SupaHelix™

Company Profile

1986   **1990**   **1995**   **1999**   **Today**

**In-house
R&D
development
team**

**Manufacture to
international
quality standard
ISO 9001:2008**

**100%
testing of
products**

**After-sales
multi-language
Technical Support
from 07h00 to 18h00
UTC+2
Monday to Friday**

**Sales and technical support
to Africa, Europe, Asia,
the Americas, Australia
and the Pacific**

Contents

FAST TRACK Mechanical Setup

These quick steps are for the experienced installer who needs a checklist to get a standard installation up and running in the minimum of time.

Detailed installation features and functions are referred to later in this manual.

STEP 1   Gather Required Tools and Equipment

STEP 2   Heed Necessary Site Considerations

STEP 3   Mounting the SupaHelix Programming Console

STEP 4   Mounting the CP104 Receiver

STEP 5   Cabling and Wiring

Electrical Setup

STEP 6   SupaHelix Configuration

Commissioning & Handover

STEP 7   Carry out a Professional Handover to Client

IMPORTANT
SAFETY INSTRUCTIONS

ATTENTION

To ensure the safety of people and possessions, it is important that you read all the following instructions.

Incorrect installation or incorrect use of the product could cause serious harm to people.

The installer, being either professional or DIY, is the last person on the site who can ensure that the system is safely installed, and that the whole system can be operated safely.

Warnings for the Installer

CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS before beginning to install the product.

- All installation, repair, and service work to this product must be carried out by a suitably qualified person
- Secure all easily-accessed controls in order to prevent unauthorised use of the device
- Do not in any way modify the components of the SupaHelix
- Do not install the SupaHelix in an explosive atmosphere: the presence of flammable gasses or fumes is a serious danger to safety
- Explain these safety instructions to all persons authorised to use SupaHelix, and be sure that they understand the hazards associated with the SupaHelix system
- Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger
- Dispose of all waste products like packing materials, etc., according to local regulations
- Neither Centurion Systems (Pty) Ltd, nor its subsidiaries, accepts any liability caused by improper use of the product, or for use other than that for which the automated system was intended
- This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the service life/operation of the product and/or be a source of danger
- Anything not expressly specified in these instructions is not permitted

Glossary of Terms

- **Channel:** An electrical gateway implemented as a physical terminal on the SupaHelix that provides the external interface to input or output signals
- **Input:** A potential-free normally-open electrical signal that is linked to an appropriately configured channel to provide an action-inducing stimulus to the SupaHelix
- **Output**: A potential-free open collector electrical signal that is generated by an appropriately configured channel to trigger an external system
- **Open Collector Output:** A common electrical output that is generally potential-free and high-impedance when inactive, but provides a current path to system ground (negative) when active
- **Normally-open:** The contacts of the 'switch', being either a relay or an open collector output, are by default in an open state, i.e. current cannot flow between the contacts unless the switch is actuated
- **Normally-closed:** The contacts of the 'switch', being either a relay or an open collector output, are by default in a closed state, i.e. current perpetually flows between the contacts until opened by the switch action
- **Rising (Positive) edge:** A rising edge describes the transition of a digital signal from low to high. In other words, the circuit becomes active when its clock signal goes from ground or 0V to a perceivable voltage
- **Falling (Negative) edge:** A falling edge describes the transition of a digital signal from high to low. In other words, the circuit becomes active when its clock signal 'falls' from a voltage to ground
- **Log/logging:** Logging refers to the capturing of a transaction and the data associated with it
- **Firmware:** This is the product code, data and set of digital instructions unique to the SupaHelix Programming Console. Firmware can be updated to keep the SupaHelix up-to-date
- **Momentary:** A momentary output is an output that is only active while the activating signal is present, for example while a remote control button is being held down
- **Pulsed:** A pulsed output will remain active for a predefined time after the activating signal has occurred, for example after a remote button has been released
- **Latched:** A latched output remains in a certain state after the activating signal has been removed, and will only change state once the signal is applied again
- **Mappable Output:** This is a dynamic output that can be changed at any time stage should the need arise, and all activation devices assigned to the Mappable Output will then be moved to the newly chosen output.

Declaration of Conformity

This section has been left blank intentionally.

1. General Description

The SupaHelix is a three-channel multi-user access control device capable of working with up to 10,000 unique code-hopping remote control buttons.

Transmitters can be learned into up to 10,000 individual units, for example a house number, with each unit containing between one and 255 possible sub-units, for example individual tenants. While it is possible to delete sub-units individually, when learning a new remote control, the new remote control will fill the first available sub-unit. Individual remote control buttons may be edited[1] if the remote control is present.

Fully automated single-button Limit Setup for single and double swing gates:

Unit 0 is usually used for the SupaHelix system administrators.

The SupaHelix has three channels, each of which can be configured as either an input or an output (open collector). When learning new users, a mappable channel can be specified, and this channel can later be mapped to any of the available outputs (by default a learned-in transmitter points to Channel 1).

Outputs can be set as either momentary (active while the activating signal is present), pulsed (active for a preconfigured period of time after the activating signal has occurred. The preconfigured time is set up in increments of 0.5 seconds), or latched. Latched output states are also 'sticky', which means they remember the state they were in even if the power is cycled. The outputs can also be specified as normally-open or normally-closed.

Outputs would typically be used to activate an external device, such as a gate motor or to arm an alarm panel

Inputs can be set to trigger on rising, falling or both edges, can have a filter (debounce) time applied (set in one second increments), and can be mapped to activate any of the output channels.

Inputs are generally used for monitoring and data logging purposes. For example, an input can be connected to the door contact of a safe and used to track how many times the safe was opened during a given time period

An onboard Real Time Clock and Calendar (RTCC) allows time-stamped logging of the last one million transactions to a removable 2GB micro SD card. These logs (stored by month) can be viewed line-by-line on the built-in display, and can be backed up to a USB flash drive for viewing on a PC using spreadsheet software.

The SupaHelix firmware can be field-upgraded via USB flash drive (See section 8).

If the SD card is removed, the system will not function at all.

1. Any editing needs the remote control to be present.

2. Icons Used in this Manual

This icon indicates tips and other information that could be useful during the installation.

This icon denotes variations and other aspects that should be considered during installation.

This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.

3. Specifications

3.1. Physical Dimensions
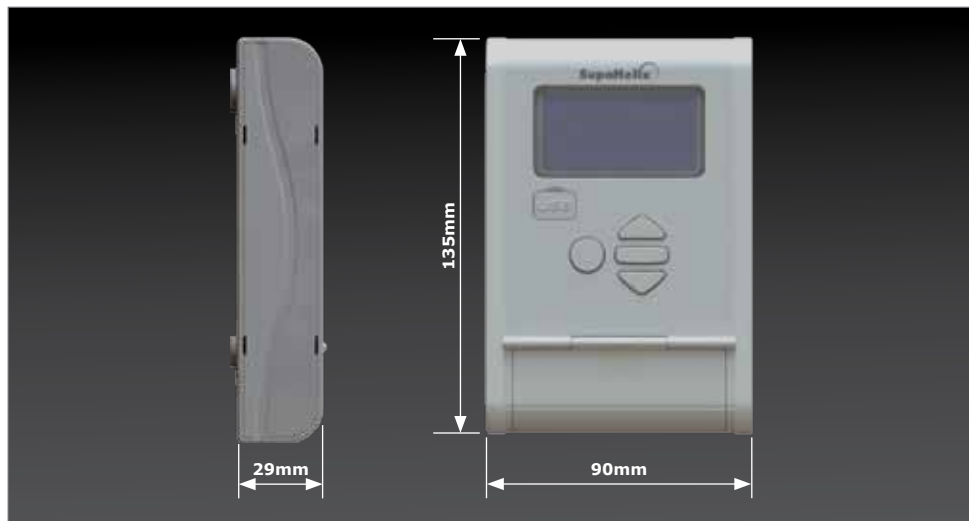
FIGURE 1. OVERALL DIMENSIONS FOR THE SUPAHELIX
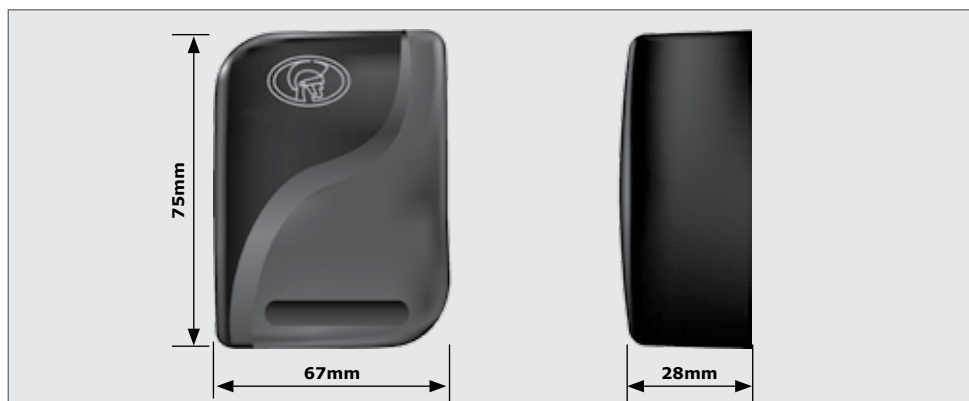
FIGURE 2. OVERALL DIMENSIONS FOR THE CP104 RECEIVER (V3.1 OR LATER)

3.2. Technical Specifications

	SupaHelix Programming Console
Supply Voltage	10.5V - 30V DC
Standby Current	12V 100mA (110mA[1]) 24V 70mA (80mA[1])
Maximum Current	12V 270mA (500mA[1]) 24V 230mA (400mA[1])
Operating Temperature	-20°C - +70°C
Output Rating	Open Collector - Maximum Current 50mA per Channel
Display	2.4 Inch 128 x 64 Transflective with Backlight
Housing Material	ABS
Degree of Protection	Programming Console: IP50

	CP104 Receiver
Supply Voltage	10.5V - 30V DC (Powered Through the SupaHelix)
CP104 Operating Frequency	433.92 MHz
Sensitivity	110 dBm
Degree of Protection	CP104 Receiver: IP65
Maximum Distance between a Programming Console and receiver	250m
Full day	58

3.3. Functional Specifications

Memory Capacity	10,000 Individual Buttons
Output Pulse Time Range	0.5s - 9999s in 0.5s Increments
Input Activation	Rising Edge, Falling Edge, Both
Input Filter	0 - 9999 Seconds in 1 Second Increments
Inputs/Outputs	Maximum Three (Selectable as any Combination of Open Collector Outputs and/or Switch-to-negative Inputs)

TABLE 1

4. Product Identification
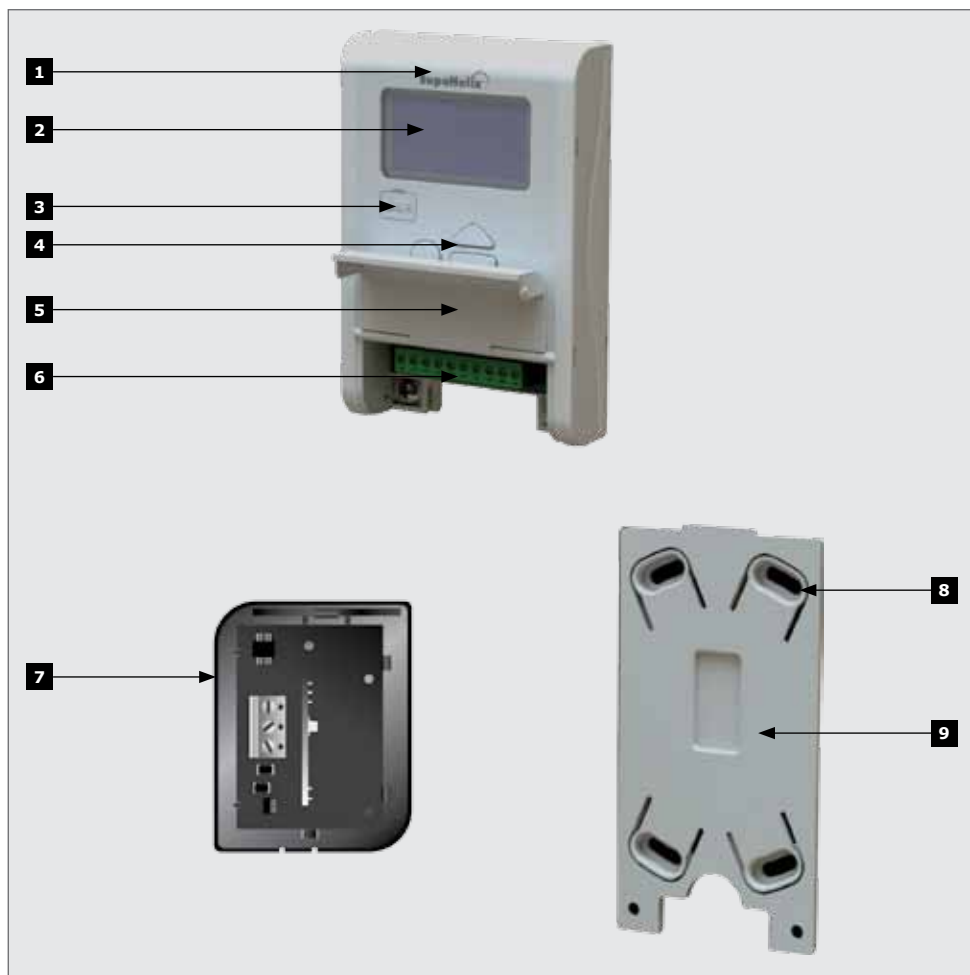
FIGURE 3. PRODUCT IDENTIFICATION

1. SupaHelix Programming Console
2. LCD screen
3. USB port
4. Control interface
5. Terminal cover

6. Removable terminals
7. CP104 receiver V3.1(or later)
8. Mounting slots
9. Mounting bracket for SupaHelix

5. Required Tools & Equipment

Electric drilling machine

Screwdrivers 3.5mm flat; pozi drive no.2

Pliers

Silicone sealant

Crimping tool and Pin lugs

Connector block

Hole saw

Measuring tape

Drill bits 5mm masonry; 6mm drill bit

Fasteners

Marking pen/chalk

Hacksaw

Spirit level

Extension cord
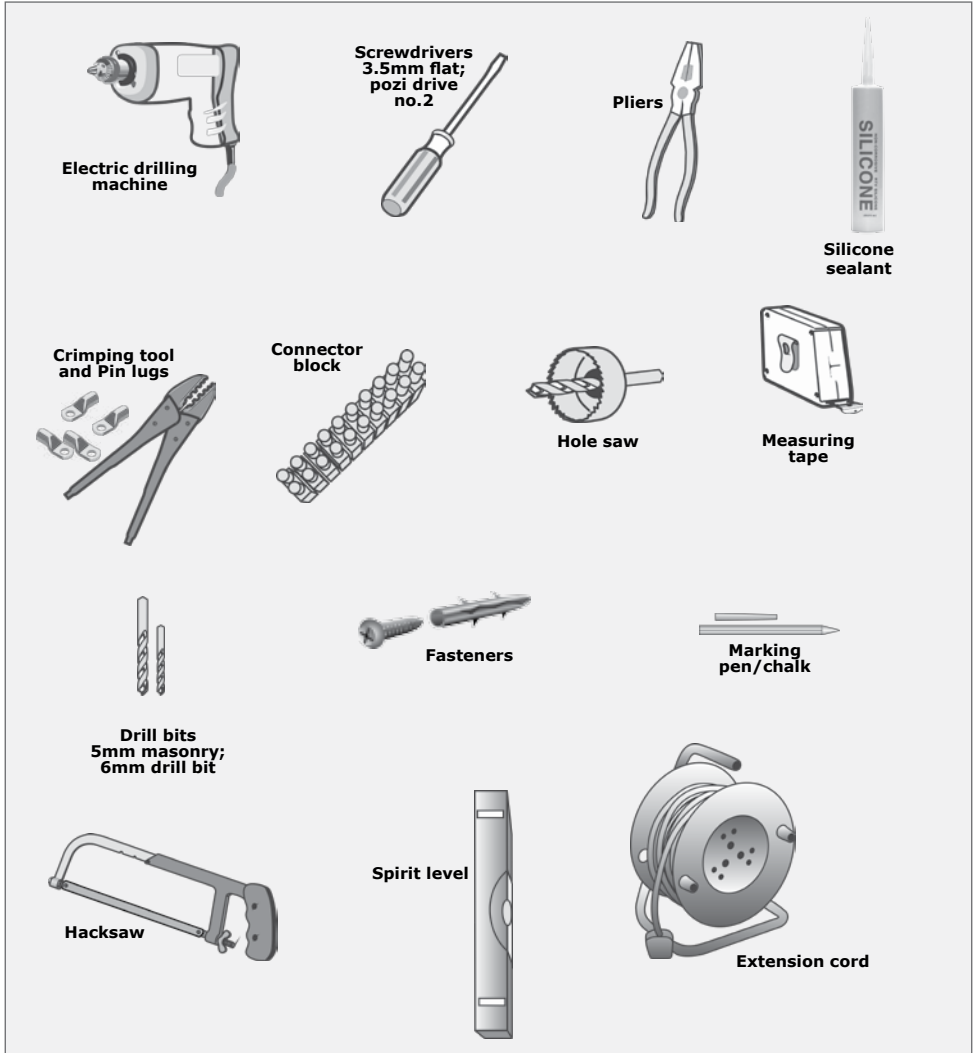
FIGURE 4. REQUIRED TOOLS & EQUIPMENT

6. Mounting Instructions

6.1. Important Considerations

To prevent tampering and potentially compromising the integrity of the system, the SupaHelix Programming Console must be mounted in a secure location.

The SupaHelix Programming Console must be mounted in a location where it will not come into direct contact with the elements, preferably indoors or in a suitably sealed enclosure.

The enclosure of the CP104 receiver is weather-resistant and thus it can be fitted outdoors in an optimal upright position.

Ensure that there is at least a 60mm space to the right of the SupaHelix Programming Console
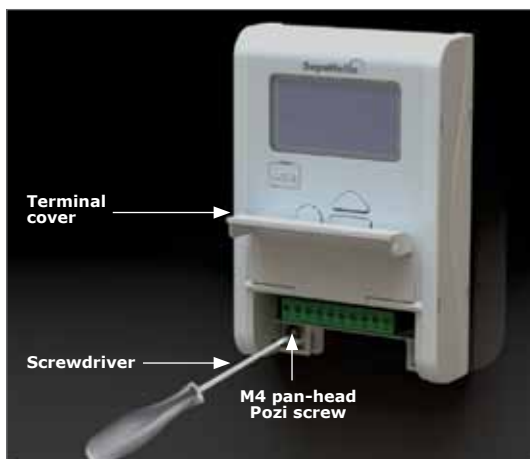
FIGURE 5

6.2. Mounting the SupaHelix Programming Console

FIGURE 6

page 17
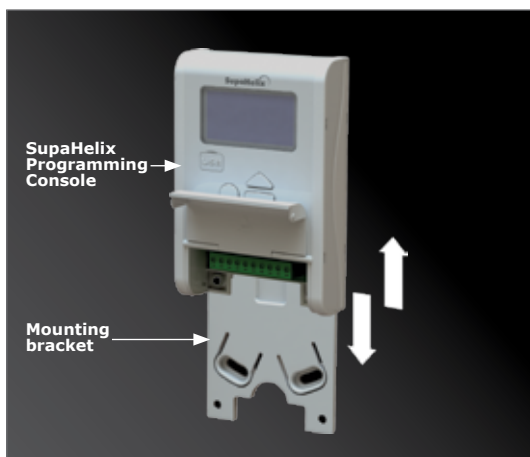
Find a suitable surface on which to mount the Console, open the terminal cover and unscrew the two M4 pan-head Pozi screws connecting the panel to the mounting bracket. Separate the mounting bracket from the SupaHelix Programming Console.

5mm mounting hole

Mounting bracket

Mounting surface
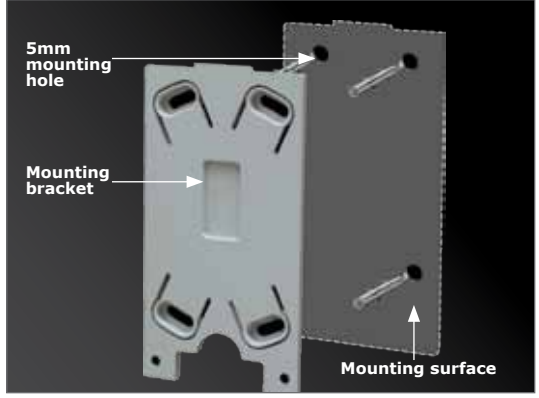
FIGURE 7

Mark the position of the unit on the wall.

Use a 5mm masonry drill bit to drill the mounting holes in the wall (for plaster board mounting please follow the instructions provided with the plaster board fasteners).

Mount the bracket using the fasteners provided.

Fasteners
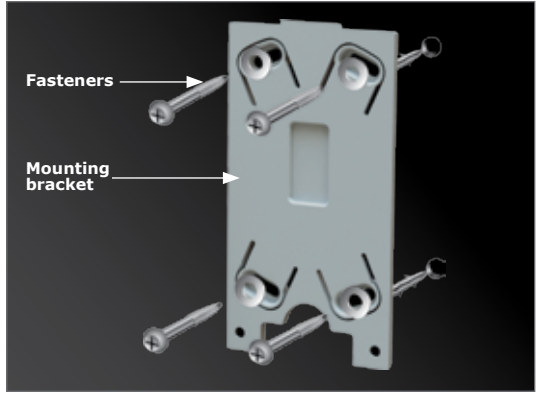
Mounting bracket

FIGURE 8

Slide the panel onto the bracket as shown.

The position of the unit can be adjusted according to the diagonal mounting slots in the bracket in the event that the surface is not completely even.

SupaHelix Programming Console

Mounting bracket
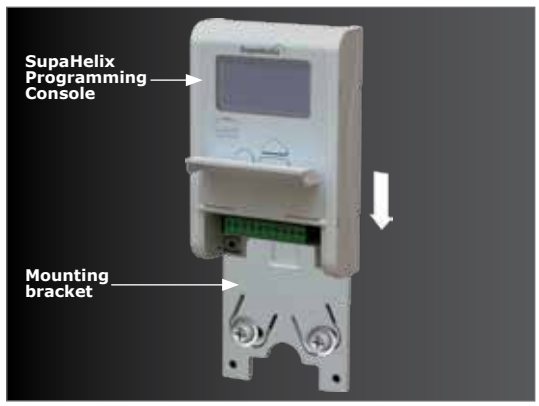
FIGURE 9

Replace the Pozi screws.

Terminal cover

Screwdriver

M4 pan-head Pozi screw
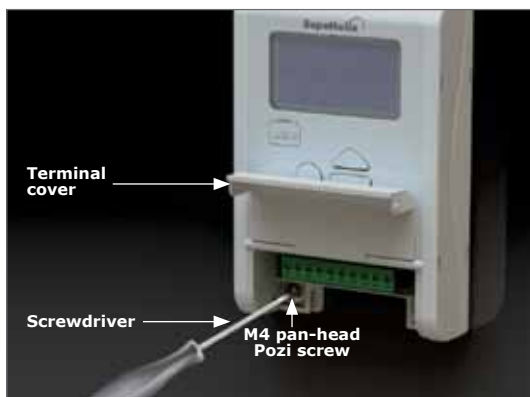
FIGURE 10

6.3. Mounting the CP104 Receiver

Remove the cover from the enclosure using a flat screwdriver.

CP104 receiver cover

Slot

Screwdriver
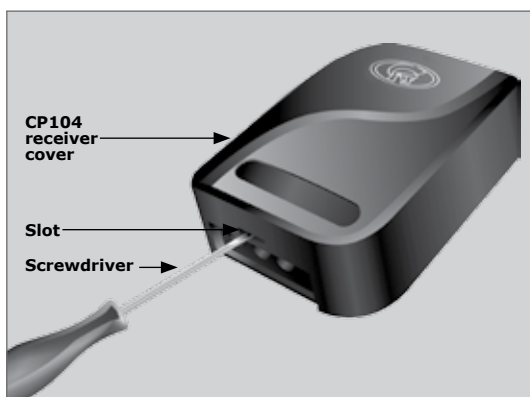
FIGURE 11

Remove the cover and unclip the circuit board from the retaining clips.

CP104 receiver cover

Circuit board
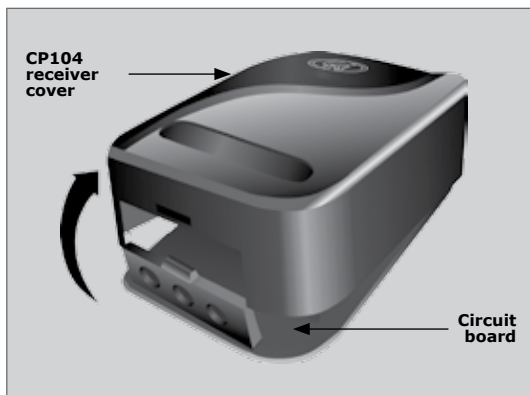
FIGURE 12

Mark the position of the unit on the wall.

Using the 5mm masonry bit, drill a hole into mounting surface wall (for plaster board mounting please follow the instructions provided with the plaster board fasteners).
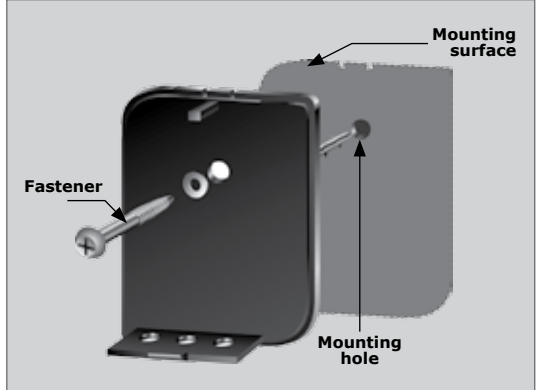
FIGURE 13

Mount the bracket using the fasteners provided.

Use a 6mm drill bit to open the required cable entry hole.
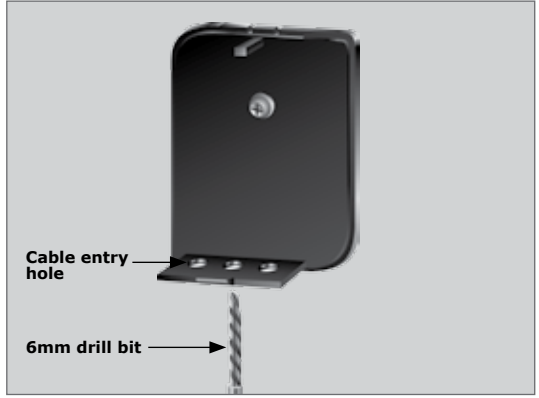
FIGURE 14

Fix the cable to the wall using cable saddles.

Seal all the holes with silicone sealant.

Re-insert the circuit board and ensure that the retaining clips are holding it in place.

FIGURE 15

www.CentSys.com

7. Wiring Diagrams

Power input 10.5V - 30V DC

Channel input/output
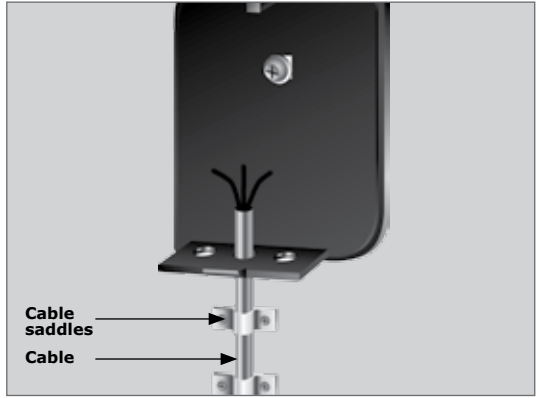
Receiver communication terminals
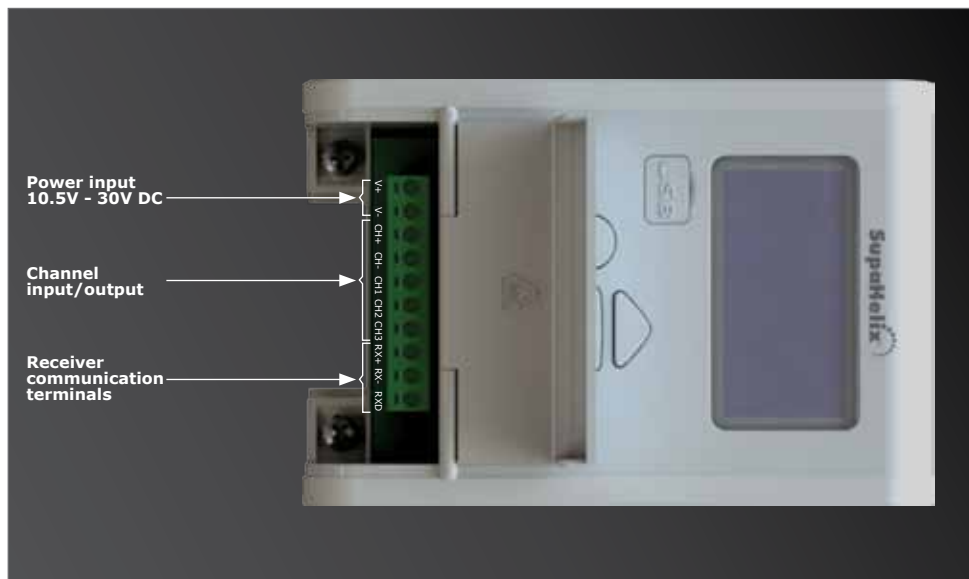
FIGURE 16. PROGRAMMING CONSOLE

Receiver communication terminals
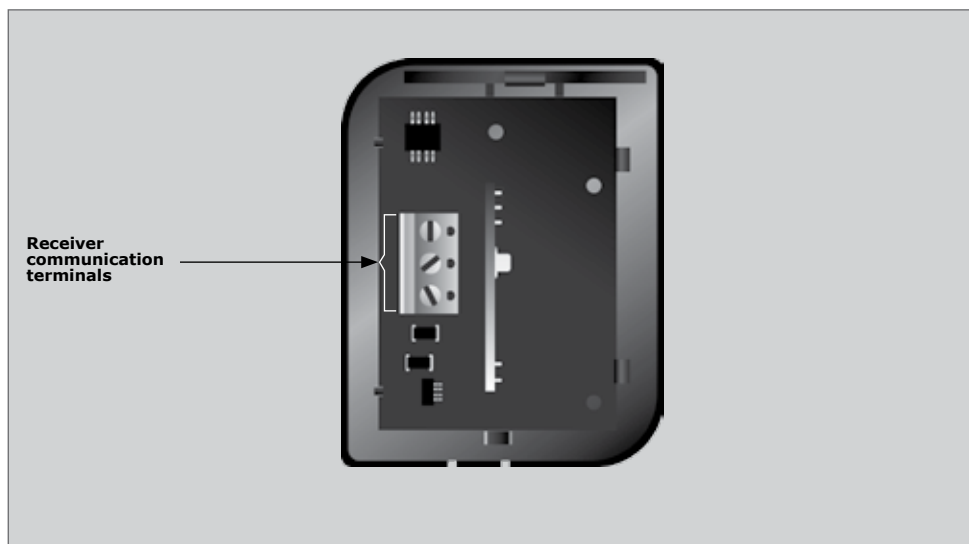
FIGURE 17. CP104 RECEIVER (V3.1 OR LATER)

⚠️ **A maximum distance of 250 metres between the SupaHelix Programming Console and the receiver is allowed, and it is recommended that shielded cable is used.**

D10

SupaHelix Programming Console

V+ V- CH+ CH- CH1 CH2 CH3 RX+ RX- RXD

12V relay

220V (live)

CP104 Receiver (V3.1 or later)

RX+ RX- RXD

Air Conditioner

220V (N)

If the unit receives power from the system it is to control, an additional common connection is not necessary
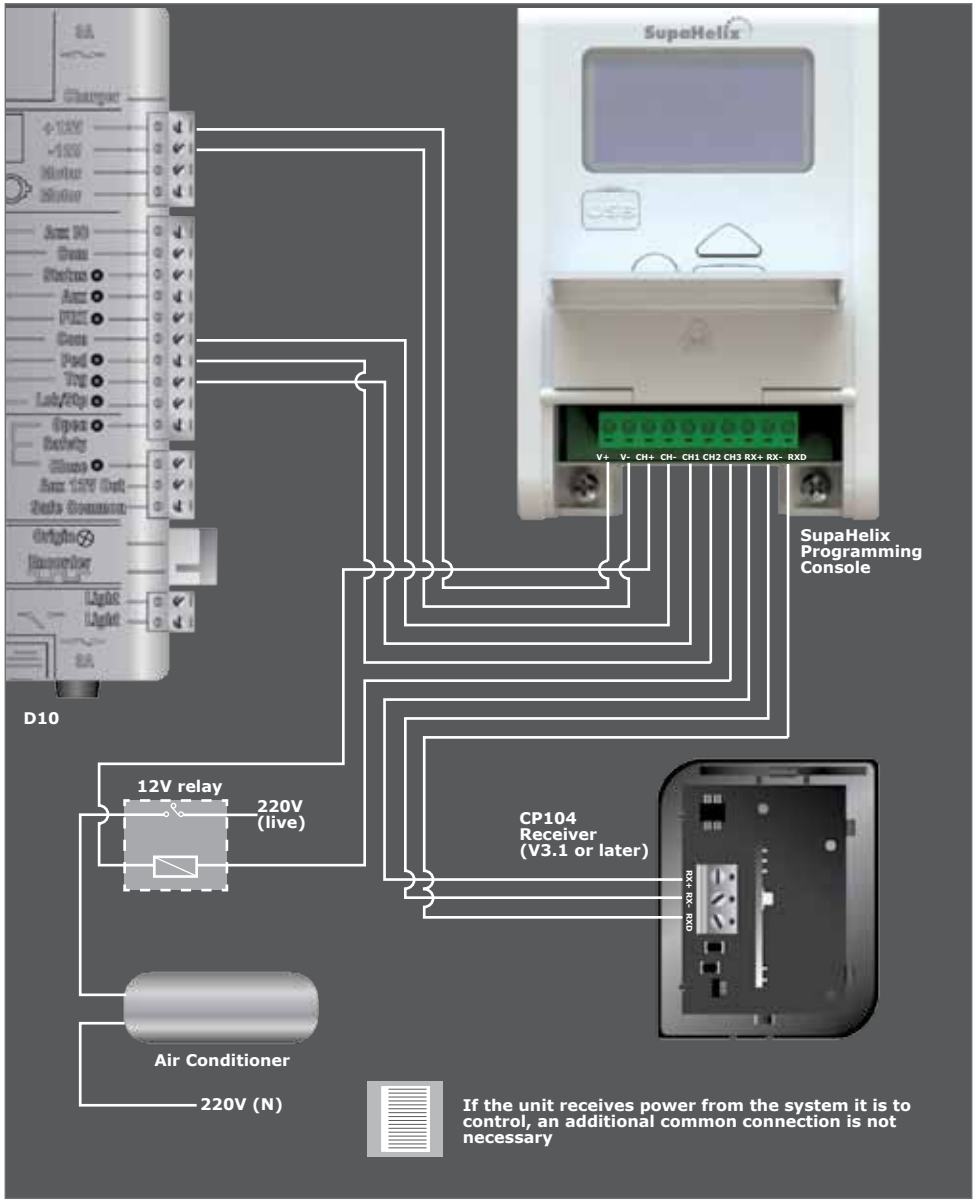
FIGURE 18. TYPICAL SUPAHELIX WIRING DIAGRAM TO D10 AND SWITCHING GEYSER

8. Electrical Setup

FIGURE 19

Date and Time

Latest system
message is
displayed here

Indicating
Channel 1
set as INPUT

Indicating Channel 2
set as INPUT with a
filter on Rising Edge
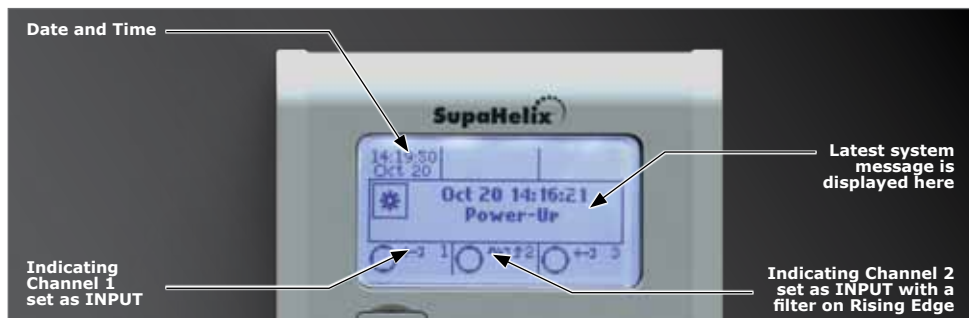
FIGURE 20

While setting up the SupaHelix system via the LCD display, all the steps that have to be followed are clearly provided via the display. It is only necessary to note the following:

- To get into Setup Mode, press the enter (▬) button for two seconds and follow the instructions provided from there
- The buttons on the Programming Console for navigating the system are not marked because at each step during the setup, the function of each button is shown on the display

FIGURE 21

8.1. Menu Navigation Map

1.	**Remote Controls**		
1.1.	Add New Remotes	1.1.1.	Add Remote
		1.1.2.	Template Add Remote
1.2.	Delete Remotes	1.2.1.	Delete Remote Button
		1.2.2.	Delete Remote by Button
		1.2.3.	Delete Remotes by Unit
		1.2.4.	Delete All Remotes
1.3.	Edit Remote Button		
1.4.	Count Remotes		
2.	**Input / Output**		
2.1.	Setup Channel 1		
2.2.	Setup Channel 2		
2.3.	Setup Channel 3		
2.4.	Change Mappable Output		
3.	**Date and Time**		
3.1.	Set Date and Time		
3.2.	Time Zone		
3.3.	Functional Specifications		
4.	**General Options**		
4.1.	Reset Options	4.1.1.	Restore Factory Defaults
		4.1.2.	Reset All
4.2.	Backup and Restore	4.2.1.	Backup ALL to USB
		4.2.2.	Restore from USB
4.3.	Available Memory		
4.4.	Delete Logs		
4.5.	Self Test		

Menu 1 – Remote Controls

The system is capable of learning up to 10,000 compatible code-hopping remote control buttons.

It is possible to artificially increase the number of buttons of a multi-button remote control by using a two-button combination.

One of the buttons is used as a shift button to allow the other buttons to be used again in combination with this button. In other words, the user will press and hold the shift button, before pressing one of the other buttons to create a new button.

The shift button cannot be used as a button on its own, it must always be used in combination with the other buttons.

FIGURE 22

Use of the shift button system allows a three-button remote control to gain an extra button and operate four channels (for example where two SupaHelix modules are installed on a site) and likewise a four-button remote control gains two extra buttons and can operate six channels.

Press and hold the 'fourth' button as a shift key together with button 1, 2 or 3 to operate 4, 5 or 6

FIGURE 23

Menu 1.1. Add New Remotes

Menu 1.1.1. Add Remote

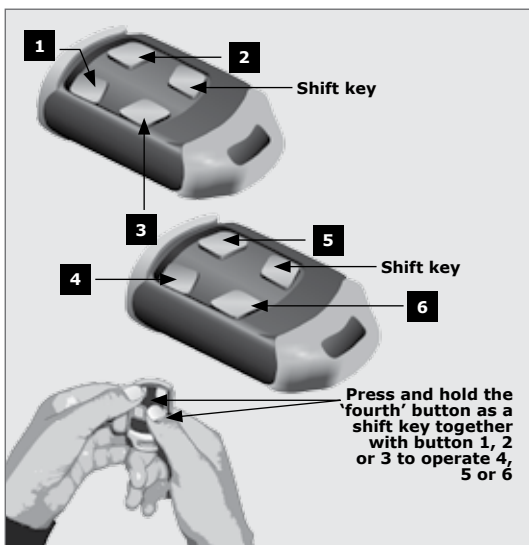Any button can be set to control one or more of the three channels provided by the SupaHelix system. When adding remote controls, it is recommended that a record be kept of the ID number allocated by the system to each respective remote control and the person to whom the remote control is given. This is necessary should selective deletion be required at a later stage, or for the analysis of logging reports.

Together with the traditional single-press Learning, two secure Learning Modes have been added for remote controls. These are intended to prevent unwanted remote controls from being learned into the system during the remote learning process. The first is 'Double Press' Learning, where the new button must be pressed twice in order to be learned in, and the second is 'Press for Three Seconds' Learning, where the new button must be pressed and held for a period of three seconds in order to be learned in.

Menu 1.1.2. Template Learning of Remotes

This function drastically reduces the time spent learning in new remotes when multiple remote control buttons per remote control are being used in the system.
An existing (already learned-in) remote control is used as a template remote control – and then all subsequent remote controls will be learned as 'clones' of the template remote control for different unit numbers. When requested, press any button on the template remote control. All new remote controls can now be learned with just one press of any button, and will inherit all the functional settings of the template remote.
The template remote and remotes to be learned in will be required for this operation.

To add a new remote button, follow this procedure:

1. Press and hold the oblong button for a period of two seconds in order to enter the menu.
2. The very first menu item will be Remote Controls. Momentarily press the oblong button – now acting as an enter key – to confirm your selection of this menu item.
3. Select the **Add New Remotes** sub-menu by pressing the oblong (enter) button.
4. Select the **Add Remote** sub-menu by pressing the oblong (enter) button.
5. Select your preferred learning method; either Single Press, Double Press or Press for 3 Seconds.
6. Specify a unit number to which you would like the remote control to be assigned.
7. Specify which output or combination of outputs the button should activate when pressed.
8. Press the remote button you wish to learn into the system. How many times it needs to be pressed and how long it needs to be pressed for will depend on the learning method selected in Step 5.
   You can now either:
   • Scroll to select a different unit and add the button of a different remote to the newly selected unit for the same output
   • Or press the circular button to go back, scroll to select a different output and repeat from Step 7
   Exit the Add New Remotes menu.

A remote can only be assigned to one unit.

Menu 1.2. Delete Remotes

Remote controls can be deleted at any stage according to one of the following methods:

Menu 1.2.1. Delete Remote Button

The operation of a single button of a particular remote control can be cleared.
For example, the SupaHelix allows the activation of Channel One set on one remote button to be cleared, without affecting the other operations that the same remote control performs. The remote control is required for this operation.

Menu 1.2.2. Delete Remote by Button

This menu options allows you to delete all remote control buttons from a particular remote control by simply pressing any of the buttons on that remote control.
Use this procedure to remove the remote control from the system. All button functionality will be removed. The remote control is required for this operation.

Menu 1.2.3. Delete Remotes by Unit

This procedure removes all remote controls allocated to a specific unit, or unit sub-number. For example, all remote controls learned to Unit 15 can be removed from the system's memory without affecting remote controls assigned to other units.
This is convenient for instances where a household or all the occupants of a flat or townhouse terminate their tenancy. The remote controls are not required for this operation.

To delete a remote or remote button from the system's memory, follow this procedure:

1. Press and hold the oblong button for a period of two seconds in order to enter the menu.
2. The very first menu item will be Remote Controls. Momentarily press the oblong button – now acting as an enter key – to confirm your selection of this menu item.
3. Use the directional arrows to scroll to sub-menu Delete Remotes, and enter using the oblong button.
4. Next, select whether you wish to delete a remote button, delete a remote by button, delete all the remotes associated with a specific unit number, or delete all the remotes stored in the system's memory, and confirm your selection by pressing the oblong button.
5. The next action will depend on which method of deleting a remote has been selected in the previous step. You can now either:
   • If deleting a specific remote button, the button that is to be deleted must now be pressed and released
   • If deleting a remote by button, any button on the remote that is to be deleted must now be pressed and released

- If deleting all the remotes associated with a specific unit number, use the directional arrows to select the unit number (between 0 and 9, 999) and confirm your selection with the oblong button.
- If deleting all remotes, it is simply necessary to confirm your selection using the oblong button.

Menu 1.2.4. Delete All Remotes

Clears the entire memory of learned-in remotes. All remote controls will be removed from the system. Remote controls are not required for this operation.

Menu 1.3. Edit Remote Button

Change the unit number of a remote or change the output(s) a specific button on the remote activates. For example, Button 1 activates Output 2. To change this, use the Edit Remote Button function, select Outputs 2 and 3, and button 1 of the same remote will now activate both Outputs 2 and 3 upon being pressed. The remote control will be required for this operation.

Procedure for Editing Remote Buttons

1. Press and hold the oblong button for a period of two seconds in order to enter the menu.
2. The very first menu item will be Remote Controls. Momentarily press the oblong button – now acting as an enter key – to confirm your selection of this menu item.
3. Use the directional arrows to scroll to sub-menu Edit Remote Button, and enter using the oblong button.
4. Next, press the remote control button that needs to be edited.
5. The Remote Details should be displayed, showing which output(s) the button activates and which unit the remote control is associated with. Press the oblong button (next).
6. If you want to change the output(s) associated with the button, use the directional arrows to scroll to the desired output or combination of outputs. Press the oblong button (next) to confirm your output(s) selection.
   If you don't want to change the output(s) (only the unit number) select the original output for the button and press the oblong button (next).
7. If you want to change the unit of the remote control, use the directional arrows to select the unit number (between 0 and 10,000) and confirm your selection by pressing the oblong button (next).
8. A confirmation message will be displayed. Press the circular button to exit or press the next remote control button to be edited.

Menu 1.4. Count Remote Buttons

Displays the number of remote control buttons learned into the system[1].

1. This is the number of individual buttons, not remote controls

Menu 2 – Input/Output

The system is capable of learning up to 10,000 compatible code-hopping remote control buttons.

Menu 2.1. Setup Channel 1

Menu 2.1. Setup Channel 2

Menu 2.1. Setup Channel 3

Each channel can be configured as either an input or an output.

Inputs are used for monitoring purposes.

Outputs are used for controlling electrical devices, for example to trigger a gate motor or to turn a pump on and off.
The channel direction will be indicated visually on the display.
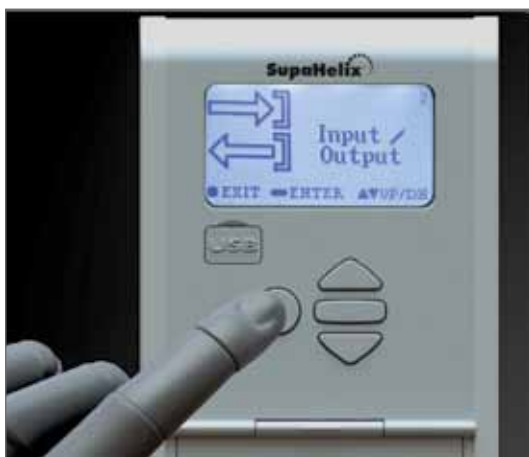
FIGURE 24

The following additional functionality can be programmed per channel:

1. **Set Mode**

    The output mode can be either:

    *   **Momentary:** The output will be activated when the remote control button is pressed, remain activated while the button is held in and deactivate once it is released

    *   **Pulsed:** When the remote control button is pressed, the output will be activated and remain in this state after the button has been released for the pre-set pulse time. The pulse time can be set from 0.5 seconds to 9990.5 seconds in 0.5 second increments

    *   **Latched:** The output will be activated when the remote control button is pressed and remain activated until the same button is pressed again. The output state is 'sticky', and will be remembered if power is cycled

2. **Set Contact Type**

    The output contact type can be configured as either a normally-open or a normally-closed open collector output. The default contact type is normally-open.

The following additional functionality can be programmed per input:

- **Trigger On:** The input can be set to trigger on a rising edge, falling edge, or both. An Input Filter Time can be set for this trigger as explained in the next point

- **Input Filter Time:** (Applicable to both rising and falling edges if set). Sets the time for which a signal must be present before activating the input. For example, an input can be set to only activate if power on the input device has been absent for a period of 60 seconds. The filter can be set from 0 seconds ('filter disabled') to 9991 seconds in one second increments

- **Basic Function:** This feature allows one or more outputs to be triggered upon the activation of the specific input. For example, Input 1 can be configured to activate Outputs 2 and 3 when activated. This is useful in instances where the user wants to create a feedback loop within the system. The SupaHelix automatically determines which outputs are available

Menu 2.4. Change Mappable Output

This operation changes the default output that new remote controls are programmed to activate. It is a dynamic output that can be changed at any stage should the need arise, and all remote control buttons that have been assigned to the 'Mappable Output' will then be moved to the newly chosen output. For example, if Output 1 is currently being used to open the gate fully, and it later becomes necessary to use the output to perform a different function, the Mappable Output can simply be changed to Output 2 for example, and all remote controls learned to the mappable output will automatically be transferred to Output 2. This obviates the need for relearning or editing each individual remote control button. Certain functionality may require additional interface devices, such as relays, isolators, etc.

Menu 3 – Date and Time

Menu 3.1. Set Date and Time

Sets the current date and time in the format yyy-mm-dd for the date and hh:mm:ss for the time.
Use the directional arrows to change the values and press the oblong enter button to go to the next value. It is important that the date and time be configured if the unit is to be used for data logging applications. The onboard Real Time Clock and Calender will retain the date and time information for a period of one week without power.

FIGURE 25

Menu 3.2. Time Zone

This function allows you to select the time zone and major cities associated within that time zone where the SupaHelix is being installed. Daylight savings are automatically applied to the city selection where applicable. Changing the time zone doesn't change the set date and time of the unit.

Menu 4 – General Options

Menu 4.1. Reset Options

The controller settings can be reset through the factory Reset Options menu. Two reset options are available:

Menu 4.1.1. Restore Factory Defaults

All settings will be restored to factory default values indicated in the table overleaf. Programmed remotes will not be removed.

Menu 4.1.2. Reset All

Clears and defaults the system completely. The unit will be reset to the Factory Default settings, in addition to clearing all remotes

FIGURE 26

Procedure to reset:

1. Press and hold the oblong button for a period of two seconds in order to enter the menu.
2. Use the directional arrows to scroll to Menu 4: General Options, and press the oblong button to enter.
3. The first option is Reset Options; press the oblong button to enter.
4. Use the directional arrows to choose either Restore Factory Defaults or Reset All. The descriptions of these two menu items are given above. Press the oblong button to enter.
5. For the Restore Factory Defaults option, use the directional arrows to select Yes and press the oblong button to confirm your selection.

   For the Reset All option, use the directional buttons to scroll down to the end of the message and press the oblong button to confirm the reset.

⚠️ **This function will erase all controller settings, learned-in remote controls, and log files and it will restore the unit to the factory default settings. It is highly recommended that a backup of the system is performed (see Menu 4.2) before performing this action**.

Parameter Description	Unit	Minimum	Default	Maximum
Channel direction	Input; Output		Output	
Mode	Pulsed; Latching; Momentary		Momentary	
Mappable channel	Channel 1; 2; 3		Channel 1	
LCD backlight brightness	%	0%	50%	100%
LCD backlight timeout	Mm:ss	00m:01s	00m:15s	01m:00s
LCD contrast	Level	1	30	50

TABLE 2

Menu 4.2. Backup and Restore

Menu 4.2.1. Back up ALL to USB

Allows all controller settings, remote controls to be backed up onto a USB device via the Programming Console's USB host.

A USB memory stick (flash drive) is required to perform this function.

FIGURE 27

To back up the system's memory, follow this procedure:

1. Insert a USB memory stick (flash drive) into the Programming Console's onboard USB host.
2. Press and hold the oblong button for a period of two seconds in order to access the menu.
3. Using the directional arrows, scroll to Menu 4: General Options, and press the oblong button to enter.
4. Press the down arrow once and use the oblong button to enter the Backup and Restore sub-menu.
5. The first option will be Backup All to USB. Again press the oblong button to confirm your selection.
6. The system will prompt you as to whether you wish to proceed. Press the oblong button to continue with the backup procedure.
7. Once all settings, logs, remotes, and actions have been copied across to the memory stick, the words 'DONE Backup Complete' will be displayed on the screen.
8. All backed-ups are stored in the root directory in the following folder; SH_BACKUP

Menu 4.2.2. Restore from USB

Allows all controller settings, remote controls and phone numbers from a previous backup to be uploaded onto the system. Note that logs will not be restored.

If a backup has been created on a USB memory stick

Procedure to Restore System Data:

1. Insert the USB memory stick (flash drive) containing the backed up system data into the Programming Console's onboard USB host.
2. Press and hold the oblong button for a period of two seconds in order to access the menu.
3. Using the directional arrows, scroll to Menu 4: General Options, and press the oblong button to enter.
4. Press the down arrow once and use the oblong button to enter the Backup and Restore sub-menu.
5. Press the down arrow again and use the oblong button to enter the Restore from USB sub-menu.
6. The system will prompt you as to whether you wish to proceed. Press the oblong button to continue with the restore procedure.
7. Once all settings, logs, remotes, and actions have been restored, the words 'DONE. Restore Complete' will be displayed on the screen.

Menu 4.3. Available Memory

Displays the amount of memory available on the unit's 2GB removable micro SD card. This is expressed as a percentage.

Menu 4.4. Delete Logs

This function allows you to delete log files stored in the unit. You can choose between deleting specific log files or deleting all log files.

It is highly recommended that you back up the system (see Menu 4.2)

Menu 4.5. Self Test

For safety purposes all inputs and outputs must be disconnected prior to performing the Self Test

When selected, this option initiates a series of diagnostic tests to query the system's health and operation of the following system components:

1. All three input/output channels.
2. The up, down and 'back' buttons.
3. The receiver.
4. The onboard buzzer.
5. The backlight.
6. The USB host.
7. The EEPROM (memory).

To perform the Self Test please follow the onscreen prompts. At the end of the Self Test, a diagnostic report will be displayed indicating which operations passed, which failed, and what tests were skipped. The test will take approximately 1.5 minutes.

Menu 5 – Display Options

Menu 5.1. Adjust Display Contrast

Alters the contrast between the LCD background and the text and graphics. The contrast is adjusted between one (low contrast) and 50 (high contrast) in increments of one using the directional arrows.
The default value is 30.

Menu 5.2. Adjust Backlight Intensity

Sets the brightness of the backlight. This can be set from 0% ('disabled') to 100% in 1% increments using the directional arrows."

FIGURE 28

Menu 5.3. Adjust Backlight Timeout

Sets the amount of time for which the backlight will remain on after the last action has been performed. This can be set from one second to 60 seconds in one second steps. The default Backlight Timeout is 15 seconds.

Menu 6 – Security Options

Menu 6.1. Menu Locking

Various options are available to limit access to the menu and help prevent tampering of the unit and unwanted altering of the settings.

1. **No security** – the menu is accessible to anyone.

2. **Any remote in the system** – Any remote learned into the system's memory can unlock the menu and access settings.

3. **Any remote in Group 0** – Any remote learned to Unit 0 can access the menu.

FIGURE 29

When a new security option is set, all outputs with sticky latch set will revert back to normally-open position.

Menu 7 – Logging Options

Menu 7.1. View Logs

Allows the system administrator to select a log file to view. The log files are saved according to month. After selecting a month using the directional arrows and pressing the oblong button to enter, you can scroll through the activities logged. Some activities allow you to view details by pressing the oblong (▬) button, such as 'Supply Voltage Low'.

FIGURE 30

Menu 7.2. Upload Logs

Upload the logs from the device onto a USB flash drive. You can choose to upload all logs or choose a specific month of logs to upload. A USB Flash drive will be required for this operation. All logs are stored in the root directory in the following folder; SH_BACKUP\Logs

Menu 7.3. Delete Logs

Allows the administrator to either delete all log files or select a specific one to be removed from the system's memory. The user can scroll through the available logs by using the directional arrows and select them using the oblong (▬) button.

⚠ **It is important to note that all logs that may have been saved to the same USB device with the same name will be overwritten on the USB device with this action.**

Menu 8 – Firmware Upgrade

The administrator can bootload the unit with the latest firmware by downloading it from the manufacturer's website and transferring it to the unit via a USB device. Place this file on the root directory of the USB key you intend to use.

📄 After the new firmware has been installed, the SupaHelix will request a confirmation.

FIGURE 31

9. Diagnostics

The SupaHelix system provides useful visual diagnostic feedback of the overall system health via a series of diagnostic screens which are easily accessible from the main screen by pressing either of the directional arrows. To get back to the main screen just keep scrolling through the screens using the directional arrows.

The following three diagnostic screens and related diagnostic indicators are provided:

- **Hardware Version:** Denotes the version number of the physical components, electronics, etc., used in the construction of the unit
- **Device Firmware:** The version number of the current product code and persistent memory loaded to the system
- **Firmware Revision:** This is the actual repository firmware for the application segment of the product code
- **Bootloader Version:** The repository firmware for the bootloader segment of the product code
- **Serial Number:** A unique eight-digit number allocated to each manufactured unit

FIGURE 32. DIAGNOSTIC SCREEN 1

- **Lang File Version:** The version number of the current language file on the SD card
- **Micro Version:** The version number of the current language file on the micro controller
- **GUID:** Globally Unique Identifier for the SupaHelix

FIGURE 33. DIAGNOSTIC SCREEN 2

- **Supp Voltage:** This is the current supply voltage read by the system as provided by the power source
- **Pup:** The date and time that the device was last powered up
- **Pdn:** The date and time that the device was last powered down
- **Stat:** Displays important messages related to the system health

FIGURE 34. DIAGNOSTIC SCREEN 3

10. 24 Month Carry-in Product Warranty

You can register your product(s) online at www.CentSys.co.za, which will assist you in keeping a record of your date of purchase or installation, serial numbers, etc.

All of our products are manufactured with extreme care, thoroughly inspected and tested.

The goods supplied by us shall be subject to the provisions of sections 55 to 57 of the Consumer Protection Act (68/2008) except where the provisions of the warranty contained in our product documentation are more favourable to the purchaser.
Subject to the warranty contained in our product documentation, if applicable, our products are warranted for a period of twenty-four months after delivery.
However, it is expressly noted that batteries carry a six month warranty due to the nature of these products being such that they are subject to possible misuse. Please note that warranties will be honoured on a carry-in basis; in other words, the product in question must be taken in to one of our branches, or to the authorised reseller that the product was purchased from, for assessment and, if necessary, repair. For equipment not of our manufacture, the warranty as supplied by the original manufacturer will apply if such warranty is more favourable to the purchaser than the relevant provisions of the Consumer Protection Act (Act 68/2008 of South Africa), or any other applicable law as so required in different countries in which the product was sold.
Such warranty is valid only once full payment has been received for such goods.

Australian customers:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure

Any warranty may be voidable on any equipment which:

1. Has not been installed in accordance with the installation instructions provided.
2. Has been subject to misuse or which has been used for any purpose other than that designed for by the manufacturers.
3. Has damage caused as a result of handling during transit, atmospheric conditions (including lightning), corrosion of metal parts, insect infestation, power surges or other forces outside of the control of the manufacturer.
4. Has been repaired by any workshop and / or person NOT previously authorised by the manufacturer.
5. Has been repaired with components not previously tested, passed or authorised by Centurion Systems (Pty) Ltd, South Africa or one of its subsidiary companies.

Any warranty may be voidable on any equipment which:

1. There has been a failure to install the product in accordance with the installation instructions provided by the manufacturer, or
2. A failure to abide by the safety instructions provided by the manufacturer, or
3. There is no breach of a legal duty of care owed to you by us or by any of our employees or agents.
4. Such loss or damage is not a reasonably foreseeable result of any such breach, and any increase in loss or damage resulting from breach by you of any term of this contract.

11. Installation Handover

Once the installation has been successfully completed and tested, it is important for the installer to explain the operation and safety requirements of the system.

NEVER ASSUME THE USER KNOWS HOW TO SAFELY OPERATE THE SUPAHELIX DEVICE.

Neither Centurion Systems (Pty) Ltd, nor its subsidiaries, accepts any liability caused by improper use of the product, or for use other than that for which the product was intended.

Ensure that the customer is in possession of the User Guide and that you have completed the installation details in the back of the User Guide.

Notes

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