



Application Note

Electronic Break Glass

Retrofit & Upgrades

Notes on the best way to quote and upgrade legacy break glass units to the improved Electronic Break Glass.

Introduction

The Jack Fuse Electronic Break Glass (EBG) can be used to efficiently replace legacy manual reset break glass units. In most cases a straight part for part swap is possible. This application note provides information that will help when preparing break glass upgrade quotations and carrying out subsequent works.

The most common, cost-effective and least intrusive upgrade method is to use the EBG lock power mode combined with automatic reset. Remote reset is also possible in automatic mode by overriding the door in the access control software. (Lock-unlock-lock.)

The EBG dedicated power remote reset mode requires an additional cable and is better suited to new installations and therefore won't be covered by this application note.

Benefits

As well as being the most aesthetically pleasing break glass on the market, the Jack Fuse Electronic Break Glass provides practical value for both security integrators and their clients.

Clients will benefit from reduced costs associated with break glass reset call outs and buildings will remain secure for longer. The EBG guard, back lighting and warning sounder will also help dissuade nuisance activations.

Security integrators will be able to add real value by suggesting break glass upgrades either during planned security works or independently.

On-The-Go Upgrades

Ensuring on-call technicians have a stock of EBG units will provide value to both clients and integrators. Why not be pro-active and replace the whole legacy break glass unit during a reset call out? It is a straightforward task that clients will appreciate.

Quoting Upgrades

When upgrading multiple break glass units throughout a building, Jack Fuse recommends providing several different unit rates to cover each of the following scenarios. Alternatively, providing a mid-range, compromise price could be used as ‘catch all’ strategy to simplify quoting.

Regardless of the cable and door scenario, any upgrade costs will be re-couped by the customer quickly due to reduced internal labour and call out costs associated with manually resetting an activated break glass.

Scenario 1. Electric lock + EBG in lock power mode (90%+ of doors)

Part for part replacement using existing cabling and mounting hardware. The existing lock power common is joined in the break glass. No new cables. Minor labour costs.

Scenario 2. Electric lock + EBG in lock power mode with remote common/strap. (Rare)

Part-for-part replacement using existing cabling and mounting hardware. The existing lock power common is joined outside the break glass, typically in the ceiling or close to the electric lock with a strap wire run to the break glass to cut power. A short length of new twin power cable will need to be installed to bring the lock power common to the EBG. Typically, this will add approximately one hour of labour to the upgrade.

Scenario 3. Automatic door/gate in lock power mode.

This scenario can re-use the existing cabling and mounting hardware. To enable the EBG automatic reset functionality a Jack Fuse Mini-FRI interface relay is added at the door controls to provide a dry contact signal. The connection to the EBG and access control system is then simply converted to provide a voltage in the same manner as wiring an electric lock. (See the separate automatic doors application note for more information.)

Scenario summary table.

Scenario	Summary	Parts	Estimated Labour
1	Electric Lock	EBG-C	<1 hour
2	Electric lock + strap	EBG-C, short twin power cable	1-2 hours
3	Automatic door/gate	EBG-C, Mini-FRI-XX	2-3 hours

Mounting

Matching footprint

The EBG base features mounting holes that match the pattern of most common square style legacy break glass units. The EBG can replace the entire existing break glass and simply re-use the existing mounting hardware, no need to make new holes or add fixings.

Re-use the legacy mounting box

If the existing square break glass unit is surface mounted and has cables entering the sides, the existing back box can be left in place. The EBG base features two mounting holes that match the fixing points of the old break glass. New mounting screws are provided with the EBG.

New surface mount box for solid walls

An optional EBG mounting box is available if you wish to replace existing surface mounted break glass units. The **EBG-MB-C** mounting holes also match the pattern of old square break glass units. Two 25mm knockouts are available for side, top or bottom cable reticulation.

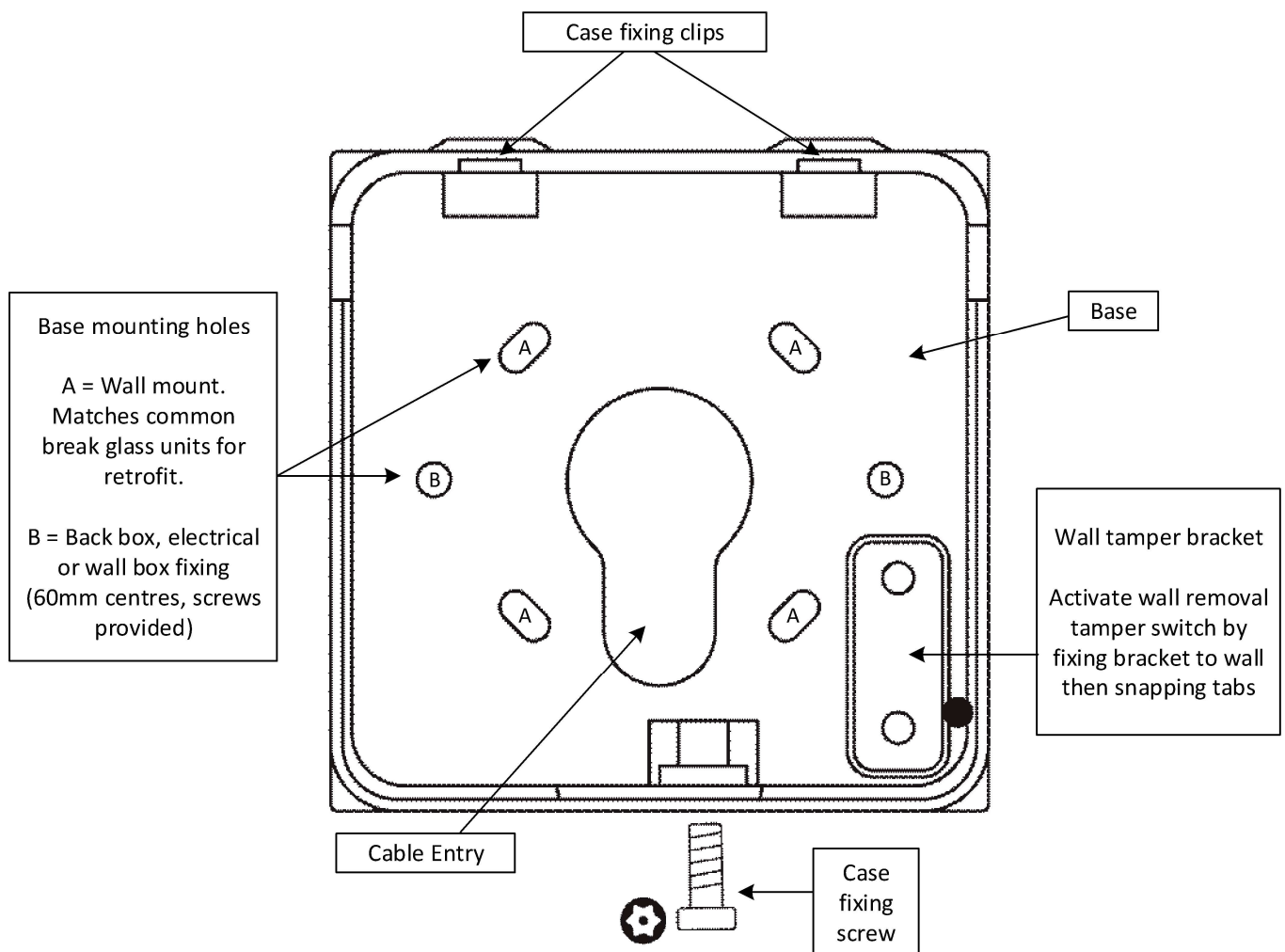
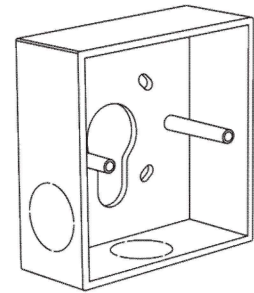


Fig.1 Base mounting options.

Scenario Upgrade Steps Explained

Scenario 1. Electric lock + EBG in lock power mode

This scenario is the most common and straightforward upgrade.

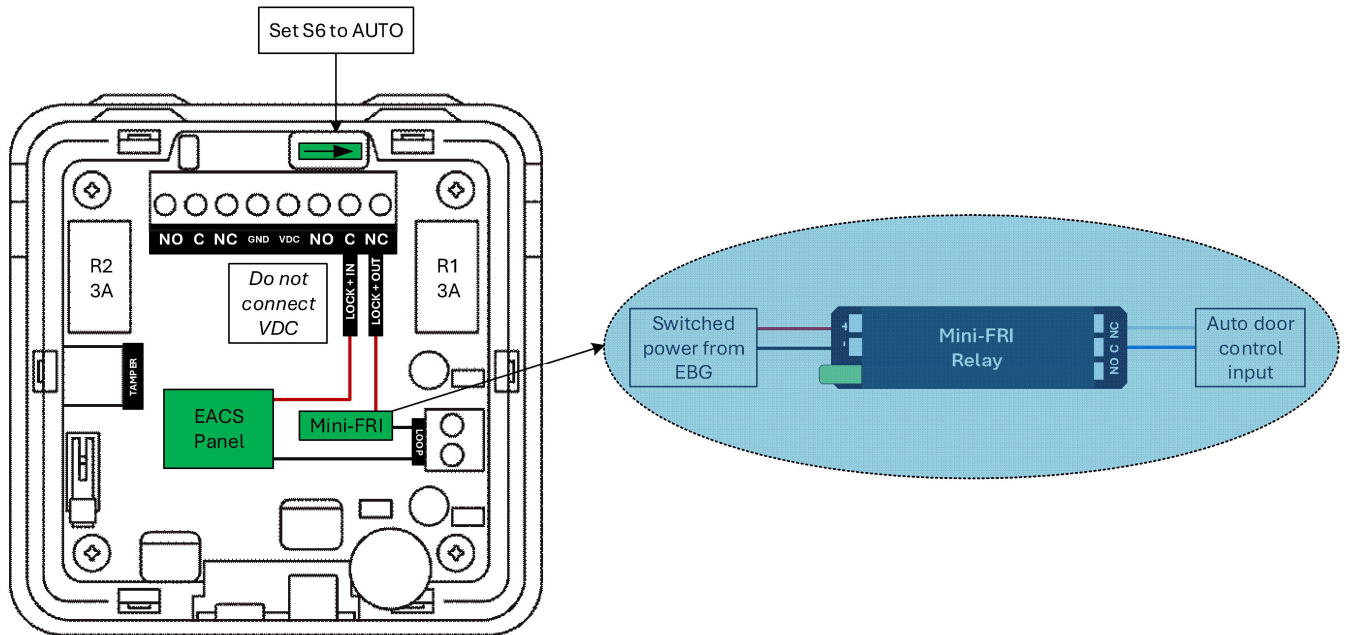
- 1) Remove the existing break glass. Retain the mounting hardware. Take care to note which cable provides lock power from the access controller.
- 2) Disconnect power (override the door to free access/unlocked)
- 3) Mount the EBG using the existing fixings and mounting box if required
- 4) Terminate the EBG ensuring that the incoming and outgoing lock power are connected correctly. This step is unique to the EBG and care must be taken. Refer to the full installation notes.
- 5) Re-connect power and test.

Scenario 2. Electric lock + EBG in lock power mode with remote common/strap.

- 1) Remove the existing break glass retaining the mounting hardware.
- 2) Disconnect power (override the door to free)
- 3) Locate the existing strap cable where it interrupts the lock power cable (typically close to the lock above the break glass). Install a new twin cable from this point to the EBG.
- 4) Connect the new cable to the lock power and re-terminate the strap cable so it will feed lock power from the EBG to the lock.
- 5) Mount the EBG using the existing fixings and mounting box if required
- 6) Terminate the EBG ensuring that the incoming and outgoing lock power are connected correctly using the new cable and the strap. This step is unique to the EBG and care must be taken. Refer to the full installation notes.
- 7) Re-connect power and test.

Scenario 3. Automatic door/gate in lock power mode.

- 1) Remove the existing break glass retaining the mounting hardware.
- 2) Re-route the access control signal to the break glass location.
- 3) Add a Jack Fuse Mini-FRI interface to the existing cable between the break glass and the door controls. (Typically, the Mini-FRI will be located in the door head.) This will provide a dry contact signal.
- 4) Mount the EBG using the existing fixings and mounting box if required
- 5) Re-terminate the access control signal to provide lock voltage to the Mini-FRI. Treat the Mini-FRI as if it were a fail-safe electric lock. See the full installation notes for more information.
- 6) Test.



Note: In the above configuration when the EBG is activated the automatic door will either open or be placed into sensor (day) mode depending on which is used for normal access control. Either mode is acceptable for an EBG connection. To comply with Australian emergency egress regulations a separate direct fire trip connection should be used to open the door in the event of a fire alarm.

Note: If a push button auto door/gate input is used for the EBG connection it must keep the door activated and not reset until the EBG is reset.

Constant Power Mode

In rare cases where switched lock power is not available or where remote/automatic reset is not desired, a constant DC voltage may be used to power the EBG.

Adding constant power to the VDC input and switching S6 to REMOTE will lock out the remote and automatic reset ability. LED back lighting and warning sounder functionality will still be available. In constant power mode the EBG can only be reset via the local reset button S5.

This mode can be useful when upgrading legacy break glass units connected to automatic doors. 12VDC can be sourced from reader power rather than re-wiring the access control connections. This allows the break glass dry contact connection to the automatic door to be retained.

Learning

Become a **Jack Fuse Product and Power Certified Technician**. Free training available online.

More Information: For complete installation notes, data sheets and technical support please visit www.jackfuse.com

