



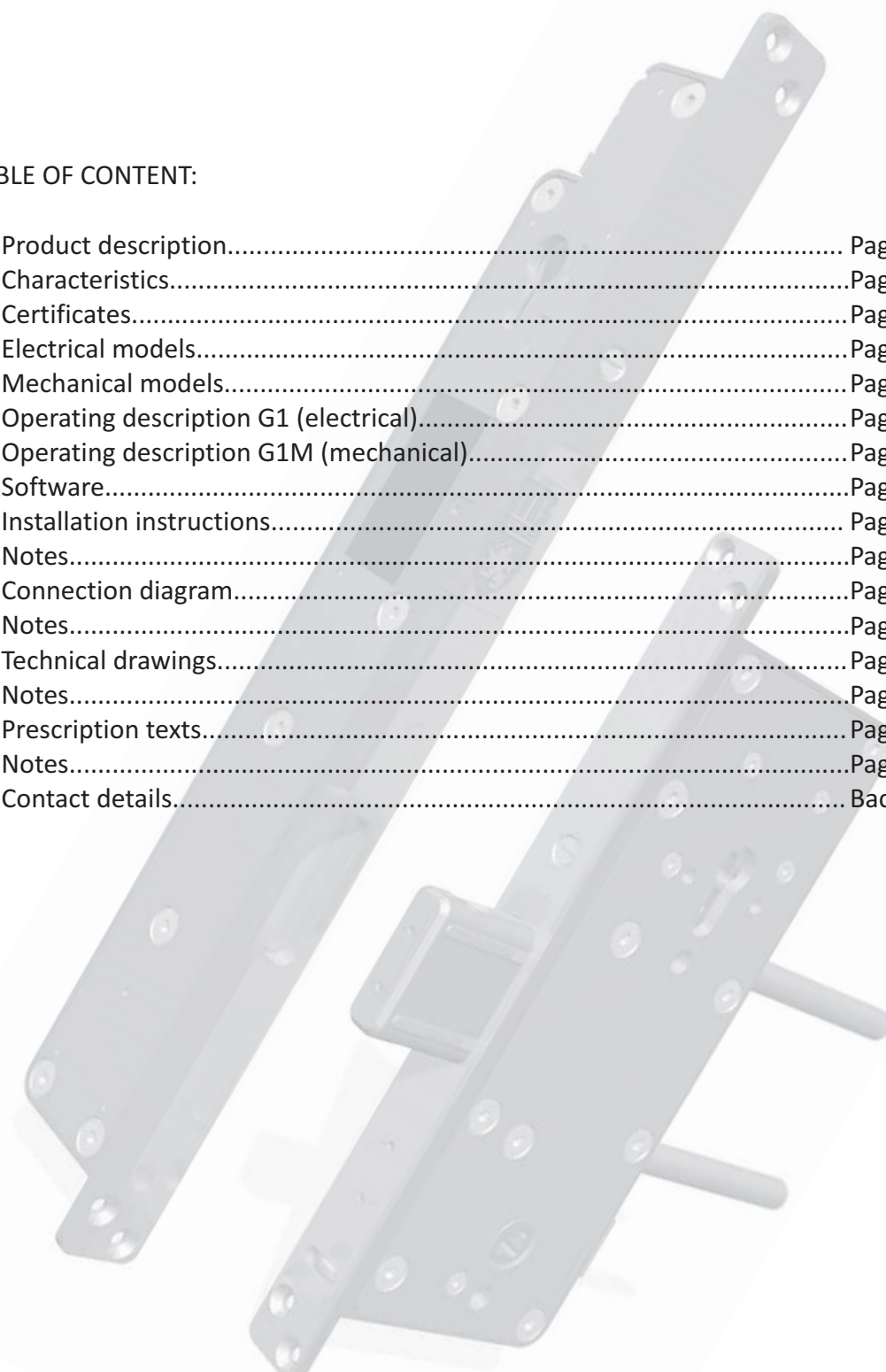
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DOCUMENTATION G1 SERIES



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PRODUCT DESCRIPTION:

The B&B G1 locks are high security locks of superior quality and consist of a mechanical lock and an electrical strike plate. The lock has a massive sliding bolt, which is retracted mechanically by using the handle. The strike plate has 2 locking pins, which block the bolt in its fully ejected position. In the locked position the door leaf is therefore attached to the frame. These locking pins are retracted electrically, but can also be unlocked mechanically by means of a cylinder in the strike plate. Due to the solid construction these locks offer an extreme high resistance against all forms of aggression and burglary attempts. To ensure a fast and precise action the unlocking of the pins is done by a powerful solenoid, which was especially designed to have the best possible balance between activation and holding current. A low power consumption and very little heating are additional advantages. Unlocking is done by giving an impulse with a push button, card reader, code, fingerprint or any other type of impulse generators. Mechanical unlocking is always possible using the cylinder. The automatic locking mechanism guarantees that the door will be locked as soon as it closes. A closed door is therefore also a secured door.

CHARACTERISTICS:

Voltage:	24V DC
Consumption:	2,35A activation current - 130mA holding current
Principle:	Fail secure (= locked without power)
Backset:	Striker plate = backsets 35mm; lock = 60mm
Direction:	DIN L or DIN R has to be specified
Unlocking:	Access control makes contact between pin 2 and 3 on the striker plate, the 2 locking pins retract electrically (or mechanically using the cylinder)
Automatic locking:	By spring force, each time the door closes
Panic function:	No
Signalisation:	Position of the door (open/closed) and position of the bolt (unlocked/locked) as well as the use of the cylinder, transistors switch actively to GND (24V DC / max. 100mA)
Resistance of the bolt:	70'000N side load (measured directly on the bolt)
Throw of the bolt:	40mm
Temp. resistance range:	-25°C to +70°C
Fire doors:	Suitable for use in fire doors
Certification:	Resistance test of Belgian Justice Department

EMC test by PCC laboratoria De Nayer



EMC testreport: **PCC-EMC-3838** (2013-11-27)

Applied Tests or Technical Standards:

Emission:

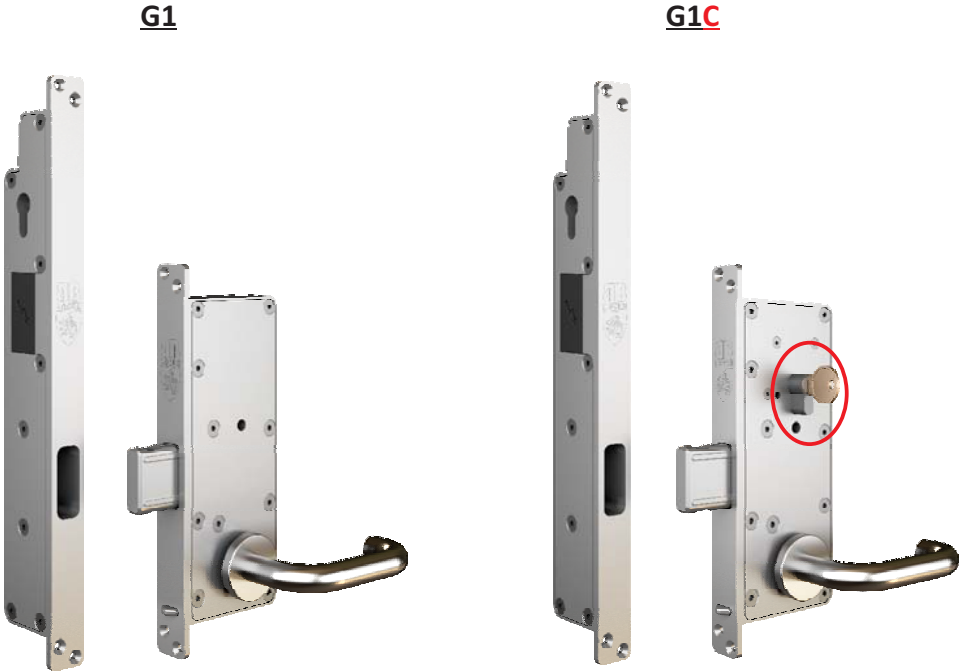
- EN 61000-6-3 : (2007) + am1
- EN 61000-3-2 : (2006) + am1 am2
- EN 61000-3-3 : (2008)

Immunity:

- EN 61000-6-1 : (2007)
- EN 61000-4-2 : (2009)
- EN 61000-4-3 : (2006) + am1 am2
- EN 61000-4-4 : (2004) + am1
- EN 61000-4-5 : (2005)
- EN 61000-4-6 : (2009)
- EN 61000-4-8 : (2010)
- EN 61000-4-11 : (2004)

G1 ELECTRO-MECHANICAL SECURITY LOCK

Electrical models



AVAILABLE BACKSETS: strike plate = 35mm, lock = 60mm

- G1** : electrical strike plate fail secure - with mechanical override using the cylinder; mechanical lock with handle - without cylinder
- G1C** : electrical strike plate fail secure - with mechanical override using the cylinder; mechanical lock with handle - with cylinder

G1M



AVAILABLE BACKSET: 60mm

Mechanical model

G1M : mechanical lock with handle - with cylinder; no signalisation

This model is a **completely mechanical version** of the G1 locks. The electrical strike plate (with 2 locking pins) is not used. The locking of the sliding bolt in this version is done within the lock itself. Using a cylinder, the bolt can be locked in both the fully thrown out as well as the fully retracted position.

The retraction of the bolt is done using the handle. The bolt is thrown out automatically by spring force. By adjusting a screw on the bottom of the lock the bolt can either be thrown out as soon as one lets go of the handle (SE latch not active) or as soon as the door closes and the latch is pushed in (SE latch active).

OPERATING DESCRIPTION:

Electrical version G1

The door is secured when:

- the door is closed
- the bolt is ejected
- the bolt is blocked by 2 locking pins in the strike plate (it is impossible to retract the bolt using the handle)

Unlocking electrically is possible by giving an impulse (= a make contact from access control) which activates a solenoid. This solenoid unlocks the 2 pins in the striker plate enabling you to retract the bolt using the handle. The door can now be opened.

The bolt will stay retracted and the pins will remain in the unlocked position as long as the door is open. As soon as the door closes the bolt will be ejected immediately (by pressing in the small latch at the bottom of the lock). The strike plate will detect the ejected bolt, which causes the 2 pins to lock automatically. The door is now secured once again and the bolt cannot be retracted using the handle.

In case of a power failure:

The 2 pins in the strike plate are locked and the bolt cannot be retracted. Using the cylinder in the strike plate these pins can be unlocked mechanically. Simultaneously the handle should be used to retract the bolt (as soon as you let go of the key, the pins will lock by spring force).



OPERATING DESCRIPTION:

Mechanical version G1M:

Lock with cylinder in the door; in the door frame just an opening in which the bolt can be thrown.

The bolt can be retracted using the handle and can then be blocked with 1 pin in the lock using the cylinder. The handle cannot be used (since it is connected to the blocked bolt). The door is now secured.

After unlocking the pin using the cylinder, the bolt can again be retracted using the handle.

It is also possible to block the bolt in the retracted position (using the cylinder). The bolt will remain retracted and the handle will remain tilted down (even when the door closes and the latch at the bottom of the lock is pushed in).

When unlocking the pin by using the cylinder the bolt will be ejected as soon as the latch is pushed in.



Operating description G1M (mechanical)

Software

The G1 locks are available with 2 software versions. The difference is only the output type:

- open collector (pull down) signals
- 24V pull up signals (e.g. for easy connection with PLC)

The software can easily be chosen using a dedicated jumper on the internal printed circuit board.

Installatie instructies

Please make sure the following installation requirements are met to ensure the correct functioning of your B&B A1 electro-mechanical lock :

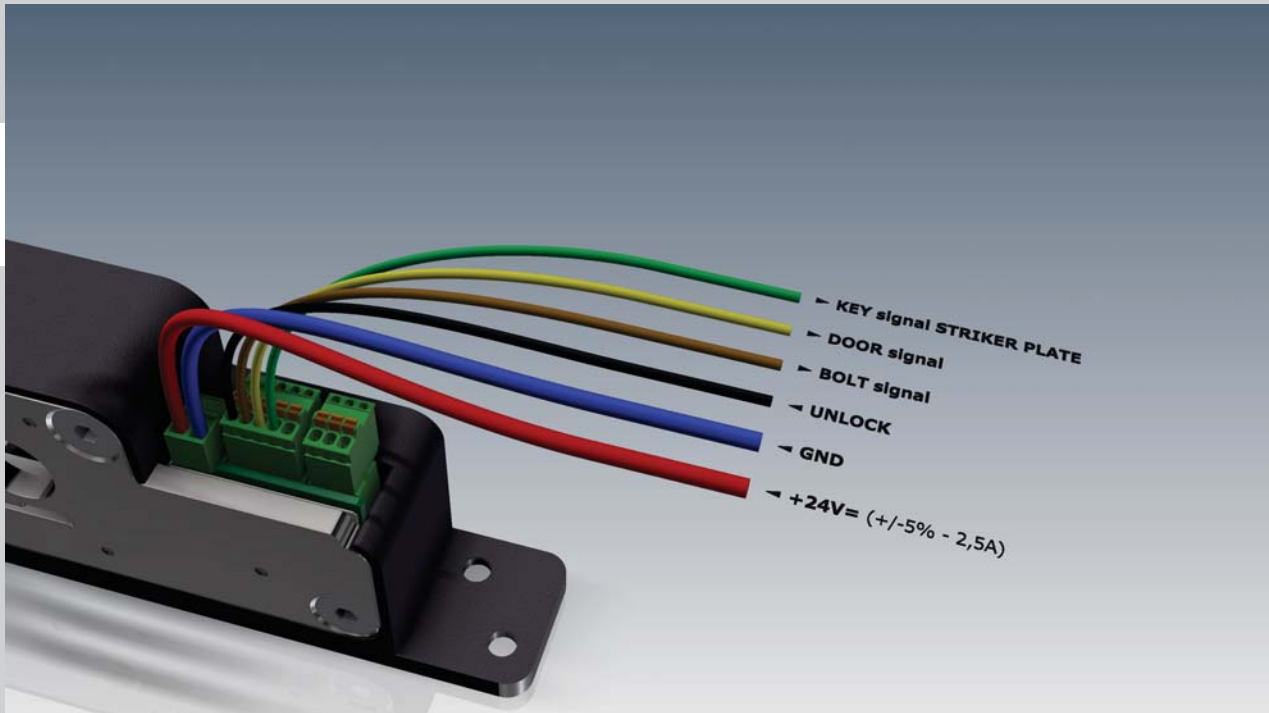
- Use flexible power supply cable (2 x 1,5mm²) **with ferrules!**
- Use flexible signalisation cable (4 x 0,22mm²) **with ferrules!**
- Make sure the ferrules are inserted correctly in the original Phoenix connectors!
- Use the Phoenix connectors that were included with the lock and make sure the connection is solid and clean. In case of a repair we suggest you replace the connectors and check the connection again.
- Use a 24V DC regulated POWER SUPPLY of minimum 2,5A per lock !
- Make sure the distance between the power supply and the lock is maximum 25m !
- Measure the voltage coming to the lock and make sure that this never drops below 22,8V (24V DC +/- 5%). (important especially when the solenoid is activated !). In case of a voltage drop on the line one can increase the TRIM 2 on the PS24D52 power supply (factory setting = 2).
- Make sure the distance between the lock and striker plate is min. 2mm and max. 6mm !
- Make sure the lock and striker plate are installed in a proper matter where the 2 are perfectly aligned (in closed door position they should be straight across from each other, both laterally and in height) !
- Make sure that there is no friction on the bolt (when being ejected and retracted) or on the pins (during unlocking or locking). It is important that this is checked after the installation of the rubbers on the profile.
- Make sure the holes for inserting the cylinder are large enough so the cylinder can be easily installed without being forced.
- Only cylinders with the lever at 5 and 7 (o'clock) can be used.
- **DO NOT FILE with the lock already installed!** Filings that end up in or around the lock will be attracted when the solenoid is activated and will eventually damage the lock! The filings also have a negative effect on other parts.
- Locks and striker plates should be protected from dust and dirt during the on site construction period.
- Make sure the door is equipped with adequate hinges (according to door size and weight) to avoid „hanging“ of the door !
- Make sure the door is equipped with an adequate door closer (according to door size and weight) !

Please note that in order for the lock to function correctly the above mentioned specifications need to be strictly followed. B&B LOCKS b.v.b.a. can not be held accountable for on-site interventions and reparations under warranty if the installation was not done according to these specific instructions !

CONNECTION DIAGRAM

G1 ELECTRO-MECHANICAL SECURITY LOCK

Connection diagram



CONNECTOR 1 (2-pole):

pin 1 = +24Vdc +/- 5%, 2.5A (red, 1.5 mm²)

pin 2 = GND (blue, 1.5 mm²)

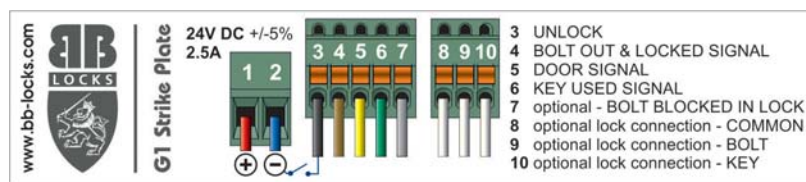
CONNECTOR 2 (5-pole):

pin 3 = UNLOCK - opening impulse - NO contact connects pin 2 (GND) and pin 3 to unlock (black, 0.22 mm²)

pin 4 = BOLT SIGNAL - transistor switch to GND when bolt is locked - max. charge 100mA (brown, 0.22 mm²)

pin 5 = DOOR SIGNAL - transistor switch to GND when door is closed - max. charge 100mA (yellow, 0.22 mm²)

pin 6 = KEY SIGNAL - transistor switch to GND when key is used - max. charge 100mA (green, 0.22 mm²)



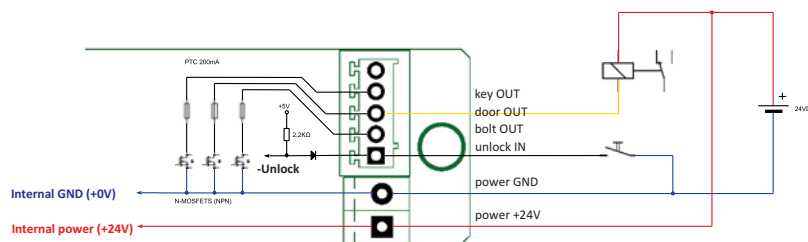
REMARK:

Choice between:

- **PD:** Pull Down signals (the signal switches actively to GND)

OR

- **PP:** Push Pull signals (the signal switches actively to +24V; and switches to GND when not activated)



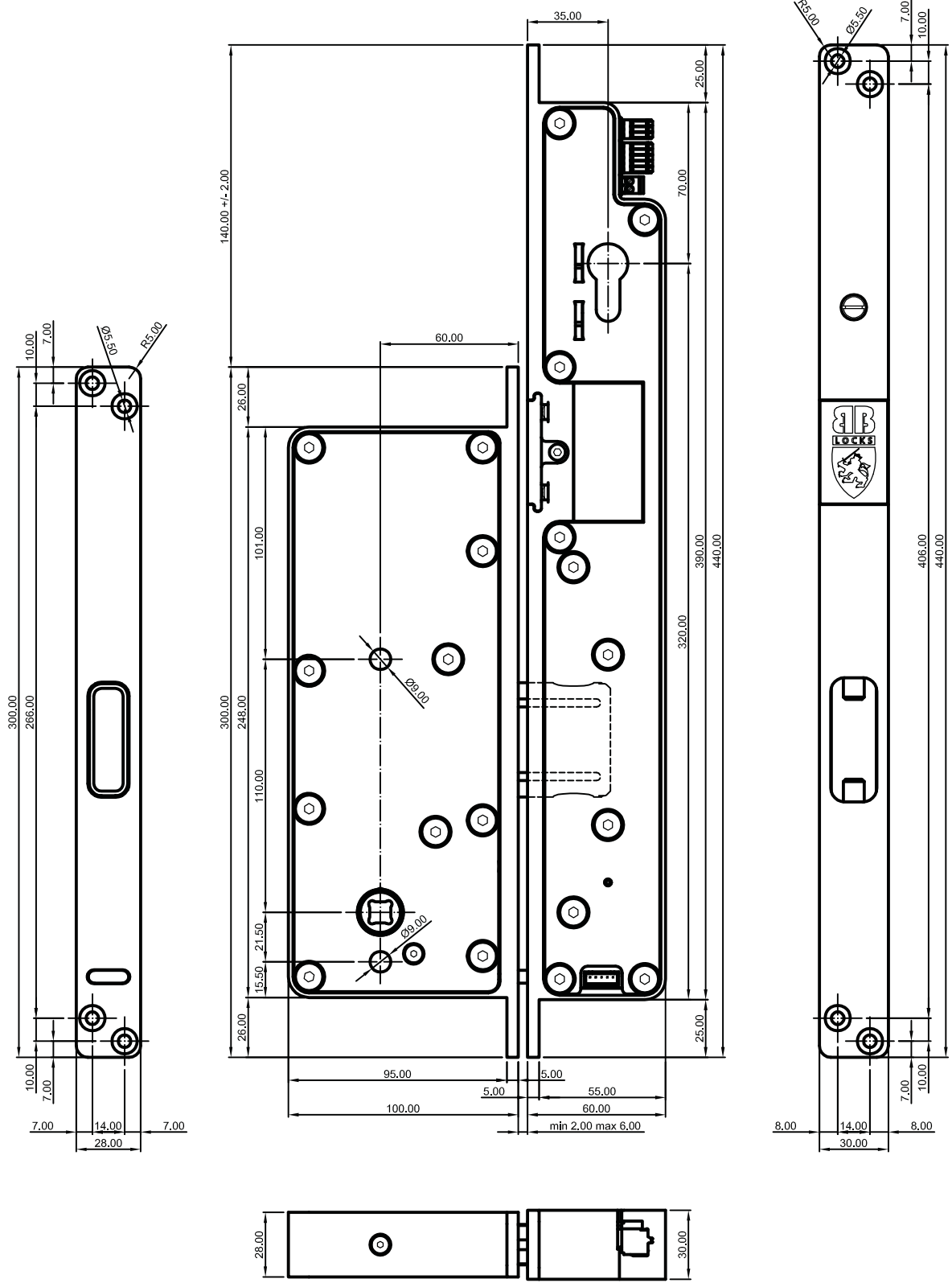
TECHNICAL DRAWINGS

G1

electrical strike plate (mechanical override with cylinder is possible)

mechanical lock with sliding bolt (without cylinder on the mechanical lock side)

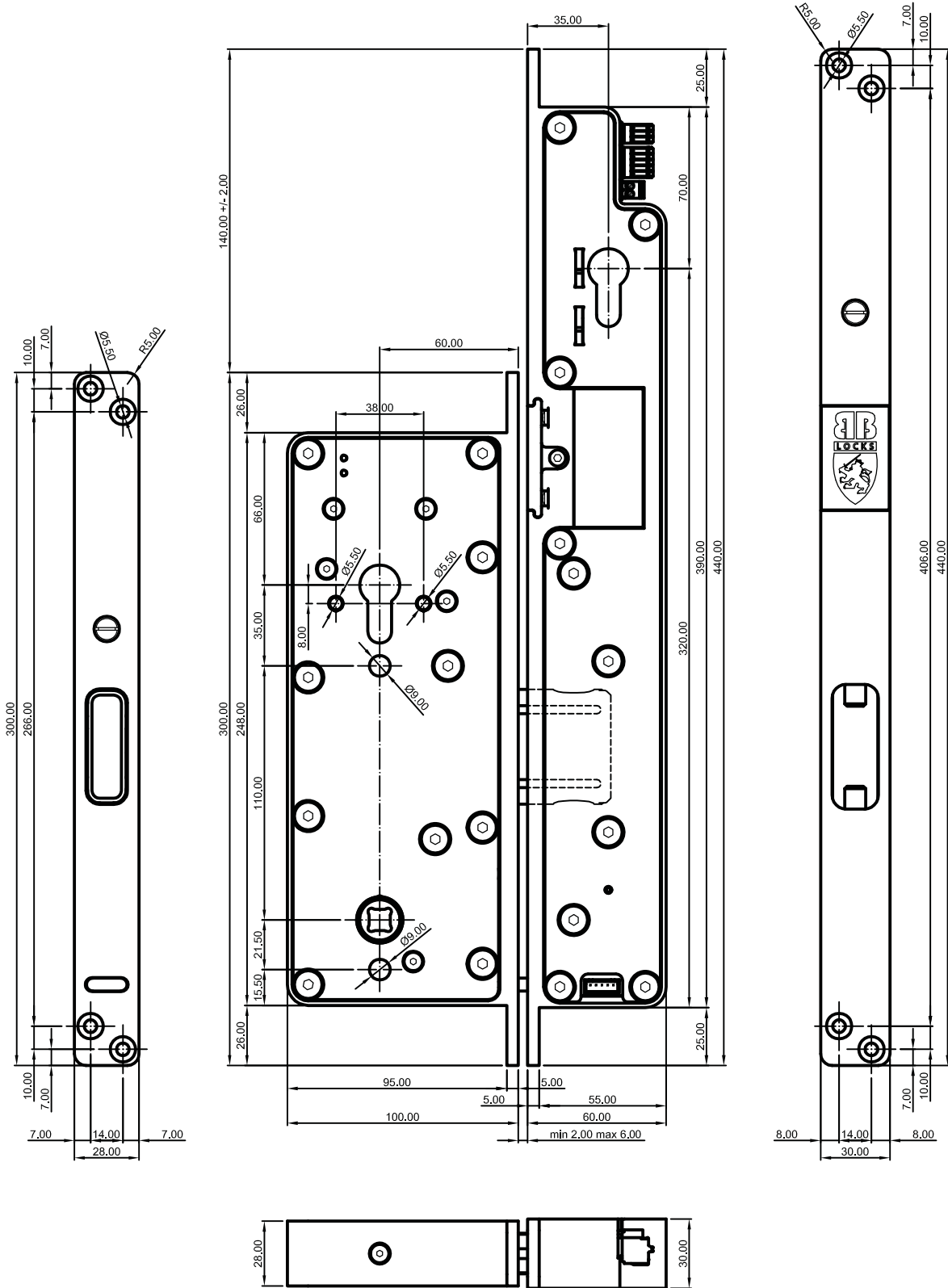
Technical drawing G1



G1C

electrical strike plate (mechanical override with cylinder is possible)

mechanical lock with sliding bolt (mechanical locking using a cylinder in the lock is possible)

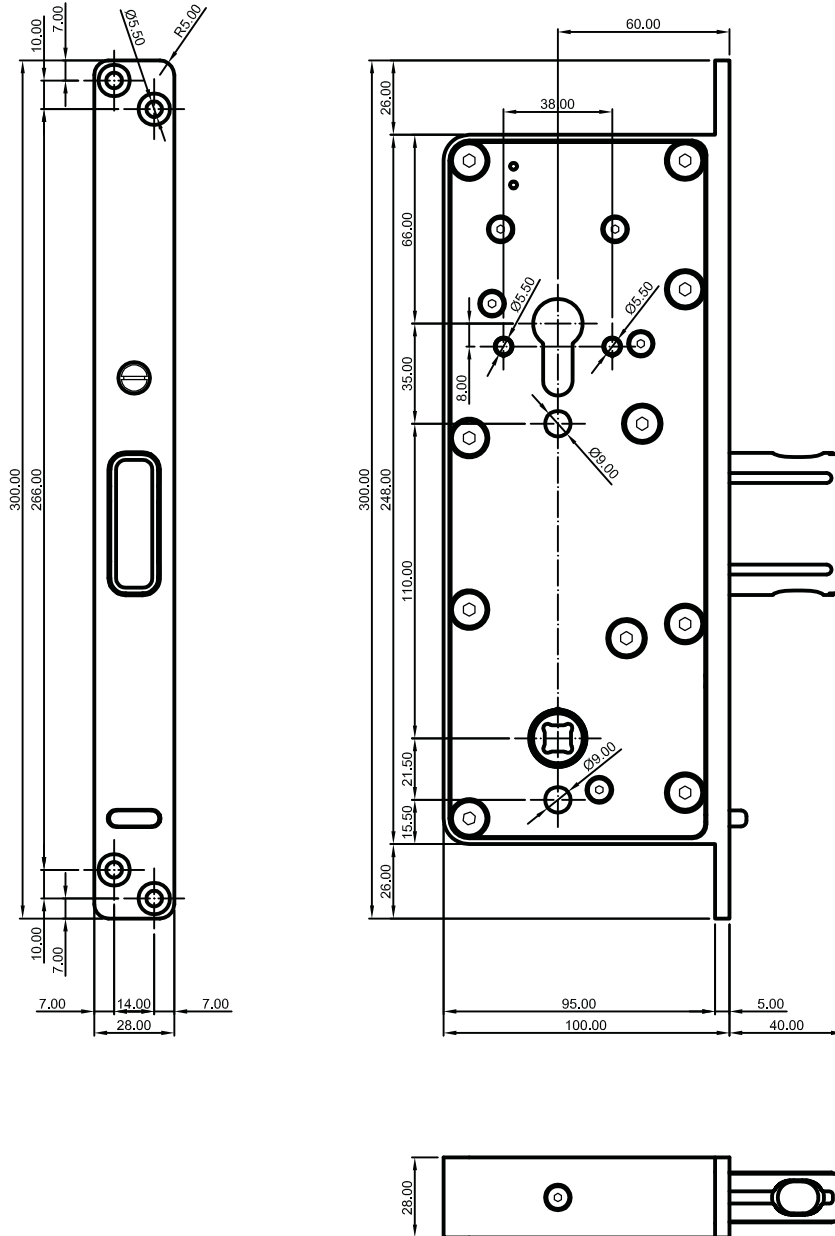


Technical drawing G1C

G1M

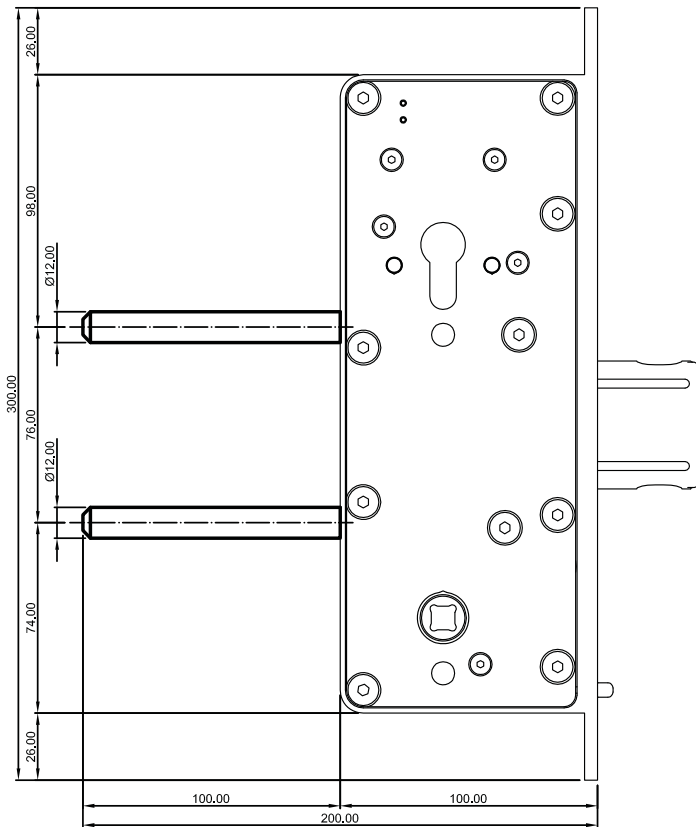
mechanical lock with sliding bolt (mechanical locking using a cylinder in the lock is possible)

Technical drawing G1M

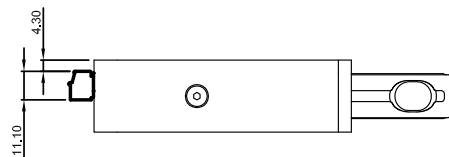
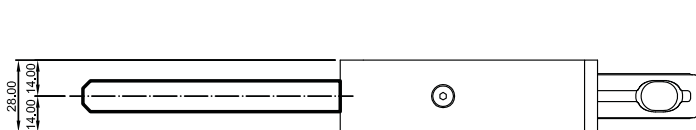
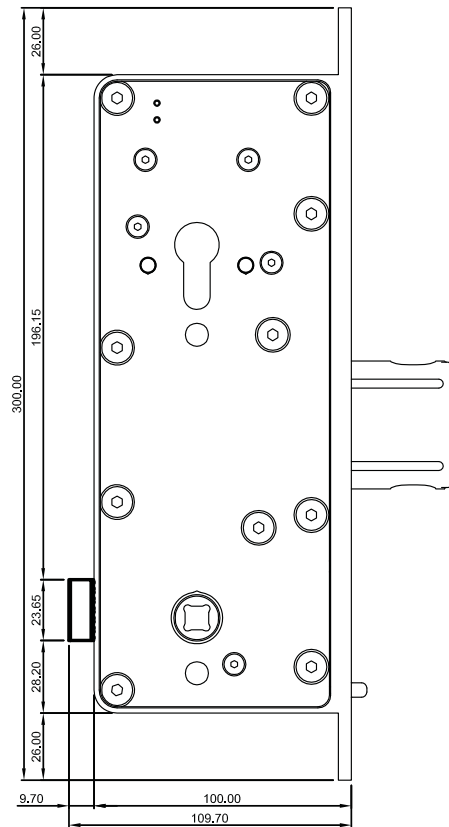


G1 SERIES - options

reinforcement pins



connection for lock signals (G1LS - G1CLS - G1MLS)



PRESCRIPTION TEXTS

G1 ELECTRO-MECHANICAL SECURITY LOCK

Technical description: B&B G1-2P

00.00.00 Electromechanical security lock with 1 sliding bolt in the mechanical lock and 2 locking pins in the electrical striker plate (fail secure).

Superior quality electromechanical security lock consisting of a mechanical lock and an electrical striker plate working according to the fail-secure principle (= locked without power). The striker plates have been manufactured to be operated by different impulse generators: push buttons, numeric keypads, card readers, key contacts, timers, etc. These should be equipped with a Normally-Open contact. The locks and the striker plates are mortise type and the striker plates are suitable for 17mm europrofile cylinders. The hardened duplex bolt is mounted in a solid housing (cast according to the lost-wax process) and is trapped between 5mm sideplates.

The bolt is ejected 40mm by spring force. The striker plates detects when the door is closed and the bolt is completely ejected. The internal intelligence then ejects the 2 locking pins in the striker plate, blocking the bolt in its fully ejected position. The door and the frame are now locked to one another. To unlock, contact must be made between terminal clamps 2 and 3 on the striker plate. This will activate the solenoid, which will retract the locking pins. The striker plate will now switch from activation current to holding current. Using a cylinder, the pins can also be retracted mechanically. The bolt can now be retracted mechanically using the handle, after which the door can be opened. The bolt as well as the locking pins will remain retracted as long as the door is open. When the door closes the bolt will automatically be ejected and the pins will immediately block the bolt (when no permanent contact is made between the 2 terminal clamps mentioned before). If the door is not opened after the unlocking impulse, the lock will automatically relock after 4 seconds. In case of power failure, the striker plate will remain in or go to the locked position.

The lock is installed in the door leaf. Because of the latch, the direction of the door (DIN L or DIN R) needs to be specified when ordering the lock.

The striker plate is installed in the door frame in order to avoid the use of a cable transfer. The electric striker plates should always get continuous power supply. That will ensure that they retain their intelligence and therefore will know the position they are in.

Signalisation is provided with regard to the position of the bolt (locked - unlocked) and the position of the door (closed - open) as well as the use of the cylinder. These contacts switch to GND when activated (24V DC / max. 100mA).

Furthermore, these locks are suitable for high frequency use (internally tested to 1'000'000 cycles @ 10'000 cycles per day) and can be activated continuously (because of the low holding current there is very little heat generated and therefore there is no loss of strength of the solenoid).

For the proper functioning of the striker plate, a specific cable must be used: 2 x 1,5mm² (power cable) + 5 x 0,22mm² (signalisation wire); shielded (order separately with reference: BB25LSZH).

For the proper functioning of the striker plate, a specific power supply must be used: 24V DC; 2,5A stabilised power supply (order separately with reference: PS24D52).

For the proper functioning of the lock, the distance between the lock and the power supply should be maximum 25m (this to avoid a voltage drop on the cable).

Technical characteristics:

Voltage:	24V DC
Consumption:	2,35A activation current - 130mA holding current
Principle:	Fail secure (= locked without power)
Backset:	Striker plate = backsets 35mm; lock = no cylinder
Direction:	DIN L or DIN R has to be specified in the order
Unlocking:	Access control makes contact between pin 2 and 3 on the striker plate, the 2 locking pins retract electrically (or mechanically using the cylinder)
Automatic locking:	By spring force, each time the door closes
Panic function:	No
Signalisation:	Position of the door (open/closed) and position of the bolt (unlocked/locked) as well as the use of the cylinder, transistors switch actively to GND (24V DC / max. 100mA)
Resistance of the bolt:	70'000N side load (measured directly on the bolt)
Throw of the bolt:	40mm
Temperature resistance range:	-25°C to +70°C
Fire doors:	Suitable for use in fire doors
Certification:	Resistance test of Belgian Justice Department

Technical description: B&B G1C-2P

00.00.00 Electromechanical security lock with 1 sliding bolt and cylinder in the mechanical lock and 2 locking pins in the electrical striker plate (fail secure).

Superior quality electromechanical security lock consisting of a mechanical lock and an electrical striker plate working according to the fail-secure principle (= locked without power). The striker plates have been manufactured to be operated by different impulse generators: push buttons, numeric keypads, card readers, key contacts, timers, etc. These should be equipped with a Normally-Open contact. The locks and the striker plates are mortise type and are suitable for 17mm europrofile cylinders. The hardened duplex bolt is mounted in a solid housing (cast according to the lost-wax process) and is trapped between 5mm sideplates.

The bolt is ejected 40mm by spring force. The striker plates detects when the door is closed and the bolt is completely ejected. The internal intelligence then ejects the 2 locking pins in the striker plate, blocking the bolt in its fully ejected position. The door and the frame are now locked to one another. To unlock, contact must be made between terminal clamps 2 and 3 on the striker plate. This will activate the solenoid, which will retract the locking pins. The striker plate will now switch from activation current to holding current. Using a cylinder, the pins can also be retracted mechanically. The bolt can now be retracted mechanically using the handle, after which the door can be opened. The bolt as well as the locking pins will remain retracted as long as the door is open. When the door closes the bolt will automatically be ejected and the pins will immediately block the bolt (when no permanent contact is made between the 2 terminal clamps mentioned before). If the door is not opened after the unlocking impulse, the lock will automatically relock after 4 seconds. In case of power failure, the striker plate will remain in or go to the locked position.

The lock is installed in the door leaf. Because of the latch, the direction of the door (DIN L or DIN R) needs to be specified when ordering the lock. The mechanical lock of the G1C model also has a cylinder allowing the bolt to be locked by a single pin in the lock itself (on top of the 2 pins in the striker plate). The bolt can be blocked in both fully ejected and in fully retracted position.

The striker plate is installed in the door frame in order to avoid the use of a cable transfer. The electric striker plates should always get continuous power supply. That will ensure that they retain their intelligence and therefore will know the position they are in.

Signalisation is provided with regard to the position of the bolt (locked - unlocked) and the position of the door (closed - open) as well as the use of the cylinder. These contacts switch to GND when activated (24V DC / max. 100mA).

Furthermore, these locks are suitable for high frequency use (internally tested to 1'000'000 cycles @ 10'000 cycles per day) and can be activated continuously (because of the low holding current there is very little heat generated and therefore there is no loss of strength of the solenoid).

For the proper functioning of the striker plate, a specific cable must be used: 2 x 1,5mm² (power cable) + 5 x 0,22mm² (signalisation wire); shielded (order separately with reference: BB25LSZH).

For the proper functioning of the striker plate, a specific power supply must be used: 24V DC; 2,5A stabilised power supply (order separately with reference: PS24D52).

For the proper functioning of the lock, the distance between the lock and the power supply should be maximum 25m (this to avoid a voltage drop on the cable).

Technical characteristics:

Voltage:	24V DC
Consumption:	2,35A activation current - 130mA holding current
Principle:	Fail secure (= locked without power)
Backset:	Striker plate = backsets 35mm; lock = 60mm
Direction:	DIN L or DIN R has to be specified in the order
Unlocking:	Access control makes contact between pin 2 and 3 on the striker plate, the 2 locking pins retract electrically (or mechanically using the cylinder)
Automatic locking:	By spring force, each time the door closes
Panic function:	No
Signalisation:	Position of the door (open/closed) and position of the bolt (unlocked/locked) as well as the use of the cylinder, transistors switch actively to GND (24V DC / max. 100mA)
Resistance of the bolt:	70'000N side load (measured directly on the bolt)
Throw of the bolt:	40mm
Temperature resistance range:	-25°C to +70°C
Fire doors:	Suitable for use in fire doors
Certification:	Resistance test of Belgian Justice Department

G1 ELECTRO-MECHANICAL SECURITY LOCK

Technical description: B&B G1M

00.00.00 Mechanical security lock with 1 sliding bolt and cylinder

Mechanical lock with a massive sliding bolt in the door leaf. The sliding bolt can be locked mechanically (in the fully ejected as well as the fully retracted position) using a cylinder.

Technical characteristics:

Backset:	60mm
Direction:	DIN L or DIN R has to be specified in the order
Unlocking/Locking:	Mechanically using a cylinder
Automatic bolt ejection:	By spring force, each time the door closes
Panic function:	No
Signalisation:	No
Resistance of the bolt:	70'000N side load (measured directly on the bolt)
Throw of the bolt:	40mm
Temperature resistance range:	-25°C to +70°C
Fire doors:	Suitable for use in fire doors
Certification:	Resistance test of Belgian Justice Department

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