

## DC Bi-Stable Solenoid

# 10

Productgroup

## M G P 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
- Modifications and special designs with rectifier and flying leads on request
- Application examples:  
textile and packaging machines, all sorts of shotbolts, safety systems

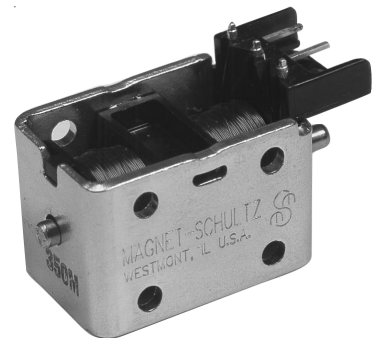


Fig. 1: M G P U 019 X00 D05



## Technical data

<b>M BP U 019 X00 D05</b>		
Rated Voltage	(V)	$\approx$ 12
Operating mode		S2 (impulse operation)
Reference temperature $\vartheta_{11}$	(°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 $m_M$	(g)	35
Armature weight $m_A$	(g)	4
Closing time $t_1$	(ms)	9

### 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.

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  $\approx$  12 VDC, on request the coil winding can be adjusted to a rated voltage of  $\approx$  60 VDC maximum.

The force values mentioned in the tables refer to 100 % of the rated voltage, ( $U_N = \approx$ 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:

- mounting on poorly heat-conducting base
- rated voltage  $\approx$ 12 VDC
- operating mode S2 (impulse operation)
- reference temperature 20° C

**Please find further details and definitions in our -Technical Explanation or, in VDE 0580 respectively.**

### 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.

### 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.

# Dimensions sheet

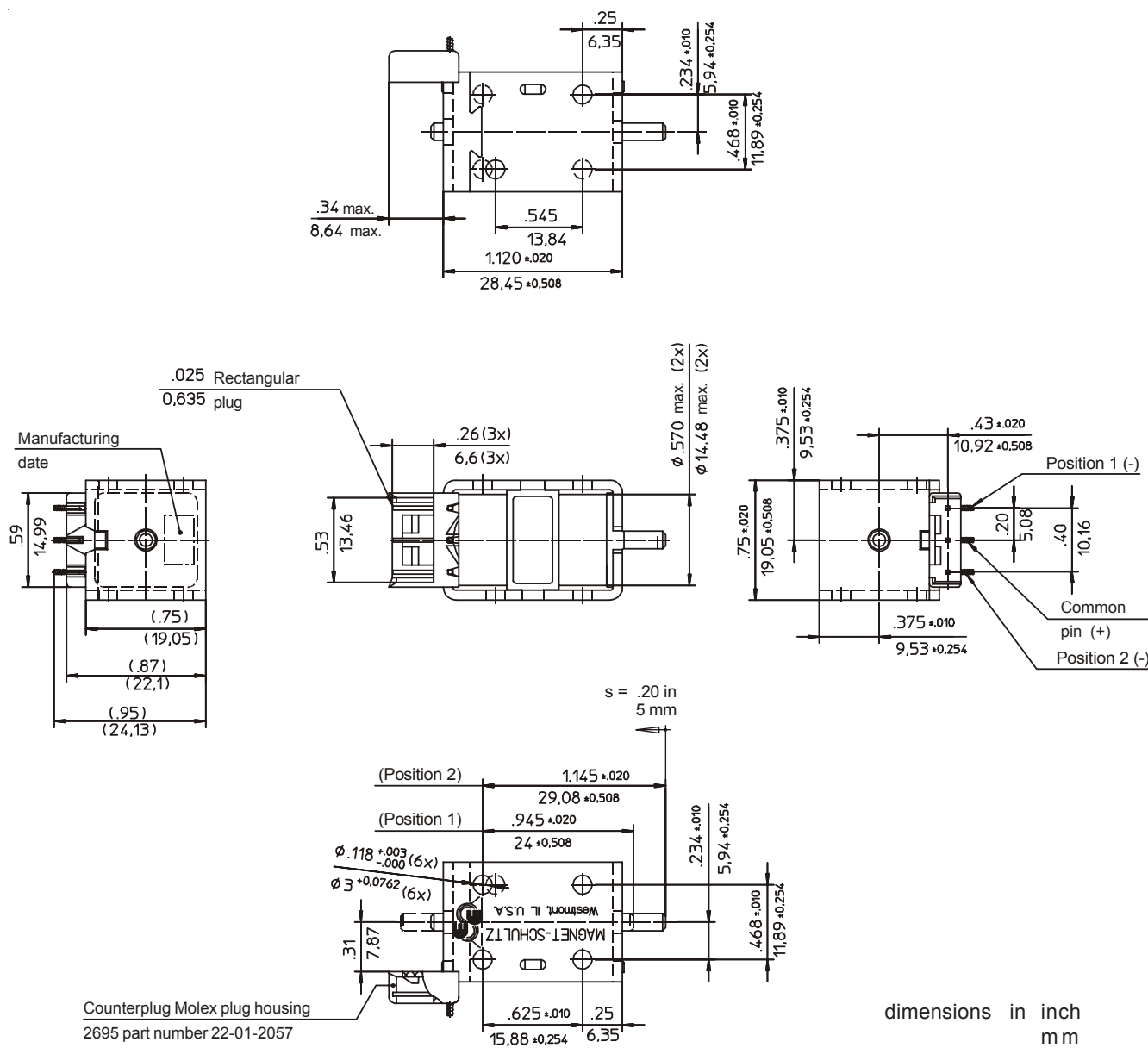
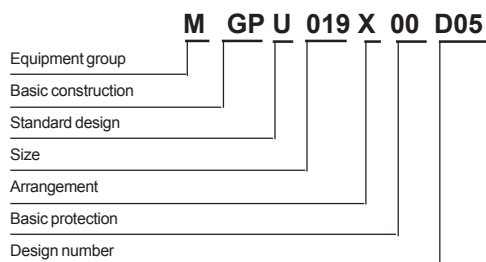


Fig. 3: Type M G P U 019 X00 D05

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.




### Type code



### Order Example

Type	M BP U 019 X00 D05
Voltage	=== 12 V DC
Operating mode	S2

### Specials

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