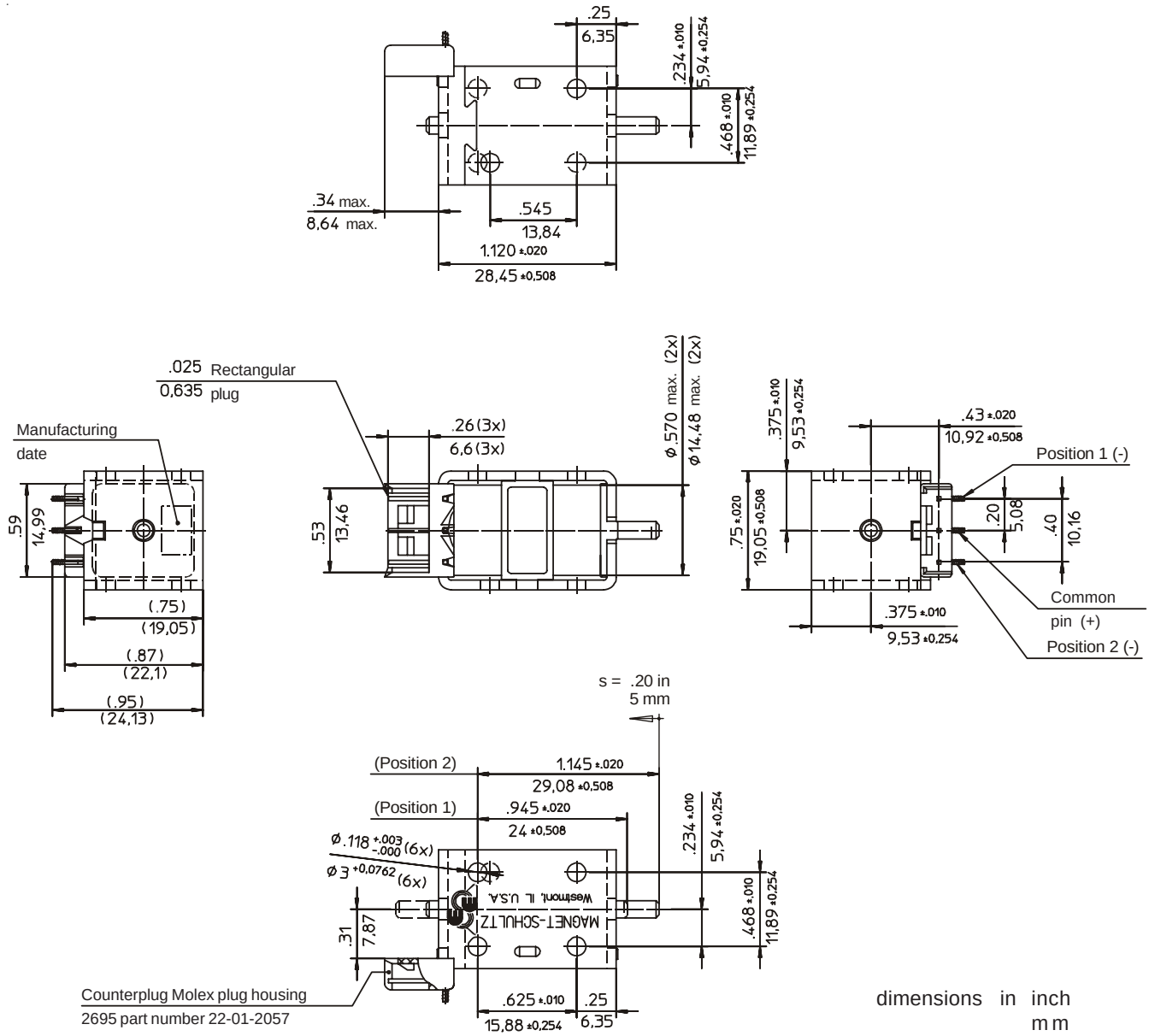
Dimensions sheet



dimensions in inch
mm

Fig. 3: Type M GP U 019 X00 D05

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.

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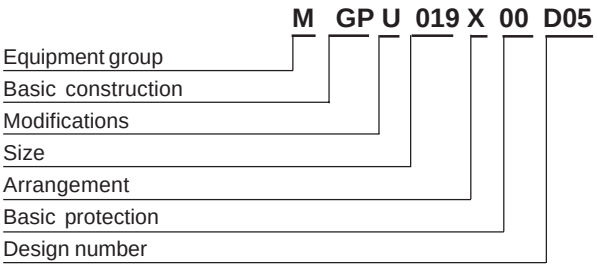
Type code



Order Example

Type	M BP U 019 X00 D05
Voltage	⎓ 24 V DC
Operating mode	S2

Specials

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.