SOLO quick installation guide

CENTURION

Solo™

Proximity Access Control

STAND-ALONE PROXIMITY ACCESS CONTROL SYSTEM

Company Profile

CENTURION SYSTEMS has been manufacturing automatic gate systems since 1987, and is committed to providing reliable, cost effective solutions in the field of access automation.

CENTURION strives to give service and backup second to none. Our engineers are available to give sales support, installation training, and answers to technical or installation problems.

The equipment is installed worldwide and is available through a network of distributors.

CENTURION is an ISO 9001 registered company, continually looking at updating its products in line with world trends to ensure that its products will provide customer satisfaction.

Further information is available on our website www.centsys.co.za

Preface

The hard copy installation manual supplied with the SOLO access control kit covers only the QUIK INSTALLATION aspects of the system.

The complete installation manual is supplied on CD due to the volume of information included in the document. In addition the electronic version is prepared in colour to make for easier reading.

How to use the Solo Installation Manuals

It helps to read the overview of the product in order to have a better understanding of the features available with the system.

QUIK INSTALLATION (hard copy)

The QUIK INSTALLATION manual describes the absolute basics in order to allow a user to quickly install the reader for simple applications.

Tags are learned sequentially into the memory from location 00 through to 50 where the first two locations 00 and 01 are dedicated to the MASTER/ADMIN tags. If a tag is lost the QUIK INSTALLATION shows how to erase the complete memory allowing the user to learn the tags again.

The QUIK INSTALLATION will also explain how to set the system back to the "factory defaults". Although all the operating parameters of the reader can be within limits uniquely set, in order to simplify the commissioning of the system, the unit is supplied with the parameters preset to suit the most common installations.

COMPLETE INSTALLATION (electronic format)

The COMPLETE INSTALLATION manual covers every aspect of the installation process from detailed wiring to the programming of all the parameters and timers.

Table of Contents

Overview

The SOLO is a cost effective, entry level, stand-alone proximity access control system for single access point applications. By presenting a valid CENTURION proximity tag to the Solo reader it will activate / release the access point door lock or operator and allow access.

The SOLO reader is a robust weatherproof unit that is mounted adjacent the door or access point. It is fully integrated, with the read coil, controller and output drives all contained inside the unit.

The SOLO model 50 can store up to 50 unique proximity tags, of which 2 are Master tags. Tags are stored into the unit's non volatile memory in separate Memory Locations. The use of Memory Locations allows for selective deletion of tags as required.

Programming of the system is done using either of the Master Tags and the indicator lights on the front of the Reader. To further simplify the installation of the Solo Reader, all parameters are pre-programmed according to most commonly used application requirements.

Both audible and visual feedback is provided if a valid tag is presented. In addition, visual feedback is given if the presented tag is invalid.

The Solo's single output channel provides a potential-free Normally Open or Normally Closed contact and can be configured as latching or pulsed. The pulsed time is adjustable in one second increments from one second to four minutes.

The output can also be configured to operate with an optional CENTURION SMARTSWITCH II.

The SMARTSWITCH II is mounted directly at the door lock or gate motor to provide an even higher level of security by preventing a would-be intruder from tampering with the door lock/gate trigger lines to gain entry.

The SOLO provides a free exit input facility. This is typically a pushbutton mounted on the inside of the door or gate entrance, which causes the door to be triggered open without use of the tag. For added security this feature can be inhibited if not being used.

The SOLO provides an input for a door/gate sensor that can be used to detect whether the access point has been forced open or left open. The unit in turn provides an open collector output with pulse or latching facility so that either or both of these alarm conditions can be connected to a “third party” alarm system.

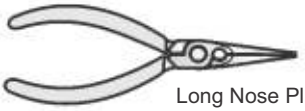
The access point “left open” alarm will only activate after the pre-warn time (internal buzzer) followed by the access point “left open” time have expired. The pre-warn and access point “left open” times are programmable in one second increments from one second to four minutes.

In addition an optional tamper prevention switch is available that can be connected to a “third party” alarm to provide an early warning if the SOLO Reader is being forced open.

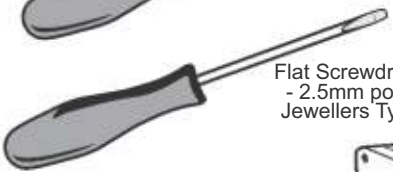
Mounting of the SOLO is very simple as it can be flush mounted directly into a 100x50mm light switch box or surface mounted directly onto a wall. In addition the unit can be purchased with an optional anti-knock shield, providing better protection when surface mounting the unit externally or to a gooseneck.

Tools and Equipment Required

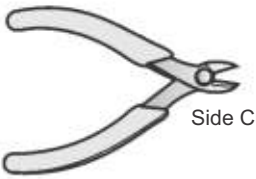
Star Screwdriver
0 and 1 point



Long Nose Pliers



Flat Screwdriver
- 2.5mm point
Jewellers Type



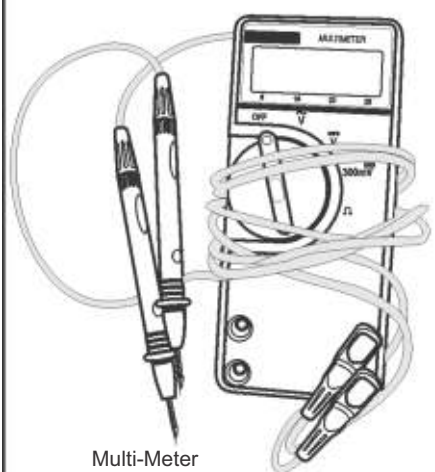
Side Cutters

Tape Measure

Silicon

Level

Cable: 0.20mm²
0.50mm²
0.75mm²



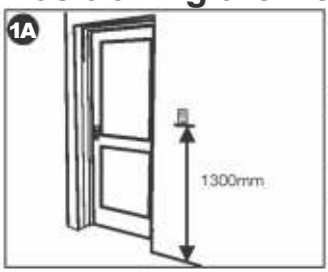
Multi-Meter

6mm
Masonry Bit

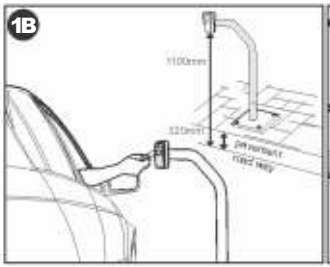
Drilling Machine
(hammer action)

Installation of the Solo Reader

Positioning the Reader



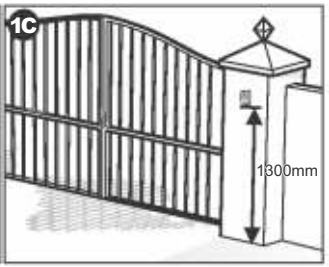
•Position SOLO reader on wall adjacent to door. Mount at a height that allows for the comfortable presenting of access tags. A height of 1300mm is recommended.



•Alternatively mount the proximity reader onto a gooseneck ensuring that:

- The reader does not protrude too far into the driveway
- The reader is not set too far back and cannot easily be accessed from a vehicle.
- The height allows for the presenting of the tag to be comfortable from a vehicle.

An anti-knock shield is available from CENTURION to provide extra protection to the SOLO reader.



•Position the SOLO reader on wall adjacent to entrance gate. Mount at a height that allows for the comfortable presentation of access tags. A height of 1300mm is recommended.

Mounting the Reader

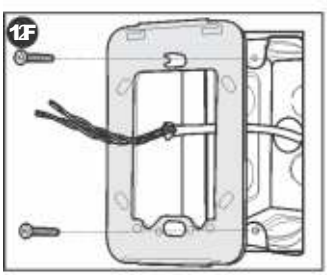
The SOLO Prox reader is available in a flush mount kit and a surface mount kit.

When flush mounting, the reader adapts directly to a standard 100mm x 50mm (4" x 2") light switch backing box which allows the unit to sit flat against the wall.

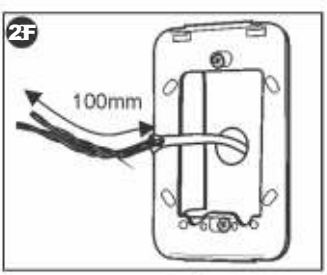
Alternatively, if no backing box has been provided the unit can be surface mounted.

When mounting the reader onto a gooseneck with, or without, an anti-knock shield, the surface mount kit will be used.

Flush Mount

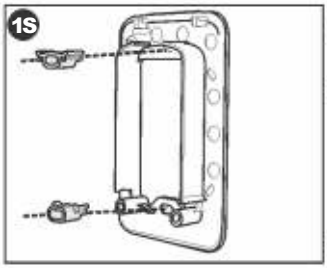


•Insert the reader mounting frame into position in the backing box and secure using the standard fixing screws provided with the backing box.

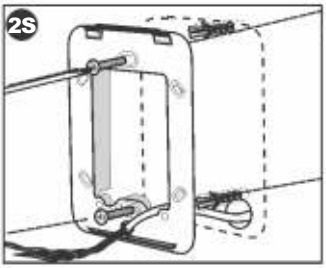


•It is recommended that the cabling to the reader extends at least 100mm through the frame.

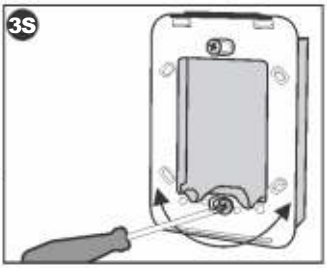
Surface Mount



•Clip the plastic spacers onto the back of the mounting frame ensuring that they are correctly orientated to align with the mounting holes.



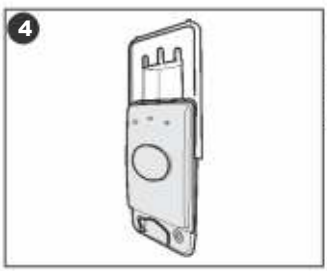
- Place the mounting template located in the centre of this document at the required height ensuring that it is vertical
- Using a 6mm masonry bit, drill holes into the wall for the rawlplugs provided in the kit.
- Screw the frame lightly into position.



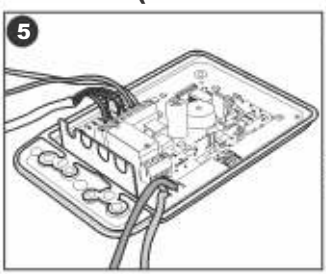
•Using the slots provided in the mounting holes, adjust the reader base to be perfectly vertical.

•Screw the frame firmly into position.

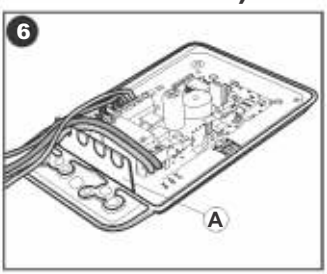
Installation of the Reader (Flush or Surface Mount)



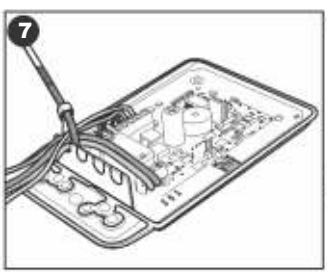
•Slide apart the front and back of the reader controller housing.



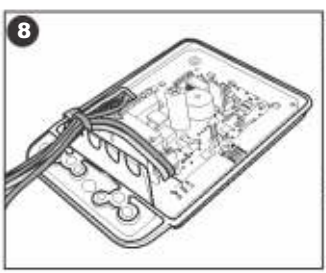
•Make the necessary terminations onto the controller. Refer to wiring diagram on page 10.



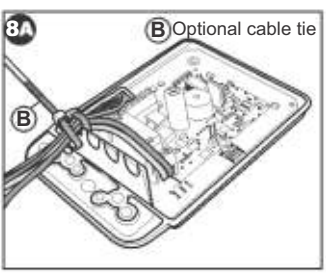
•Route the cable over the cable entry bulkhead (A) in the housing. Additional slots can be cut out to accommodate further cables if necessary.



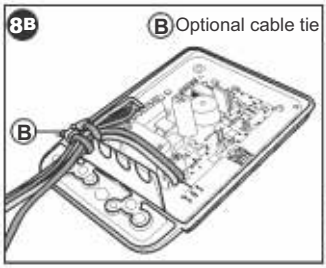
•Fit a cable tie around the cable as shown. When tightened this holds the cable in position and prevents it from being pulled out of the housing.



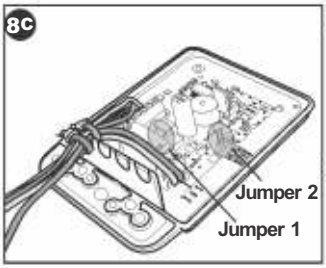
•Tighten cable tie.



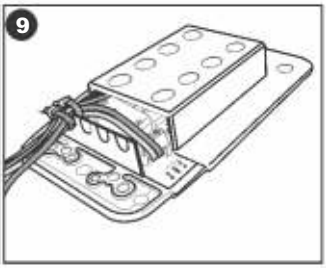
•An additional cable-tie can be fitted to better secure the cable.



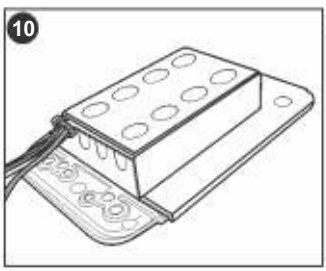
- If the additional cable tie was used, make certain that it is also tightened.



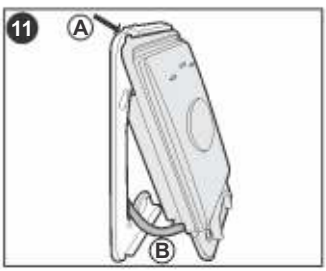
- Ensure Jumpers 1 and 2 are correctly positioned - refer to Figure 1 on page 10.



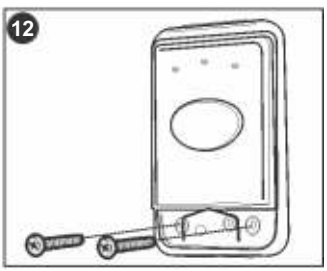
- Slide the back cover onto the controller housing.



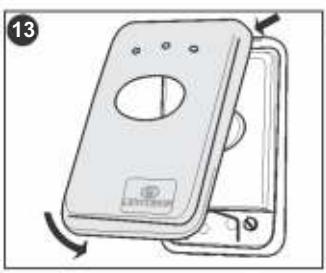
- Ensure that it sits neatly against the cable entry bulkhead securing the cable. To prevent insect ingress use either a grommet or a dab of silicon to seal the cable entry point.



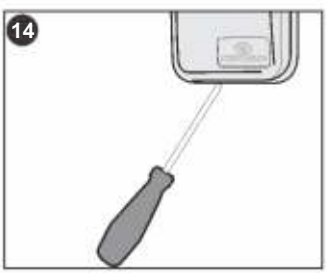
- Clip the top of the controller front housing into the top lip of the mounting frame (A), and fold down into position ensuring the cable is not caught (B).



- Fasten controller housing into position using the 2 x M4 pan head screws provided in the kit.



- Clip the outer cover into position making sure that it seats correctly and is secure.



- To remove the outer cover, carefully insert a screwdriver between the cover and the wall from the underneath and unclip.

Quik Wiring Diagram

Identification of Terminals

The following figure shows the location of the terminal block on the SOLO controller, as well the position of Jumper 1 and Jumper 2. Refer below and overleaf for an explanation of these jumpers. The table details each terminal. In addition wiring diagrams have been provided showing how to connect all configurations of components to the SOLO system.

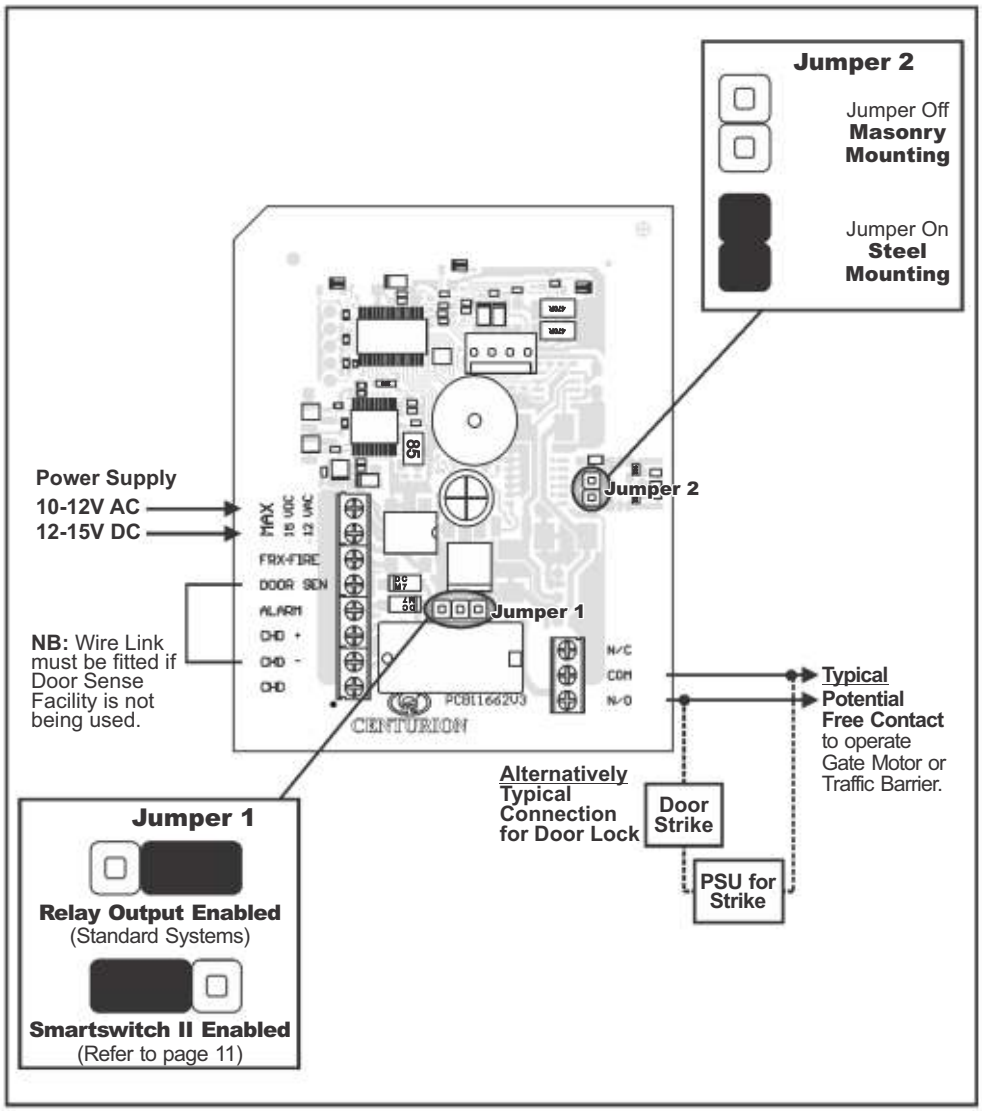


Fig 1. Quik Wiring Diagram

Details of Terminals		
Terminal	**Cabling**	**Description**
MAX 15 VDC 12 VAC	0.5mm²	Supply to the SOLO reader can be AC or DC, 12-15V DC or 10-12V AC. Input is not polarity sensitive.
FRX-FIRE	0.2mm²	Free Exit, normally open contact. Common connected to CHD-
DOOR SEN	0.2mm²	Input to indicate door/access point forced or left open. Normally open contact. Common connected to CHD-
ALARM	0.2mm²	External alarm output (open collector)
CHD +	0.2mm²	SmartSwitch II or remote relay - Positive (+V)
CHD -	0.2mm²	SmartSwitch II or remote relay - Negative (-V)
CHD	0.2mm²	SmartSwitch II or remote relay - Control Signal Jumper position 1
N/C COM N/O	0.75mm²	Potential free output relay for door release/access point trigger. Jumper position 2

Table 1. Details of Terminals

Jumper 1 - Relay or Smartswitch II enabled

The single channel output of the SOLO can be configured to provide a potential free contact either normally open or normally closed to operate a door release or activate a gate motor or traffic barrier.

Alternatively the output can be configured to operate with a CENTURION SMARTSWITCH II. The SMARTSWITCH II is mounted directly at the door lock or gate motor. This provides an even higher level of security by preventing a would-be intruder from tampering with the doorlock/gate trigger lines to gain entry. For more information, please refer to the Complete Installation Manual on the CD.

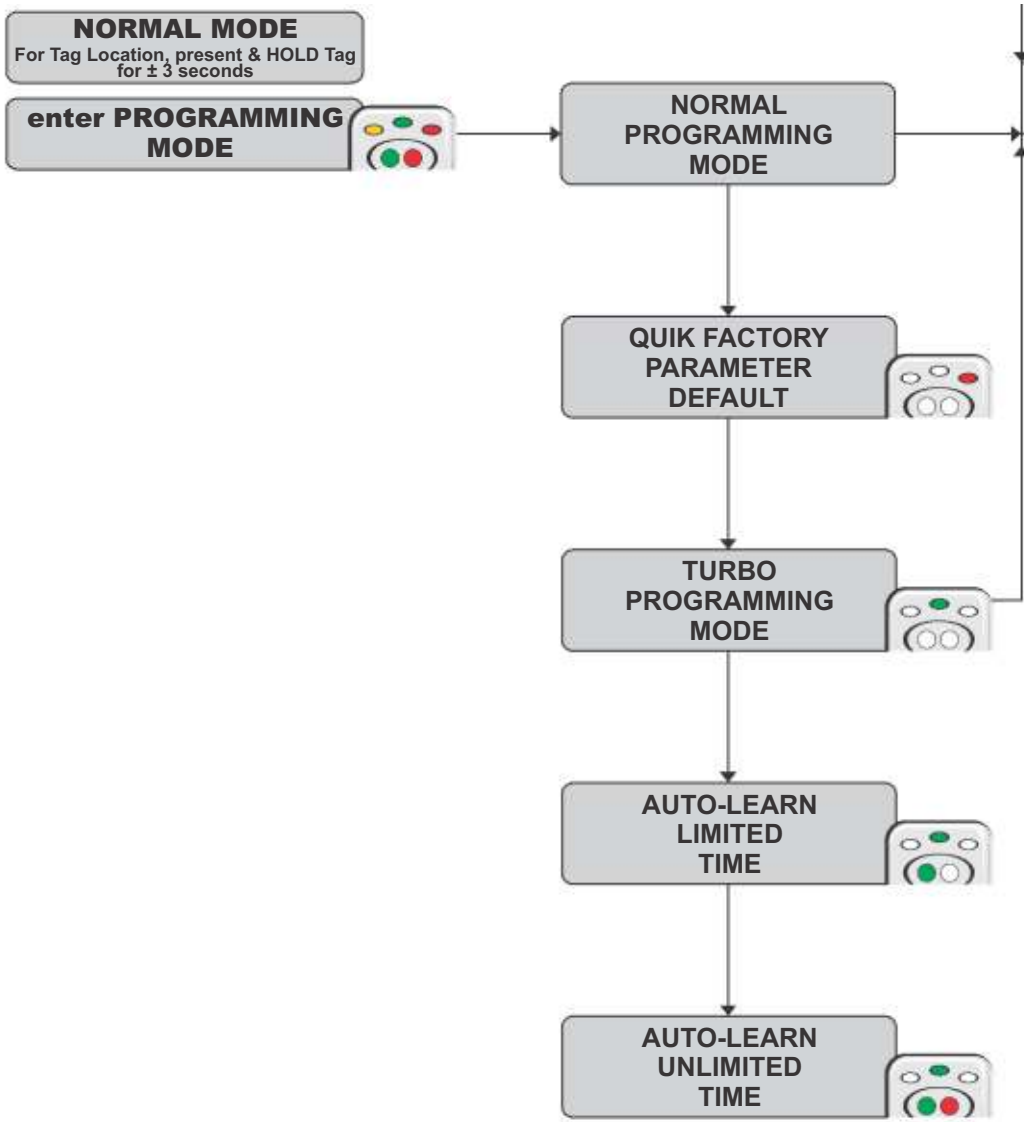
JUMPER 1 is used to determine which facility is enabled.

Jumper 2 - Wall or Steel Mounting

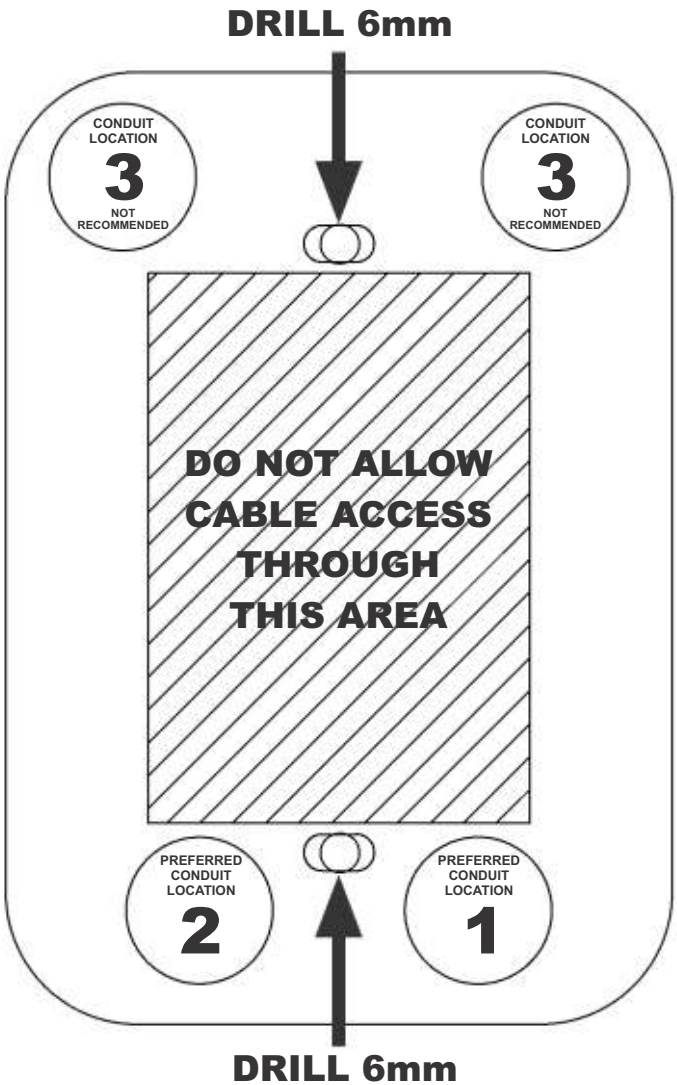
The read range of the SOLO reader the unit can be optimised whether it is being mounted onto a steel surface (ie. inside the SOLO anti-knock shield or directly onto a steel post or pedestal) or wood / masonry surface (wooden door frame or plastered/plain brick/stone wall*)

*flush mounting into a 4" x 2" light switch box would be regarded as mounting onto a masonry surface.

Jumper 2 is used to select between the two types of surfaces.



ADVANCED USER MENU MAP

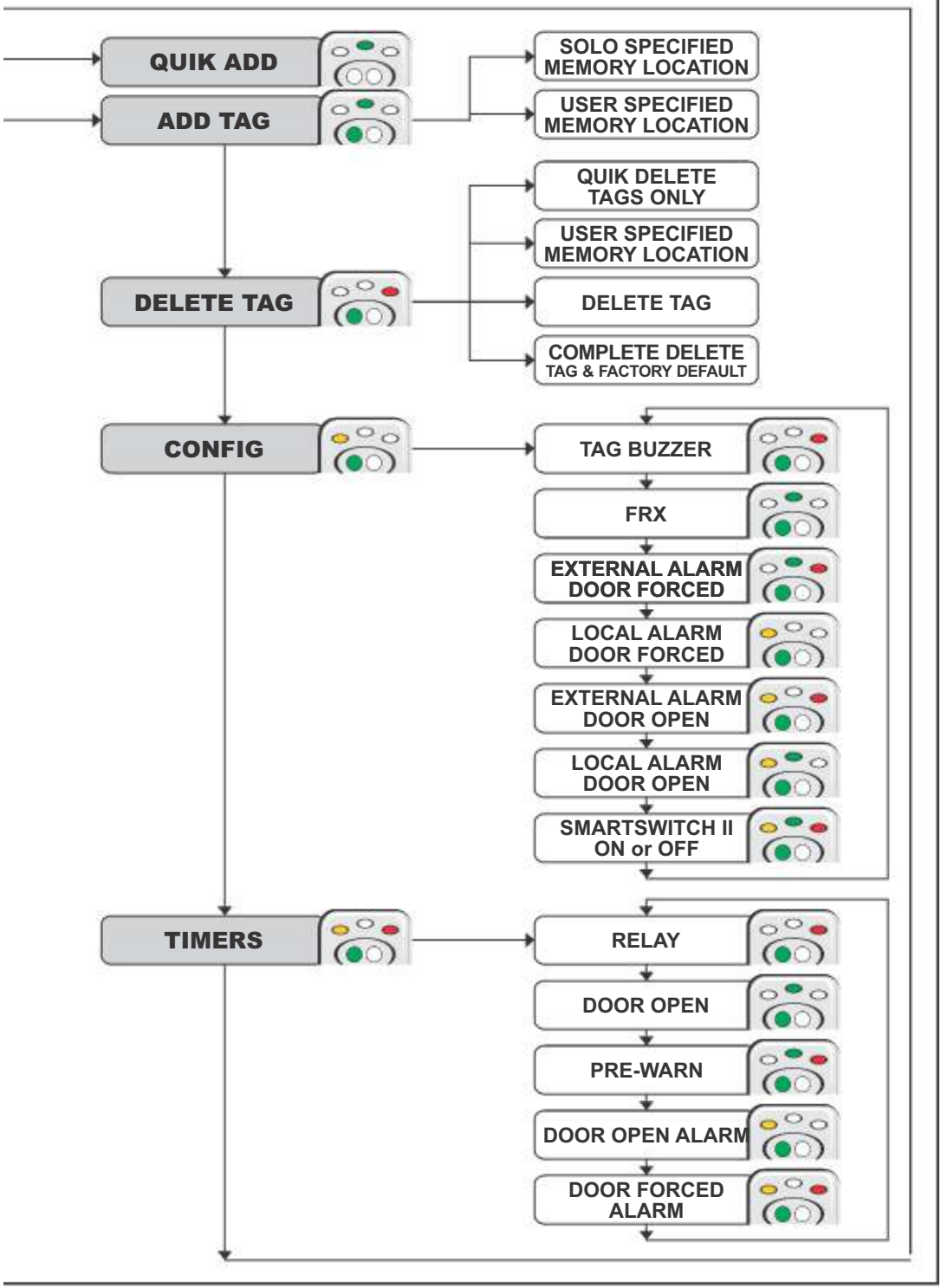


SURFACE MOUNT INSTALLATION

This mounting template is to be used when performing a surface mount installation.

- When planning where to locate the unit, it is important to consider the cable entry position. Do not allow cables to enter the unit through the centre area as this will interfere with assembly of the unit after installation.
- Place the template in such a manner that conduit, where provided, will be behind one of the four preferred conduit locations shown alongside. If conduit is not provided, surface mounted cabling should be planned to enter the unit through one of the 4 preferred locations indicated.
- The conduit locations are indicated in order of preference. Location 1 being the most preferable cable entry location and location 3 being the least preferable cable entry location.

MOUNTING TEMPLATE

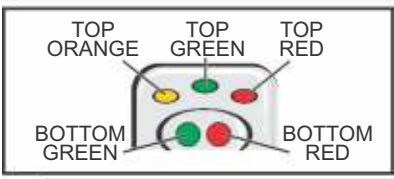

QUIK ADD
ADD TAG
SOLO SPECIFIED MEMORY LOCATION
USER SPECIFIED MEMORY LOCATION
DELETE TAG
QUIK DELETE TAGS ONLY
USER SPECIFIED MEMORY LOCATION
DELETE TAG
COMPLETE DELETE TAG & FACTORY DEFAULT
CONFIG
TAG BUZZER
FRX
EXTERNAL ALARM DOOR FORCED
LOCAL ALARM DOOR FORCED
EXTERNAL ALARM DOOR OPEN
LOCAL ALARM DOOR OPEN
SMARTSWITCH II ON or OFF
TIMERS
RELAY
DOOR OPEN
PRE-WARN
DOOR OPEN ALARM
DOOR FORCED ALARM

Quik Add - New Installation

NOTES:

- **On power up the TOP ROW LIGHTS appear to chase each other. This indicates a Blank Memory.**
- Tags will be added to the SOLO Reader sequentially from Memory Locations 00 to 50.
- The first 2 Tags presented to the SOLO Reader will become the Master Tags in Memory Locations 00 and 01.
- It is recommended that the first Master Tag be kept in a safe and secure location.
- The Master Tags should only be issued to those responsible for maintaining the SOLO Reader.

• To **ABORT** wait for ±60 seconds for the **SOLO** to **RESET**



	Graphical Instructions	Written Instructions
1	**Power On**	Connect power to Reader
2	Observe Top Lights 	**TOP ROW LIGHTS** flash in sequence
3		**Present and REMOVE** each New Tag to the SOLO Reader
4		**TOP GREEN LIGHT** will flash **BUZZER** will sound to indicate a successful addition
5		**Repeat from step 3** as required
6		**Present and REMOVE** the Master Tag

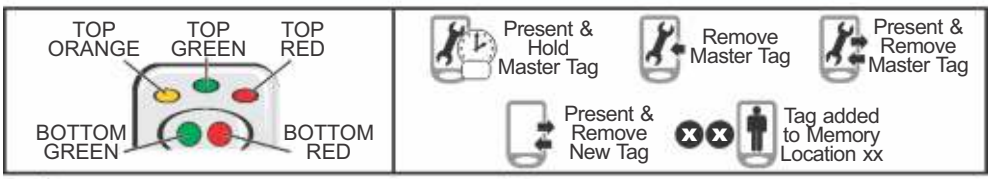
The SOLO Reader will enter normal RUN MODE

It is recommended that the attached Memory Location allocation and Parameter settings form be updated.

Quik Add - Existing Installation

NOTES:

- **Tags will be added sequentially to the empty Memory Locations of the SOLO Reader. Previous Memory Locations will not be overwritten.**
- To **ABORT** wait for ±60 seconds for the **SOLO** to **RESET**



	Graphical Instructions	Written Instructions
1	Observe Lights	**Present and HOLD** either Master Tag until **all lights turn ON**
2		**Remove** the Master Tag
3	Observe Top Lights	**Top green light** will remain **on**
4		**Present and remove** each new Tag to the SOLO Reader
5		**TOP GREEN LIGHT** will flash and the **BUZZER** will sound to indicate a successful addition.
6	00 01 02 03 ... 10 ... Max 50	**Repeat from step 3** as required
7		**Present and REMOVE** the Master Tag

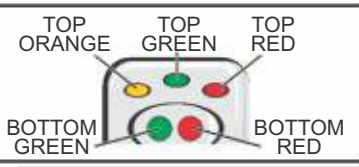
The SOLO Reader will enter normal RUN MODE

It is recommended that the attached Memory Location allocation and Parameter settings form be updated.

Quik Delete - All Tags

NOTES:

- This option will remove all Tags from the SOLO Reader's memory but will not change any of the Configuration settings or Timer values
- To **ABORT** wait for ±60 seconds for the **SOLO** to **RESET**



Present & Hold Master Tag

Remove Master Tag

Present & Remove Master Tag

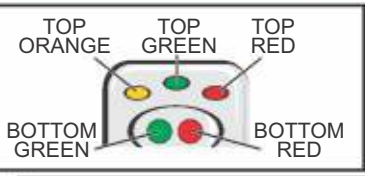
	Graphical Instructions	Written Instructions
1	Observe Lights	**Present and HOLD** either Master Tag until **all lights turn ON**
2		**Remove** the Master Tag
3	Observe Top Lights	**Top green light** will remain **on**
4	Observe Bottom Lights	Only **BOTTOM RED LIGHT ON** **Present and remove** the Master Tag
5		**Top red light** will turn **on**
6		Only **BOTTOM GREEN LIGHT ON** **Present and HOLD** the Master Tag
7		Continue **HOLDING** All the **LIGHTS** will begin to flash Continue **HOLDING**
8		Continue **HOLDING** Wait for the buzzer to bleep three times
9		Remove the Master Tag
10		The **TOP ROW LIGHTS** appear to chase each other, this indicates a Blank Memory.

It is recommended that the attached Memory Location allocation and Parameter settings form be updated.

Quik Parameters - Factory Default

NOTES:

- All Configuration and Timer settings will be defaulted to factory settings
- No Tags will be removed from the SOLO Reader Memory.




Present & Hold Master Tag


Remove Master Tag

	Graphical Instructions	Written Instructions
1	 Observe Lights 	**Present and HOLD** either Master Tag until **all lights turn ON**
2	Observe Top Lights  	Continue **HOLDING** until ONLY the **TOP RED LIGHT** turns ON
3	 	Remove the Master Tag

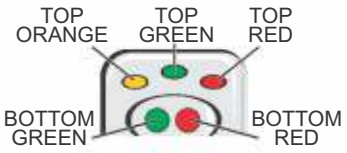
The SOLO Reader will enter normal RUN MODE

It is recommended that the attached Memory Location allocation and Parameter settings form be updated.

Auto-Learn: LIMITED TIME (± 7 days)

Please Note:

- **THIS PROCESS MUST BE COMPLETED IN FULL. DO NOT ABORT THIS PROCEDURE.**
- Both Master Tags must be present in the SOLO Reader Memory.



	Graphical Instructions	Written Instructions
1		**Present and HOLD** either Master Tag until **all lights turn ON**
2		Continue **HOLDING** **Top Red Light** will turn ON
3		Continue **HOLDING** **Top Green Light** will turn ON
4		Continue **HOLDING** **Top Green Light** will remain ON **Bottom Green Light** will turn ON
5		**Remove** the Master Tag

The BOTTOM GREEN LIGHT will flash to indicate that the SOLO Reader is in Auto-Learn Mode.

Auto-Learn: DISABLE

	Graphical Instructions	Written Instructions
1		**Present and HOLD** either Master Tag until **all TOP lights turn ON**
2		**Remove** the Master Tag

The BOTTOM RED LIGHT will flash to indicate that the SOLO Reader is now in Normal Run Mode

Memory Allocation & Parameter Settings Form

Memory Location	Relevant Information: Name, etc.
00	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Memory Location	Relevant Information: Name, etc.
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	

Configuration Label	Factory Defaults	User Settings
Tag Buzzer	ON	
Free Exit	ON	
External Door Forced Alarm	OFF	
Local Door Forced Alarm	OFF	
External Door Open Alarm	OFF	
Local Door Forced Alarm	OFF	
Smartswitch II	OFF	

Timer Label	Factory Defaults	User Settings
Relay Time	1	
Door Open Time	5	
Pre-Warn Time	0	
Door Open Alarm Time	30	
Door Forced Alarm Time	255 Latched	

Notes

Notes

CENTURION

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(Sharecall numbers applicable when dialed from within South Africa only)

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