KeySOLVE Installation Guide

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Technical Information

Capacity, programming and functions

Card capacity from 1 controller	255 or 1500 cards
Card add/delete	By programming card/display
Card identification	By programming card/display
Management card list	By programming card/display
Snib (Disable)	By management card
User card lockout	By management card
Audit trail	Last 32/254 transactions by management card

Operational characteristics

Electronic card reading rage	Up to 25mm
Electric release time (not supplied)	2 to 20 seconds
Controller to release wiring	0.5mm², 2 core cable
Voltage	12 Volts

Card readers

Card readers	Mullion
Wiring	Attached to reader
Wire Length	2 metres

Power Supply Requirements

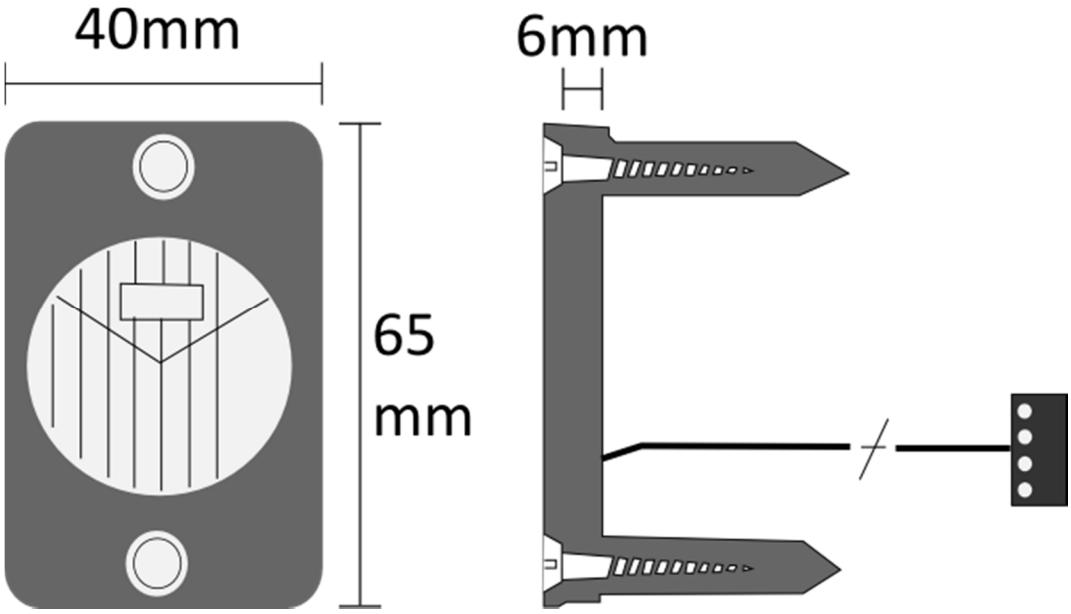
Controller and reader operate from a nominal 12 volt AC or DC and take a maximum of 250ma (0.25amp)

Ordering information

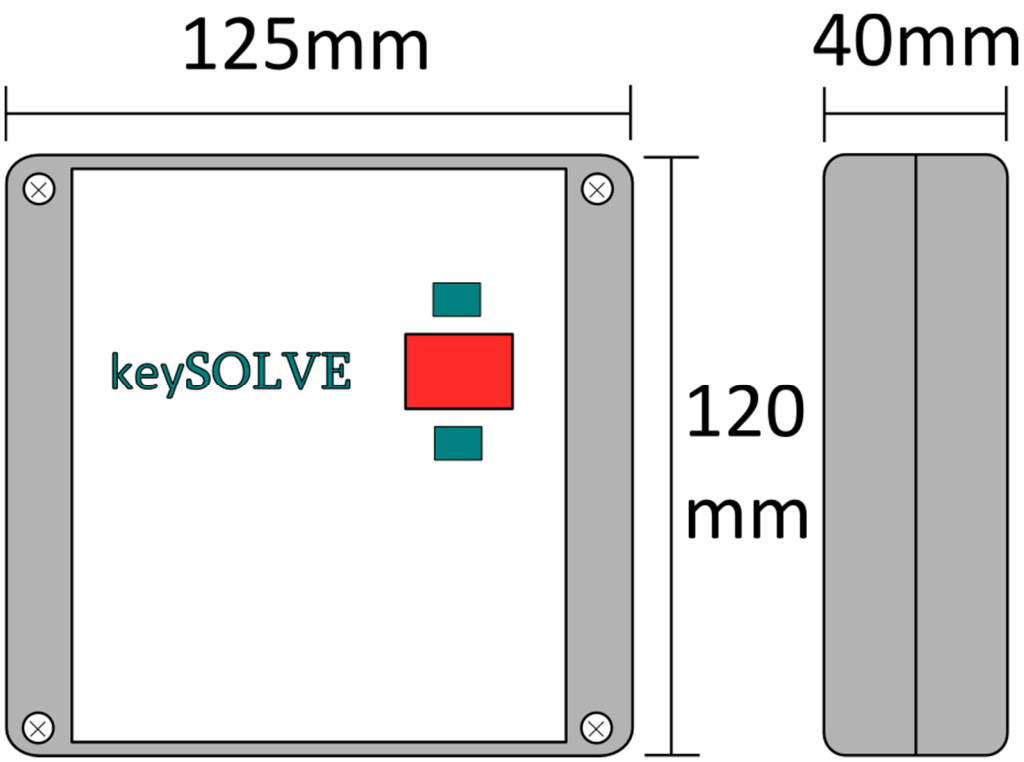
CR255	255 Capacity Controller
R1CR2	Remote Reader
CR255K	255 Capacity Controller & Reader
CR1500	1500 Capacity Controller
CR1500K	1500 Capacity Controller & Reader
KeySOLVE ISO	Electronic Card

System Components

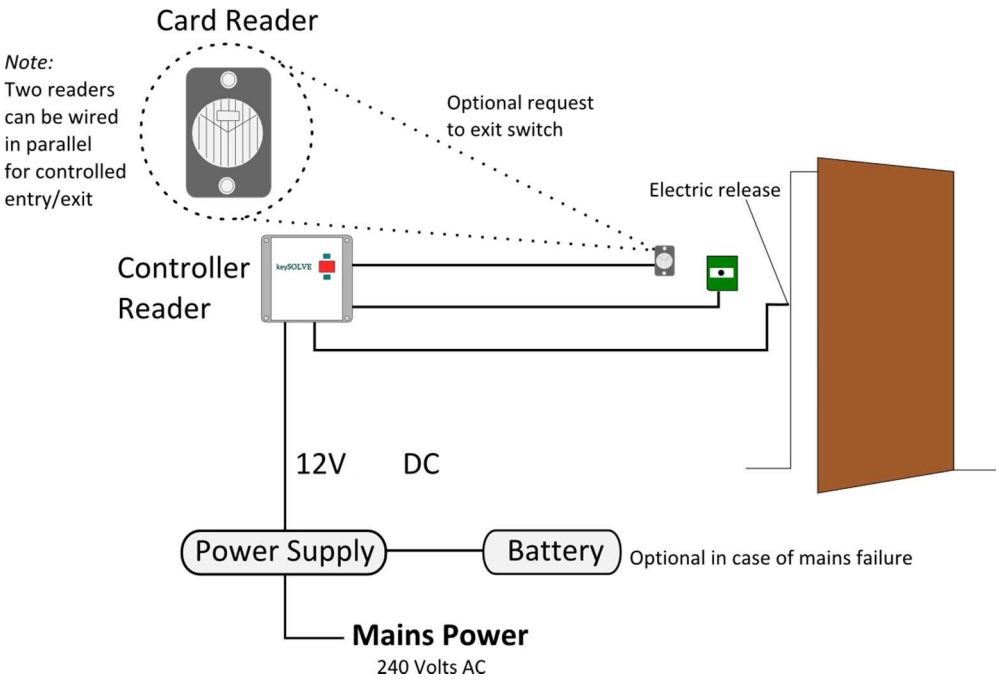
Reader



Controller



Electric Striker Plate System Diagram



Installation – Main Steps

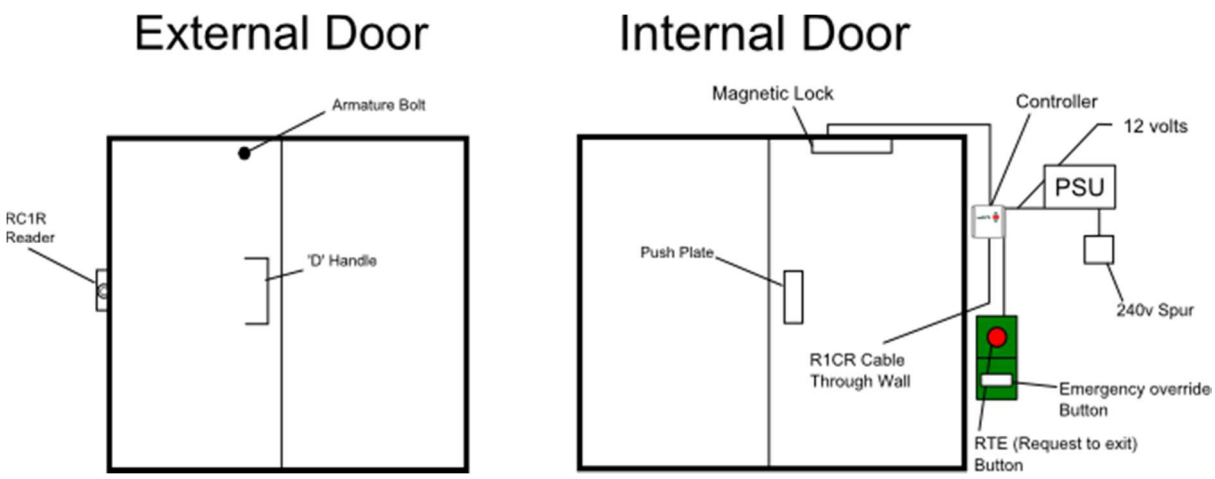
1. Install power supply & battery backup if used.

N.B Ensure that a 1 amp fast-blow fuse is inserted into the 12 volt supply to the controller reader and the controller reader is earthed.

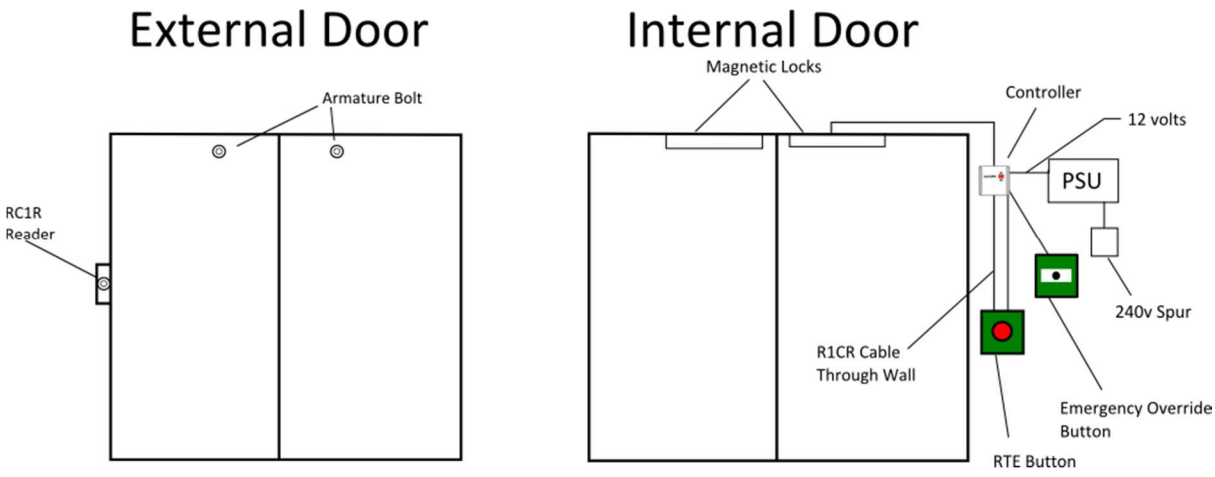
2. Install the electric release and cables
3. Install the reader.
4. Install the controller.
5. Connect power and reader cables, power up and commission.
6. Connect electric release and request to exit circuit. Test.
7. Set up and commission controller reader.
8. Add cards and use the record sheet to log users against memory slot number.

Magnetic Lock System Diagrams

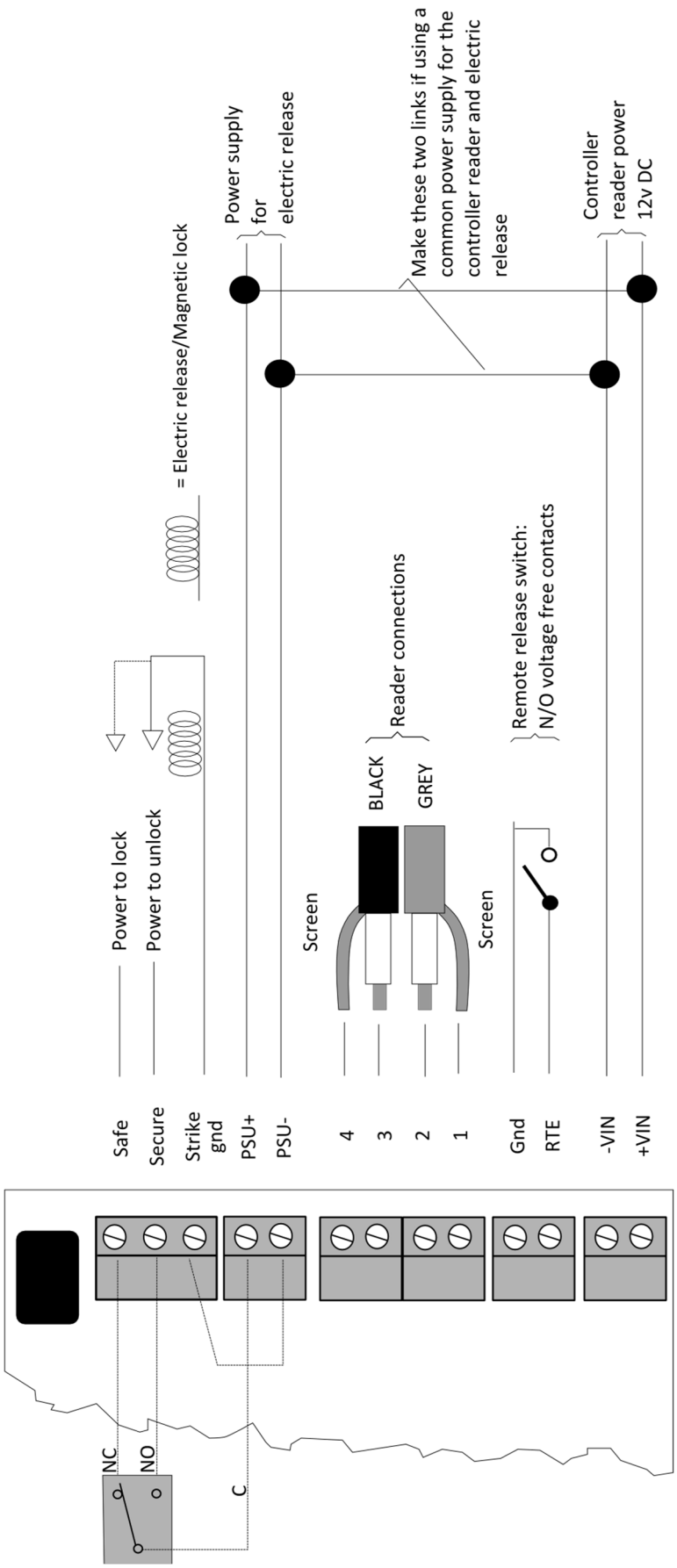
Single Magnetic Lock



Dual Magnetic Lock



Connection diagram



Power supplies

The controller and reader run from a nominal 12 volt DC and take 250ma (0.25 amp). If you are operating a 24-volt release, then this must have a separate power supply from the 12-volt one necessary for the controller reader. The relay that switches the circuit to the release has contacts rated at up to 24 volts DC, 2 amp. A slow-blow fuse rated at 1.5 times the electric release current must be in the electric release circuit to protect both wiring and relay contacts.

N.B If a fail-safe electric release or magnetic lock is used, the rating should be continuous to allow for being permanently locked.

The power supply chosen must be capable of supplying current to the controller reader, electric release, and charging current for the battery back-up, if used, without the voltage dropping below 9 volts measured at the controller. If using mains power, ensure it is taken from an unswitched fused spur.

When calculating the current taken, add 250ma for the controller and one reader, 320ma for the controller and two readers if controlled entry and exit is required on the one door.

It is suggested that 500ma be allocated for standby battery charging; the balance will be taken by the electric release. Typically, a 2- or 3-amp power supply is recommended.

Installing the controller unit

Application Notes

The unit is designed to be wall mounted within two metres cabling distance of the reader.

Install the controller on the wall in the secure area at a height convenient for administrating cards. If the area is prone to vandalism, the controller may be fitted in an enclosure located nearer the ceiling height.

Main Steps

1. Install the reader, electric release and request to exit switch, if used. Run all cabling to the controller location. Feed cables through the appropriate base plate cut-out.
2. Ensure mounting surface is flat, then fix the rear assembly to the wall, using the fixing screws provided.
3. Make off all cabling and connect the power and reader terminals *only*
4. Power up and press the RESET switch (see page 14).
5. Check the voltage at the controller, which should be 12 volts.
6. Proceed to *Setting up and commissioning*, then continue as follows.
7. Connect the electric release and request to exit switch, if used, and test the installation fully. Check that the voltage does not fall below 9 volts with the electric release energised.
8. Refit the cover and check button operation.
9. Add cards.

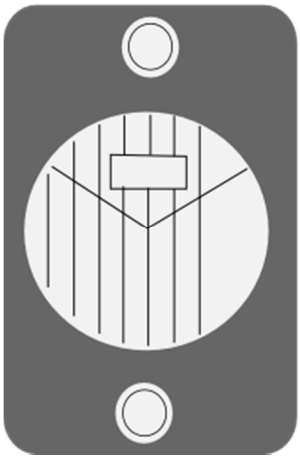
Installing the reader

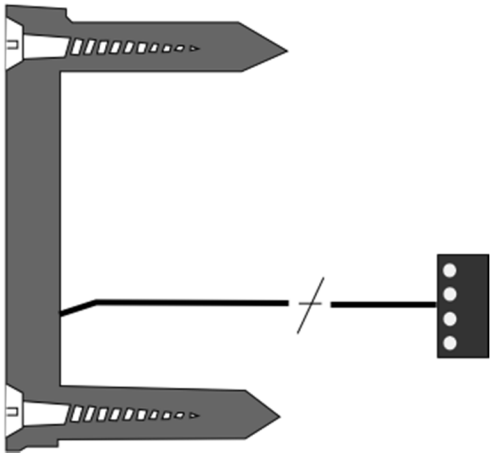
Application Notes

The CR Reader is for use with CR Series controllers to provide simple surface mounting to any door surround or mullion greater than 40mm wide.

Construction is stainless steel with total epoxy resin encapsulation, making it suitable for external applications in the general public environment.

If mounting onto a metal structure, the card reading range will be **reduced considerably**, so a spacer is highly recommended.





Installation

1. Ensure that the installation position is within the cabling distance from the controller (2 metres).
2. Drill a 10mm hole for the reader connection through the wall or mounting surface.
3. Fit the reader temporarily into position, square and centralise, then mark the two fixing holes.
4. Drill and plug as necessary the fixing holes.
5. Feed the reader cable through the hole then secure with the two fixing screws.
6. Run cable to controller, connect and test.

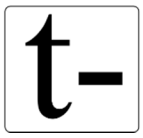
Setting up and commissioning the Controller Reader

Overview

With power applied, the unit is always in normal card reading mode, even if no cards are yet added to the system.

1. To add or replace the programming card, erase the card data or alter the lock release time, press the REINSTALL switch in the top right hand corner of the PCB (see page 14).

2. Display time-out at each stage during set-up is approximately 10 seconds. If this happens, press the REINSTALL switch again to restart.

The display will show: 

which means that the electric release time (energised or de-energised) can be set. Press the top button to change the time.

3. To select the required time, use either button to select between 2 and 20 seconds, then press and hold the top button for 5 seconds to store; the unit will beep and

The display will show: 

which means that the programming card should be presented to the reader. Hold the programming card parallel to the reader until a confirmation beep is heard, then remove the card.

4. Test the system using the programming card

The unit is now ready to use.

Service and maintenance information

Memory chip transfer

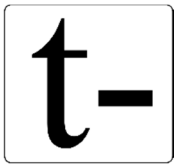
The system keeps all stored card codes and set up information in a removable, non-volatile memory chip. This chip can be transferred between units without of loss of data, so making a recall of cards unnecessary.

N.B The power supply must be disconnected before removing the chip

Care should be to place the chip in the same orientation in the new unit, i.e with the round indent located to the centre of the board.

Replacing a lost programming card

Press the BOTTOM button to skip the lock time setting and the display will read:



Press the REINSTALL switch and the display will read:

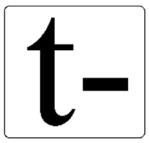
Hold the new programming card to the reader and this will overwrite the previous one, which will then not be in the system.

Note that any card can only be in a system under one number, so if your card is in memory slot 2, you could not put it in the system as, say, the replacement programming card. When replacing a lost programming card, no other cards will be affected.

Erasing All Cards

N.B This procedure is NOT reversible

Remove the cover, press the REINSTALL switch

When the display shows: 

press the BOTTOM button to skip setting the lock time.

The display will show: 

asking for a programming card.

Press the lower control button to display:

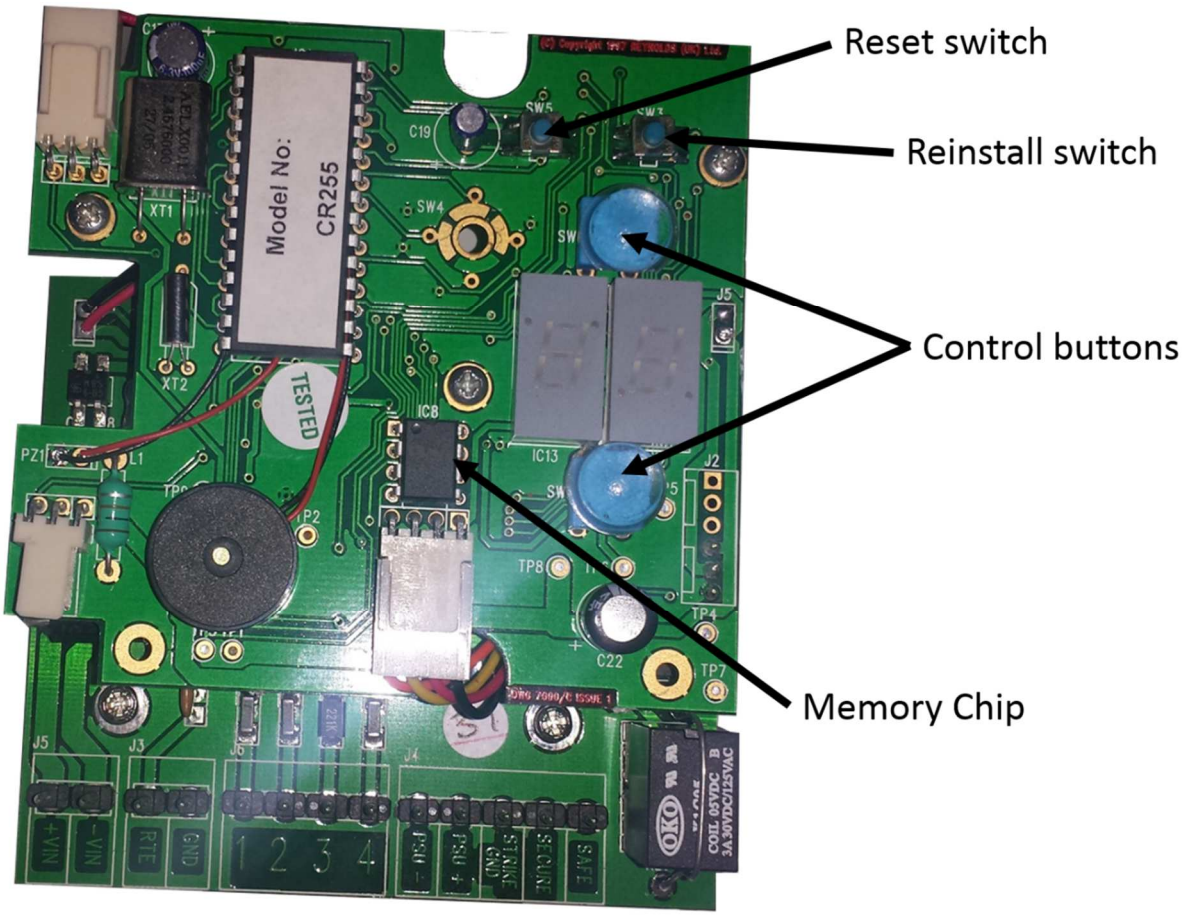
Continue to press this button for 5 seconds until:

is displayed which indicates the cards are being erased (Approximately 5 seconds).

When the display for the programming card reappears:

present the programming card and the system will relock.

Reference diagram



N.B Ensure that you touch the backplate of the CR before touching the REINSTALL or RESET buttons.

Error Displays

E7 – Reader not connected on power up

E3 – Memory Error – Change 8 Pin Non-Volatile Memory chip

Troubleshooting

Problem	Possible Cause	Remedy
Controller not functioning	No 240v AC to power supply. No volts at controller	Check AC mains and fuse. Check fuse/wiring in the 12v line from the power supply.
Controller fails when electric release starts to operate	Voltage below 9 volts at the controller	Power supply may be overloaded. Check for short circuit release, wiring or suppression device. If no fault, the power supply rating is too low
Electric release not locking / green indicate light on reader is continuously illuminated	Snib set Request to exit circuit Relay not operating	Deselect Snib Check contacts on the switch are not sticking and the wiring is not short circuit. Check for audible click as the relay operates. If no click, replace relay. Damage may be due to external short circuit so check release, suppression and wiring.
Electric release does not stay released long enough	Release time insufficient	Increase electric release time.
Card does not operate the electric release and there is no light or beep	Fault in the reader Fault in the card	If no cards work, check the resistance on reader circuit. Replace if other cards work.
No green indicator light but release operating	Wiring or termination	Check for short circuit at controller terminal block between reader red cable screen and white cable screen or loose connection.
Card does not operate the electric release but there is a green light and short audible beep	Card is not valid	See identifying card section to establish of the card is in system memory. Check that user card lockout is off.
Request to exit button does not operate release	Wiring	With the power disconnected, remove the request to exit terminal clock from the controller and check the resistance between the two wires drops to below 2.7 ohms when the button is pressed.