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INSTALLATION MANUAL FOR SURFACE-MOUNTED ELECTROMAGNETIC LOCKS

HARTTE **MG-series** models: MG60S, MG180SR, MG280S, MG280SR, MG350SR, MG500SR
HARTTE **MSS-series** models: MSS180S, MSS280S

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1. Purpose

Hartte electromagnetic locks are designed to secure various types of closures (doors, gates, hatches, etc.) against unauthorized access. They can be used for all kinds of closures, including swing doors, sliding doors, doors opening both inwards and outwards, as well as single and double-leaf doors made of different materials: wood, steel, glass, aluminum, and PVC.

Electromagnetic locks are installed in public buildings as well as commercial, office, industrial, and residential facilities.

The purpose of installing an electromagnetic lock is to ensure security and access control. The electric lock can be integrated with other system components such as card readers, RFID, fingerprint scanners, keypad locks, power supplies, alarm control panels, etc.

2. Recommendations

Before starting the installation of the electromagnetic lock, please read this installation manual carefully and ensure that all safety requirements are met.

The electromagnetic lock must be used according to its intended purpose. It should not be powered with any voltage other than the recommended one.

Particular attention should be paid to avoid damaging the surface of the electromagnet or the armature plate. Surface damage may reduce the holding force of the electromagnet.

The electromagnetic lock should be permanently and securely mounted to the door frame, while the armature plate should be installed with slight movement allowance to ensure proper operation of the lock.

For security reasons, the electromagnetic lock should be installed on the door frame inside the secured area to prevent unauthorized attempts at damage or removal. The power cable of the lock should be positioned on the inner side of the door. Installation of the lock on the outside of the secured area is possible only if a special protective casing is used to prevent unauthorized access to the lock.

The method of installing the electromagnetic lock is specified in the door's technical documentation. The installation of the electromagnetic lock should be carried out by a person with the appropriate qualifications and authorization to install electrically powered products.

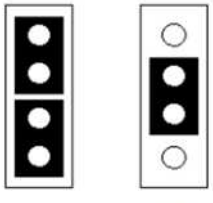
3. General Technical Data

Hartte electromagnetic locks have the following features:

3.1 LED Status Indicator (not available in MG60S and MSS180S models)
Indicates the door status and provides two types of signals:
– Green: The door is correctly closed and secured – the lock is active and secures the door.
– Red: The door is not properly closed – the lock is active, but the door is not secured.

3.2 Lock Monitoring Relay (not available in basic products)
- Depending on the product version, a reed switch or relay allows monitoring of the door status (open/closed).
- The monitoring relay (NO/NC) can be connected both to control panels and alarm/access control systems.

3.3 Power Supply Selection
- The electromagnetic lock can be powered by DC 12V or 24V. The voltage selection is made using an electric mini-jumper.
- To ensure proper operation, the voltage should be at least 12V when set to 12V mode or at least 24V when set to 24V mode



3.4 Installation Kit

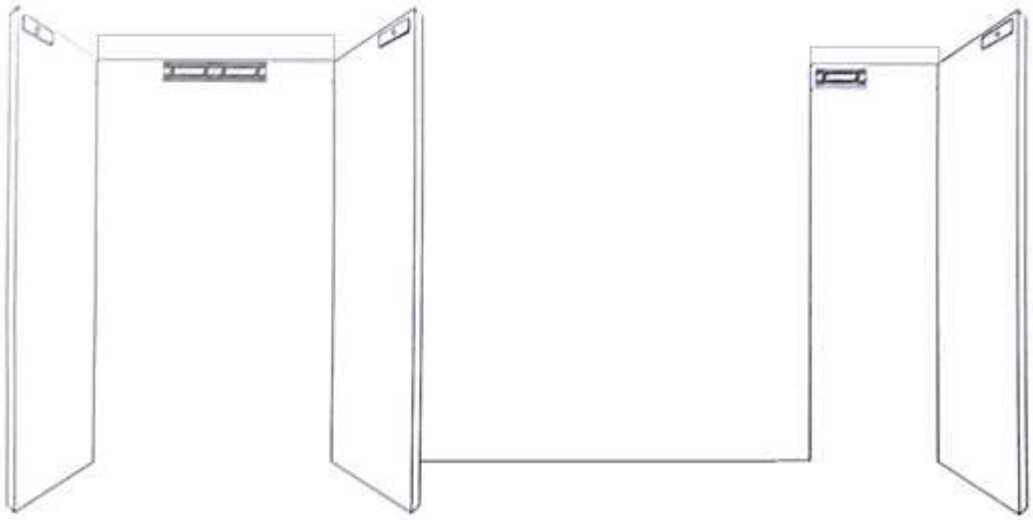
- Each electromagnetic lock comes with an installation kit that allows for standard and correct mounting.
- For wooden door frames, it is recommended to use screws of appropriate length.

4. Installation

4.1 Type of installation

Hartte MG series electromagnetic locks, models: MG60S, MG180SR, MG280S, MG280SR, MG350SR, MG500SR, are designed for surface mounting (the "S" designation in the model name indicates surface mounting). The MSS series is intended for outdoor installation.

Surface mounting of the electromagnetic lock on different types of doors:



A- Double-leaf doors B-Single-leaf doors

4.2 Installation of the Armature Plate

Before installing the electromagnetic lock, ensure that the power supply is disconnected and that the installation kit contains all necessary components. Each kit includes:

- electromagnetic lock
- armature plate
- set of screws, washer (metal and rubber), and hex keys

Before mounting the armature plate, ensure that in the selected installation location, the plate will align properly and adhere to the surface of the electromagnet when the door is closed. If the location has been determined, use the installation template to mark the position of the plate and the three necessary holes: one hole for the mounting screw and two holes for the positioning pins. Templates are included with the MG series.
After drilling the holes, insert the mounting screw through the hole in the armature plate and then place the following spacers onto it in order: metal, wide rubber, and narrow rubber. These spacers will be positioned between the armature plate and the door surface.

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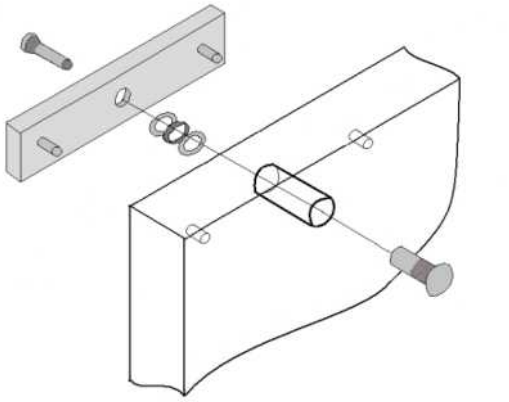
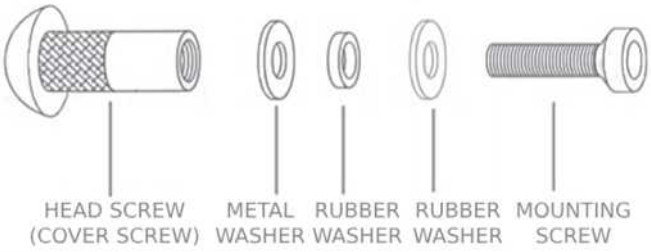
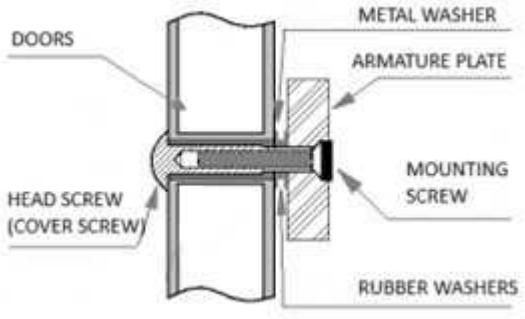
Position the armature plate on the door so that the mounting screw fits into the sleeve inside the door. The positioning pins align with their designated holes.
On the opposite side of the door, secure the mushroom head screw (cover screw) onto the mounting screw.
A correctly installed armature plate should not be tightly fixed against the door surface. Allowing minimal movement ensures the proper operation of the electromagnetic lock.



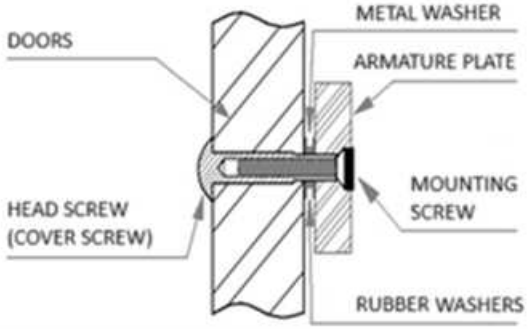
A set of mounting screws necessary for the proper installation of the armature plate.



Installation of the armature plate in aluminum and PVC doors



Installation of the armature plate in wooden doors



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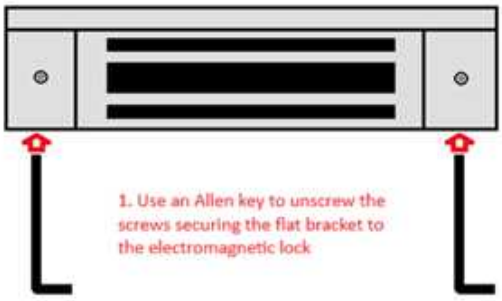
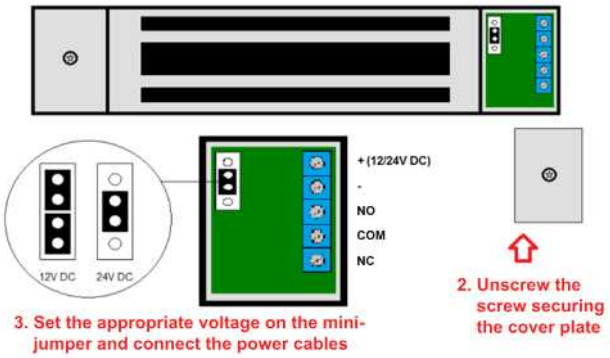
4.3 Electromagnetic lock installation

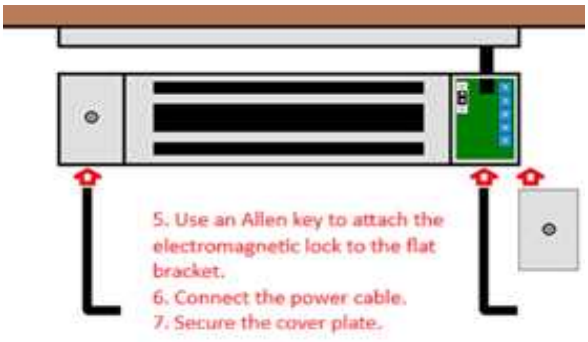




Before proceeding with the installation of the electromagnetic lock, use an Allen key to unscrew the screws securing the flat fitting to the electromagnetic lock.

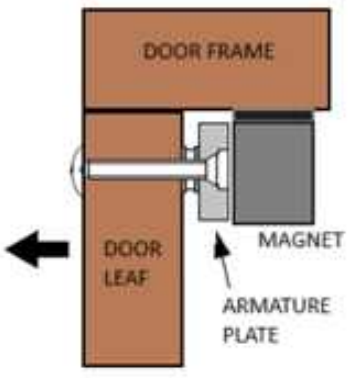
To make the necessary adjustments and electrical connections, unscrew the mounting screw securing the plate that covers the electrical terminals of the electromagnetic lock. The cover plate is located at the front of the lock. Then, set the appropriate voltage using the electrical mini-jumper.

Using the flat mounting bracket, drill six holes in the door frame and fasten the mounting screws. Without unscrewing the bracket, drill a hole for the power cable. Remember to pass the power cable through the round hole in the bracket.



Next, attach the electromagnetic lock to the mounting bracket using an Allen key, ensuring that the power cable is routed through the hole in the housing. Based on the cable installation instructions included in the set, connect the power supply correctly. Finally, secure the cover plate.

4.4 Standard installation



Standard installation is used when the door opens outward from the room where the electromagnetic lock is to be installed. A prerequisite for standard installation is a sufficient door frame width, allowing for the mounting of the flat installation bracket.
The flat installation bracket is included in the set and is pre-attached to the electromagnetic lock at the factory. To install the lock, first unscrew the flat bracket from the lock using an Allen key, then secure the flat bracket to the door frame. Finally, attach the electromagnetic lock to the installed bracket.

It is important to ensure that the surface of the electromagnet makes direct contact with the armature plate. Therefore, when selecting the installation location for the electromagnetic lock, make sure this condition is met. The armature plate should be installed first.

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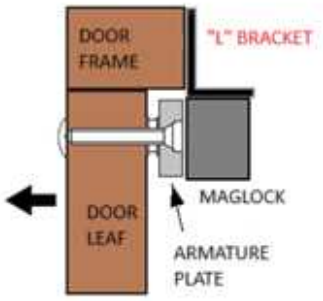
4.5 Installation with L-bracket

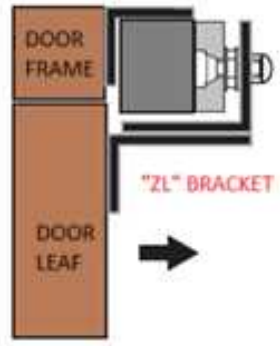


Installation using the "L" bracket is used when the door opens outward from the room where the electromagnetic lock is to be installed, and the door frame is not wide enough to accommodate the lock. The "L" mounting bracket is not included in the set and must be purchased separately.

To install the electromagnetic lock, first, unscrew the flat bracket from the lock using an Allen key. Attach the "L" bracket to the door frame, then secure the electromagnetic lock to the bracket, ensuring that the electromagnet surface is facing the door. The "L" bracket allows for position adjustment.

It is important to ensure that the surface of the electromagnet makes direct contact with the armature plate. Therefore, when selecting the installation location for the electromagnetic lock, make sure this condition is met. The armature plate should be installed first.

4.6 Installation with ZL-bracket



Installation using the "ZL" bracket is used when the door opens inward into the room where the electromagnetic lock is to be installed. It is important to note that this type of installation does not reduce the passage width. The "ZL" mounting bracket is not included in the set and must be purchased separately.

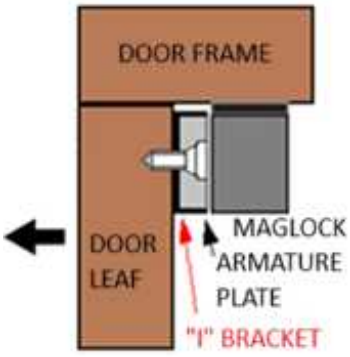
To install the electromagnetic lock, first, unscrew the flat bracket from the lock using an Allen key. Attach the "L" bracket (included in the bracket set) to the door frame, then secure the electromagnetic lock to this bracket, ensuring that the electromagnet surface faces inward and remains parallel to the wall surface.

The remaining two "L" brackets should be connected together in a way that forms a "Z" shape. The armature plate should be attached to one of the parallel surfaces of the "Z"-shaped bracket (facing inward), while the other surface should be mounted onto the door leaf.

The "ZL" bracket allows for position adjustment. When using this installation method, ensure that when the door is fully opened, the armature plate does not get damaged. If there is a risk of impact, it is recommended to install door stoppers.

It is important to ensure that the electromagnet surface makes direct contact with the armature plate. Therefore, when selecting the installation location for the electromagnetic lock, make sure this condition is met.

4.7 Installation with I-bracket



The installation using the "I" bracket is used when it is not possible to significantly alter the door structure. In such cases, the "I" bracket is used, which allows for surface mounting of the armature plate in the door leaf. This solution is most commonly used in fire doors. The armature plate should be attached to the "I" bracket, and then this assembly should be screwed onto the door leaf.

To install the electromagnetic lock, unscrew the flat bracket from the lock using an Allen key, then screw the flat bracket to the door frame. The electromagnetic lock should then be attached to the installed bracket. A combination of the "I" bracket with other types of mounting brackets for locks (such as "L" or "ZL" types) is allowed.

It is important to ensure that the surface of the electromagnet makes direct contact with the armature plate. Therefore, when selecting the installation location for the lock, make sure this condition is met. The armature plate should be installed first.

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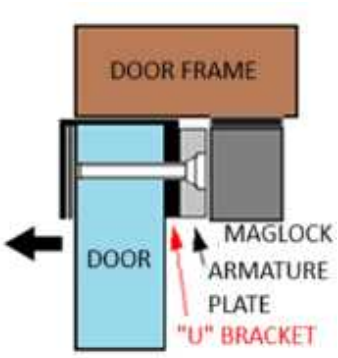
4.8 Installation with U-bracket



Installation using the "U" bracket is used for glass doors. The armature plate should be attached to the "U" bracket and then mounted onto the door leaf. Spacer elements must be used to adjust the "U" bracket to the thickness of the glass.

To install the electromagnetic lock, unscrew the flat bracket from the lock using an Allen key, then screw the flat bracket to the door frame. The electromagnetic lock should then be attached to the installed bracket. It is acceptable to combine the installation using the "U" bracket with the installation using the "L" or "ZL" bracket.

It is important to ensure that the surface of the electromagnet makes direct contact with the armature plate. Therefore, when selecting the installation location for the lock, make sure this condition is met. The armature plate should be installed first.

5. Warranty

All Hartte electromagnetic locks come with a 2-year warranty. The warranty terms are specified in the warranty card.

6. Technical data of individual models

Hartte MG Series Electromagnetic Locks – for standard applications

Model	Holding force (N)	Power supply (V)	Current Consumption (mA)	Dimensions (mm)	Weight (kg)	Monitoring	Installation
MG60S	600	12V DC	100	80x33x20	0,5	no	surface
MG180SR	1800	12/24V DC	380/190	200x42x21	1,2	yes	surface
MG280S	2800	12/24V DC	450/240	250x49x25	2,0	no	surface
MG280SR	2800	12/24V DC	450/240	250x49x25	2,0	yes	surface
MG350SR	3500	12/24V DC	540/270	250x58x29	2,7	yes	surface
MG500SR	5000	12/24V DC	500/250	265x75x38,8	4,5	yes	surface

Hartte MSS Series Electromagnetic Locks – for outdoor installation

Model	Holding force (N)	Power supply (V)	Current Consumption (mA)	Dimensions (mm)	Weight (kg)	Monitoring	Installation
MSS180S	1800	12/24V DC	380/190	170x40x21	1,2	no	surface
MSS280S	2800	12/24V DC	500/250	250x49x25	2,0	no	surface

7. Contact details

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