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## INSTRUCTION MANUAL - G1 SERIES



### PRODUCT DESCRIPTION:

The B&B G1 locks are high security fail secure 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 thereof. 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	48V DC (min. 24V - max. 50V)
Consumption	60W (activation current) - 3.60W (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), then the handle on the lock can be used to retract the bolt
Automatic locking	By spring force when 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 the internal 22V-24V (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

## Notes



## G1 ELECTRO-MECHANICAL SECURITY LOCK

### Electrical models

**G1-2P / 48V-PNP24**



**G1C-2P / 48V-PNP24**



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

**G1-2P / 48V-PNP24** : electrical strike plate fail secure - with mechanical override using the cylinder; mechanical lock with handle (without cylinder)

**G1C-2P / 48V-PNP24** : electrical strike plate fail secure - with mechanical override using the cylinder; mechanical lock with handle and 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 G1-2P

#### **The door is secured when:**

- the door is closed
- the bolt is ejected
- the bolt is blocked by 2 locking pins in the striker 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 (when the small latch at the bottom of the lock is pushed in). The striker plate will detect the closed door as well as the ejected bolt and the 2 locking pins will eject 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 striker plate will lock (or remain locked) and the bolt cannot be retracted. Using the cylinder in the striker 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 locked with 1 pin in the lock using the cylinder. The handle cannot be used (since it is connected to the locked 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 lock the bolt in the completely retracted position (using the cylinder). The bolt will remain retracted and the handle will remain tilted downward (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)

# G1 ELECTRO-MECHANICAL SECURITY LOCK

## Installation instructions

Please make sure the following installation requirements are met to ensure the correct functioning of your B&B G1 electro-mechanical lock :

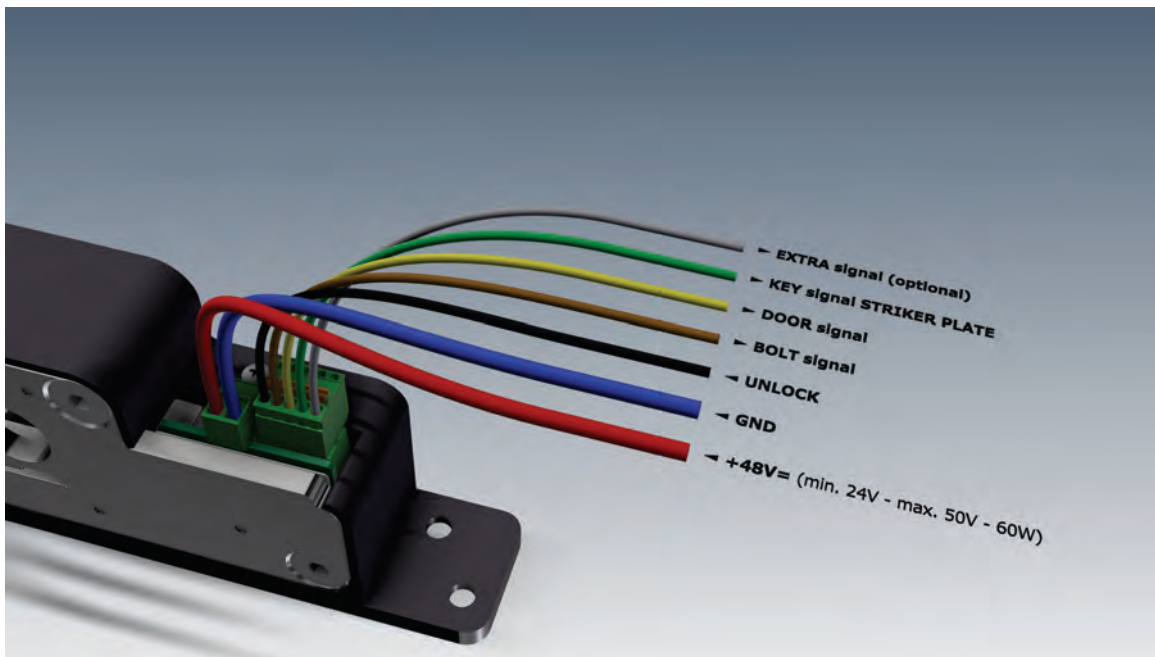
- Use BB25LSZH cable (2 x 1,5mm<sup>2</sup> + 5 x 0,22mm<sup>2</sup> - shielded)!
- Use a 48V DC regulated POWER SUPPLY of minimum 60W per lock (ref. PWR2-48) - min. 24V and max. 50V - 60W needs to arrive at the lock in order to function correctly!
- Make sure the distance between the power supply and the lock is maximum 300m (when using the 48V DC power supply and 1,5mm<sup>2</sup> power cable mentioned above).
- 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 locking pins (during unlocking or locking). It is important that this is tested after installation of the rubbers on the profile and/or door).
- 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:



- Be careful when installing the cylinder. It needs to be positioned perfectly in order to be able to grab the slider. Please do not force when the rotor of the cylinder is not turning smoothly, but check the position of the cylinder first and make sure it is centered nicely.
- When connecting the 48V DC to the striker plate, the locking pins will immediately retract (in case the door is in the open position). Only when the striker plates detects lock (when the door is closed) and the bolt (the bolt is completely thrown out), the pins will come out and lock the bolt.
- The locking pins of the G1(C)-2P striker plate can be unlocked mechanically using a key.
- The handle of G1 lock will only be able to retract the bolt after the locking pins are in the unlocked position.
- The G1(C)-2P striker plates need a permanent supply of 48V DC. In order to unlock the pins electrically a NO contact should be closed in order to bridge pin 2 and pin 3 on the striker plate connector.
- **DO NOT FILE with the lock already installed!** Filings that end up in or around the striker plate will be attracted when the solenoid is activated and will eventually damage the striker plate. Compressed air can be used to clean out the striker plate if necessary.
- Do not use grease or oil in the locks or striker plates. The necessary areas have been lubricated during the assembly at the factory.
- A standard revision is recommended after 300'000 cycles or 5 years.
- 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 bv 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 G1-2P / 48V PNP24

### CONNECTOR 1 (2-pole):

pin 1 = +48Vdc / min.24V - max. 50V / 60W (red, 1.5 mm<sup>2</sup>)

pin 2 = GND (blue, 1.5 mm<sup>2</sup>)

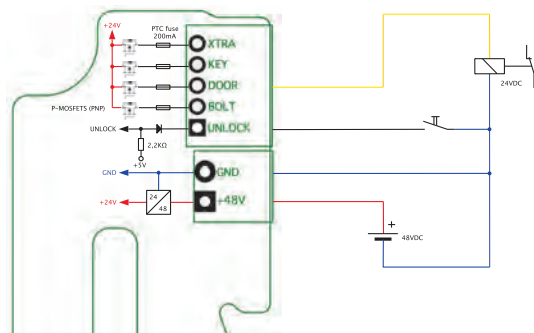
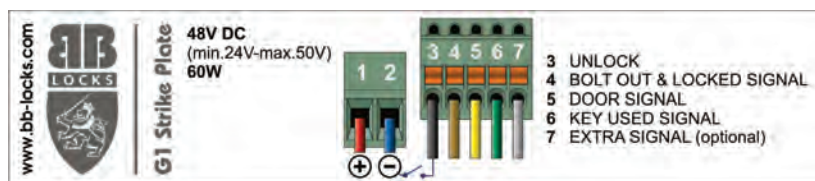
### CONNECTOR 2 (5-pole):

pin 3 = UNLOCK - opening impulse - NO contact connects pin 2 (GND) and pin 3 to unlock  
(black, 0.22 mm<sup>2</sup>)

pin 4 = BOLT SIGNAL - transistorswitch to the internal 22V-24V when bolt is locked - max. charge 100mA  
(brown, 0.22 mm<sup>2</sup>)

pin 5 = DOOR SIGNAL - transistorswitch to the internal 22V-24V when door is closed - max. charge 100mA  
(yellow, 0.22 mm<sup>2</sup>)

pin 6 = KEY SIGNAL - transistorswitch to the internal 22V-24V when key is used - max. charge 100mA  
(green, 0.22 mm<sup>2</sup>)



Production and sales:

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