

Electromagnetically actuated shotbolt lock unit

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Product group

G HU Z 050

- According to DIN VDE 0580
- Increasing force vs. stroke characteristic
- Separately guided shotbolt
- Pull type (de-energized locked)
or push type (de-energized unlocked)
- Installed return spring
- Maintenance free bearings with high service life
- With and without signal switch
- Insulation materials of the excitation winding correspond to thermal class F
- Electrical connection and protection class when properly installed:
 - Plug connection by spade connectors according to DIN 46247
Protection class according to DIN VDE 0470 / DIN EN 60529 – IP 00
 - Plug connection via plug connector type Z KB according to DIN EN 175301-803
Cable gland (4 times 90° rotatable)
Protection class according to DIN VDE 0470 / DIN EN 60529 – IP 54
 - For connection of signal switch cable gland PG 7
- Fastening with 2 tapped holes
- Please contact us for application related solutions
- Application examples (according to health and safety at work regulations and according to accident preventing regulations):
Interlocking of protectors of machines of all sorts



Fig. 1: Type G HU Z 050 E43 A01

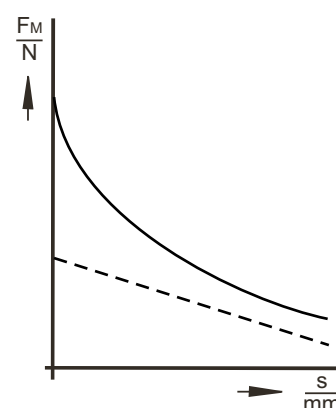


Fig. 2: Force vs. stroke characteristic

Technical data

G HU Z 050			
Operating mode		S1	
Stroke s	(mm)	Magnetic force F_M	Resetting force
		(N)	(N)
	0	57	24
	1	31	22,7
	2	28,5	21,3
	3	28	19,8
	4	27,5	18,5
	6	27	15,6
	8	24	12,9
	10	20	10
Rated work A_N	(Ncm)	20	
Rated power P_{20}	(W)	24,5	
Reference temperature δ_{11}	(°C)	35	
Operating frequency S_h	(1/h)	18000	
Actuation time t_1	(ms)	130	
Fall time t_2	(ms)	30	
Armature weight m_A	(kg)	0,10	
Solenoid weight m_M	(kg)	1,15	
Maximum lateral load			
Shotbolt stationary	(N)	3000	
Shotbolt in motion	(N)	5	

Rated voltage \approx 24 V, the exciter coil can be adjusted to a rated voltage of \approx 250 V on request.

The force values indicated in the tables refer to 90% of the rated voltage ($U_n = \approx$ 24 V, for other voltages deviations of magnetic force may occur) and to the normal operating temperature.

Due to natural dispersion the force values and the force values of the spring may deviate by \pm 10% from the values indicated in the tables.

The effective magnetic force at the shotbolt is:
Magnetic force – resetting force (spring)

The normal operating temperature is based on:

- Mounting on badly conductive base
- Rated voltage \approx 24 V
- Operating mode S1 100%
- Reference temperature 35° C

Function

The locking units of type G HU Z have to comply with the requirements according to health and safety at work regulations and according accident preventing regulations.

The magnetic armature and the shotbolt are guided separately in maintenance-free bearings. The multi-directional play of the coupling avoids the lateral forces on the armature bearing, which ensures a high function security and a long service life.

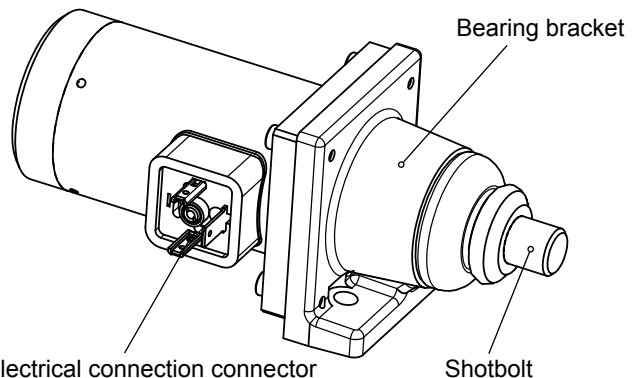
The armature movement through electromagnetic force is pulling or pushing depending on the respective execution. The reset in the stroke start position is achieved by the built-in spring. Both operations “de-energized locked” and “de-energized unlocked” are possible. However, the operation “de-energized locked” is preferable.

The designs GHUZ 050 H43 A02 und GHUZ 050 E43 A03 dispose additionally of a corresponding switch (2,5A), which reacts approx. 1 mm before the end of the locking distance and shows the correct snapping in. The machines or systems which have to be protected may be controlled by that switch (see electrical circuit diagram). Other switches e.g. 5 A on request.

Explosion-proof and flame-proof designs on request.

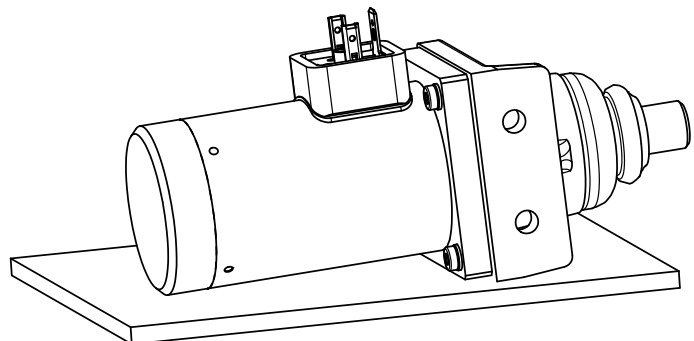
Reliable assembly is ensured with 2 threaded bores M 8 in the bearing bracket.

By modification of the bearing bracket, a rotation of the electrical connection by 3 times 90 degrees is possible.



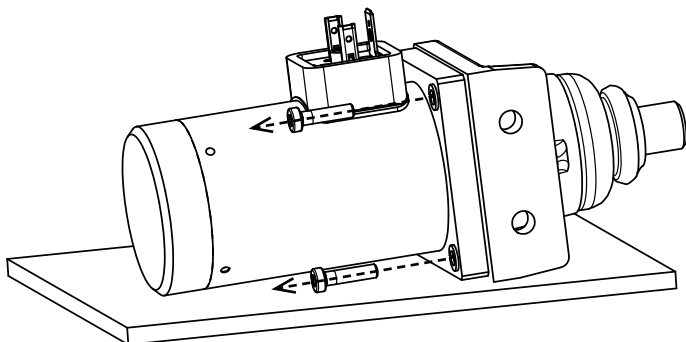
Instruction for turning the connector position

Place the device on a solid and flat surface. (connector pointing upwards).



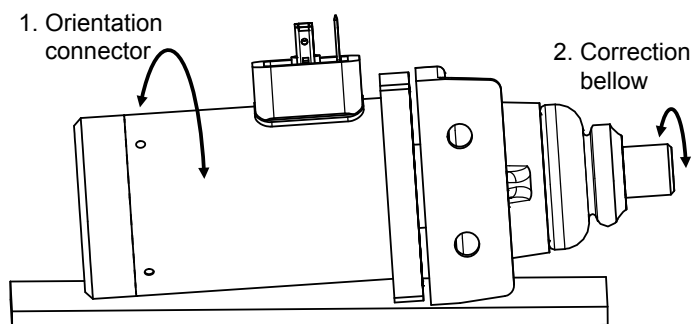
Loosen the connection screws (4x) using a hexagon screwdriver (SW 3) and remove the spring washers (4x).

Important!: Depending on the design, bearing bracket and magnetic body are still interconnected by components inside the device. Please do not separate or pull apart the modules in order to avoid damages.



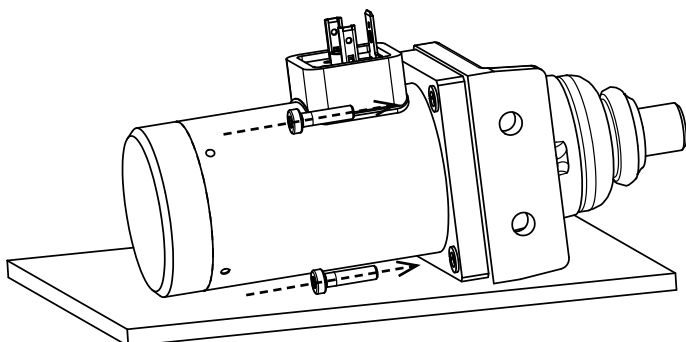
Then turn magnetic body or bearing bracket according to the requested connector position. (3x 90°)

Important!: Turning the magnetic body and/or the bearing bracket may cause a torsion of the bellow. This must be corrected by turning the shotbolt accordingly.



Then reassemble connection screws (4x) incl. spring washers (4x) using a hexagon screwdriver (SW 3).


Important!: The max. tightening torque of the connection screws of 3 Nm must not be exceeded. A loose o ring is mounted between magnetic body and bearing bracket. It has to be ensured that this o-ring is positioned all around in the intended recess when joining magnetic body and bearing bracket.



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.

Please make sure that the described devices are suitable for your application. Supplementary information concerning its proper installation can be taken also from the  -Technical Explanation, the effective DIN VDE0580 as well as the relevant specifications.

This part list is a document for technically qualified personnel.

The present publication is for informational purposes only and shall not be construed as mandatory illustration of the products unless otherwise confirmed expressly.

Dimension table

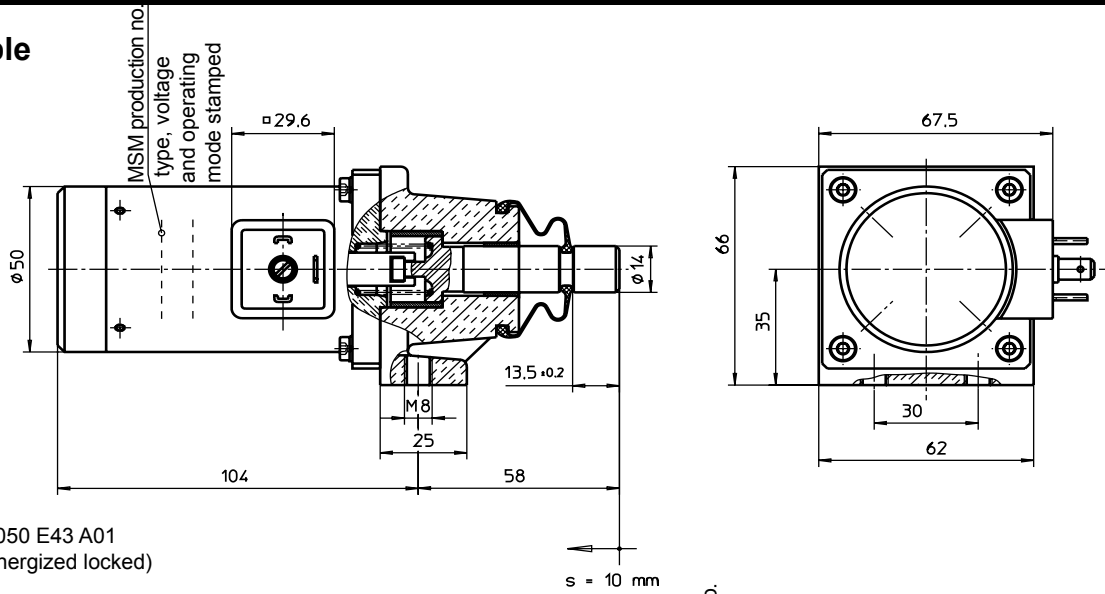


Fig. 3: Type G HU Z 050 E43 A01
Pull type (de-energized locked)

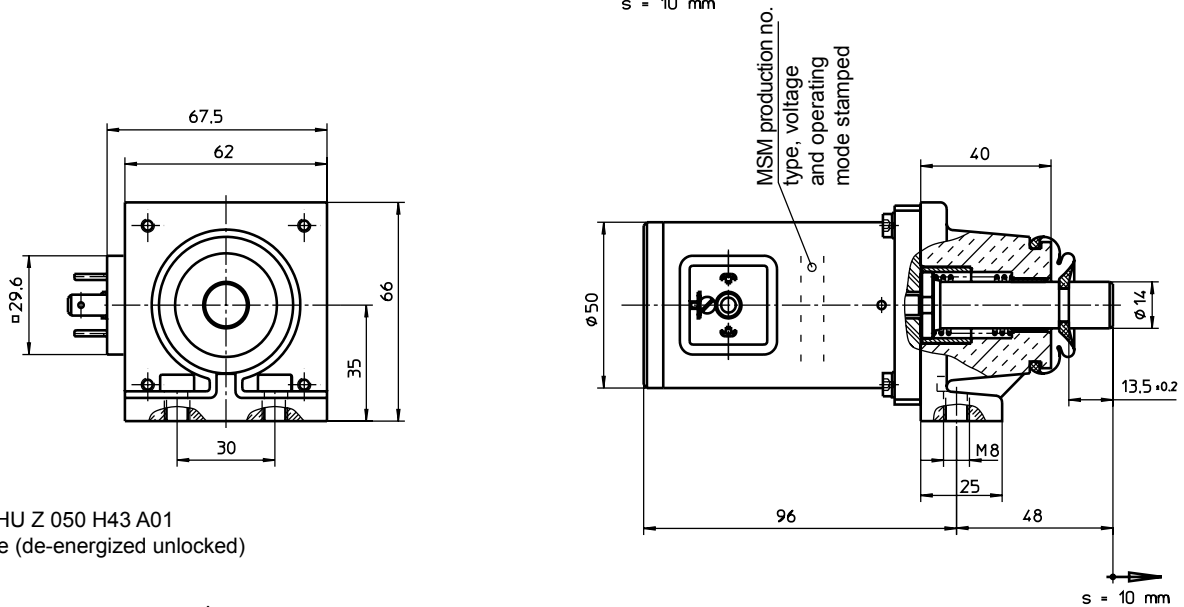


Fig. 4: Type G HU Z 050 H43 A01
Push type (de-energized unlocked)

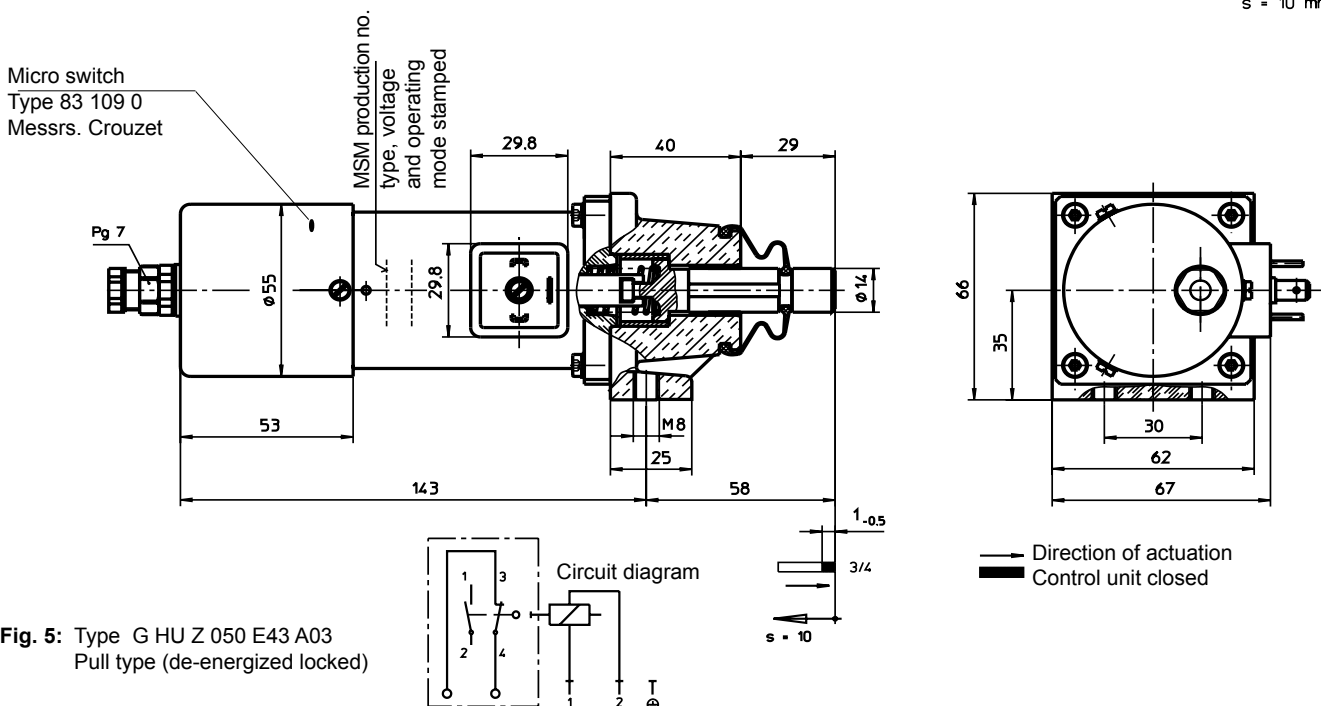


Fig. 5: Type G HU Z 050 E43 A03
Pull type (de-energized locked)

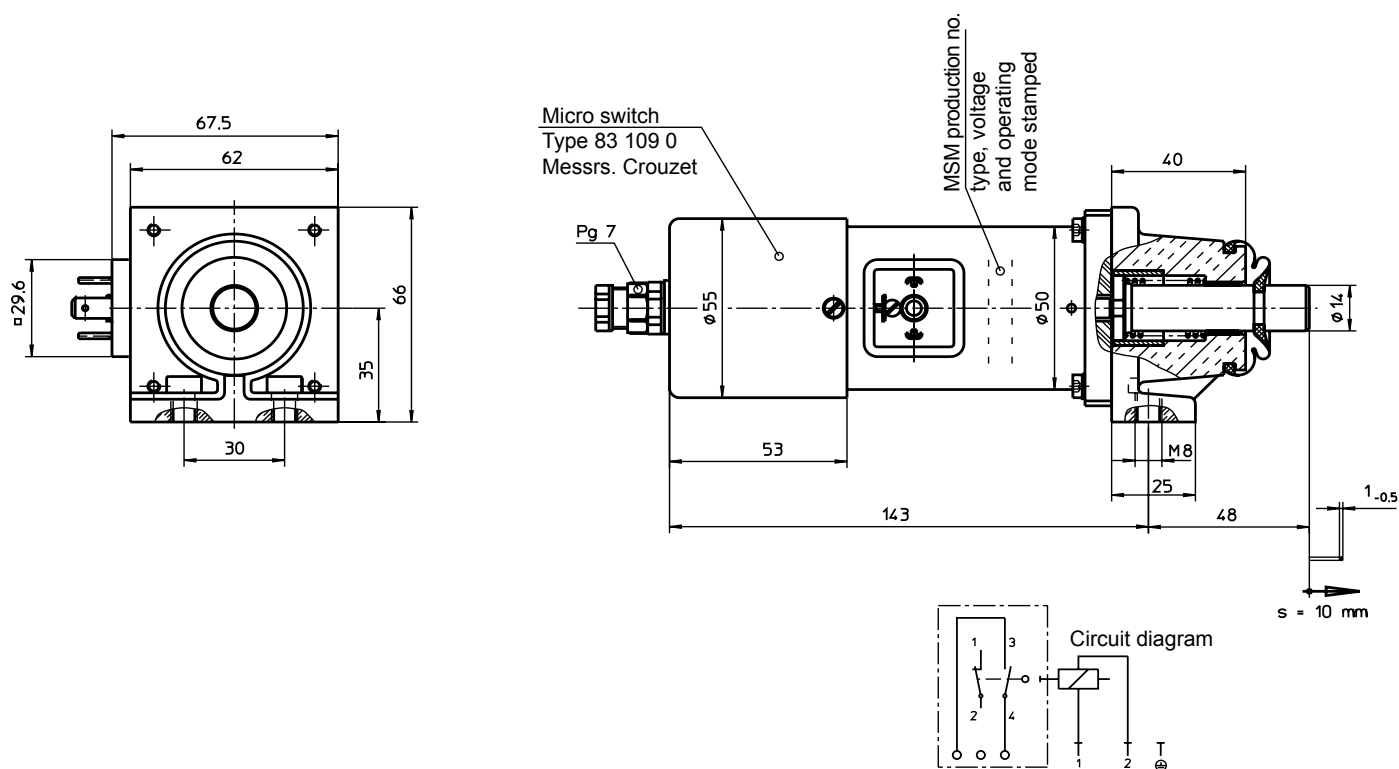


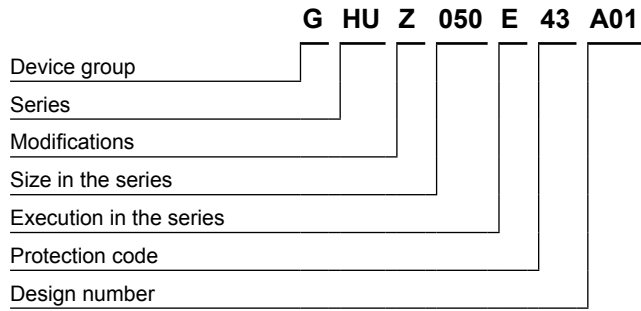
Fig. 6: Type G HU Z 050 H43 A02
Push type (de-energized unlocked)

Through electromagnetic force the armature moves in the direction of the arrow. The reset in the start position is effected by the built-in spring.

The respective switch reacts within approx 1 mm before the end of the lock stroke and announces the correct snapping in.

The here shown solenoids are no ready for use devices 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 devices in safety relevant applications requires always the written agreement of MSM.


Type code



Order example

Type	G HU Z 050 E43 A01
Voltage	=== 24 V DC
Operating mode	S1 (100 %)

Specials designs

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.