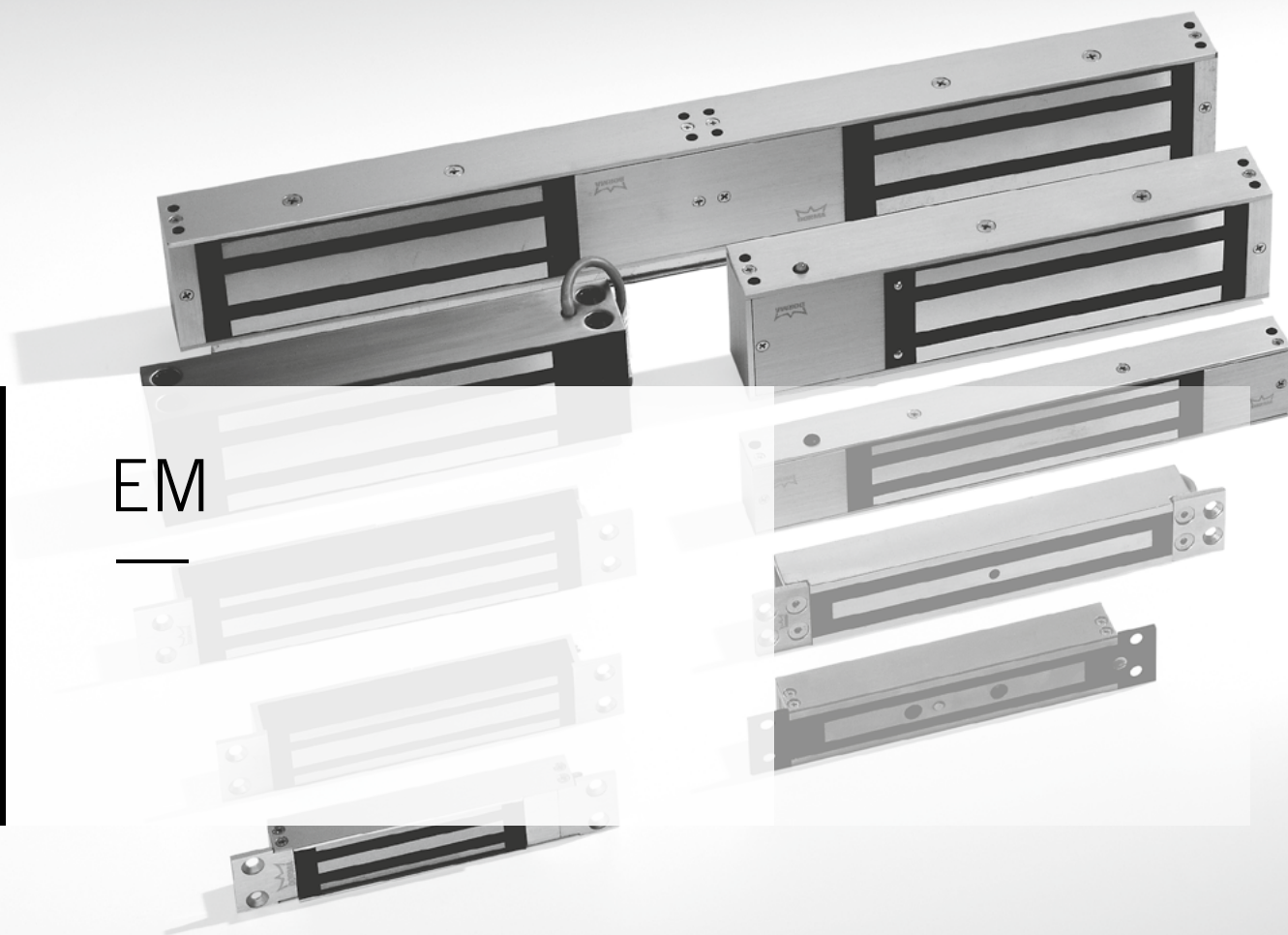


EM

—

Superior electromagnetic lock



EM ELECTROMAGNETIC LOCK SECURE AND FLEXIBLE DOOR LOCKING SOLUTION



A 'fitting' solution for every door

EM electromagnetic locks are reliable and convenient door locking devices that can be readily combined with an access control system. The EM product range offers the right solution for a wide array of structural situations and applications:

- Holding forces from 1,800 to 15,000 N
- For single or double doors (non-handed)
- For double-action doors (shear lock)
- With and without lock status sensor (locked/unlocked signalling)
- For mounting in or on the door frame; also suitable for retrofitting
- EM xxxx T models of extra-slender design
- Some units with weather-resistant casing (EM 7500)

It's the quality of the material that makes the difference

DORMA offers a complete portfolio of EM electromagnetic locks. Thanks to the materials selected and comprehensive long-time testing at the development stage, these too meet in full the quality standards set by DORMA. The details in brief:

- Very high-grade steel for excellent protection against remanence and corrosion (the same steel is also used in 'Cyclotron' particle accelerators)
- Use of high-quality resins for an extended thermal application range of -40°C to $+60^{\circ}\text{C}$
- Use of pure copper (99.8%) for good electrical efficiency
- MOV surge protection

Easy installation with a comprehensive range of accessories

DORMA's EM electromagnetic locks are easy to install and can also be retrofitted in certain cases. The armature plate and fixing materials are included in the scope of supply. And for special mounting situations, e.g. in the case of toughened glass doors, there is a comprehensive range of accessories available to complete the job.

- Mortice-mounted or side-mounted
- For supply voltages of 12V or 24V DC
- Comprehensive installation instructions and documentation material

Benefits at a glance

- High holding forces for safe and secure locking despite elegant, slender dimensions
- Corrosion-protected, sturdy casings and use of selected materials for long service lifetimes
- No wear or abrasion of the electromagnetic lock
- Comprehensive range of accessories enables easy installation on almost any door
- Effective protection against unauthorised removal of surface-mounted models
- Low energy consumption thanks to high electrical efficiency of the electromagnetic lock

CONTENTS

Overview of technical features and functions		4
Series EM	1800	5
	3000	6
	5300	7
	7500	8
	7500-D and 15000-D (shear lock)	9
Installation / Accessories		10

TECHNICAL FEATURES

EM electro-magnets overview

Type	Holding force	Installation	Single/Double lock	Voltage 12/24 V DC	Lock status sensor	LED spot	LED light panel	Slender design	Encoded armature plate	Weather-resistant	Shear lock
EM 1800 AH	1800 N	Surface	Single	●	●	–	–	–	–	–	–
EM 1800 AM	1800 N	Mortise	Single	●	●	–	–	–	–	–	–
EM 3000 H	2500 N	Surface	Single	●	–	–	–	–	–	–	–
EM 3000 AH	2500 N	Surface	Single	●	●	●	–	–	–	–	–
EM 3000-GL AH	2500 N	Surface	Single	●	●	–	●	–	–	–	–
EM 3000 M	2500 N	Mortise	Single	●	–	–	–	–	–	–	–
EM 3000 AM	2500 N	Mortise	Single	●	●	–	–	–	–	–	–
EM 3000-T AM	2500 N	Mortise	Single	●	●	–	–	●	–	–	–
EM 5300 H	5300 N	Surface	Single	●	–	–	–	–	–	–	–
EM 5300 AH	5300 N	Surface	Single	●	●	●	–	–	–	–	–
EM 5300-GL AH	5300 N	Surface	Single	●	●	–	●	–	–	–	–
EM 5300-i AH	5300 N	Surface	Single	●	●	●	–	–	●	–	–
EM 5300-2 H	5300 N	Surface	Double	●	–	–	–	–	–	–	–
EM 5300-2 AH	5300 N	Surface	Double	●	●	●	–	–	–	–	–
EM 7500-F AH	7500 N	Surface	Single	●	●	–	–	–	–	●	–
EM 7500-S AH	7500 N	Surface	Single	●	●	–	–	–	–	●	–
EM 7500-D AM	7500 N	Mortise	Single	●	●	–	–	–	–	–	●
EM 15000-D AM	15000 N	Mortise	Single	●	●	–	–	–	–	–	●

● = yes – = no

Article designations, abbreviations

The article designation indicates the holding force and the characteristics of the electromagnetic locks, e.g. EM 1800 AH = 1800 N holding force with feedback function (A), designed for surface mounting (H).

A = Lock status sensor

A floating contact signals that the electro-mechanical lock is engaged.

D = Shear lock magnets

The special feature of these magnets lies in their electro-mechanical retention system (shear lock). Because of their design, they are also suitable for double-action doors.

In the locked state, these devices are generally not visible. An integrated Hall sensor detects the closed door. This is particularly important for use in double-action doors.

F = Front-mounted

GL = Electromagnetic lock with LED light panel

A Mega or Giga LED indicates the magnet status (green/red).

H = Surface-mounted

I = Intruder alarm

The armature plate (catch plate) is monitored with the aid of an individualised sensor. This means that manipulation using a catch plate of identical construction can be effectively precluded.

M = Mortise-mounted

S = Side-mounted

Instead of being mounted on the front face, the electromagnetic lock is located at 90° – e.g. for use on sliding doors.



T = Slender design

Because of its particularly narrow width of 35.5 mm, the electromagnetic lock can also be installed in slender narrow-stile profiles.

SERIES EM 1800: STRAIGHTFORWARD SECURITY FOR OFFICE DOORS AND GLASS DOORS

Electromagnetic lock with 1,800 N holding force for locking interior doors in the moderate security category, such as office doors or toughened glass doors.

Corrosion-protected casing of metal, and magnet of pure copper (99.8%) for high electrical efficiency. Suitable for service temperatures between -40°C and $+60^{\circ}\text{C}$.

	Specification text	Order No.
	<p>EM 1800 AH Single electromagnetic lock with up to 1,800 N holding force, surface-mounted, with lock status sensor (LSS), anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 360/180 mA Magnet: 166 x 39 x 21 mm Armature plate: 133 x 31 x 8 mm Weight: 1.2 kg</p>	19860000
	<p>EM 1800 AM Single electromagnetic lock with up to 1,800 N holding force, mortise-mounted, with lock status sensor (LSS)</p> <p>Power supply: 12/24 V DC Current: 360/180 mA Magnet: 143 x 34 x 21 mm Armature plate: 133 x 31 x 8 mm Weight: 1.2 kg</p>	19860001

SERIES EM 3000: STANDARD SECURITY FOR PROJECT APPLICATIONS

Electromagnetic lock with 2500 N holding force for general door applications in the normal security category, such as in project applications.

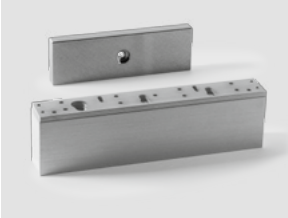





Corrosion-protected casing of metal, and magnet of pure copper (99.8%) for high electrical efficiency. Suitable for service temperatures between -40°C and $+60^{\circ}\text{C}$.

	Specification text	Order No.
	<p>EM 3000 H Single electromagnetic lock with up to 2,500 N holding force, surface-mounted, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 48 x 26.5 mm Armature plate: 185 x 38 x 12 mm Weight: 2 kg</p>	19860100
	<p>EM 3000 AH Single electromagnetic lock with up to 2,500 N holding force, surface-mounted, with lock status sensor (LSS) and red/green LED indicator, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 48 x 26.5 mm Armature plate: 185 x 38 x 12 mm Weight: 2 kg</p>	19860101
	<p>EM 3000-GL AH Single electromagnetic lock with up to 2,500 N holding force, surface-mounted, with lock status sensor (LSS) and mega-LED status indicator (red/green), anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 48 x 26.5 mm Armature plate: 185 x 38 x 12 mm Weight: 2 kg</p>	19860103
	<p>EM 3000 M Single electromagnetic lock with up to 2,500 N holding force, mortised-mounted</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 188 x 39 x 27.5 mm Armature plate: 185 x 38 x 12 mm Weight: 2 kg</p>	19860111
	<p>EM 3000 AM Single electromagnetic lock with up to 2,500 N holding force, mortised-mounted, with lock status sensor (LSS)</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 188 x 39 x 27.5 mm Armature plate: 185 x 38 x 12 mm Weight: 2 kg</p>	19860112
	<p>EM 3000-T AM Single electromagnetic lock with up to 2,500 N holding force, mortised-mounted of particularly slender design for use in narrow-stile profiles, with lock status sensor (LSS)</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 195 x 35,5 x 25.5 mm Armature plate: 185 x 36 x 12 mm Weight: 2 kg</p>	19860110

SERIES EM 5300: ELEVATED SECURITY FOR UNIVERSAL APPLICATIONS

Electromagnetic lock with 5,300 N holding force for universal applications on doors in the elevated security category.

Corrosion-protected casing of metal, and magnet of pure copper (99.8%) for high electrical efficiency. Suitable for service temperatures between -40°C and $+60^{\circ}\text{C}$.



	Specification text	Order No.
	<p>EM 5300 H Single electromagnetic lock with up to 5,300 N holding force, surface-mounted, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 73 x 40 mm Armature plate: 190 x 61 x 16 mm Weight: 5 kg</p>	19860200
	<p>EM 5300 AH Single electromagnetic lock with up to 5,300 N holding force, surface-mounted, with lock status sensor (LSS) and red/green LED indicator, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 73 x 40 mm Armature plate: 190 x 61 x 16 mm Weight: 5 kg</p>	19860201
	<p>EM 5300-GL AH Single electromagnetic lock with up to 5,300 N holding force, surface-mounted with lock status sensor (LSS) and mega-LED status indicator (red/green), anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 73 x 40 mm Armature plate: 190 x 61 x 16 mm Weight: 5 kg</p>	19860206
	<p>EM 5300-I AH Single electromagnetic lock with up to 5,300 N holding force, surface-mounted, with lock status sensor (LSS) and red/green LED indicator, encoded armature plate for anti-tamper protection, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 268 x 73 x 40 mm Armature plate: 190 x 61 x 16 mm Weight: 5 kg</p>	19860204
	<p>EM 5300-2 H Double electromagnetic lock with up to 5,300 N holding force per magnet, surface-mounted, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 536 x 73 x 39 mm 2 pcs. armature plate each: 190 x 61 x 17 mm Weight: 7.8 kg</p>	19860202
	<p>EM 5300-2 AH Double electromagnetic lock with up to 5,300 N holding force per magnet, surface-mounted, with lock status sensor (LSS) and red/green LED indicator, anodized aluminium finish</p> <p>Power supply: 12/24 V DC Current: 480/240 mA Magnet: 536 x 73 x 39 mm 2 pcs. armature plate each: 190 x 61 x 17 mm Weight: 7.8 kg</p>	19860201

SERIES 7500

HIGH SECURITY SOLUTION FOR INDUSTRIAL ENVIRONMENTS

Weather-resistant Electromagnetic lock with 7500 N holding force for use in industrial environments, damp rooms and general applications requiring elevated security. With integrated 'Door locked' feedback function.

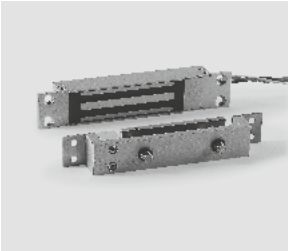

Corrosion-protected casing of metal, and magnet of pure copper (99.8%) for high electrical efficiency. Suitable for service temperatures between -40°C and $+60^{\circ}\text{C}$.

	Specification text	Order No.
	<p>EM 7500-F AH</p> <p>Weather-resistant single electromagnetic lock with up to 7,500 N holding force, surface-mounted (magnet front-mounted for swing doors), with lock status sensor (LSS) and stainless steel housing. For use in exterior area, industrial environments, damp rooms and general applications requiring elevated security.</p> <p>Power supply: 12/24 V DC Current: 500/250 mA Magnet: 225 x 63 x 445 mm Armature plate: 190 x 61 x 16 mm Weight: 5.4 kg</p>	19860300
	<p>EM 7500-S AH</p> <p>Weather-resistant single electromagnetic lock with up to 7,500 N holding force, surface-mounted (magnet side-mounted for sliding doors), with lock status sensor (LSS) and stainless steel housing. For use in exterior area, industrial environments, damp rooms and general applications requiring elevated security.</p> <p>Power supply: 12/24 VDC Current: 500/250 mA Magnet: 225 x 63 x 44 mm Armature plate: 190 x 61 x 16 mm Weight: 5.4 kg</p>	19860301

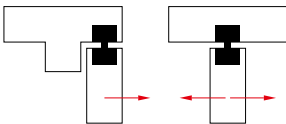
SERIES 7500-D AND 15000-D WITH SHEAR LOCK: HIGH SECURITY – ALSO FOR DOUBLE-ACTION DOORS

Shear lock with 7,500 N or 15,000 N holding force for mortise installation on single or double-action doors. With integrated 'Door locked' feedback function.

Corrosion-protected casing of metal, and magnet of pure copper (99.8%) for high electrical efficiency. Suitable for service temperatures between -40°C and $+60^{\circ}\text{C}$.

	Specification text	Order No.
	<p>EM 7500-D AM Shear lock with up to 7,500 N holding force, mortise-mounted, with lock status sensor (LSS), for use in single or double-action doors</p> <p>Power supply: 12/24 V DC Current: 300/150 mA Rush current: 1500/750 mA Magnet: 129 x 31 x 19 mm Armature plate: 129 x 26 x 21 mm Weight: 1.3 kg</p>	19860320
	<p>EM 15000-D AM Shear lock with up to 15,000 N holding force, mortise-mounted, with lock status sensor (LSS), for use in single or double-action doors</p> <p>Power supply: 12/24 V DC Current: 300/150 mA Rush current: 1500/750 mA Magnet: 152 x 32 x 24 mm Armature plate: 152 x 30 x 28 mm Weight: 1.4 kg</p>	19860420

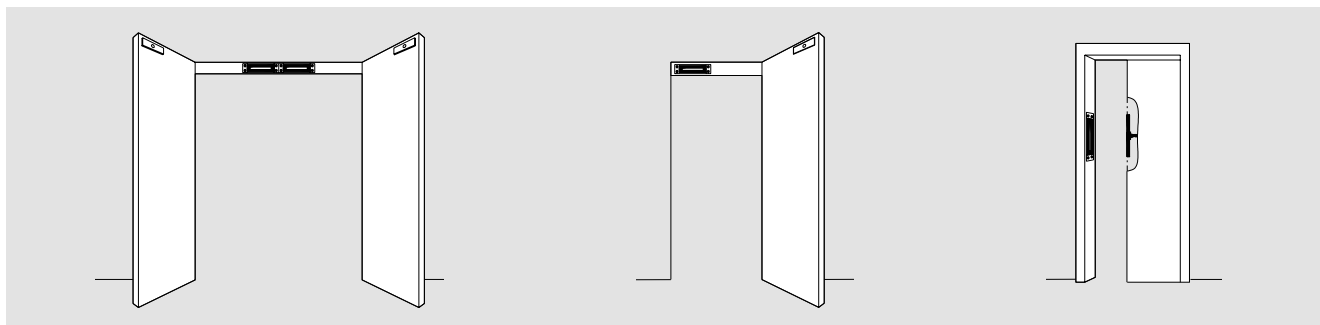
Shear lock magnets



The special feature of these magnets lies in their ability to exert electro-mechanical retention in the shear direction (shear lock capability). Because of their design, they are also suitable for double-action doors. In the locked state, these devices are generally not visible. An integrated lock status sensor detects the closed position of the door. This is particularly important where these devices are used in double-action doors.

INSTALLATION / ACCESSORIES

Installation examples

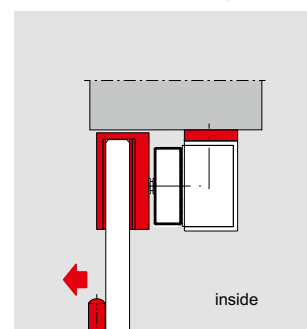
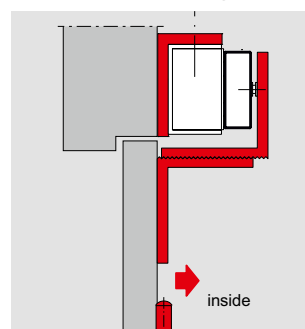
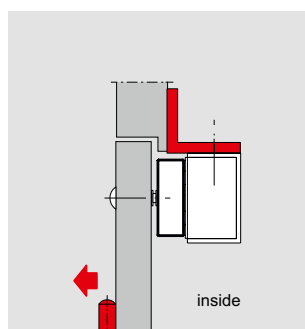
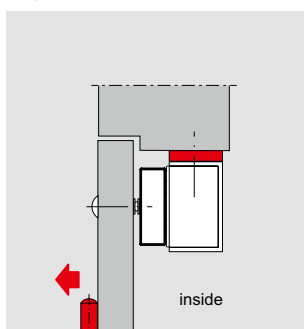


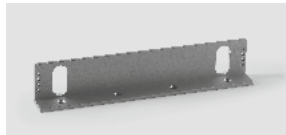

Regular installation

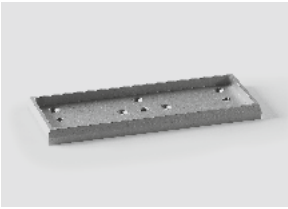


L-bracket for narrow door frame

L+Z bracket for inswing doors

U-bracket for frameless glass doors



	Accessory fixing sets	Order No.
	AML 3000 L bracket for EM 3000	19860191
	AML 5300 L bracket for EM 5300	19860291
	AMZL 1800 L and Z bracket set for EM 1800	19860090
	AMZL 3000 L and Z bracket set for EM 3000	19860190
	AMZL-GL 3000 L and Z bracket set for EM 3000-GL	19860197
	AMZL 5300 L and Z bracket set for EM 5300	19860290
	AMZL-GL 5300 L and Z bracket set for EM 5300-GL	19860293

	Accessory fixing sets for toughened glass doors	Order No.
	AMF 3000 Armature plate holder for EM 3000. Suitable for fire doors or very thick doors, without drilling through the door leaf	19860192
	AMF 5300 Armature plate holder for EM 5300. Suitable for fire doors or very thick doors, without drilling through the door leaf	19860292
	UBG-8 1800 U-formed glass door bracket for fixing amature plate of EM 1800 on 8 mm thick toughened glass doors	19860091
	UBG-10 1800 U-formed glass door bracket for fixing amature plate of EM 1800 on 10 mm thick toughened glass doors	19860092
	UBG-12 1800 U-formed glass door bracket for fixing amature plate of EM 1800 on 12 mm thick toughened glass doors	19860093
	UBG-8 3000 U-formed glass door bracket for fixing amature plate of EM 3000 on 8 mm thick toughened glass doors	19860193
	UBG-10 3000 U-formed glass door bracket for fixing amature plate of EM 3000 on 10 mm thick toughened glass doors	19860194
	UBG-12 3000 U-formed glass door bracket for fixing amature plate of EM 3000 on 12 mm thick toughened glass doors	19860195



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