



Application Note

Electronic Break Glass

Automatic Doors

Notes on interfacing the Electronic Break Glass with automatic doors, roller shutters and motorised gates.

Introduction

The Jack Fuse Electronic Break Glass (EBG) can be used with all automatic doors, roller shutters and gates. The additional modes and features of the EBG require wiring techniques that can differ from traditional manual break glass connections.

This application note provides information that will help security technicians successfully interface the EBG, access control system and automatic door or gate.

Benefits

Integrating the Jack Fuse electronic break glass with an automatic door or gate offers the advanced functionality of automatic and remote break glass reset. These features minimise call-out expenses and reduce the amount of time a facility remains unsecured.

Installation – Modes Explained

An automatic door, gate or roller shutter typically requires a dry contact activation signal. There are two main ways to achieve this using the EBG.

Remote reset mode (also known as lock power mode) is best suited to new installations and provides a little more control over the reset functionality.

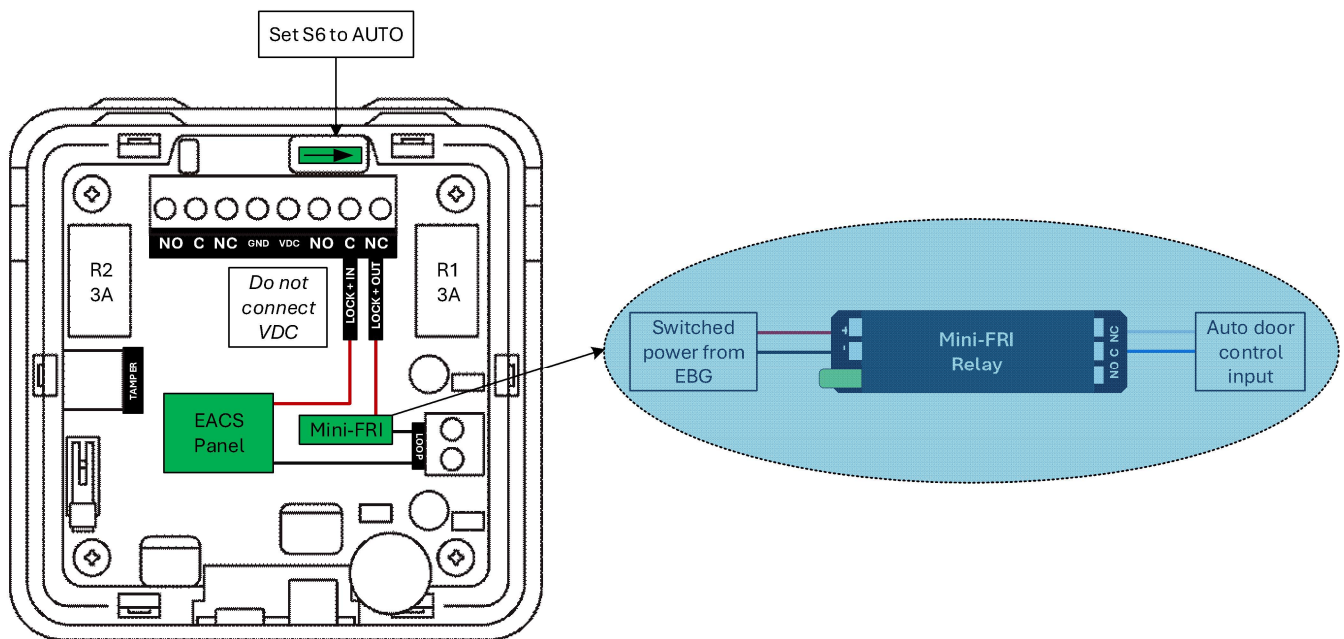
Automatic reset mode (also known as dedicated power mode) is the best option for upgrading from legacy break glass units. (See the separate application note on upgrades for more information.) Automatic mode is also suited to new installations.

Constant power mode is a third method that only allows local reset but can be useful for retrofits where switched DC power is not available or where automatic/remote reset is not desired.

Installation – Automatic Mode

If automatic reset mode via lock power control is preferred, then the EBG should be installed using the same method as a fail-safe electric lock. This method will provide a VDC signal. This signal is then converted to a dry contact using the Jack Fuse **Mini-FRI** interface relay. Ideally the Mini-FRI relay would be located close to the door or gate controls. Treat the Mini-FRI as if it were the fail-safe electric lock.

In this manner the automatic reset, LED back lighting and activation sounder features can be maintained while still providing fail-safe control of the automatic door.



Connect the incoming lock power (from the access control systems) to the EBG J1 terminal ensuring the positive VDC feed from the access control panel is terminated to the common (**C**) terminal of relay 1 marked **LOCK + IN**.

Connect the positive side of the lock (Mini-FRI) cable to the **NC** terminal of relay 1. Marked **LOCK + Out**

The common/negative conductors for both the Mini-FRI and the access control panel must be connected together via the **LOOP** terminal. This terminal provides a ground or common connection for the EBG electronics.

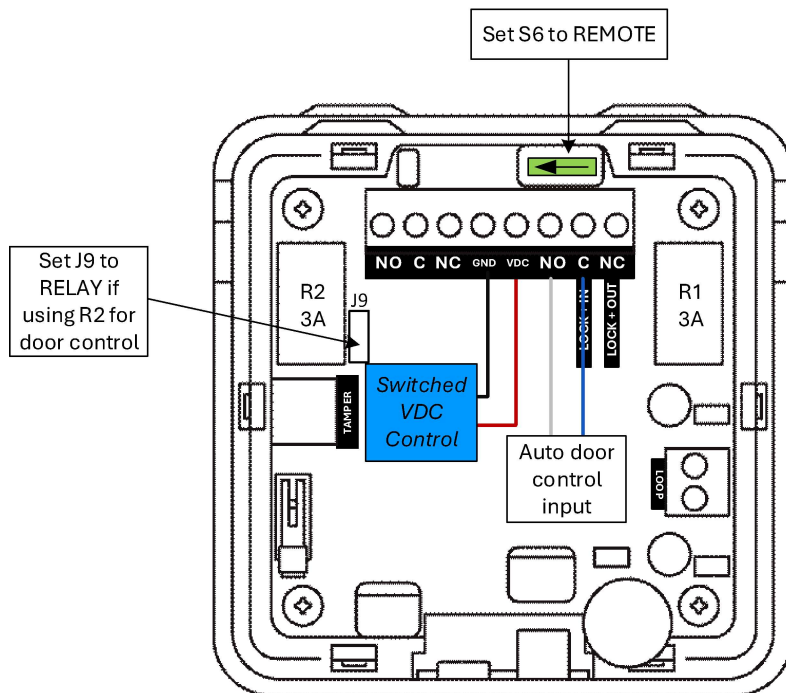
Note: In this mode, when the EBG is activated, the automatic door will either open or be placed into sensor (day) mode depending on which mode is connected. Either mode is acceptable for an EBG connection. To comply with Australian emergency egress regulations a separate direct fire trip connection should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

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

Installation – Remote Mode

Remote reset mode. If the EBG is being supplied with a dedicated VDC remote reset signal, then either of the relay contacts can be used to provide a dry contact signal to the automatic door controller. This option is best suited to new installations as the VDC control voltage is supplied by dedicated cable.

Using this method the EBG is reset by momentarily interrupting the VDC control voltage (one second minimum). Use a momentary normally closed switch (NC) that goes open to cut power. The control voltage and interrupt signal can be common to all EBG units in a facility or separated to allow reset of specific units.



To utilise the dedicated voltage remote reset mode with an automatic door the EBG can provide a dry contact directly from relay 1 or 2.

Note: If relay 2 (R2) is to be used for door control ensure J9 is set to RELAY.

A separate two conductor cable is required to provide the dedicated control voltage. Connect this cable to the **GND** and **VDC** terminals of J1 taking care to observe correct polarity.

The control voltage may be switched by a push button, key switch or access control system relay.

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 disable the remote and automatic reset functions. 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

