

Introduction

The Controlsoft® SOLO™ is a complete standalone single door access control system for use with Controlsoft Proximity Cards or Fobs. This low cost controller has a three digit LED display and two internal push buttons which are used to program the system.

The SOLO is supplied with one reader head, suitable for indoor and outdoor use. An optional second reader head can be connected to provide IN and OUT readers.

Three versions are available:

AC-3210 = Controller with Oval Mullion reader

AC-3210-V = Controller with Vandal Resistant reader

AC-3210-P = Controller with Panel Mount reader



Technical Specifications

Power: 12V to 24V (ac or dc).

Current: 100mA @ 12V with 1 reader head.

Readers: One additional reader head can be added:

AC-3212 Vandal Resistant Reader

AC-3213 Panel Mount Reader

AC-3214 Oval Mullion Reader

Inputs: Normally Open Door Contact / Normally Open Request to Exit (REX) button, Normally Open Fire Alarm.

Outputs: Lock, Siren.

Display: Three digit display to indicate the status of the controller for programming.

Buttons: Two internal buttons (SWPB1 and SWPB2) to program the door controller.

Jumper: One internal jumper to configure the controller for One or Two readers.

Users: Up to 999

Step 1. Install the Controller

Separate the cover from the base.

Using the base as a template, mark the 3 mounting points top right, top left and bottom centre and any cable entry holes. Drill and plug the holes (if required) and mount the base.

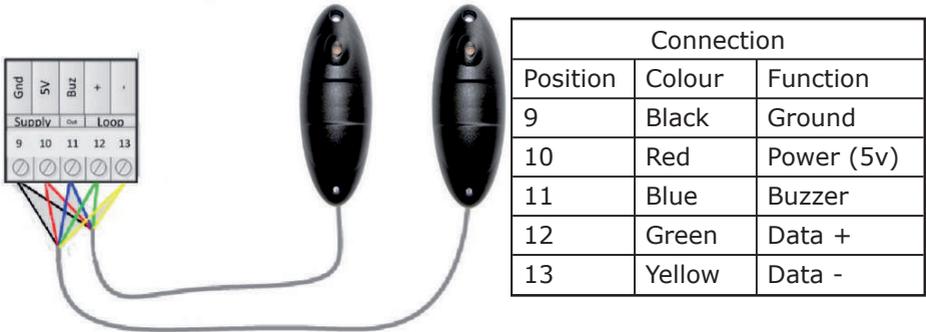
Install the reader according to the instructions supplied with the reader.

2

SOLO - Connecting Readers / Power

Step 2: Connect Reader Heads

The reader heads connect to the terminal block positions 9 to 13, as shown in the diagram below. If wiring 2 reader heads, simply wire them in parallel as shown:



NOTE: If the length of the 'pigtail' needs to be extended, it is important to use screened, non-twisted cable, such as Belden 9536. **The length of cable between the controller and the reader head MUST NOT exceed 15 metres.**

A jumper labelled "CTR3" on the circuit board configures the SOLO to operate with either one or two reader heads. The default position is with the link fitted to one pin which configures the controller for 1 reader head.

To use two reader heads, remove the jumper and fit it across both pins as shown.



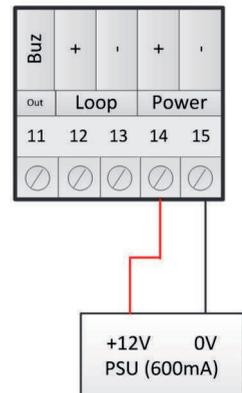
NOTE: If this jumper is not in the correct position, the system may experience seemingly random or intermittent problems.

Step 3: Connect a Power Supply

Power is connected to the SOLO via terminal blocks 14 and 15 as shown in the diagram opposite:

The SOLO is compatible with 12V or 24V power supplies, either ac or dc, although 12V dc is the most commonly used.

NOTE: We recommend that, for consistency, you wire the power connections as shown. The SOLO, however, is designed such that accidental reversal of these connections will not damage the controller board.



Step 4: Connect Inputs

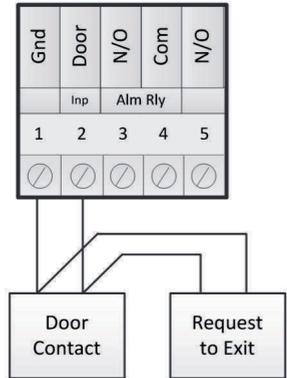
The SOLO has two inputs used for:

- A Normally Open Door Contact / Normally Open Request to Exit (REX) button.
- A Normally Open relay from a Fire Alarm panel.

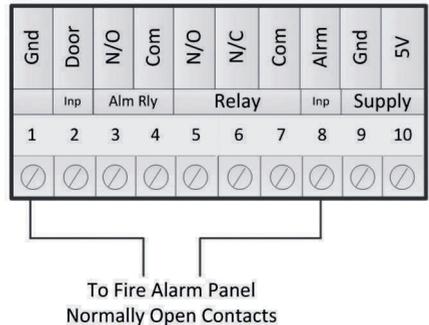
The Door Contact and REX are wired in parallel between terminal block 1 and terminal block 2

NOTE: The door contacts and Request to Exit button **MUST** use Normally Open contacts.

NOTE: The Request to Exit button and readers cannot be used for approximately 1 second after the door re-locks.



A Fire Alarm relay can be connected between terminal blocks 1 and 8. The Fire Alarm Panel must provide voltage free normally open contacts

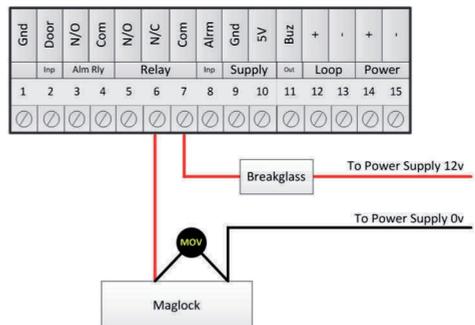


Step 5: Connect Outputs

The SOLO has two relay outputs, one for the electric door lock and the other for an alarm siren.

Maglock: An electromagnetic lock is normally energised to keep the door locked. Use the 'Common' (terminal block 7 marked Com) and 'Normally Closed' (terminal block 6 marked N/C) contacts to connect to the maglock.

Activation of the Normally Closed Breakglass will remove power from the Maglock to ensure that the door is released in an emergency.



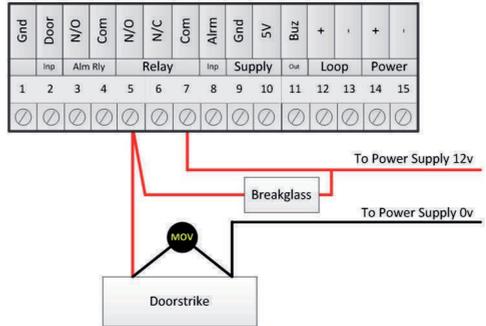
ALWAYS fit a MOV across the coil of the maglock to prevent Back EMF from damaging the SOLO.

See next page for connecting a Door Strike Lock

4 SOLO - Connecting Outputs

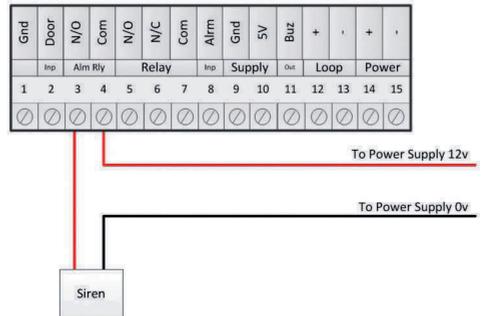
Door Strike: A 'door strike' is normally de-energised to keep the door locked. Use the 'Common' (terminal block 7 marked Com) and 'Normally Open' (terminal block 5 marked N/O) contacts to connect to the door strike.

Activation of the Normally Open Breakglass applies power to the door strike to ensure that the door is released in an emergency.



ALWAYS fit a MOV across the coil of the door strike to prevent Back EMF from damaging the SOLO.

Siren: Use the Alarm Relay Normally Open (terminal blocks 3 marked N/O) and Common (terminal block 4 marked Com) contacts to activate a siren if the door is left open or if there is a fire alarm. The siren is wired as shown opposite:



Step 6: Program the SOLO

NOTE: All programming other than enrolling users MUST be performed with the front cover removed using button SWPB1 (left hand button) and SWPB2 (right hand button).



ENROL MASTER CARD

The Master Card is used to access all the programming functions of the SOLO.

Warning: When enrolling the Master Card, the controller will be reset to its factory default condition and ALL USERS WILL BE PERMANENTLY REMOVED FROM MEMORY. It is important, therefore, that you enrol the Master Card before doing anything else.

Press and hold button SWPB2, then press and hold button SWPB1 at the same time. When the controller beeps 3 times, release both buttons and the display will show



This indicates that the SOLO is now in 'Enrol Master Card' mode. Hold the Master Card supplied against a reader until the controller beeps 3 times. The controller has now enrolled the Master Card, ended the enrolment mode and is ready for normal operation.

NOTE: When pressing SWPB2 and SWPB1, if the display shows \overline{Ti} , release both buttons and wait 30 seconds for the display to clear, then try again ensuring that SWPB2 is pressed before SWPB1.

ENROL USERS

Present the Master Card to a reader for approximately 5 seconds until the controller beeps once and then three times (this can be done with the cover removed or in place). This signifies the 'Enrol User' mode. The controller displays a single dot in the centre of the display



Remove the Master Card and present a new user card until the controller beeps once, indicating that it has enrolled the card.

Keep presenting new cards to enrol them until all the required user cards have been enrolled (999 total). If presenting a card causes the controller to beep three times, no more cards can be enrolled.

The controller will exit this mode after 30 seconds of inactivity, indicated by 3 beeps.

In the normal operating mode, pressing button SWPB2 will display the number of the last card used (e.g. $\overline{016}$ for user 16).

It is important to keep a record of who has which card and the relevant user number, as it may be necessary to remove the user from the system in the future. A table has been provided at the end of this manual to record this information.

REMOVE USERS

To remove one or more users, present the Master Card to a reader until the controller beeps once and then three times.

Press and hold button SWPB1 and the display will show the user number 001. Repeatedly press button SWPB1 to step up through the user numbers, or hold it down to scroll faster. Release the button when the required user number is displayed. Press button SWPB2, the controller beeps and the number changes to ---. The selected user has now been removed from the memory.

DOOR TIMERS

The SOLO has 2 timers for door control as described below:

DOOR RELEASE TIME

This is the duration that the door remains unlocked following presentation of a valid card. This duration can be adjusted from 1 seconds (default) up to 9 seconds in intervals of 1 second.

DOOR OPEN ALARM DURATION

If a door contact is fitted and the door is left open for too long, the controller can generate an alarm condition and activate the siren. This duration can be adjusted from 30 seconds (default) up to 4 minutes 30 seconds in intervals of 30 seconds.

Program Timers

Press and release button SWPB1. The display will show T1. This indicates the default Door Release Time of 1 second.

Press and release button SWPB1 again to increment the setting to T2 (2 seconds). Continue to the maximum setting of T9 (9 seconds).

NOTE: The display T- indicates a special operating mode for interfacing to other equipment, whereby the door relay is pulsed for 150ms.

When the desired time is shown on the display, either progress to the Door Open Alarm Duration (see below), or end programming mode by leaving the controller until it beeps 3 times and the display clears.

To program the Door Open Alarm Duration, press and release button SWPB2 and the display changes to R1. This indicates the default duration of 30 seconds.

Press button SWPB2 to increment the setting to R2 (1 minute).

Continue to press SWPB2 up to the maximum setting of R9 (4 minutes 30 seconds).

When the desired Door Open Alarm Duration is shown on the display, end programming mode by leaving the controller until it beeps 3 times and the display clears.

Important! A door open alarm can only be generated if a normally open door contact is fitted to the system.

Programming Summary

<p>Enrol Master Card Enrolling a Master Card resets the controller to Factory Defaults and deletes ALL users</p>	<p>Press and hold the SWPB2 button, then press and hold SWPB1 at the same time. Beep beep beep Release both buttons and the display will show:  Present Master Card to reader.</p>
<p>Enrol Users</p>	<p>Present the Master Card to the reader for 5 seconds: Beep, beep beep beep Present card to be added beep Present next card to be added beep Continue until all cards have been enrolled, then present Master Card to reader.</p>
<p>Remove Users</p>	<p>Present the Master Card to the reader for 5 seconds: Beep, beep beep beep Press and hold SWPB1 beep beep beep  Repeatedly press SWPB1 until the required user number is shown Press and hold SWPB2 beep ---</p>
<p>Door Release Time</p>	<p>Press SWPB1 $T1 = 1$ second (Default) Press SWPB1 $T2 = 2$ seconds etc. up to Press SWPB1 $T9 = 9$ seconds</p>
<p>Door Open Alarm Delay</p>	<p>Press SWPB2 $R1 = 30$ seconds (Default) Press SWPB2 $R2 = 1$ minute etc. up to Press SWPB2 $R9 = 4$ minutes 30 seconds</p>
<p>View user number for a given card</p>	<p>In normal operating mode, present the card to the reader to open the door, the user number is briefly shown on the display on the controller. Press SWPB2 at any time to view number of last card used.</p>

IMPORTANT

If you lose your Master Card, learning a new one will reset the SOLO to its factory default condition, and

ALL USERS WILL BE DELETED.

Please record the number of your Master Card below, to allow a replacement to be ordered if the original is lost:

