Solution 16i

Security Systems

EN | Quick Start Guide
Security System

BOSCH

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Telepermit Note

The grant of a Telepermit for a device in no way indicates Telecom acceptance of responsibility for the correct operation of that device under all operating conditions.

This equipment shall not be used in any manner that could constitute a nuisance to other Telecom customers.

Immediately disconnect this equipment should it become physically damaged, and arrange for its disposal or repair.

The transmit level from this device is set as a fixed level and because of this there may be circumstances where the performance is less than optimal. Before reporting such occurrences as faults, please check the line with a standard telepermitted telephone.
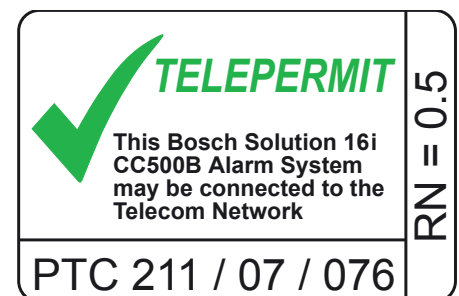
Warnings

1) This product must be installed and maintained by a qualified and licensed security installer.

2) This product may not perform as expected if installed incorrectly.

3) Some features of this product require a working telephone line to operate and telephone communication service provider charges are applicable.

4) Australian standard AS 2201 requires regular service by qualified and licensed security persons and regular user testing. Please consult your security alarm company for further details.

5) Incorrect programming of parameters can result in operation contrary to what may be desired.

6) Leave the mains adapter plugged in at all times.

7) Leave the telephone line plugged in at all times under normal conditions.

8) The Product Identification Label for this product which is supplied in the resistor pack, must be affixed to the outside of the enclosure during installation.

SOLUTION 16i
Intrusion Control Panel

BOSCH

N12138   TELEPERMIT   CE   N12138   Made In Australia

TELEPERMIT

This Bosch Solution 16i CC500B Alarm System may be connected to the Telecom Network

PTC 211 / 07 / 076   RN = 0.5

9) This equipment shall not be set up to make automatic calls to the Telecom '111' Emergency Service.

TABLE OF CONTENTS

FIGURES

TABLES

FEATURES

Listed below are the main features of the Solution 16i Control Panel.

❖ Individual Box Tamper Circuit Monitoring

❖ Report Via Email

❖ Telephone Line Busy Tone Detect

❖ RAS Intelli-connect® CLI Caller Line Identification

❖ Daylight Savings

❖ Senior Watch

❖ System Maintenance Interval Reminder

❖ System Weekly Test Reminder

❖ Area Inactivity Interval

❖ Temporary Pin Code

❖ Dual Reporting

❖ Dual Redundant Reporting

❖ Alarm Report Abort/cancel Options

❖ 8 Programmable Holiday Calendars

❖ 8 Programmable Schedules

❖ 16 On-board Zones (Exp To 16 Zones)

❖ Fire Alarm Verification

❖ 48 Pin Codes

❖ 4 Supervised High Power Digital Outputs

❖ Outputs Expandable to 8 via Relay Module

❖ Supervised Siren Driver

❖ Partitionable To 4 Areas

❖ Dialler Reports SIA, Contact ID, SMS and Email Formats

❖ Supervised LAN Keypads (Maximum 8 Keypads)

❖ Keyswitch Input

❖ 256 History Event Memory

❖ EMI / Lightning Transient Protection

❖ ICON interface with Text Prompts

❖ Programmable Via Solution Link Software

❖ Telephone Line Fail Monitor

❖ Time Executed Functions

❖ 60 Output Event Types

❖ Exit Restart

❖ Expansion Module Supervision

❖ DTMF Remote Control of Areas and Outputs

❖ Remote Arming

❖ Designed and Manufactured in Australia

❖ Three Year Warranty

OVERVIEW

Zones

The Solution 16i control panel provides up to 16 separate zones of protection. Zone programming determines the panel's response to open/short and tamper conditions on the zone loop.

Areas

The control panel supports up to 4 separate areas. You can assign all zones to a single area, or you can assign each zone to a combination of different areas.

You can arm and disarm the control panel by area, alternatively, you can arm and disarm several areas at the same time.

Dialler

The control panel has a built-in dialler to send reports to the receiving party (ie. Security company monitoring station, mobile phone, SMS etc).

Keypads

You can connect a maximum of 8 fully supervised keypads to the control panel. Proximity Keypads are also available.

History Log

The control panel can store up to 256 history events from all 4 areas. All events are stored in the log, even if they are programmed not to report via the on-board dialler.

You can view the control panel's history log via keypad, serial printer (optional), or by connection of a personal computer (direct/remote) using the Solution Link upload/download software.

Programming

You can program the Solution 16i either by a keypad or using a personal computer using the Solution Link upload/download software.

Solution Link Version V1.10 or higher is required to program this panel.

ABOUT THE PANEL

Enclosures

The MW700 - Small Enclosure and MW710 - Large Enclosure have been designed to reduce installation time and improve aesthetics on larger installations where often multiple enclosures need to be located in close proximity to each other.

A number of new features have been incorporated including a new style tamper bracket which can be easily installed before or after the enclosure is mounted to the wall, an anti tamper lid which insures the cabinet tamper triggers when the lid is removed, easier access for flexible and rigid conduits, additional 20mm cable entry knockouts and a new board mounting system using removable spring clips.

The MW700 and MW710 enclosures include numerous holes, allowing the PCB mounting clips to be positioned in the most appropriate location for each installation.

> *For ease, it is recomended that the PCB mounting clips are installed from the rear of the enclosure before mounting it to the wall.*
> **Note**
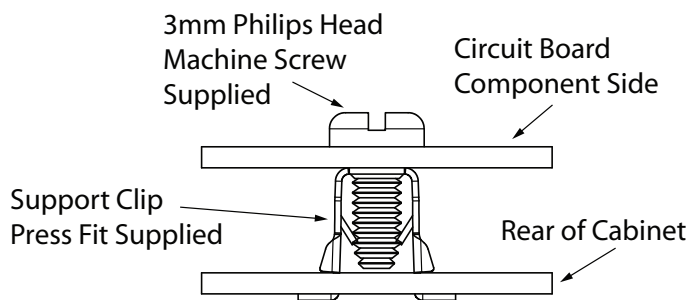
Figure 1: PCB and Mounting Clip Installation Diagram

3mm Philips Head Machine Screw Supplied

Circuit Board Component Side

Support Clip Press Fit Supplied

Rear of Cabinet

Enclosure Fixing Method

CM700B - Small Enclosure

Use appropriate fasteners capable of handling a minimum of 6kg to fix the cabinet against a sturdy surface using the mounting holes provided.

CM710B - Large Cabinet

Use appropriate fasteners capable of handling a minimum of 12kg to fix the cabinet against a sturdy surface using the mounting holes provided.

Installing The Tamper Switch

The tamper switch can be located on either the left or right hand side of the cabinet to suit the installation. Before installing the bracket, fit the tamper lead to the switch and then insert it into the bracket.

Once the enclosure has been mounted to the wall, insert the tamper bracket into the rectangular hole in the top flange of the enclosure and then slide the base of the bracket toward the top until the tamper switch locates in the rear of the enclosure.

Depress the tamper a few times with your finger to ensure smooth operation.

Figure 2: Tamper Bracket Installation

Enclosure Module Spaces

The MW700 enclosure has space for 2 large modules or 4 small modules while the optional MW710 enclosure has space for up to 4 large modules or 8 small ones. The enclosures have been designed so that any combination of large and small units can be neatly mounted together on the wall.

Each module is mounted to the enclosure using 4 or more clip in standoffs. The clips can be inserted from the rear of the enclosure before mounting it to the wall, or from the front of the enclosure after it has been mounted. Both methods should be performed using your finger tips to prevent damage to the standoff. (Standoffs and screws are supplied with each module).

All compatible add on modules will mount on these spaces. See below for list if modules which can be added to the ICON panel.

Module	Space Occupied
Solution 16i Control Panel	2 Module Spaces
CM704B Zone Expander	1 Module Space
CM710B Output Expander	1 Module Space
CM720B LAN Power Supply	1 Module Space
CM195 RF Receiver Expander	1 Module Space

Table 1: Expansion Options

Use the above table to help determine which size cabinet you will require for the job.

On some export models, one module space will not be available as the mains transformer mounts in this location.

Installing Panels and Modules

Once the enclosure is secured in place, install the panels and modules onto the mounting clip using the supplied 3mm screws. Do not over tighten the screws.

When fitting panels or large modules, you should use 5 mounting clips, one in each corner of the PCB and one in the middle of the PCB underneath the main terminal blocks. When mounting small modules, only 4 clips are required, 1 in each corner.

Both enclosures are supplied with tamper switches, tamper leads, tamper brackets and a quantity of mounting clips and screws. If required, additional mounting clips and screws may be purchased in bags of 50 clips (10 packs x 5pcs). (P/N: MW890)

> **Note** *The supplied mounting clips are designed to use the 3mm machine screws supplied with the enclosure. The use of self tapping screws will damage the clips.*
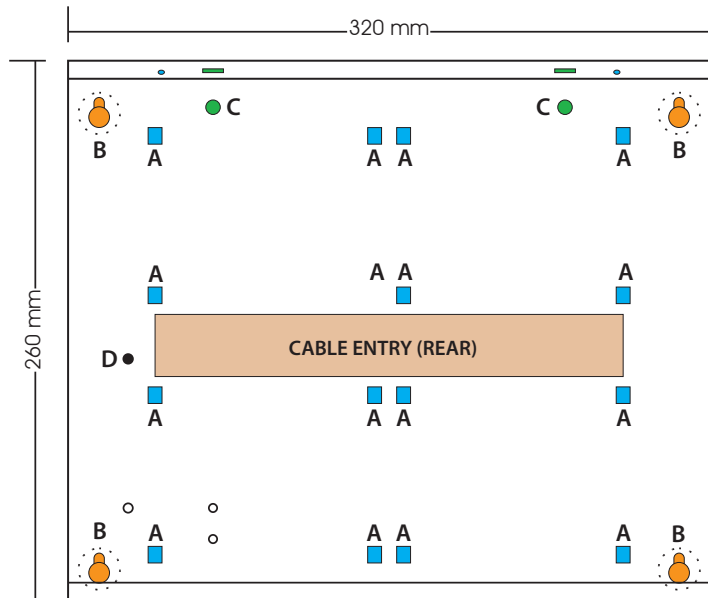
Figure 3: MW700 - Small Enclosure Details

A = PCB Mounting Clip Holes
B = Enclosure Mounting Holes
C = Tamper Bracket Mounting Holes
D = Earth Stud - 4mm
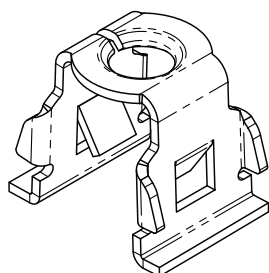
Figure 4: PCB Mounting Clip

The following example shows the MW700 -Small enclosure configured using 4 small modules.
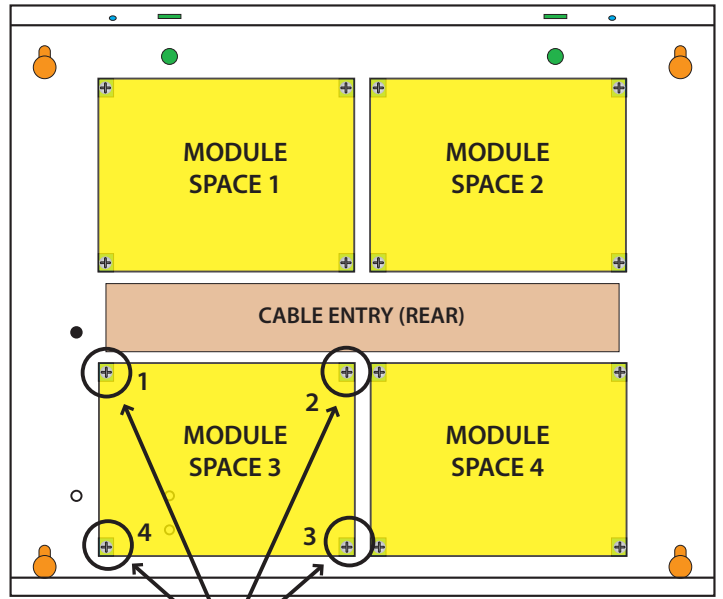
When installing small modules, you should fit 4 mounting clips as shown.

The following example shows the MW700 -Small enclosure configured using 2 small modules and 1 large module.

When installing large modules, you should fit 5 mounting clips as shown.
Clip 5 provides support under the main terminal block only. No screw is fitted.
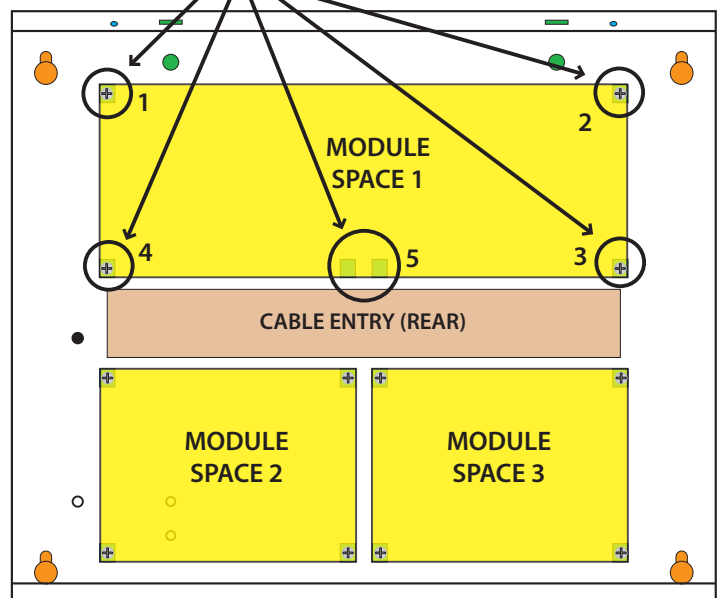
Figure 5: MW700 Configuration Examples

                                       E&OE

───320 mm───

520 mm

CABLE ENTRY (REAR)

CABLE ENTRY (REAR)

CABLE ENTRY (REAR)

A = PCB Mounting Clip Holes
B = Enclosure Mounting Holes
C = Tamper Bracket Mounting Holes
D = Earth Stud - 4mm
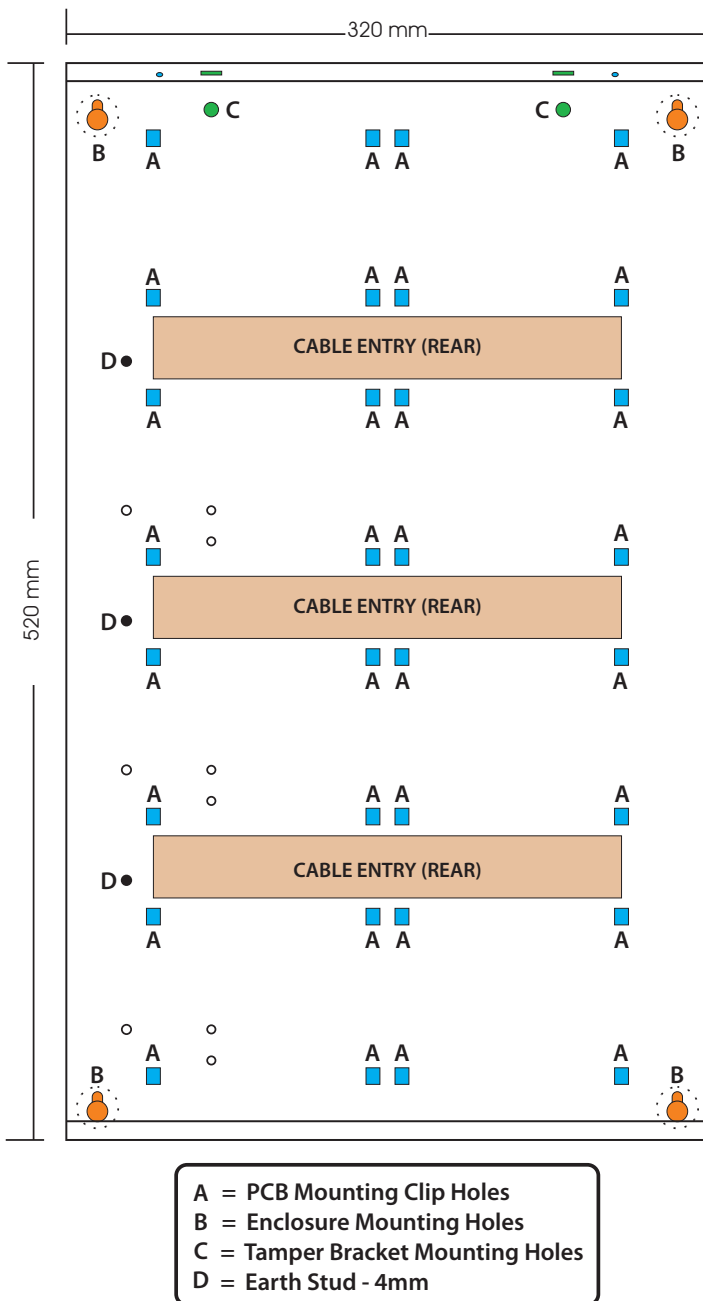
Figure 6: MW710 - Large Enclosure Details

The following examples show the MW710 -Large enclosure configured using 6 small modules and 1 large module.

When installing large modules you should fit 5 mounting clips as shown.
Clip 5 provides support under the main terminal block only. No screw is fitted.

MODULE SPACE 1

CABLE ENTRY (REAR)

MODULE SPACE 2

MODULE SPACE 3

CABLE ENTRY (REAR)

MODULE SPACE 4

MODULE SPACE 5

CABLE ENTRY (REAR)

MODULE SPACE 6

MODULE SPACE 7
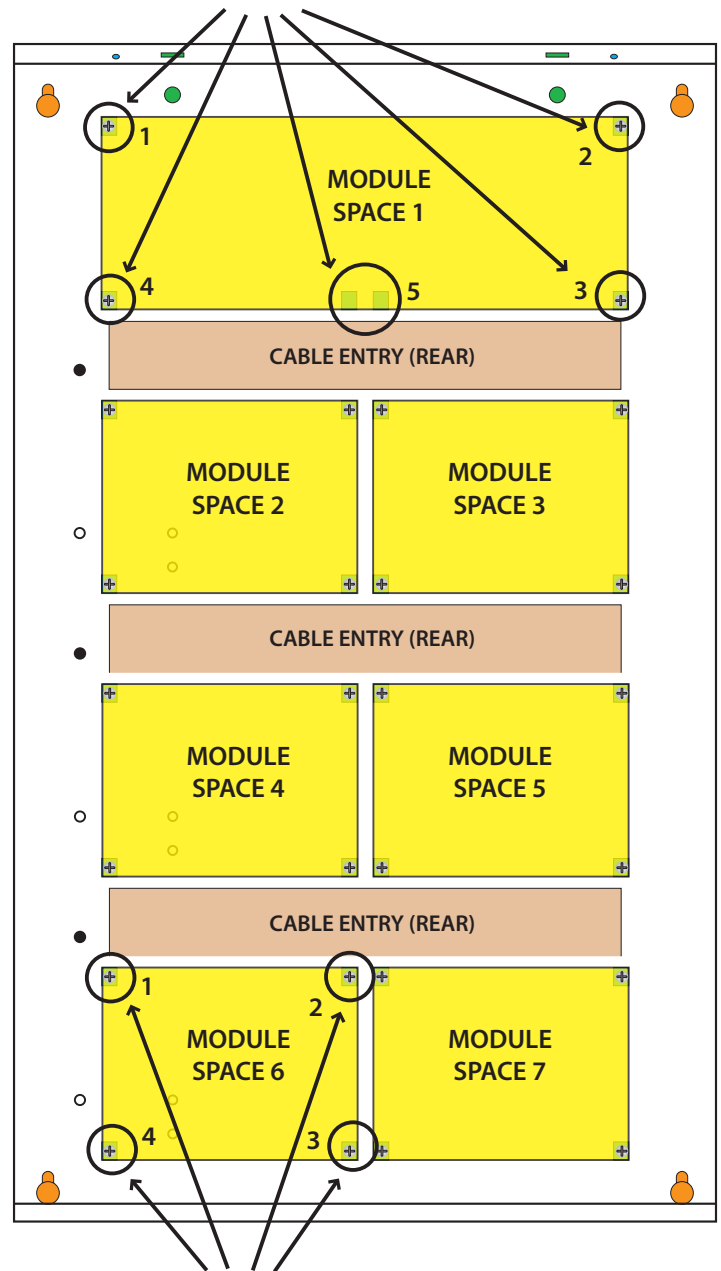
When installing small modules, you should fit 4 mounting clips as shown.

Figure 7: MW710 Configuration Examples

Connecting Power To The Panel

For normal operation, the panel requires both A.C. and DC power sources. The A.C. source can be provided either by an external adapter or by an internal transformer depending on the model and country of sale.

When connecting using the A.C adapter, feed the cable in to the enclosure and terminate the wires on the removable terminal block supplied before connection it to the PCB.

If using a 3 wire Adaptor, then the earth wire should also be terminated onto the terminal block. Always check the orientation of the terminal block with the PCB markings before connecting it to the PCB.

Connecting The Battery

The panel is supplied with a set of battey leads to suit the chosen enclosure. Connect the Red Battery lead to the Battery (+) terminal and the Black Battery lead to the Battery (-) terminal on the PCB.

Once terminated onto the PCB connect the other end of the leads to the battery paying attention to the polarity.

A.C. mains Transformer Option

On models with an internal transformer, a suitable mains power cord must be installed between the transformer and the A.C Mains supply. See Figure 8 below. This must be completed by a suitably qualified electrician according to the applicable wiring standards and regulations.

> **Note**
> *For permanently connected equipment, a readily accessible disconnect device such as an A.C. Mains power outlet or mains switch shall be installed in a location near the equipment, for connection of the mains power cord.*

Next connect the transformer output wires (red) to the removable terminal block supplied and then connect it to the PCB. Always check the orientation of the terminal block with the PCB markings before connecting.

Transformer Output (Red Wires)

Wiring must be carried out by a licensed electrician following applicable wiring standards

TRANSFORMER
220 - 240V A.C.
50 - 60Hz 24VA

FUSE
8AG - 250V
250mA MAX

NEUTRAL
EARTH
ACTIVE

Transformer Input (Blue Wires)
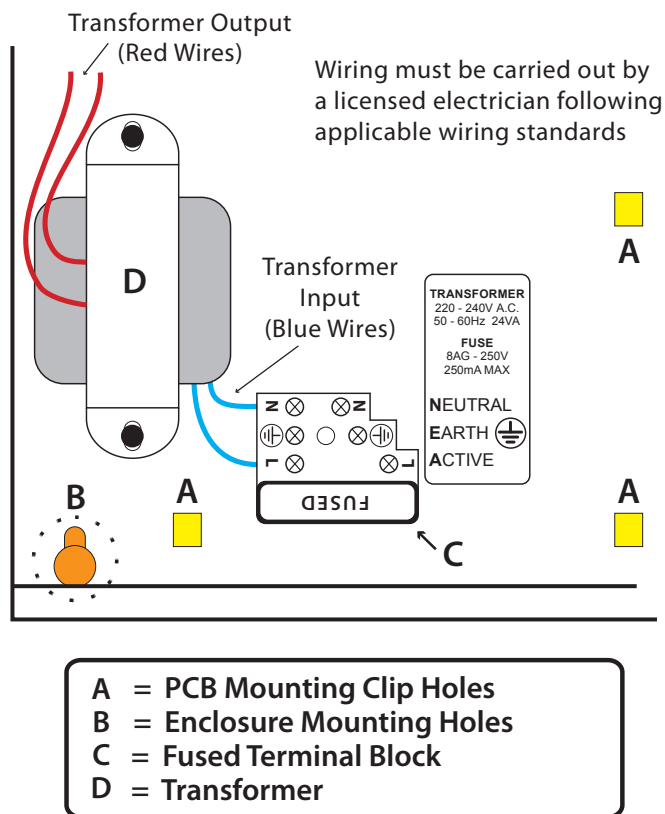
FUSED

A = **PCB Mounting Clip Holes**
B = **Enclosure Mounting Holes**
C = **Fused Terminal Block**
D = **Transformer**

Figure 8: Internal Transformer Connection Diagram

Panel LED Indicators

The Solution 16i PCB has two LED indicators (Dialler and Status LED's) which display the following information.

Condition	Meaning
Off	Offline
On	On Line (Dialling/Answered)
Flashing	Incoming Call

Table 2: Dialler Indicator LED

Condition	Meaning
Off	Error
On	Error
Flash Once Every 2 Seconds	OK
Flash Fast	AC or Battery Trouble

Table 3: Status Indicator LED

> **Note**
> *During factory defaulting the Status and Dialler LED indicators will flash alternatively for approximately 15 seconds.*

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WIRING DIAGRAMS

Figure 9: N/C No EOL Zone
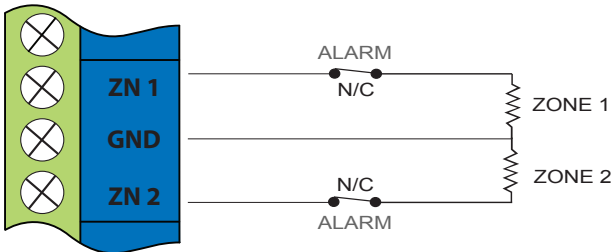
Figure 10: N/C Single EOL Zone
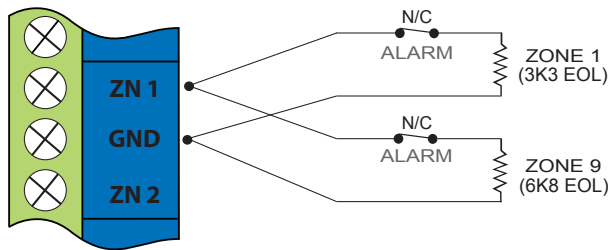
Figure 11: N/C Split EOL Zone
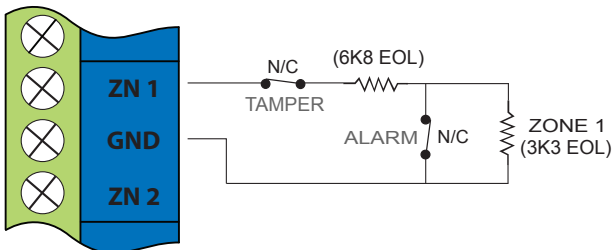
Figure 12: N/C Zone With Tamper

Note *The Above diagrams display zone configurations using Normally-Closed Alarm contacts and Normally-Open Alarm Contacts. When using Normally-Open Alarm Contacts you must select Inverted Seal for each zone in MENU 3-1-8. A shorted loop is a tamper condition for all EOL zone configurations.*

Figure 13: N/O No EOL Zone
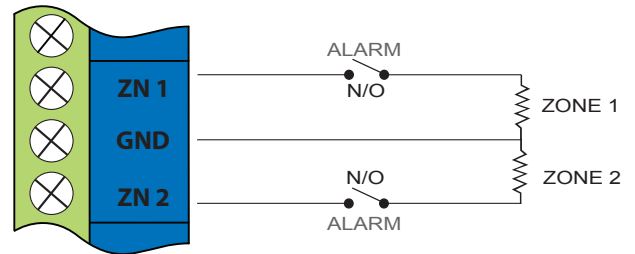
Figure 14: N/O Single EOL Zone

Figure 15: N/O Split EOL Zone

Figure 16: N/O Zone With Tamper

EOL Resistor ColourS and Values

Use either the 4 colour, or solid colour resistors supplied.

Figure 17: EOL Resistor Colour Chart

Earth Connection Spade For Surge Protection

16-18 VAC 24VA

12VDC 7.2Ah Sealed Lead Acid Battery Panasonic LC-P127R2P or Equivalent

Accessory 12 VDC Supply (750mA Fused)

LAN Devices Connection Terminals (750mA Fused)

The maximum continuous combined current draw from the +12V, LAN + and C+ terminals must not exceed 1 Amp

Output Devices 12VDC Supply (2.5A Fused)

Output 1, 2, 3 and 4 Connection Terminals 500mA

RF Receiver / Keyswitch Input

RF Receiver

Zone Input Terminals

Telephone Line Connection Socket (RJ12 6P4C)

Telephone Line Connection Terminals

Panel Cabinet Tamper Circuit Connection Terminals

Battery Charging Globe

RS485 LAN Termination Shunt

4-Pin Socket to LAN For Service Keypad

Expansion Port TCP/IP Module Connection

Default and Direct Connect Switch

10-Pin Serial Connection Socket For Direct Link / Flash Programming etc.

Voice Module Connection Socket (Optional)

Refer to Documentation For Dialer & Status LED's

VISION CONTROL SYSTEM
DF102A.PCB
REV A - 12/06

Designed and Manufactured in Australia by DIGIFLEX

N12138

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Figure 18: Solution 16i Board Layout
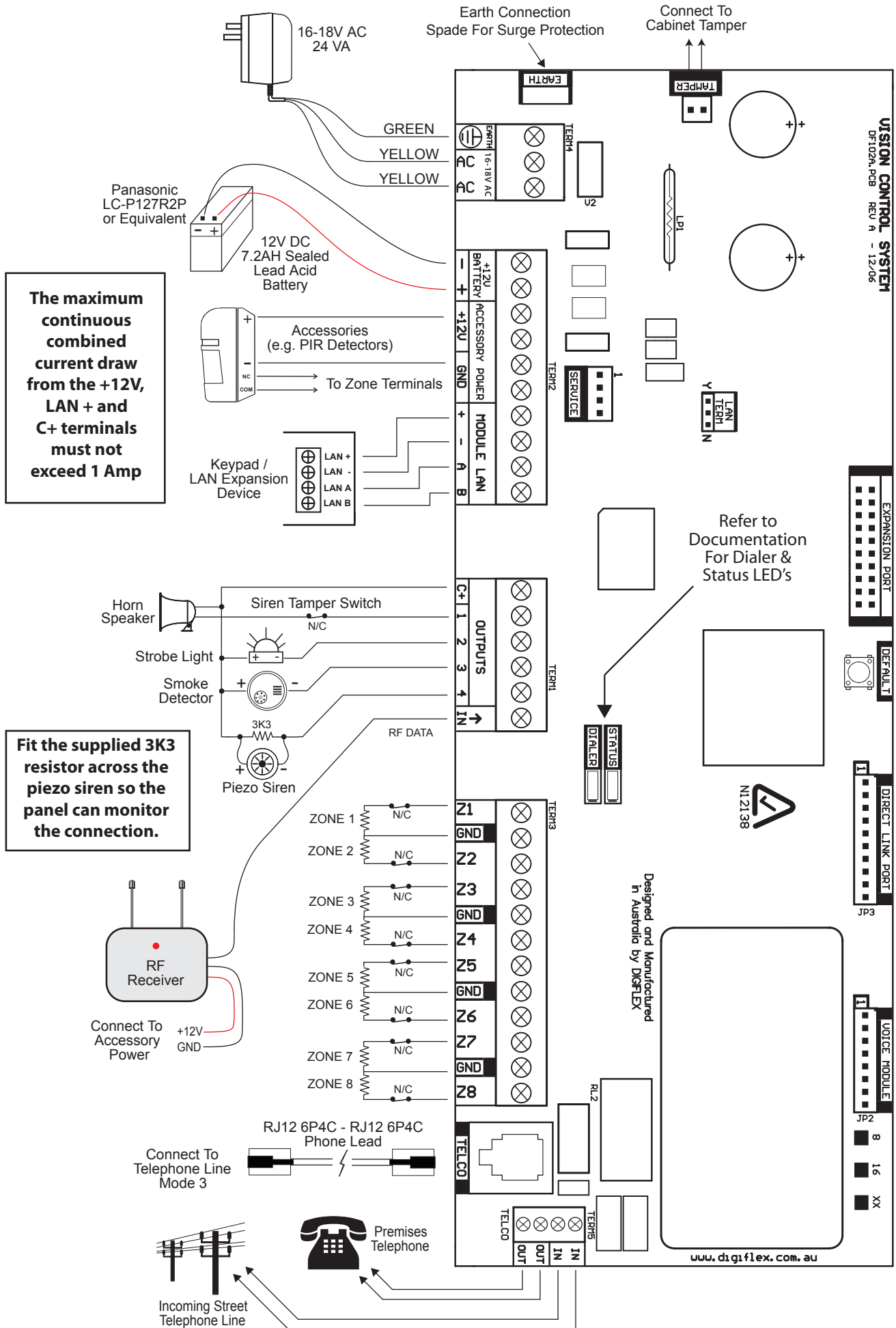
Earth Connection
Spade For Surge Protection

Connect To
Cabinet Tamper

16-18V AC
24 VA

Panasonic
LC-P127R2P
or Equivalent

12V DC
7.2AH Sealed
Lead Acid
Battery

GREEN
YELLOW
YELLOW

**The maximum
continuous
combined
current draw
from the +12V,
LAN + and
C+ terminals
must not
exceed 1 Amp**

Accessories
(e.g. PIR Detectors)

To Zone Terminals

Keypad /
LAN Expansion
Device

LAN +
LAN -
LAN A
LAN B

Refer to
Documentation
For Dialer &
Status LED's

Horn
Speaker

Siren Tamper Switch

N/C

Strobe Light

Smoke
Detector

3K3

**Fit the supplied 3K3
resistor across the
piezo siren so the
panel can monitor
the connection.**

Piezo Siren

RF DATA

RF
Receiver

Connect To
Accessory
Power

+12V
GND

ZONE 1   N/C
ZONE 2   N/C
ZONE 3   N/C
ZONE 4   N/C
ZONE 5   N/C
ZONE 6   N/C
ZONE 7   N/C
ZONE 8   N/C

Z1
GND
Z2
Z3
GND
Z4
Z5
GND
Z6
Z7
GND
Z8

RJ12 6P4C - RJ12 6P4C
Phone Lead

Connect To
Telephone Line
Mode 3

Premises
Telephone

Incoming Street
Telephone Line

USION CONTROL SYSTEM
DF102A.PCB   REV A - 12/06

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Figure 19: Solution 16i Connection Diagram

LAN Overview

The Solution 16i panel communicates with other system module devices via the built in RS485 LAN or Local Area Network.

For increased security, the system uses anti-substitution technology and a proprietary data encryption algorithm to communicate with all LAN modules.

When using the recommended cable types the LAN can be up to 1500metres in length, or even greater when LAN isolators are used.

See the CM397 LAN Isolation Module reference guide for more information on how to use LAN isolators to increase the overall LAN length, improve surge immunity protection and prevent earth loops.

> **Note** *It is recommended that one or more CM379 Isolators be used when connecting the LAN between multiple buildings.*

LAN Wiring

Figure 20: and Figure 21: show the two recommended module connection diagrams.

The method shown in Figure 20, is only recommended for use where the total LAN length is 300metres or less and the system is not installed in a electrically noisy environment. In this case it is possible to use 7/0.20 or 14/0.20 security cable (non twisted) provided that module voltage levels are maintained within specification.

The method shown in Figure 21, offers the greatest immunity to noise interference and voltage surges. This connection method is recommended where the total LAN length is greater than 300metres. When using twisted pair cable the LAN length can be up to 1500metres, and this can be extended even further when using LAN isolators.

The LAN can be wired using the daisy chain method as shown, where each module is wired back to the panel on the same cable run or using a star configuration, where individual modules are wired back to the panel on individual wires.

Un-shielded cable can be used successfully in many situations however for the highest reliability and performance in areas prone to frequent electrical storms or high levels of electrical interference, shielded twisted pair cable should be used.

LAN+ and LAN- should not be used to power detectors or other external devices. These devices should be powered from the +12V terminals on the panel or via an external power supply.

When wiring modules with built in power supplies like the control panel and the CM720B Power Supply, do NOT connect the EARTH wire from any 3 wire plug pack to the module's EARTH input terminal, if you have installed a separate communication earth wire.
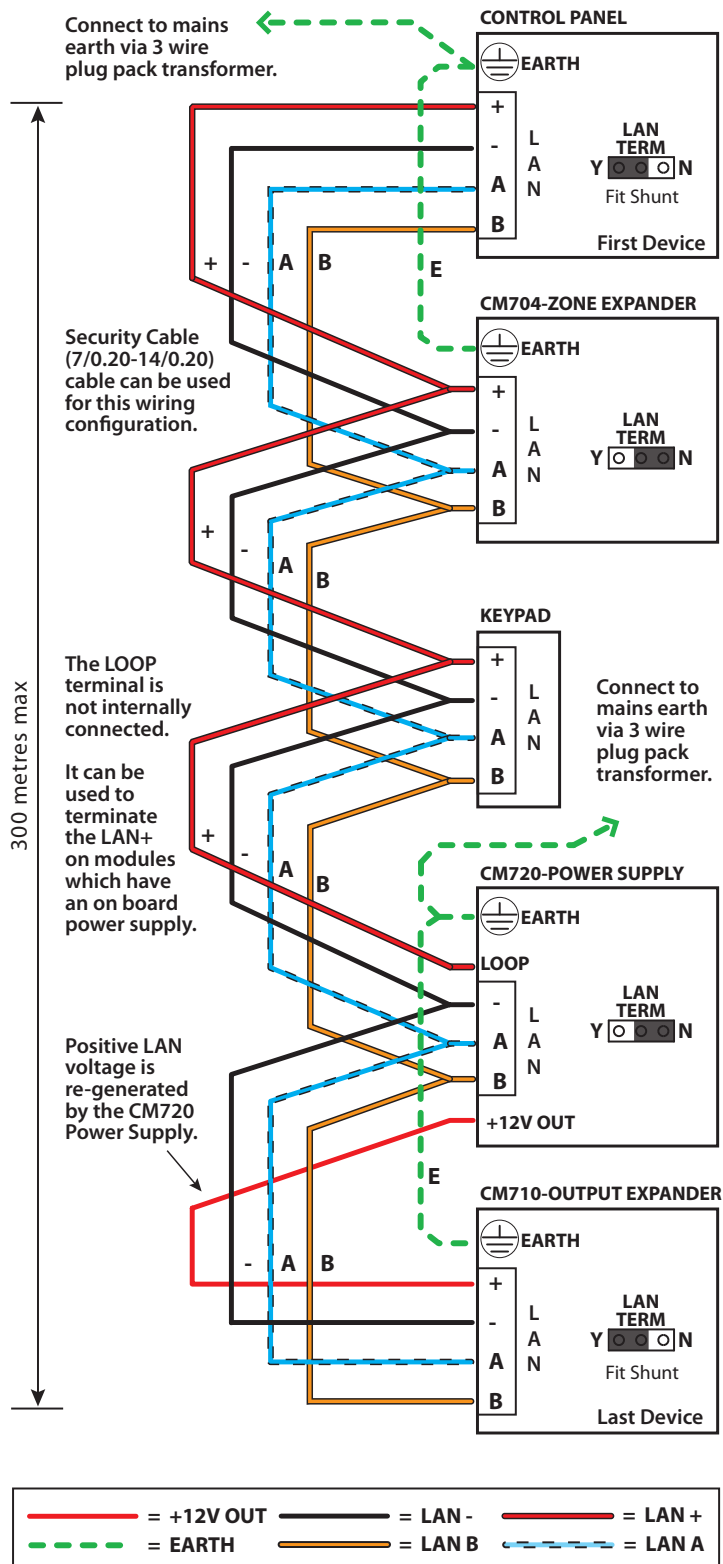
Figure 20: LAN Connection Using 2 Pair Security Cable Recommended for LAN Lengths 300 metres or less.

The LAN A and LAN B wires are not interchangeable. Make sure that the LAN A wires from all modules connect to LAN A on the panel and LAN B wires from all modules connect to LAN B on the panel.

Do not connect the positives of two power supply sources together. When wiring the LAN to modules that are self powered, or powered from an external source you should terminate the LAN+ into the terminal marked LOOP. This terminal is simply a termination point and is not internally connected.

Figure 21: LAN Connection Using Twisted Pair Cable Recommended for LAN Lengths greater than 300 metres.

The LAN- terminals from all modules must be connected together for correct operation.

System Earthing

When running a CET communications Earth as per Figure 21, the communication earth should be connected to the earth terminal on each module and then connected back through the CET to the main building earth conductor.

Do NOT connect the plug pack transformers earth wire to any modules earth terminal.

(i) Note *If a separate Communications Earth wire is installed, Do NOT connect the EARTH wire from any 3 wire plug pack to any modules EARTH input terminal.*

If a separate communications earth is NOT being used, then you should connect the earth wire from the 3 wire plug pack to the panels earth terminal as shown in Figure 20.

When using shielded cable, the shield of each length of cable should only be connected to a protective earth at one end. Do no allow the shield to make contact with negative 0 volts, ground or any other wiring within the system.

All earth wiring should be carried out in accordance with the local wiring regulations in your area.

Terminating the LAN

For reliable operation the system LAN must be terminated correctly. The control panel and all LAN modules include a LAN TERM pin header and shunt which is used to connect the termination resistor on the module.

When the shunt is installed between the Y pin and the centre pin, the terminator is fitted and when the shunt is between the N pin and the centre pin the terminator is not fitted.

Where all modules are connected to the panel on a single cable run, (Daisy Chained) the terminators should be installed on the first and last modules on the LAN.

If the modules are connected to the panel via multiple cables all running back to the control panel (Star Configuration) then the terminators should be installed on the modules at the end of the two longest cable runs.

There are no LAN terminators on keypads. If a keypad is one of the two furthest devices from the control panel then a 470 ohm 1/2watt resistor can be fitted at the keypad between the LAN A and LAN B terminals.

In smaller installations where no LAN modules have been installed there is no need to fit the termination resistor on the control panel.

(i) Note *The LAN must be terminated correctly for proper operation.*

Terminal Descriptions

Nº	Name	Description
1	Earth	Earth wire from this terminal is connected to the Mains earth.
2 3	~ (AC) ~ (AC)	Connection of the 16-18V A.C. 50-60 Hz adapter or internal transformer.
4 5	BAT (-) BAT (+)	Negative and positive connections to the stand-by battery. 12 VDC / 7.2AH
6 7 8 9	+12 V +12 V GND GND	These terminals are used to power detectors and other accessory devices. (750mA Fused)
10 11	LAN + LAN -	These terminals are used to power LAN modules and devices. (750 mA Fused)
12	LAN A	Connect the LAN A data terminal of any LAN device (eg. Keypads, expansion boards) to this terminal. The control panel supports up to 300 m of 24/0.20 (18 AWG) wire on these terminals.
13	LAN B	Connect the LAN B data terminal of any LAN device (eg. Keypads, expansion boards) to this terminal. The control panel supports up to 300 m of 24/0.20 (18 AWG) wire on these terminals.
14	COMM+	Common positive terminal for system outputs. This terminal is 2.5A PTC Fuse protected.
15 16 17 18	OUT 1 OUT 2 OUT 3 OUT 4	Fully supervised programmable, open collector outputs capable of driving (sink) loads up to 1 amp for sirens, strobes etc.
19	INPUT	Programmable Input for RF Receivers, Keyswitch and other devices.
20	ZN 1	Zone 1 and 9 sensor loop input (+).
21	GND	Common (-) for Zone 1 & 2 sensor loop.
22	ZN 2	Zone 2 and 10 sensor loop input (+).
23	ZN 3	Zone 3 and 11 sensor loop input (+).
24	GND	Common (-) for Zone 3 & 4 sensor loop.
25	ZN 4	Zone 4 and 12 sensor loop input (+).
26	ZN 5	Zone 5 and 13 sensor loop input (+).
27	GND	Common (-) for Zone 5 & 6 sensor loop.
28	ZN 6	Zone 6 and 14 sensor loop input (+).
29	ZN 7	Zone 7 and 15 sensor loop input (+).
30	GND	Common (-) for Zone 7 & 8 sensor loop.
31	ZN 8	Zone 8 and 16 sensor loop input (+).
32 33	IN IN	These terminals are used to connect the telephone line from the street.
34 35	OUT OUT	These terminals are used to connect the premises telephones.

Table 4: Terminal Block Descriptions

Note: *The maximum combined continuous current draw from the +12V, LAN + and COMM+ terminals must not exceed 1 Amp*

Board Connectors

Connector	Description
Service	This socket allow you to connect a service Keypad to the panel during installation.
Tamper	This socket is used to connect the cabinet tamper switch to the panel.
Default	This push button is used to reset the control panel back to factory default and to enable Direct Link Programming Mode.
Voice Module	This is used to connect the optional Voice Command Module (CM100).
Direct Link Port	This socket is used to connect the Direct Link Interface (P/N CM900) or the Flash Programmer Interface (P/N CM901) to the panel.
Telco	This is a RJ12 6P/4C connector that allows you to connect the control panel to the PSTN telephone line.
Expansion Port	Used to connect addition modules to the control panel. eg TCP/IP interface.
LAN Term	Used to terminate the RS485 LAN.

Table 5: Board Connector Descriptions

ABOUT THE KEYPAD

The ICON Keypad has 20 keys or buttons. The buttons allow you to input instructions and navigate the menu screens as required. Some buttons have a secondary function which is activated by holding them down for two seconds. Each button's function is described below.

Keypad Button Functions

Key	Description
0 to **9**	The numeric keys allow you to enter numbers when required.
MENU	Use the [MENU] and the numeric keys to enter commands. The [MENU] key is also used to go back one level when navigating through menus or to exit a programming location without saving changes.
ALL ON / ON	The [ON] key allows you to turn an area or output on. To turn all areas on at the same time when the system has been partitioned, press and hold the [ON] key for two seconds.
BYPASS / PART	The [PART] key allows you to turn an area Part On. This key can also be used to bypass a zone or multiple zones when you press and hold for two seconds.

Key	Description
ALL OFF OFF	The [OFF] key allows you to turn an area or output off. To turn all areas off at the same time when the system had been partitioned, press and hold the [OFF] key for two seconds.
OK	The [OK] key allows you to enter or select options as well as saving changes.
TEST MAIL	The [MAIL] key allows you to read stored mail. This key can also be used to initiate a dialler test when you press and hold for two seconds.
←	The [←] key allows you to move the cursor left when programming text or telephone numbers.
→	The [→] key allows you to move the cursor right when programming text or telephone numbers.
↑	The [↑] key allows you to navigate through menus or to toggle characters when programming telephone numbers.
↓	The [↓] key allows you to navigate through menus or to toggle characters when programming telephone numbers. Pressing The [↓] key will display current trouble conditions when the area that the keypad is displaying is disarmed.
→ + ↑ for 2 sec	Pressing the [→] and [↑] keys together and holding them down for 2 seconds will trigger a Panic alarm. If programmed the sirens will sound and the monitoring station will be notified.
← + → for 2 sec	Pressing the [←] and [→] keys together and holding them down for 2 seconds will cause trigger a Fire alarm. If programmed the sirens will sound and the monitoring station will be notified.
↑ + ↓ for 2 sec	Pressing the [↑] and [↓] keys together and holding them down for 2 seconds will trigger a Medical alarm. If programmed the sirens will sound and the monitoring station will be notified.

KEYPAD EMERGENCY ALARM TRIGGER'S

Key Sequence	Event Triggered
← + → Hold for 2 seconds	Keypad Fire Alarm
→ + ↑ Hold for 2 seconds	Keypad Panic Alarm
↑ + ↓ Hold for 2 seconds	Keypad Medical Alarm

Table 6: Keypad Emergency Alarm Trigger's
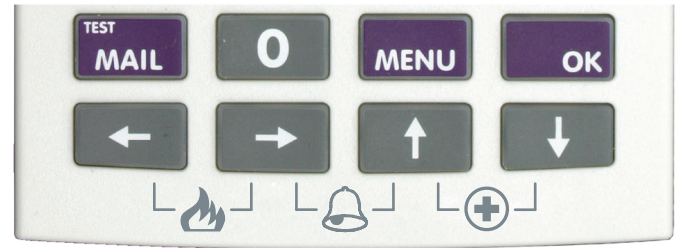
Figure 20: Keypad Emergency Alarm Trigger's

Keypad Setup

The Solution 16i control panel can have a maximum of 8 keypads connected via the LAN terminals. Each keypad must be set to a unique address before they will operate.

Each keypad needs to be assigned to a home area via MENU 6-1-3. This sets the area the keypad will display and control by default. Keypads can be locked to a home area or allowed to roam or move between areas.

When the system is powered up, any keypads which have not been assigned a home area will be automatically set to home area 1.

Set each keypad address using the table below as a guide.

Note *Only 1 Keypad can be assigned to each address. All Keypads are supplied from the factory set to address 1. (OFF-OFF-OFF).*

Keypad Address Select
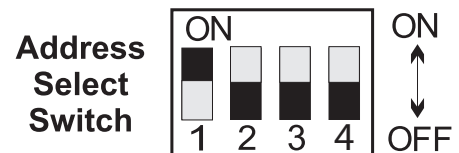
Figure 22: Keypad DIP Switch Address Settings

Keypad DIP Switch Address Settings				
Keypad To Address	S1	S2	S3	S4
Keypad 1	Off	Off	Off	Off
Keypad 2	On	Off	Off	Off
Keypad 3	Off	On	Off	Off
Keypad 4	On	On	Off	Off
Keypad 5	Off	Off	On	Off
Keypad 6	On	Off	On	Off
Keypad 7	Off	On	On	Off
Keypad 8	On	On	On	Off

Table 7: Keypad DIP Switch Address Settings

Status Icons / LED's

The following table lists the function of each of the ICON Symbols and LED Indicators on the ICON Keypad Display.

Figure 23: LCD Display Showing All ICONs

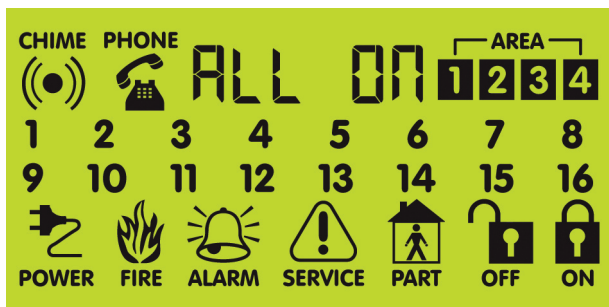| Icon	Status	Meaning
AREA 1 2 3 4		The keypad can display which areas (1 – 4) are turned on or off via the Area Icon Indicators. This programmable option can be disabled in MENU 6-1-4.
	On	Area is turned All On or Part On
	Off	Area is turned Off
	Flashing Fast	Alarm occurred in the area
POWER	**On**	System power is normal
	Flashing	System power is missing
FIRE	**Flashing**	A fire alarm is active
	Off	No fire alarm
	On	Fire alarm in memory (Turn the area All On and Off to Clear).
SERVICE	**On**	The existing service or trouble condition has been acknowledged.
	Off	No service or trouble conditions exist
	Flashing	A service or trouble condition is present that has not been acknowledged.
PART	**On**	The area is turned Part On.
	Off	The area is not turned Part On.
OFF	**On**	The area is turned Off
	Off	The area is turned All On or Part On
ON	**On**	The area is turned All On
	Off	The area is turned Off

Icon	Status	Meaning
CHIME	**On**	Chime Mode is On
	Off	Chime Mode is Off
PHONE	**On**	Phone Line in Use
	Off	Phone Line not in use
Red LED	**On**	System Armed
	Flashing	Alarm
Green LED	**On**	System Disarmed
	Flashing	Area not ready to turn on
Red & Green LED	**Flashing**	Installer programming mode is active.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	**On**	Zone Open or Unsealed
	Off	Zone Closed or Sealed
	Flashing	Zone in Alarm or Alarm Memory

Keypad Tones

All keypads emit several distinct tones and display text to alert you to system events. The volume of the keypad tones can be adjusted in MENU 6-1-0.

Type	Meaning
Fire Alarm Tone	When a fire zone sounds an alarm, the keypad will sound 3 seconds on and 2 seconds off (repeat).
Burglary Alarm Tone	When a burglary zone activates while your system is turned on, your keypad emits a continuous siren tone. It sounds for the time set by your security company.
Trouble Tone	When a system component is not functioning properly, your keypad sounds 4 fast short beeps followed by a 5 second pause (repeat).
Key Press Tone	Pressing any key on the keypad sounds one short beep, indicating that the key press is accepted.
Entry Delay Tone	When you enter the premises through a zone programmed for entry delay, the keypad sound a Hi/Low tone to remind you to turn off the area. If the area is not turned off before the entry delay expires, an alarm condition will sound and a report may be sent to your alarm company.

Type	Meaning
Exit Delay Tone	After you turn an area All On, the keypad will sound 1 short beep every second. During the last 10 seconds fast short beeps will be heard. If you don't exit before the delay time expires and an exit delay door is faulted, an alarm occurs.
Error Tone	If you press an incorrect key, the keypad will sound a 2 second tone.
Menu Mode	The keypad will sound a Hi / Lo tone to indicate you have entered MENU Mode and a Lo/Hi tone to indicate you have exited MENU mode.
Chime Tone	The keypad sounds fast short beeps to alert you when a zone programmed for chime is faulted or unsealed.

DTMF Control Functions

Firmware version V1.10 onwards includes comprehensive DTMF control of individual areas and outputs with full user PIN and TIMER GROUP access verification.

Unlike other systems, no additional hardware or modules are required for DTMF control. To configure the desired functions see MENU 5-3-5 DTMF Options.

How to Use DTMF Control

1. Once the panel answers the incoming call, if either option 1, 2, 3 or 4 in MENU 5-3-5 is enabled, then the panel will play a short welcome jingle. You now have approximately 5 seconds to enter a valid PIN and log onto the panel.

2. Enter PIN followed by the # key. If the PIN is valid the system will respond with two short beeps. If the PIN is invalid then a single long beep will be heard.

If a valid PIN is not entered in time, the panel will attempt to establish a modem connection as if connecting to the Solution Link software.

If this happens you will need to hang up for approximately 60 seconds before trying again.

3. Once validated, the following commands can be performed. See the table below. If no keys are pressed for 20 seconds then the panel will play the exit jingle before terminating the session and hanging up. Pressing ## at any time while connected will cause the panel to terminate the session.

DTMF CONTROL FUNCTIONS		
Operation	**Command**	**Response**
Quick Arm All Areas	0 + #	2 x Beeps
Log In OK	USER PIN + #	Welcome Jingle
Log In Failed	USER PIN + #	Long Beep

Turn Area ON	1 + (Area N°1-4) + 1 + #	2 x Beeps (Low - High)
Turn Area OFF	1 + (Area N°1-4) + 2 + #	2 x Beeps (High - Low)
Turn Output ON	2 + (Output N°1-8) + 1 + #	2 x Beeps (Low - High)
Turn Output OFF	2 + (Output N°1-8) + 2 + #	2 x Beeps (High - Low)
End Session	# + #	Exit Jingle

Table 8: DTMF Remote Control Functions

DTMF EXAMPLES

Each example below shows the log on step for clarity. In practise is only necessary to log on once per DTMF control session.

To turn Area 1 ON enter the following

2 + 5 + 8 + 0 + # = Log ON

1 + 1 + 1 + # = Arm Area 1

To turn Output 10 ON enter the following

2 + 5 + 8 + 0 + # = Log ON

2 + 10 + 1 + # = Turn Output 10 ON

To turn Output 12 OFF enter the following

2 + 5 + 8 + 0 + # = Log ON

2 + 7 + 2 + # = Turn Output 7 OFF

Note *If the DTMF Quick Arm option is enabled then it is possible to remotely arm all areas without logging onto the panel.*
Simply enter 0 + # following the welcome jingle.

Make sure that the phone being used to remotely control the panel is set to transmit DTMF tones when keys are pressed during the call. This option is disabled by default on some phones.

Expansion Modules

CM704B Zone Expander Module

The Solution 16i panel includes support for 1 x CM704B - 8/16 Zone Expansion module. This allows for 16 individual zones when using Alarm and Tamper (4 state) monitoring as well as allowing zones to be located in two separate locations within a building.

All zones follow the global EOL setting in MENU 3-4-0 regardless of whether they are on the panel or on the expander module.

Zone numbering is automatically assigned by the panel during power up depending on the module configuration found and the EOL value selected.

(i) Note *When using the CM704B you should not select Split EOL monitoring. If you do the zones on the expander will not be available.*

For example single EOL is selected and 1 x CM704B Zone Expander is fitted, then Zones 1 - 8 will be located on the main panel and Zones 9 - 16 will be located on CM704B.

Fitting an RF receiver to the panel allows any zone to be programmed as a wireless zone.

ZONE CONFIGURATION TABLE				
Device Type	Single EOL	Alarm + Tamper	Split EOL	RF Zones
Solution 16i Panel	8	8	16	Up to
CM704B Expander	8	8	N/A	16 zones
Total Zones	16	16	16	Max

Table 9: Zone Configuration Using Expanders

Once a zone has been programmed to be a wireless type the coresponding hardwired zone input is automatically disabled. No EOL resistor is required.

(i) Note *Currently the panel supports only supports CM704B zone expanders. The CM705 is not supported.*

CM710B Output Expander Module

The Solution 16i panel includes support for 1 x CM710B 4 Way Relay Output Expander.

Adding a CM710B adds an additional 4 relay outputs to the panel. The maximum output capacity is 8. The output expander can be located with the control panel or in separate part of the building and then wired back to the control panel via the 4 wire LAN to minimise cable requirements.

CM720B Power Supply Module

The Solution 16i panel includes support for 1 x CM720B - 1 Amp LAN Power Supply Module which can be used to provide LAN voltage regeneration as well as supplying power to other modules, Intrusion Sensors Door Strikes etc.

The CM720B module can be located with the control panel or in separate part of the building and then wired back to the control panel via the 4 wire LAN to minimise cable requirements.

The CM720B module is designed to run off a standard plug pack transformer and includes a built in battery charger suitable for charging 12V 7Ah batteries.

As with all LAN modules, the status of the CM720B is constantly being monitored and reported to the control panel via the system LAN.

CM195 Multi RF Receiver Interface

The CM195 Multi Channel Radio Interface allows up to three RF receivers to be simultaneously connected to the control panel. This can be used to provide greater in building radio coverage on large or RF unfriendly installations.

Large factories, houses or multi level installations where RF sensors are required, can benefit by having multiple receivers located throughout the building as they can provide you the best possible coverage and a level of redundancy when more than one receiver's coverage area overlaps another.

The CM195 intelligently analyses all signals passed to it by each receiver before sending the appropriate signal to the control panel for processing. Duplicated transmissions sent by more than one RF receiver are filtered to prevent multiple signals being triggered for the same event.

Expansion Module Configuration

LAN module support for the Solution 16i panel requires that each module type is set to address 1. For example if a system has 1 x CM704B and 1 x CM720B installed, they should both be addressed as 'module 1'.

The panel will only look for new devices following a power cycle and only if the LAN is not secured. To add new devices, make sure the LAN is unsecured before powering the system down.

Set the module Address DIP switches accordingly and complete wiring as per instuctions. Once complete re-power the system. To interrogate devices connected to the LAN you can use LAN Status command, MENU-6-0-0

LAN MODULE ADDRESSING				
Module	SW 1	SW 2	SW 3	Address
CM704B	OFF	OFF	OFF	1
CM720B	OFF	OFF	OFF	1
CM710B	OFF	OFF	OFF	1
Each different module type should be configured to address 1.				

Table 10: LAN Module Addressing

PROGRAMMING OVERVIEW

The Solution 16i Control System incorporates a ICON style user interface and includes a text display to show all programming data in an easy to read format. Once programming mode is entered you will see a number of menu options in the display and these may vary depending in the user authority level.

All user and master code user options include brief text prompts to simplify operation and reduce the need to refer to the manual.

Installer programming options are accessed using location numbers with text prompts showing the current location number and the data currently programmed.

Entering Programming Mode

To enter installer program mode enter, PIN + [MENU].

The default Installer PIN is 1234.
The default Master Code PIN is 2580.

The Red and Green LED indicators on the keypad will flash to confirm Installer programming mode is active.

> **Note** *All areas must be disarmed with no active alarms. To disarm all areas enter the Installer PIN and hold the* [OFF] *Key for 2 seconds.*

Exiting Programming Mode

Press and hold down [MENU] key for 2 seconds.

> **Note** *You can also select End from the menu and press* [OK] *to exit.*

Programming Structure

The ICON system utilises a mixture of text menus and location numbers to simplify programming for both end users and installers.

All programming options can be accessed by entering the appropriate location or menu number followed by the [OK] key, however only a limited number of text menus are provided. As the installer you have access to both programming methods.

Most end user functions can be accessed via the text menu which simplifys operation and reduces training time.

1) Enter Program Mode. [1234 + MENU]

2) Enter the desired location number to program and press [OK]. Follow the prompts.

3) Alternatively, press [MENU] and use the arrow and OK keys to navigate through the text menus.

4) At any time you are free to enter the location you wish to move to followed by the [OK] key.

5) To exit programming navigate to the end option and press [OK], alternativly hold the [MENU] key down for 2 seconds.

Key	Description
←	Scrolls Cursor Left
→	Scrolls Cursor Right
↑	Scrolls Cursor Up
↓	Scrolls Cursor Down
OK	Enter Menu Options or Saves Changes
MENU	Go Back One Level, Hold Down to Exit Programming Mode, Abort Changes
0 to 9	Enter Data Value, Toggle Bit Option
ON	Turn On Functions, Accept Data
OFF	Turn Off Functions, Clear to End of Line

Table 11: Keys Used During Programming

Interpreting The Text Display

The ICON keypad text display includes space for up to 6 characters to be displayed at one time. To simplify programming, some text menus have been abbreviated.

The following table list the upper case, numbers and some of the special characters which can be displayed on the keypad. See the Character Set Table at the end of this document for a complete character listing.

Figure 24: Text Characters Which Can Be Displayed.

Programming BIT Options

The ICON system includes a number programming locations which are know as option bit locations. Each of these has up to 8 different parameters which can be selected.

To program BIT locations, enter the location number followed by the [OK] key. The system will then display the currently selected options in that location.

The numbers 1 to 8 are used to represent the option's state. For example if the number is ON then the coresponding option is enabled, if the number is OFF then the option is disabled.

To toggle the option state, simply press the number on the keypad coresponding to the option.

When finished press the [OK] key to save any changes.

You should refer to the IRG or Installation manual for detailled explanation of the various options.
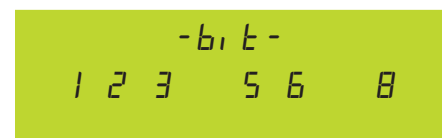
Figure 25: Sample Option Bit Menu Display

To abort programming changes, press the [MENU] key.

Programming Text Locations

Text descriptions are available for Area Name, Zone Name, User Name, Schedule Name, Holiday Name Prox Reader Name and Output Name. Each name can have a maximum of 16 characters.

These names are not displayed on the keypad, however they are used when reporting in SIA+ , SMS or Web reporting formats. They are also stored in the history log and and can be uploaded and downloaded to the panel using the RAS software.

The system includes default text for all locations.

ArEA 2

Figure 26: Area Text Programming Display

When programming text, each numeric key represents a different group of characters.

Pressing the same numeric key repeatedly will step you through the available characters assigned to the key. The text key layout is the same as most phones. Refer to the table below for detailed character information.

Key	Characters Assigned To Each Numeric Key									
1	.	,	?	!	-	&	`	1		
2	A	B	C	a	b	c	2			
3	D	E	F	d	e	f	3			
4	G	H	I	g	h	i	4			
5	J	K	L	j	k	l	5			
6	M	N	O	m	n	o	6			
7	P	Q	R	S	p	q	r	s	7	
8	T	U	V	t	u	v	8			
9	W	X	Y	Z	w	x	y	z	9	
0	SPACE	0								
↑	Scroll Up through entire character list									
↓	Scroll Down through entire character list									
←	Move to left one character position									
→	Move to right one character position									
OFF	Clear from cursor postiion to end of line									

Table 12: Text Keypad Character Set

Once the desired character is displayed press the right arrow key to move to the next character position.

To save programming changes, press [OK], else press [MENU] to exit without saving. If the text string is longer than can fit on the keypad then you can use the [←] and [→] to scroll left and right. Pressing the off key will clear the rest of the line from the current cursor position.

Programming Example - Change Zone 3 Name

1) Enter Program Mode.
   [1234 + MENU]

2) Select the text location to program, Zone Name for example,
   [MENU 3-1-0] + [OK]

3) When prompted and the zone number
   [Zn =] 3 + [OK]

4) The system will display the curent text. The curent cursor position is indicated by the flashing character. To move the cursor, use the left and right arrow keys.

5) Enter the required text and then press [OK] to save when finished.

> *The following additional special characters are available by scrolling using the up and down arrow keys.* + - @ # $ " & % * : ( ) / < > =

Programming Telephone Numbers

To program, select primary telephone number under [MENU] 5-1-1 then enter the digits of the telephone number and press the [OK] key to save. Use the up and down arrow keys to program special characters (∗, # and Pause).

If the number is longer than can fit on the keypad display then you can use the [←] and [→] to scroll left and right to view the entire number. It is also possible to edit a single digit of the number by moving the cursor to the location with the [←] and [→] keys.
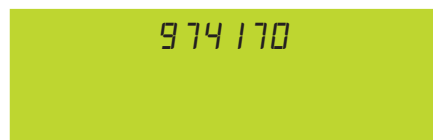

974170

Figure 27: Telephone Number Programming Display

| Key	Characters Assigned To Each Numeric Key
0 to 9	Enter the Digits 0 to 9
↑ ↓	Scroll Up through entire character list 0 - 9 ∙ # , comma = 2 second pause
← →	Move to left or right one character position
OFF	Clear from cursor position to end of line

Table 13: Phone Number Progamming

To save programming changes, press [OK], else press [MENU] to exit without saving.

Programming List Options

Enter the location (Menu) number to be programmed followed by the [OK] key.

When prompted enter the number of the Zone, User, Area, Output or Keypad to program then press the [OK] key.

Enter the required data and then press the [OK] key to finish. Press [MENU] at any time to exit without saving.

Zn: 3
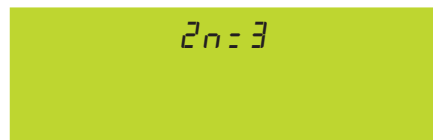
The display will flash promting you to enter the required data value.
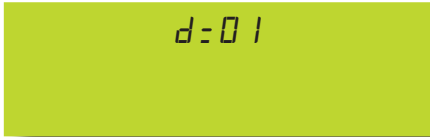
d:01

Figure 28: List Option Programming Display

Programming The Clock

Clock programming requires the following information to be entered, dd mm yy hh mm. To accept the currently programmed data for any field, simply press the [→] to move to the next field.

Enter location 7-1-0 followed by the [OK] key. The keypad will display the currently programmed day of the month.
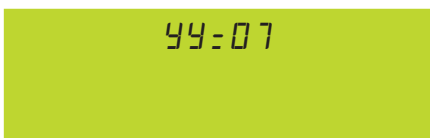
To change, enter the new day of the month. The system will automatically move to the month field.

dd: 19
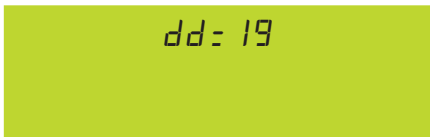
To change, enter the new month of the year. The system will automatically move to the year field.

mm:05

To change, enter the new year. The system will automatically move to the hour field.

yy:07

To change, enter the hour of the day in 24hr format. The system will automatically move to the minute field.

To change, enter the minute of the hour followed by the [OK] key to exit.

Pressing OK on any field will accept all currently programmed date and time values. Time is programmed in 24 hr format.

GETTING STARTED BACK TO BASE

The following steps are the mimimum requirements to get the system reporting back to base. Examples assume the panel is disarmed with no alarms and starting from factory default settings.

1) Enter Program mode.
   [1234 + MENU]

2) Set Time and Date.
   [MENU 7-1-0]

3) Change Default Installer PIN.
   [MENU 1-5-2]

4) Change Default Master Code PIN.
   [MENU 1-1-1]

5) Enter Account (client) Number, Area 1.
   [MENU 2-2-0]

6) Enter Base Primary Telephone Number.
   [MENU 5-1-1]

7) Enter Base Secondary Telephone Number.
   [MENU 5-1-2]

8) Hold Down MENU Key To Exit.

SERVICE MODE

Service mode when activated disables dialler reporting, prevents all alarms and prevents all users from arming the system.

To Turn Service Mode ON

1) Enter Program Mode.
   [1234 + MENU]

2) Enter,
   [MENU 7-0-8]

3) The display will show IS OFF if service mode is off or IS ON if service mode is on.

4) Press the On or OFF key to change the service mode state then press [OK] to exit.
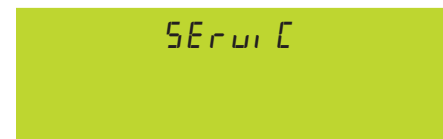
SErvic

Keypads will display SErVIC on the screen when service mode is active.

DEFAULTING THE SYSTEM

Defaulting the system will reset all programming options back to the factory default setting. All programming information will be erased.

To Hardware Default

1) Remove All Power To The System. AC and Battery.

2) Press and Hold The Default Push Button Down Then Apply Power To The System.

3) Release Button, The Panel Will Reset And Revert To Normal Operation When Default Is Complete.

To Software Default

1) Enter Program Mode.
   [1234 +MENU]

2) Select Factory Default Option.
   [MENU 7-0-4]

3)   The Panel Will Reset And Revert To Normal Operation When Defaulting Is Complete.
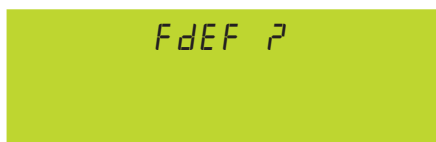

Figure 29: Factory Default Display

Note *You can disable factory defaulting using MENU 7-7-4. If factory defaulting has been disabled you **must** know the installer code to perform a factory default otherwise the system will need to be returned to your supplier for defaulting or you can purchase a CM255 Default Unlock Key which will unlock the panel in the field. Charges apply for defaulting if retuned to the distributor.*

DOMESTIC TEMPLATE DEFAULTS

The following table list the changes that will occur when you select domestic default.

Program Option	Domestic Default Value
All Trouble Reports	Disabled
All Bypass Reports	Disabled
All Restore Reports	Disabled
Destination 1 TX Format	Domestic Reporting
Open / Close Reports	Disabled (all areas)
System Events Route	Log Only

Table 14: Domestic Dialing Defaults Settings

DIRECT LINK PROGRAMMING

The panel can be programmed via the Solution Link Upload/Download software in either Direct Link or Remote Link modes. For Direct Link you will need a CM900 Direct Link module which connects the panels serial port to the PC.

Once the cable is connected you will need to hold down the default switch on the panel for 5 seconds to initiate the programming session. See Figure 12: for the default switch location. It is also possible to initiate the programming session via [MENU 5-0-5] Start Direct Link.

Solution Link V1.10 or higher is required to program this panel.

ZONE ARRAY

The feature allows you to view the condition or status of all zones on the panel in groups of 4 zones at a time. Use the [↑] and [↓] keys to change the group of zones to display.

The starting zone for each group is displayed at the beginning of the screen so you will always know which zones you are viewing.

Use Keys [↑] and [↓] to scroll up and down the zone bank Press [OK] or [MENU] when finished.

N= NORMAL
S = SHORTED
A= ALARM
T= TAMPER
- = DISABLED
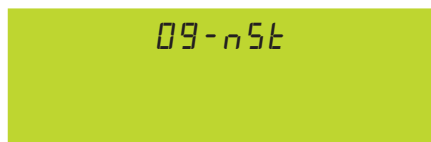

Figure 30: Zone Array Showing Z1 to Z4

Figure 31: Zone Array Showing Z9 to Z12

In the above example screens,
   N = Zone 01, 04 and 10 are Normal (Sealed)
   S = Zone 02 is Shorted
   A = Zone 03 is in Alarm (Unsealed)
   T = Zone 12 is in Tamper Alarm (Unsealed)
   - = Zone 09 is Disabled (Unused)

BASIC REPORTING REFERENCE

A complete reporting template is available on the Solution Link CD, from your distributor or from Bosch. Your base station will need to create a specific reporting template for this and other 2nd generation Solution panels.

Point ID Table	Module Description
Ur999	Installer
Ur998	Remote User
Ur001 - 256	Users
Ur000	Quick Arm
Zn301-428	User Keyfob 1 - 128
Zn891-898	Panels 1-8
Zn881-888	Keypads 1-8
Zn871-878	Ethernet 1-8
Zn861-868	GSM 1-8
Zn851-858	Output Expander 1-8
Zn841-848	Serial Expander 1-8
Zn831-838	Lan P/Supply 1-8
Zn821-828	RF Reciever 1-8
Zn811-818	Access 1-8
Zn801-808	X10 1-8
Zn781-788	Input Expander
Zn791-798	Lift 1-8
Zn001-128	Zones

Table 15: Basic Reporting Code Reference Listing

RCCESS	= Access MENU		SYS	= System MENU
Ch-Pin	= Change PIN Number		CLoC	= Set the System Clock
Ch-Oth	= Change Other PIN Number		St-on	= Set Daylight Saving On Time
urRrER	= Assign Areas to User		St-oFF	= Set Daylight Saving Off Time
RddPin	= Add New PIN		HiSLoG	= View History Log
RddPro	= Add Prox Token		SndLoG	= Send Log
RddFob	= Add RF Keyfob		trbL	= View System Troubles
dELPin	= Delete User PIN		tSt-bR	= Test Battery
dELPro	= Delete User Prox		Rbout	= Displays Firmware Version
dELFob	= Delete User RF Keyfob			
dEL-ur	= Erase User		LOOO	= Location 000
			d= 14	= Data equals 14
RrER	= Area MENU		R=	= Enter Area Number
ChonoF	= Turn Chime Mode On/Off		R= 6	= Area 6 Selected
Ch tYP	= Change Chime Mode		oP=	= Enter Output Number
			Zn=	= Enter Zone Number
inPut	= Input MENU		ur =	= Enter User Number
StRtUS	= Input Status		oP=	= Enter Output Number
bYPRSS	= Bypass Mode		cP=	= Enter Keypad Number
FirE-r	= Reset Fire / Smoke Sensors		h i=5	= Max Possible number is 5
Ch-Zn	= Set Chime Zones		EntPin	= Enter PIN Number
Pt2-Zn	= Set Part Mode 2 Zones		dd =22	= Date = 22nd
tSt-Zn	= Test a Zone		Illl =06	= Month = June
tStZnS	= Test All Zones		YY =07	= Year = 2007
			POO1	= Panel 1
OutPut	= Output MENU		CP-OO1	= Keypad 1
StRtUS	= Output Status		E 148	= History Log Event 148
on-oFF	= Turn Output On/Off		Ph tSt	= Communication Test
tStSir	= Test External Siren		Ch on	= Chime Mode ON
tSt int	= Test Internal Siren		Ch oFF	= Chime Mode OFF
tStStr	= Test Strobe		U= 1.00	= Software Version 1.00
			t= 19C	= Temperature = 19ºc
diRLEr	= Dialer MENU		U= 13-8	= Voltage = 13.8V
SEt-Ph	= Set Domestic Phone Number		on	= On
CFonoF	= Turn Call Forwarding On / Off		oFF	= Off
CFonPh	= Call Forward On Number		LERUE	= Exit Now
CFoFPh	= Call Forward Off Number		End	= Exit Programming Mode
CRLRnS	= Call / Answer RAS Software			
dirCon	= Start Direct Connect		dRtE	= Clock Not Set
CuSrE9	= Customer Registration		dEFPin	= Default PIN Trouble
tSt-dL	= Perform Dialer Test		CRbtPr	= Cabinet Tamper
			no tEL	= No Telephone Line
dEUiCE	= Device MENU		no bRt	= No Battery
CP-uoL	= Keypad Volume		FR iL	= Battery Test Failed
CP-Con	= Keypad Contrast		routE1	= Comms Fail Route 1
CP-bL	= Keypad Backlight		routE2	= Comms Fail Route 2
CP-dEG	= Set Keypad Temp Alarm		no bYP	= No Bypass Allowed
LRn-St	= LAN Status		EoL=no	= EOL Resistor Open Circuit

Figure 32: Text Menu Examples

PROGRAMMING LOCATIONS REFERENCE TABLE

The Solution 16i panel includes a simple text menu system which makes all levels of programming extremely easy. Once a valid PIN has been entered followed by the MENU key the system will automatically determine which menus and option the user has access to and only those items will be displayed.

There are four basic grouping levels used;

A = All (No PIN Required)

U = User PIN Has Access

M = Master PIN Has Access

 I = Installer PIN Has Access

The following table lists all programming locations and the authority level required to access them.

	0	**Commands**		**1**	**Access**		**2**	**Areas**
UMI	2-0-1	Turn Area On/Off		**1-0**	**Commands**		**2-0**	**Commands**
UMI	2-0-2	Turn All Areas On	MI	1-0-0	Erase User	AUMI	2-0-0	Area Status
UMI	2-0-3	Turn All Areas Off				UMI	2-0-1	Turn Area On/Off
UMI	2-0-4	Move To Area		**1-1**	**PIN Codes**	UMI	2-0-2	Turn All Areas On
AUMI	2-0-5	Chime On/Off	UMI	1-1-0	Change Own PIN	UMI	2-0-3	Turn All Areas Off
UMI	1-1-0	Change Own PIN	M	1-1-1	Change Other PIN	UMI	2-0-4	Move To Area
AUMI	3-0-0	Zone Status	MI	1-1-2	Add PIN	AUMI	2-0-5	Chime On/Off
AUMI	4-0-0	Output Status	MI	1-1-3	Delete PIN	UMI	2-0-6	Chime Mode
UMI	4-0-1	Turn Output On/Off	I	1-1-4	View PIN			
MI	7-1-0	Set Date & Time					**2-1**	**Area Properties**
UMI	3-0-5	Smoke Sensor Reset		**1-2**	**Token**	MI	2-1-0	Area Name
UMI	3-9-0	Walk Test All Zones	MI	1-2-0	Add Token	I	2-1-1	General Options
MI	4-9-0	External Siren Test	MI	1-2-1	Delete Token	I	2-1-2	Input Options
MI	4-9-1	Internal Siren Test	MI	1-2-2	Token Status	I	2-1-3	Output Options
MI	4-9-2	Strobe Test				I	2-1-4	Reporting Options
MI	5-0-0	Set Domestic Number		**1-3**	**RF Keyfob**	I	2-1-5	Strobe Trigger
UMI	5-0-1	Call/Answer RAS	MI	1-3-0	Add Keyfob			
UMI	7-9-1	Battery Test	MI	1-3-1	Delete Keyfob		**2-2**	**Reporting**
UMI	5-9-0	Test Dialler	I	1-3-2	Test Keyfob	I	2-2-0	Account Dest 1
I	7-0-8	Service Mode				I	2-2-1	Account Dest 2
UMI		About		**1-4**	**User Properties**	I	2-2-2	Open Close Route
			MI	1-4-0	User Name			
			MI	1-4-1	Area Assignment		**2-9**	**Area Testing**
			I	1-4-2	User Options	I	2-9-0	Area Watch
			MI	1-4-4	Timer Group	I	2-9-1	User Test Interval
			MI	1-4-5	Access Assignment	I	2-9-2	Service Interval
						I	2-9-3	Test Options
			I	**1-5**	**Global Properties**			
			I	1-5-0	PIN Length			
			I	1-5-1	PIN Retry Count			
			I	1-5-2	Installer PIN			
			I	1-5-3	PIN Expire Time			
			I	**1-6**	**Prox Reader**			
			I	1-6-0	Name			
			I	1-6-1	Area Assignment			
			I	1-6-2	Access Group			
			I	1-6-3	Reader Options			

	3	Inputs
	3-0	**Commands**
AMI	3-0-0	Zone Status
I	3-0-1	Zone Array
UMI	3-0-2	Bypass Zones
MI	3-0-3	Set Chime Zones
MI	3-0-4	Set Part 2 Zones
UMI	3-0-5	Smoke Sensor Reset
	3-1	**Zone Properties**
MI	3-1-0	Zone Name
I	3-1-1	Zone Type
I	3-1-2	Area Assignment
I	3-1-3	Pulse Count
I	3-1-4	Pulse Count Time
I	3-1-5	Access Group
I	3-1-6	Report Route
I	3-1-7	Report Options
I	3-1-8	Zone Options
	3-3	**RF Zone**
I	3-3-0	Add RF Device
I	3-3-1	Delete RF Device
I	3-3-2	Test RF Device
	3-4	**Global Input Options**
I	3-4-0	EOL Value
I	3-4-1	Keyswitch Options
I	3-4-2	Input Options
	3-5	**PGM Input**
I	3-5-0	Input Type
	3-6	**Tamper Inputs**
I	3-6-0	Tamper Options
	3-9	**Input Testing**
UMI	3-9-0	Walk Test All Zones
UMI	3-9-1	Walk Test A Zone
I	3-9-2	Sensor Watch Time

	4	Outputs
	4-0	**Commands**
AUMI	4-0-0	Output Status
UMI	4-0-1	Turn Output On/Off
	4-1	**Properties**
MI	4-1-0	Output Name
I	4-1-1	Event Type
I	4-1-2	Event Assignment
I	4-1-3	Output Polarity
I	4-1-4	Timer Parameter
I	4-1-5	Output Options
I	4-1-6	Macro Group
	4-9	**Output Testing**
MI	4-9-0	External Siren Test
MI	4-9-1	Internal Siren Test
MI	4-9-2	Strobe Test

	5	Comms
	5-0	**Commands**
MI	5-0-0	Set Domestic Number
UMI	5-0-1	Call /Answer RAS
MI	5-0-2	Call Forward On/Off
MI	5-0-3	Check Web Email
MI	5-0-4	Email System Log
MI	5-0-5	Start Direct Link
	5-0-6	Reserved
	5-0-7	Reserved
	5-0-8	Register Customer
I	5-0-9	Register Installer
	5-1	**Telephone Numbers**
I	5-1-0	Number Prefix
I	5-1-1	Primary Dest 1
I	5-1-2	Secondary Dest 1
I	5-1-3	Primary Dest 2
I	5-1-4	Secondary Dest 2
MI	5-1-5	Domestic Numbers
MI	5-1-6	Call Forward On
MI	5-1-7	Call Forward Off
	5-2	**Properties**
I	5-2-0	Call Attempt Count
I	5-2-1	Dialler Options
I	5-2-2	Phone Line Options
I	5-2-3	Country
I	5-2-7	Set SMS Password
	5-3	**Remote Access**
I	5-3-0	Call Back Number
I	5-3-1	RAS Security PIN
I	5-3-2	Log Threshold
I	5-3-3	Ring Count
I	5-3-4	RAS Options
I	5-3-5	DTMF Options
I	5-3-6	Voice Access Code
I	5-3-7	CLI Numbers
I	5-3-8	User RAS Security PIN
	5-4	**Dialler Reporting**
I	5-4-0	TX Format Dest 1
I	5-4-1	TX Format Dest 2
I	5-4-2	Test Route
I	5-4-3	System Route
I	5-4-4	Emergency Route
I	5-4-5	Swinger Dialler
I	5-4-6	Burg Report Delay
I	5-4-7	Fire Report Delay
	5-9	**Comms Test**
UMI	5-9-0	Send Test Report
I	5-9-1	Test Report Time
I	5-9-2	Test Report Period
I	5-9-3	Test Report Options
I	5-9-4	Test Route
I	5-9-5	Dial Number Test

	6	Devices		7	System
	6-0	**Commands**		**7-0**	**Commands**
UMI	6-0-0	LAN Status	UMI	7-0-0	Panel Status
I	6-0-1	LAN Secure	UMI	7-0-1	System Trouble
			UMI	7-0-2	History Log
	6-1	**Keypads**	I	7-0-3	Domestic Default
MI	6-1-0	Volume	I	7-0-4	Factory Default
MI	6-1-1	Contrast	I	7-0-5	Template Default
MI	6-1-2	Backlight	I	7-0-8	Service Mode
I	6-1-3	Home Area			
I	6-1-4	General Options		**7-1**	**Clock**
I	6-1-5	Beeper Options	MI	7-1-0	Set Date & Time
I	6-1-6	Emergency Keys	I	7-1-1	Summertime On
I	6-1-7	Access Group	I	7-1-2	Summertime Off
I	6-1-8	Lockout Time			
				7-2	**Timers**
	6-2	**RF Devices**	I	7-2-0	Exit Time
I	6-2-0	Receiver Options	I	7-2-1	Entry Time 1
I	6-2-1	Supervision Time	I	7-2-2	Entry Time 2
I	6-2-2	RF Device Options	I	7-2-3	Part Entry Time
I	6-2-3	Add RF Keypad	I	7-2-4	Auto Arm Pre Alert
I	6-2-4	Delete RF Keypad	I	7-2-5	Output Pre Alert
I	6-2-5	View RF Device ID	I	7-2-6	Senior Watch Time
	6-3	**Serial Device**		**7-3**	**Power**
I	6-3-0	Device Type	I	7-3-0	AC Options
I	6-3-1	Baud Rate	I	7-3-1	Battery Options
I	6-3-2	Flow Control	I	7-3-2	Fuse Options
	6-5	**GSM Modem**		**7-4**	**Siren**
			I	7-4-0	Tone
	6-6	**Ethernet**	I	7-4-1	Speed
			I	7-4-2	Volume
	6-7	**Access Controller**	I	7-4-3	Swinger Siren
	6-8	**X10 Device**		**7-5**	**Schedules (TEF)**
			MI	7-5-0	Name
			MI	7-5-1	Time
			MI	7-5-2	Day
			I	7-5-3	Function
			I	7-5-4	Index
				7-6	**Holidays**
			MI	7-6-0	Name
			MI	7-6-1	Start Stop Dates
				7-7	**System Options**
			I	7-7-0	General Options
			I	7-7-1	Area Options
			I	7-7-2	Keypad Idle Screen
			MI	7-7-3	Keypad Hi/Lo Temp
			I	7-7-4	Installer Options
			I	7-7-5	Language
				7-9	**System Testing**
			UMI	7-9-0	Walk Test All Zones
			UMI	7-9-1	Battery Test

Table 16: Programming Locations and Descriptions

PROGRAM LOCATIONS

The following section lists all of the programming locations available in the Solution 16i panel. The default values for each parameter are shown in grey.

To minimise the size of this guide only one example for some parameters is shown while the default values for the other similar parameters are listed in a table.

For example the User Default Table below shows the default values for Users 1 to 48. Similar tables are used to show Zone Defaults.

Once in Installer programming mode, you can jump to and program any location (MENU) by simply entering the location number followed by the [OK] key.

Enter LOCATION NUMBER + [OK]

Access Programming

User Default Table

Parameter	User 1	User 2 - 48
Add PIN	2580	
Name	User 1	User 2 - 48
Area Assignment	1	1
User Options		
Has Master PIN Privileges	Y	
Expire PIN Code		
Is Arm Only Code		
Can Bypass Zones	Y	Y
Can Auto Bypass Zones	Y	Y
Send 'Open/Close' Reports	Y	Y
Timer Group		
Access Group		

Table 17: User Default Programming Options

Access > Commands >

Erase User	MENU 1-0-0

Access > PIN Codes >

Change Own PIN	MENU 1-1-0

Change Other PIN	MENU 1-1-1

Add PIN	MENU 1-1-2

Delete PIN	MENU 1-1-3

View PIN	MENU 1-1-4

Access > Token >

Add Token	MENU 1-2-0

Delete Token	MENU 1-2-1

Token Status	MENU 1-2-2

Access > RF Keyfob >

Add Keyfob	MENU 1-3-0

Delete Keyfob	MENU 1-3-1

Test Keyfob	MENU 1-3-2

Access > User Properties >

User Name	MENU 1-4-0

U	s	e	r		1		N	a	m	e				

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

Access > Global Properties >

Area Assignment		MENU 1-4-1
1	Area 1	Y
2	Area 2	N
3	Area 3	N
4	Area 4	N

Access > User Properties >

User Option		MENU 1-4-2
1	Has Master Code Privileges	Y
2	Expire PIN Code	N
3	Is Arm Only Code	N
4	Can Bypass Zones	Y
5	Can Auto Bypass Zones	Y
6	Always Send Open / Close Reports	Y
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Access > User Properties >

Timer Group	MENU 1-4-4
	0

Enter 1 - 8 + [OK] To Assign The User To A Timer Group – Can Only Be Assigned To One Timer Group (0 = No Timer Group)

Access > User Properties >

Access Assignment		MENU 1-4-5
1	Access Group 1	N
2	Access Group 2	N
3	Access Group 3	N
4	Access Group 4	N
5	Access Group 5	N
6	Access Group 6	N
7	Access Group 7	N
8	Access Group 8	N

Multiple Groups Can Be Assigned To Each User. Press keys [1] – [8] To Toggle Groups On/Off, Then Press [OK] To Save.

Access > Global Properties >

PIN Length   **MENU 1-5-0**

| | 4 |

0 = Variable

1 = 1 Digit	4 = 4 Digits	7 = 7 Digits
2 = 2 Digits	5 = 5 Digits	8 = 8 Digits
3 = 3 Digits	6 = 6 Digits	

Enter 0 - 15 + [OK] To Program The PIN Length Option.
(*** System Wide Parameter ***)

Access > Global Properties >

PIN Retry Count   **MENU 1-5-1**

(*** System Wide Parameter ***)

| 6 |

Enter 0 – 8 + [OK] To Program The PIN Retry Count (0 = Unlimited).

Access > Global Properties >

Installer PIN   **MENU 1-5-2**

| 1 | 2 | 3 | 4 | | | | |

Use Digits 0 – 9 To Program The Installer PIN + [OK] To Save. Installer PIN Can Be Up To 8 Digits Long. (*** System Wide Parameter ***)

Access > Global Properties >

PIN Expire Time   **MENU 1-5-3**

| 0 | 3 | 0 |

(*** System Wide Parameter ***)   **DAYS**

Enter Digits 0 – 255 + [OK] To Program How Many Days A Temporary PIN Is Valid.

Access > Prox Reader >

Name   **MENU 1-6-0**

| R | e | a | d | e | r | | 1 | | N | a | m | e | | |

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

Access > Prox Reader >

Area Assignment   **MENU 1-6-1**

| 1 |

Enter 1 - 4 (0 = Not Assigned) To Assign The Reader To An Area, Then Press [OK] To Save

Access > Prox Reader >

Access Group   **MENU 1-6-2**

| 0 |

Enter 1 - 8 (0 = No Access Group) To Assign The Reader To An Access Group , Then Press [OK] To Save. Can Only Be Assigned To One Access Group

Access > Prox Reader >

Reader Options   **MENU 1-6-3**

1	All On Arming Allowed	Y
2	Disarming Allowed	Y
3	Badging Required	N
4	Zero Exit Time	N
5	Part On Arming Allowed	N
6	Arm If Single Area User	N
7	Reserved	N
8	Arm All User Areas	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Area Programming

By default the Solution 16i is configured for one area. Examples given in this document are for Area 1 only. If the system is configured for more than one area then you will be prompted on the keypad to select the area you want to work on.

Areas > Commands >

Area Status	**MENU 2-0-0**

Turn Area On/Off	**MENU 2-0-1**

Turn All Areas On	**MENU 2-0-2**

Turn All Areas Off	**MENU 2-0-3**

Move To Area	**MENU 2-0-4**

Chime On/Off	**MENU 2-0-5**

Chime Mode	**MENU 2-0-6**

Areas > Area Properties >

Area Name   **MENU 2-1-0**

| A | r | e | a | | 1 | | N | a | m | e | | | | |

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

Areas > Properties >

General Options   **MENU 2-1-1**

1	Exit Time Restart	N
2	Reset Alarm Memory On Disarm	N
3	Duress Allowed	Y
4	Acknowledge All Faults	N
5	Single Button Arming Allowed - All On	Y
6	Single Button Arming Allowed - Part On	Y
7	Link To Common Area	N
8	Single Button Part Off	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Areas > Properties >

Input Options		MENU 2-1-2
1	Non Sequential Handover (Entry Path)	Y
2	Pulse Count Handover Allowed	Y
3	Senior Watch	N
4	Reset Smoke On Arming	Y
5	Reserved	N
6	Reserved	N
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Areas > Properties >

Output Options		MENU 2-1-3
1	Arm/Disarm Speaker Beeps Via RF Keyfob	Y
2	Arm/Disarm Speaker Beeps Via Keyswitch	Y
3	Siren / Strobe When Part On Allowed	Y
4	Alarm On PIN Retry Violations	Y
5	Alarm On Exit Error	N
6	Alarm On Keyswitch Tamper (Only If System Armed)	Y
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Areas > Properties >

Reporting Options		MENU 2-1-4
1	Report PIN Retry	Y
2	Report Exit Error	Y
3	Smart Lockout	N
4	Reserved	N
5	Cancel Reports	Y
6	Reserved	N
7	Open / Close Reports For Part On	N
8	Open / Close Reports Only After Alarm	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Areas > Properties >

Strobe Trigger		MENU 2-1-5
1	Audible Burglary Alarm	Y
2	Silent Burglary Alarm	N
3	Fire Alarm	Y
4	Arm / Disarm Flash Via RF Keyfob	N
5	Arm / Disarm Flash Via Keyswitch or PGM Input	N
6	Reserved	N
7	24-Hour Alarm	Y
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Areas > Reporting >

Account Dest 1	MENU 2-2-0
	0 0 0 0 0 0 0 0 0 0

Program The Area Account Number For Destination 1 Here (Enter digits 0 – 9 + [OK] To Save

Areas > Reporting >

Account Dest 2	MENU 2-2-1
	0 0 0 0 0 0 0 0 0 0

Program The Area Account Number For Destination 2 Here.

Areas > Reporting >

Open / Close Route MENU 2-2-2

0 = Report Events To Log Only   `1`

1 = Report Events To Destination 1 + Log

2 = Report Events To Destination 2 + Log

3 = Report Events To Destination 1 & Destination 2 + Log

4 = Report Events To Destination 2 If Destination 1 Fails +Log

Enter 0 - 4 + [OK] To Program Which Destination 'Open' and 'Close' Reports Are Sent To.

Areas > Area Testing >

Area Watch	MENU 2-9-0
	0 1 2

(*** System Wide Parameter ***)   **WEEKS**

Enter 0 – 255 + [OK] To Program The Number Of Weeks Before Register Inactivity Event.

Areas > Area Testing >

User Test Interval	MENU 2-9-1
	0 0 0

(*** System Wide Parameter ***)   **DAYS**

Enter 0 – 255 + [OK] To Program The Number Of Days Before A User Test Is Requested.

Areas > Area Testing >

Service Interval	MENU 2-9-2
	0 0 0

(*** System Wide Parameter ***)   **WEEKS**

Enter 0 – 255 + [OK] To Program The Number Of Weeks Between Installer Service Interval.

Areas > Area Testing >

Test Options		MENU 2-9-3
1	Monitor User Test Interval	Y
2	Reserved	N
3	Reserved	N
4	Reserved	N
5	Reserved	N
6	Walk Test Reports	Y
7	Walk Test 24-Hour Zones	N
8	Walk Test Fire Zones	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Input Programming

Inputs > Commands >

Zone Status	MENU 3-0-0

Zone Array	MENU 3-0-1

Bypass Zones	MENU 3-0-2

Set Chime Zones	MENU 3-0-3

Set Part 2 Zones	MENU 3-0-4

Smoke Sensor Reset	MENU 3-0-5

Inputs > Zone Properties >

Zone Name	MENU 3-1-0

Z	o	n	e		1		N	a	m	e					

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

Inputs > Zone Properties >

Zone Type	MENU 3-1-1

1

Enter 0 – 15 + [OK] To Program Zone Type

Zone Types
0 = Zone Not Used
1 = Burglary Delay 1 (Entry Timer 1)
2 = Burglary Delay 2 (Entry Timer 2)
3 = Burglary Instant 1 (With Exit Delay)
4 = Burglary Instant 2 (No Exit Delay)
5 = Burglary Handover
6 = Burglary 24-Hour
7 = Tamper 24-Hour
8 = Hold Up 24-Hour (Silent & Invisible)
9 = Medical 24-Hour
10 = Panic 24-Hour
11 = Fire 24-Hour
12 = Reserved
13 = Keyswitch Zone
14 = Display Only
15 = 24-Hour Non Burglary

Table 18: Zone Types

Inputs > Zone Properties >

Area Assignment	MENU 3-1-2

1

Enter 1 – 4 + [OK] To Assign The Zone To A Single Area Only

Inputs > Zone Properties >

Pulse Count	MENU 3-1-3

0	0

PULSES

Enter 0 – 15 + [OK] To Program The Number Of Pulses The Zone Must Register Within The Zone Pulse Count Time.

Inputs > Zone Properties >

Pulse Count Time	MENU 3-1-4

1	2	0

SECONDS

Enter 0 – 255 + [OK] To Program The Period Of Time In Seconds That The Pulse Count Must Register.

Inputs > Zone Properties >

Access Group	MENU 3-1-5

0

Enter 1 - 8 + [OK] To Assign The Zone To An Access Group (0 = Disabled).

Inputs > Zone Properties >

Report Route	MENU 3-1-6

0 = Report Events To Log Only

1 = Report Events To Destination 1 + Log   1

2 = Report Events To Destination 2 + Log

3 = Report Events To Destination 1 & Destination 2 + Log

4 = Report Events To Destination 2 If Destination 1 Fails +Log

Enter 0 - 4 + [OK] To Set the Destination Zone Reports Are Sent To.

Inputs > Zone Properties >

Report Options		MENU 3-1-7
1	Lockout Dialler	Y
2	Report Alarm	Y
3	Report Trouble	Y
4	Report Bypass	Y
5	Reserved	N
6	Reserved	N
7	Report Restores	Y
8	Delay Reporting	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Inputs > Zone Properties >

Zone Options		MENU 3-1-8
1	Lockout Siren	Y
2	Silent Alarm	N
3	Inverted Seal	N
4	Bypass Allowed	Y
5	Sensor Watch	N
6	Armed When in Part Mode 1	Y
7	Reserved	N
8	Test On Exit	Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Inputs > RF Zone >

Add RF Device	MENU 3-3-0

Delete RF Device	MENU 3-3-1

Zone Default Table

The table below list the default values for all zone parameters in the Solution 16i. By default, zones 5 to 16 are set as Instant zones. Zones marked as Not Used do not require EOL resistors to be fitted.

Programming Option	Zone 1	Zone 2	Zone 3	Zone 4	Zones 5 to 16
Zone Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5 - Zone 16
Zone Type	1 = Delay 1	5 = Handover	5 = Handover	5 = Handover	3 = Instant
Area Assignment	1	1	1	1	1
Pulse Count	0	0	0	0	0
Pulse Count Time (Sec's)	120	120	120	120	120
Access Group	0	0	0	0	0
Report Route	2	2	2	2	2
Reporting Options					
Lockout Dialler	Y	Y	Y	Y	Y
Report Alarm	Y	Y	Y	Y	Y
Report Alarm Restore	Y	Y	Y	Y	Y
Report Trouble	Y	Y	Y	Y	Y
Report Trouble Restore	Y	Y	Y	Y	Y
Report Bypass	Y	Y	Y	Y	Y
Report Bypass Restore	Y	Y	Y	Y	Y
Delay Report	N	N	N	N	N
Zone Options					
Lockout Siren	Y	Y	Y	Y	Y
Silent Alarm	N	N	N	N	N
Inverted Seal	N	N	N	N	N
Bypass Allowed	Y	Y	Y	Y	Y
Sensor Watch	N	N	N	N	N
Armed When Part On	Y	Y	Y	Y	Y
Reserved	N	N	N	N	N
Test On Exit	N	Y	Y	Y	Y

Table 19: Zone Defaults

Test RF Device   `MENU 3-3-2`

Inputs > Global Input Options >

EOL Value   `MENU 3-4-0`

| | `5` |

0 = No EOL

1 = 1K0	6 = 4K7	11 = 6K8 Alarm with 2K2 Tamper
2 = 1K5	7 = 5K6	12 = 10K Alarm with 10K Tamper
3 = 2K2	8 = 6K8	13 = 22K
4 = 2K7	9 = 8K1	14 = 3K3 with 6K8 Tamper
5 = 3K3	10 = 10K	15 = Split EOL (Parallel)

(3K3 = Primary 6K8 = Secondary)

Enter 0 - 15 Then Press [OK] To Program Globally The EOL Resistor For All Zones. (*** System Wide Parameter ***)

Inputs > Global Input Options >

Keyswitch Options   `MENU 3-4-1`

| | | `0` |

0 = Latching - All On/Off	**5** = Momentary All On/Off
1 = Latching - All On	**6** = Momentary - All On
2 = Latching Part On/Off	**7** = Momentary - Part On/Off
3 = Latching - Part On	**8** = Momentary - Part On
4 = Latching Off	**9** = Momentary - Off

Enter 0 - 9 Then Press [OK] To Program How The Keyswitch Will Operate. (*** System Wide Parameter ***)

Inputs > Global Input Options >

Input Options   `MENU 3-4-2`

1	Tamper On Short	N
2	Reserved	N
3	Response Time 500ms	N
4	Reserved	N
5	Keyswitch Open / Close Report	Y
6	Alarm On Tamper	N
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished. (*** System Wide Parameter ***)

Inputs > PGM Input >

Input Type   `MENU 3-5-0`

| | `0` |

| **0** = Disabled |
| **1** = Latching - On/Off (RF Relay) |
| **2** = Momentary - On/Off (RF Relay) |
3 = Digiflex RF On/Off	**6** = Ness Serial RF Receiver
4 = Bosch Serial RF Receiver	**7** = Inovonics Serial Receiver
5 = Reserved	**8** = Secure Wireless Receiver

Enter 0 - 7 + [OK] to select the interface method used for the given RF receiver.

Inputs > Tamper Inputs >

Tamper Options		MENU 3-6-0
1	Display Panel Tamper	Y
2	Report Panel Tamper	Y
3	Audible Panel Tamper	Y
4	Display Expander Tamper	Y
5	Report Expander Tamper	Y
6	Audible Expander Tamper	Y
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Inputs > Input Testing >

Walk Test All Zones	MENU 3-9-0

Walk Test A Zones	MENU 3-9-1

Inputs > Input Testing >

Sensor Watch Time	MENU 3-9-2

	0	3	0
(*** System Wide Parameter ***)			**DAYS**

Enter 0 – 255 + [OK] To Program The Sensor Watch Time In Days (0 = Disabled)

Output Programming

Outputs > Commands >

Output Status	MENU 4-0-0

Turn Output On/Off	MENU 4-0-1

Outputs > Properties >

Output Name	MENU 4-1-0

O	u	t	p	u	t		1		N	a	m	e			

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

Outputs > Properties >

Event Type	MENU 4-1-1

0	0	0

Enter desired Event type 0 – 255 + [OK].
See Output Event Type table for available options.

Outputs > Properties >

Event Assignment	MENU 4-1-2

0	0	1

Enter 0 to 255 to program the Area, User, Zone, Keypad or Access Group Number You Want The Output To Follow Then Press [OK]. (0 = Unrestricted all Areas, Users, Zones etc)

Output Default Table

The table below list the default values for all Output parameters in the Solution 16i. Outputs 1 to 4 are High current digital outputs. Outputs 5 to 8 are only available if the optional Output Relay Expander Boards (CM710B) are fitted. Options marked N/A = Not Applicable.

Programming Option	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Output 7	Output 8
Output Name	External Siren	Strobe Light	Smoke Sensor PWR	Internal Siren	Output 5 Name	Output 6 Name	Output 7 Name	Output 8 Name
Event Type	36 (External Siren)	48 (Strobe)	49 (Smoke Sensor GND)	37 (Internal Siren)	0	0	0	0
Event Assignment	1	1	1	1	1	1	1	1
Output Polarity	14	6	11	6	0	0	0	0
Time Parameter								
N° Of Hours	000	008	000	000	000	000	000	000
N° Of Minutes	005	000	000	005	000	000	000	000
N° Of Seconds	000	000	010	000	000	000	000	000
N° Of 1/10 Seconds	000	000	000	000	000	000	000	000
Output Options								
Do not Operate If Low Battery	Y	Y	Y	Y	N	N	N	N
Display Output Overload	Y	Y	Y	Y	N/A	N/A	N/A	N/A
Report Output Overload	Y	Y	Y	Y	N/A	N/A	N/A	N/A
Display Missing Output Device	Y	N	N	N	N/A	N/A	N/A	N/A
Report Missing Output Device	Y	N	N	N	N/A	N/A	N/A	N/A
Alarm On Device Fail	N	N	N	N	N/A	N/A	N/A	N/A
Block Output If Armed All On	N	N	N	N	N	N	N	N
Display Status On Keypad	N	N	N	N	N	N	N	N

Table 20: Output Default Table

Output Event Types

0 = Disabled		26 = Entry Time	A	51 = Senior Watch	A
1 = Battery Trouble	P	26 = Entry Time	A	51 = Senior Watch	A
2 = AC Trouble	P	27 = Exit Time	A	52 = Exit Error	A
3 = Telephone Line Trouble	P	28 = End Of Exit Time	A	53 = RF Key Fob Function 1	A
4 = Comm Fail – Destination 1 / 2	P	29 = Chime On	A	54 = RF Key Fob Function 2	A
5 = Third Dialler Attempt	P	30 = Chime Zone Triggered	A	55 = Output Pre-Alert	A
6 = Destination 1 Reporting	P	31 = Auto Arm Pre-Alert	A	56 = Follow PIN Code	U
7 = Destination 2 Reporting	P	32 = Ready To Arm All On	A	57 = Part Entry Time	A
8 = Destination 1 or 2 Kiss Off	P	33 = Ready To Arm Part On	A	58 = Time Schedule	S
9 = Destination 1 Kiss Off	P	34 = Ready To Arm Part 2 On	A	59 = Temperature Alarm	K
10 = Destination 2 Kiss Off	P	35 = Closing Report Sent OK	A	60 = Access Group	G
11 = Dialler Disabled	P	36 = External Siren (Spk Beeps)	A		
12 = Horn Speaker Missing	P	37 = Internal Siren (Spk Beeps)	A		
13 = Output Trouble	O	38 = Alarm Any (Silent or Audible)	A		
14 = Panel On Line	P	39 = Fire Alarm	A		
15 = Incoming Call	P	40 = Burglary Alarm	A	(A) = Area Event Assignment	
16 = System Trouble	P	41 = Silent Alarm	A	(P) = Panel Event Assignment	
17 = Box Tamper	P	42 = Duress Alarm	A	(O) = Output Event Assignment	
18 = Zone Trouble	Z	43 = Keypad Medical	A	(Z) = Zone Event Assignment	
19 = Zone Mirror	Z	44 = Keypad Fire	A	(U) = User Event Assignment	
20 = Zone Alarm	Z	45 = Keypad Panic	A	(S) = Schedule Event Assignment	
21 = Area Disarmed	A	46 = Device Tamper	A	(G) = Access Group Event Assignment	
22 = Area Armed (Any)	A	47 = Access Denied	A	(K) = Keypad	
23 = Area All On	A	48 = Strobe	A		
24 = Area Part On	A	49 = Smoke Sensor GND	A		
25 = Area Part 2 On	A	50 = Sensor Watch	A		

Table 21: Output Event Types

Outputs > Properties >

Output Polarity

MENU 4-1-3

0	0

Enter 0 – I4 + [OK] To Program The Output Polarity.
See table below for avaiable polarity types.
Each Output Can Only Have One Option Programmed.

Option	Polarity
0	Normally Open Going Low
1	Normally Open Going Low With Pre Delay
2	Normally Open Latching Low
3	Normally Open Pulsing Low
4	Normally Open One Shot Low
5	Normally Open One Shot Low + Retrigger
6	Normally Open One Shot Low + Reset
7	Normally Low Going Open
8	Normally Low Going Open With Pre Delay
9	Normally Low Latching Open
10	Normally Low Pulsing Open
11	Normally Low One Shot Open
12	Normally Low One Shot Open + Retrigger
13	Normally Low One Shot Open + Reset
14	Horn Speaker (Output 1 or 2 Only)
15	Reserved

Table 22: Output Polarity Types

Outputs > Properties >

Time Parameter

MENU 4-1-4

0	0	0		0	0	0		0	0	0		0	0	0
hh = Hour				nn = Minute				ss= Seconds				tt= 10th Sec		

The time base parameter is only applicable for output types that are programmed as one shot or pulsing. Program 0 to 255 for each of the units (Hour, Minute, Seconds and 10th of a Second) for the time parameter. Add the units together to give the total one shot time or pulsing on/off time.

One Shot Mode

The time base is the length of time that the output will operate.

For Example you may want a strobe output to operate for 1 hour, Either of the examples below will achieve the 1 hour time.

Total Time	Hour	Minute	Seconds	10th Sec
60 Minutes	001	000	000	000
60 Minutes	000	060	000	000

Pulsing Mode

The time base is the unit of time that the output will pulse on and off. If the time base is programmed for 60 seconds, the output will pulse on for 60 seconds and then off for 60 seconds (repeat) until the output is reset.

Outputs > Properties >

	Output Options	**MENU 4-1-5**
1	Do Not Operate On Low Battery	Y
2	Display Overload	Y
3	Report Overload	Y
4	Display Device Fail	Y
5	Report Device Fail	Y
6	Alarm On Device Fail	N
7	Block If Armed All On	N
8	Display Output Status On Keypad	N

This location is a Bit option field. Press Keys [I] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Outputs > Properties >

Macro Group **MENU 4-1-6**

Reserved

Outputs > Testing >

External Siren Test **MENU 4-9-0**

Internal Siren Test **MENU 4-9-1**

Strobe Test **MENU 4-9-2**

Comms Programming

Comms > Commands >

Set Domestic Number **MENU 5-0-0**

Call / Answer RAS (Solution Link) **MENU 5-0-1**

Call Forward On/Off **MENU 5-0-2**

Check Web Email **MENU 5-0-3**

Email System Log **MENU 5-0-4**

Start Direct Link Session **MENU 5-0-5**

Comms > Registration >

Customer **MENU 5-0-5**

Reserved

Comms > Registration >

Installer **MENU 5-0-6**

For Future Release

Reserved

Comms > Telephone Number >

Number Prefix **MENU 5-1-0**

1 Digits 32

Use [←] and [→] Keys To Move Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Telephone Number >

Primary Dest 1 **MENU 5-1-1**

1 Digits 32

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Telephone Number >

Secondary Dest 1 **MENU 5-1-2**

1 Digits 32

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Telephone Number >

Primary Dest 2 **MENU 5-1-3**

1 Digits 32

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Telephone Number >

Secondary Dest 2 **MENU 5-1-4**

1 Digits 32

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Telephone Number >

Domestic Number **MENU 5-1-5**

First Number 1 Digits 32

Second Number 1 Digits 32

Third Number 1 Digits 32

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

ℹ **Note** *Up to 3 Phone numbers can be entered for Domestic dialing. Press [OK] after each telephone number is entered to save and move to the next number.*

Comms > Telephone Number >

Call Forward On **MENU 5-1-6**

1 Digits 32

| ✳ | 6 | 1 | , | ✳ | 2 | 0 | # | | | | |

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

E&OE

Comms > Telephone Number >

Call Forward Off | MENU 5-1-7

1				Digits						32
#	6	1	#						…….………	

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Properties >

Call Attempt Count | MENU 5-2-0

0	6

Enter 0 - 15 Then Press [OK] To Program The Maximum Call Retry Attempts Per Destination

Comms > Properties >

Dialer Options | MENU 5-2-1

1	Dialler Enabled	Y
2	Pulse Dialling	N
3	Dial Tone Detect	Y
4	Busy Tone Detect	N
5	Mirror Reports To Web	Y
6	Extend Handshake Wait Period To 1 Minute	N
7	Reserved	N
8	Abort Failed Reports	Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

ℹ **Note** *DTMF dialling should be use at all times. Pulse or decadic dialling should not be selected.*

Comms > Properties >

Phone Line Options | MENU 5-2-2

1	Display Telephone Line Fail	Y
2	Report Telephone Line Fail	Y
3	Alarm On Line Fail If Armed	Y
4	Alarm On Line Fail If Disarmed	N
5	Reserved	N
6	Reserved	N
7	Reserved	N
8	Display Phone In Use	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Comms > Properties >

Country | MENU 5-2-3

1 = Australia			1

2 = New Zealand	7 = Portugal	12 = China
3 = Italy	8 = Hungary	13 = Hong Kong
4 = Greece	9 = Czech Republic	14 = Malaysia
5 = Cyprus	10 = Poland	15 = Brazil
6 = Spain	11 = Bulgaria	

Enter 1 – 15 + [OK] To Set Which Country The Panel Is Being Used In. Only 1 Location Can Be Programmed. (*** System Wide Parameter ***)

Comms > Properties >

Set SMS Pasword | MENU 5-2-7

p	a	s	s	w	d										

Use keys 0 - 9 To Program SMS Password + [OK] To Save. Use [←] and [→] Keys To Scroll Cursor. Default password is for Telstra in Australia.

Comms > Remote Access >

Call Back Number | MENU 5-3-0

1				Digits						32
									…….………	

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Comms > Remote Access >

RAS Security PIN | MENU 5-3-1

1	2	3	4	5	6	7	8

Use keys 0 - 9 To Program RAS Security PIN + [OK] To Save. This security PIN is used the authenticate during remote access connections. You should not leave this PIN at the default value.

Comms > Remote Access >

Log Threshold | MENU 5-3-2

7	0	%

Enter 0 - 9 To Program Log Threshold + [OK] To Save

Comms > Remote Access >

Ring Count | MENU 5-3-3

0 = No Answer

1 to 15 = Answer Ring Count | 10

Enter 0 - 15 Then Press [OK] To Program The Ring Count - Single Option Only

Comms > Remote Access >

Solution Link RAS Options | MENU 5-3-4

1	RAS Allowed	Y
2	Call Back Verification Required	N
3	Terminate RAS on Alarm	Y
4	Answer Machine Bypass	Y
5	Answer Incoming Call Only If Armed	N
6	Tone Bypass	Y
7	Allow User Functions Via Remote Access Software	Y
8	Report / Log RAS Start / End Sessions	Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Comms > Remote Access >

DTMF Options		MENU 5-3-5
1	DTMF Arming	Y
2	DTMF Disarming	N
3	DTMF User Functions	N
4	DTMF Quick Arm ([0] + [#])	Y
5	Reserved	N
6	Reserved	N
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Comms > Remote Access >

Voice Access Code   MENU 5-3-6

9	#

If a Voice Module is used enter the 2-digit access code used to access the system. Enter [0] – [9] For Digits and Use [↑] and [↓] To Toggle Special Characters.

Comms > Remote Access >

CLI Number   MENU 5-3-7

First Number

1			Digits						32

Second Number

1			Digits						32

Third Number

1			Digits						32

Use [←] and [→] Keys To Scroll Cursor. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ✳ # and , (Pause)

Note *Up to 3 Phone numbers can be entered for CLI remote access detection. You must enter STD code plus the compete number for this option to work. Press [OK] after each telephone number is entered to save and move to the next number.*

Comms > Remote Access >

User RAS Security PIN   MENU 5-3-8

0	0	0	0	0	0	0	0

Use keys 0 - 9 To Program RAS Security PIN + [OK] To Save. This PIN is used the authenticate during end user remote access connections.

Comms > Dialler Reporting >

TX Format Dest 1   MENU 5-4-0

0 = Disable   1

1 = Contact ID	7 = Domestic	
2 = SIA	8 = Voice	13 = Reserved
3 = Serial STU	9 = SIA +	14 = Reserved
4 = GSM	10 = Reserved	15 = Reserved
5 = WEB MAIL	11 = Reserved	
6 = SMS	12 = Reserved	

Enter 0 – 15 Then Press [OK] To Program The Transmission Format The Control Panel Will Use To Report To Destination 1.
Only 1 Option Can Be Programmed In This Location.

Comms > Dialler Reporting >

TX Format Dest 2   MENU 5-4-1

0 = Disable   1

1 = Contact ID	7 = Domestic	
2 = SIA	8 = Voice	13 = Reserved
3 = Serial STU	9 = SIA +	14 = Reserved
4 = GSM	10 = Reserved	15 = Reserved
5 = WEB MAIL	11 = Reserved	
6 = SMS	12 = Reserved	

Enter 0 – 15 Then Press [OK] To Program The Transmission Format The Control Panel Will Use To Report To Destination 2.
Only 1 Option Can Be Programmed In This Location.

Comms > Dialler Reporting

Test Route   MENU 5-4-2

0 = Report Events To Log Only   1

1 = Report Events To Destination 1 + Log

2 = Report Events To Destination 2 + Log

3 = Report Events To Destination 1 & Destination 2 + Log

4 = Report Events To Destination 2 If Destination 1 Fails + Log

Location 5-4-2 Sets The Report Route For Test Reports.
Enter 0 - 4 + [OK]. Only One Option Can Be Selected.
(*** System Wide Parameter ***)

Comms > Dialler Reporting

Status Route   MENU 5-4-3

0 = Report Events To Log Only   1

1 = Report Events To Destination 1 + Log

2 = Report Events To Destination 2 + Log

3 = Report Events To Destination 1 & Destination 2 + Log

4 = Report Events To Destination 2 If Destination 1 Fails + Log

Location 5-4-3 Sets The Report Route For System Status Reports.
Enter 0 - 4 + [OK]. Only One Option Can Be Selected.
(*** System Wide Parameter ***)

Comms > Dialler Reporting

Emergency Route   MENU 5-4-4

0 = Report Events To Log Only   1

1 = Report Events To Destination 1 + Log

2 = Report Events To Destination 2 + Log

3 = Report Events To Destination 1 & Destination 2 + Log

4 = Report Events To Destination 2 If Destination 1 Fails + Log

Location 5-4-4 Sets The Report Route For All Emergency Reports.
Enter 0 - 4 + [OK]. Only One Option Can Be Selected.
(*** System Wide Parameter ***)

Comms > Dialler Reporting >

Swinger Dialler   MENU 5-4-5

0	6

Enter 0 – 15 + [OK] To Program Number Of Times The Dialler Can Report Before Lockout. (*** System Wide Parameter ***)
0 = Unlimited Attempts

Comms > Dialler Reporting >

Burg Report Delay	**MENU 5-4-6**

0	0	0
SECONDS

Enter 0 – 255 seconds + [OK] To Program The Delay Time In Seconds Before Reports Are Sent. 0 = No Delay (*** System Wide Parameter ***)

Comms > Dialler Reporting >

Fire Report Delay	**MENU 5-4-7**

0	0	0
SECONDS

Enter 0 – 255 seconds + [OK] To Program The Delay Time In Seconds Before Reports Are Sent. 0 = No Delay (*** System Wide Parameter ***)

Comms > Comms Test >

Send Test Report	**MENU 5-9-0**

Comms > Comms Test >

Test Report Time	**MENU 5-9-1**

Test Time

02	:	00
HH **MM**

Use the [←] and [→] keys to move to the field then [↑] and [↓] to change. Press [OK] to save or [MENU] to exit without saving.

Note Time is programmed in 24hour format.

Comms > Comms Test >

Test Report Period	**MENU 5-9-2**

0 = No Test Report   1

1 = Every Day

2 = Every Week

3 = Every Month

MENU 5-9-2 Programs The Interval Between Automatic Test Reports. Enter [0] to [3] + [OK] To Program the required value. (*** System Wide Parameter ***)

Comms > Comms Test >

Test Report Options	**MENU 5-9-3**

1	Send Test Reports Only If No Other Report	N
2	Send Test Reports On Siren Reset / Time Out	Y
3	Reserved	N
4	Reserved	N
5	Reserved	N
6	Reserved	N
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Comms > Comms Test >

Test Route	**MENU 5-9-4**

0 = Report Events To Log Only   1

1 = Report Events To Destination 1 + Log

2 = Report Events To Destination 2 + Log

3 = Report Events To Destination 1 & Destination 2 + Log

4 = Report Events To Destination 2 If Destination 1 Fails + Log

Enter 0 - 4 + [OK]. To Enter Single Option Only. (*** System Wide Parameter ***)

Comms > Comms Test >

Dial Number Test	**MENU 5-9-5**

Use the option to test the system dialer to your mobile or other phone. Enter the digits to dial and press OK. The system will call the number entered. This function will stop after 30 seconds or by pressing OK. Enter [0] – [9] For Telephone Digits. Use [↑] and [↓] To Toggle Special Characters ∗ # and , (Pause)

Device Programming

Devices > Commands >

LAN Status	**MENU 6-0-0**

LAN Secure	**MENU 6-0-1**

Devices > Keypads >

Keypad Volume	**MENU 6-1-0**

Keypad Contrast	**MENU 6-1-1**

Keypad Backlight	**MENU 6-1-2**

Devices > Keypads >

Home Area	**MENU 6-1-3**

1

Enter 1 - 4 Then Press [OK] To Set The Home Area. This is the Area which will be diplayed on the keypad by default.

Note *All keypads must have a home area programmed to work correctly.*

Devices > Keypads >

General Options	**MENU 6-1-4**

1	Keypad Extinguish	N
2	Greeting On Arming	Y
3	Greeting On Disarming	Y
4	Enable Rear Tamper	N
5	PIN To Change Area	N
6	Home Area Only	N
7	Report/Display Keypad Temperature	N
8	Display Area ICON Indicators	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Devices > Keypads >

Beeper Options		MENU 6-1-5
1	Trouble Alert Beeps	Y
2	Entry Warning	Y
3	Exit Warning	Y
4	Chime Tone	Y
5	Display Temperature	N
6	PIN Arming Not Allowed	N
7	Intaller PIN Not Allowed	N
8	Show Alarm When Armed	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Devices > Keypads >

Emergency Keys		MENU 6-1-6
1	Audible Keypad Fire	Y
2	Report Keypad Fire	Y
3	Audible Keypad Medical	Y
4	Report Keypad Medical	Y
5	Audible Keypad Panic (Invisible If Not Set)	Y
6	Report Keypad Panic	Y
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Devices > Keypads >

Access Group	MENU 6-1-7
	0

Enter 1 - 8 + [OK] To Assign The Keypad To An Access Group.

Devices > Keypads >

Lockout Time	MENU 6-1-8
	0 6 0
	SECONDS

Enter 0 – 255 + [OK] To Program The Keypad Lockout Time In Seconds. 0 = No Lockout (*** System Wide Parameter ***)

Devices > RF Devices >

Receiver Options		MENU 6-2-0
1	Display RF Receiver Trouble	Y
2	Alarm On RF Receiver Tamper	Y
3	Report RF Receiver Tamper	Y
4	Alarm On RF Receiver Jam Detect	N
5	Report RF Receiver Jam Detect	N
6	Alarm On RF Receiver Comms Fail	Y
7	Report RF Receiver Comms Fail	Y
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Device > RF Devices >

Supervision Time	MENU 6-2-1
	0 2 4
	HOURS

Enter the RF Supervision Time for Devices in Hours (001 - 255 Hours) 000 = No Supervision

Device > RF Devices >

RF Device Options		MENU 6-2-2
1	Display RF Tamper	Y
2	Report RF Tamper	Y
3	Report RF Low Battery	Y
4	Report Lost RF Device	Y
5	Open Zone On Lost RF	N
6	Audible Keyfob Panic	Y
7	Report Keyfob Panic	Y
8	Keyfob Function 1 Key = Part On	Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

Devices > RF Devices >

Add RF Keypad	MENU 6-2-3

Delete RF Keypad	MENU 6-2-4

View RF Device ID	MENU 6-2-5

Devices > Serial Device >

Device Type	MENU 6-3-0
0 = Disabled	0
1 = Serial Printer	
2 = Computer	

Enter 0 – 8 + [OK] To Program The Type Of Serial Device Connected To The Serial Port.

Devices > Serial Device >

Baud Rate		MENU 6-3-1
0 = No Device Connected		0
1 = 300 Baud	5 = 9600 Baud	
2 = 600 Baud	6 = 19200 Baud	
3 = 1200 Baud		
4 = 2400 Baud		

Enter Digits 0 – 6 To Program The Serial Device Baud Rate, Then Press [OK] To Save.

Devices > Serial Device >

Flow Control	MENU 6-3-2
0 = No Handshaking	0
1 = Hardware	
2 = Xon-Xoff	

Enter Digits 0 – 2 To Program The Serial Device Flow Control, Then Press [OK] To Save.

    E&OE

System Programming

System > Commands >

Panel Status	MENU 7-0-0
System Trouble	MENU 7-0-1
History Log	MENU 7-0-2
Domestic Default	MENU 7-0-3
Factory Default	MENU 7-0-4
Template Default	MENU 7-0-5
Service Mode	MENU 7-0-8

System > Clock >

Set Date & Time	MENU 7-1-0

System > Clock >

Summertime On MENU 7-1-1

At 2:00am	- - -	- - -	- - -
	Month	Week	Day

Program The Month Of The Year (Jan = 01 – Dec =12), Week Of The Month (Wk1 to Wk5=Last) and Day Of The Week (Day 1=Sun To Day 7 = Sat). Using the 0 - 9 Keys Enter The Required Values. Use the [→] Key Move To The Next Field. (*** System Wide Parameter ***)

System > Clock >

Summertime Off MENU 7-1-2

At 2:00am	- - -	- - -	- - -
	Month	Week	Day

Program The Month Of The Year (Jan = 01 – Dec =12), Week Of The Month (Wk1 to Wk5=Last) and Day Of The Week (Day 1=Sun To Day 7 = Sat). Using the 0 - 9 Keys Enter The Required Values. Use the [→] Key Move To The Next Field. (*** System Wide Parameter ***)

System > Timers >

Exit Time MENU 7-2-0

0 6 0 SECONDS

(*** System Wide Parameter ***)

Enter 0 – 255 + [OK] To Program The Exit Time In Seconds.

System > Timers >

Entry Time 1 MENU 7-2-1

0 2 0 SECONDS

(*** System Wide Parameter ***)

Enter 0 - 255 + [OK] To Program The Entry Time In Seconds.

System > Timers >

Entry Time 2 MENU 7-2-2

0 4 0 SECONDS

(*** System Wide Parameter ***)

Enter 0 - 255 + [OK] To Program The Entry Time In Seconds.

System > Timers >

Part Entry Time MENU 7-2-3

0 6 0 SECONDS

(*** System Wide Parameter ***)

Enter 0 - 255 + [OK] To Program The Part Mode Entry Time In Seconds.

System > Timers >

Auto Arm Pre-Alert MENU 7-2-4

0 1 0 Minutes

(*** System Wide Parameter ***)

Enter Digits 0 – 255 + [OK] To Program The Pre-Alert Time In Minutes (0 = No Pre-Alert)

System > Timers >

Output Pre-Alert MENU 7-2-5

0 0 0 Minutes

(*** System Wide Parameter ***)

Enter Digits 0 – 255 + [OK] To Program The Pre-Alert Time In Minutes (0 = No Pre-Alert)

System > Timers >

Senior Watch Time MENU 7-2-6

0 0 0 Hours

(*** System Wide Parameter ***)

Enter 0 – 255 + [OK] To Program The Senior Watch Interval In Hours.

System > Power >

AC Options MENU 7-3-0

1	Display AC Fail	Y
2	Report AC Fail	Y
3	Use AC To Synchronise The System Clock	Y
4	Random AC Report 2 hour	N
5	Extend AC Supervision From 1 Minute To 60 Minutes	N
6	Reserved	N
7	Reserved	N
8	Display Clock Trouble	Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

System > Power >

Battery Options MENU 7-3-1

1	Display Battery Fail	Y
2	Report Battery Fail	Y
3	Execute Battery Testing On Arming	Y
4	Arming Allowed On Low Battery	Y
5	Reserved	N
6	Reserved	N
7	Reserved	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

System > Power >

Fuse Options		**MENU 7-3-2**	
1	Display COMM+ Current Overload Condition		Y
2	Report COMM+ Current Overload Condition		Y
3	Display +12V (Accessories) Current Overload Condition		Y
4	Report +12V (Accessories) Current Overload Condition		Y
5	Display LAN+ Overload Condition		Y
6	Report LAN+ Overload Condition		Y
7	Reserved		N
8	Reserved		N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished.

System > Siren >

Tone	**MENU 7-4-0**

Speed	**MENU 7-4-1**

Volume	**MENU 7-4-2**

(*** System Wide Parameter ***) | 1 | 5 |

Enter 0 – 15 + [OK] To Program Volume Of The Siren Volume (0 = Disabled / 1 = Low – 15 = High)

System > Siren >

Swinger Siren	**MENU 7-4-3**

| 3 |

Enter 0 – 15 + [OK] To Program Number Of Times Siren Can Sound Before Lockout. (0 = Unlimited) (*** System Wide Parameter ***)

System > Schedules >

Name	**MENU 7-5-0**

| S | c | h | e | d | u | l | e | | 1 | | N | a | m | e | | |

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

System > Schedules >

Time	**MENU 7-5-1**

	Start Time			**Stop Time**	
22	:	00	12	:	00
HH		MM	HH		MM

Using The 0 - 9 Keys Enter The Start And Stop Time As Required. You Should Enter Two Digits For Each Option eg. 4am = 04. Use The [→] key to move to the next field. Press [OK] to save or [MENU] to exit without saving.

Shh= Start Time Hours   Snn= Start Time Minutes
Ehh= End Time Hours   Enn= End Time Minutes

Schedules are programmed in 24hour time.

System > Schedules >

Day	**MENU 7-5-2**

Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Hol**
Y	Y	Y	Y	Y	Y	Y	N

Enter 1 – 8 To Toggle Days ON/OFF. The day is active or ON when the coresponding zone indicator is on. Indiccator 8 is used to set if the schedule will apply on holidays. When finshed press [OK] To Save.

System > Schedules >

Function	**MENU 7-5-3**

0 = Disabled

1 = Area On/Off   3= Operate Output
2 = Area Part On/Off   4 = Timer Group

| 0 |

Enter 0 - 4 + [OK] To Program The Function the Schedule Will perform.

System > Schedules >

Index	**MENU 7-5-4**

| 0 |

(Enter Digits 0 – 15 To Program Area, Output or Access Group Number, Then Press [OK] To Save

System > Holidays >

Name	**MENU 7-6-0**

| H | o | l | i | d | a | y | | N | a | m | e | | | |

Use [←] and [→] Keys To Scroll the Cursor Left and Right. Use Keys [0] – [9] + [↑] and [↓] To Select Characters. When finished press [OK] To Save. Press [OFF] To Clear From The Current Cursor Position.

System > Holidays >

Start Stop Dates	**MENU 7-6-1**

	Start 12am			**Stop 12am**	
01	Jan		01	Jan	
DD	MM		DD	MM	

Using The 0 - 9 Keys Enter The Start And Stop Date For Each Holiday As Required. You Should Enter Two Digits For Each Option eg. June = 06. Use The [→] key to move to the next field.
Press [OK] to save or [MENU] to exit without saving.

Sdd= Start Date   Snn= Start Month
Edd= End Date   Enn= End Month

If the start day and month and the stop day and month are equal then no holiday exists.

System > System Options >

General Options		**MENU 7-7-0**	
1	Display LAN Fail		Y
2	Report LAN Fail		Y
3	Alarm On LAN Fail		N
4	Reserved		N
5	Can Change Own PIN Code		N
6	Monitor Default PIN Codes		Y
7	PIN Always Required		N
8	Display Menu Numbers		Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished. (*** System Wide Parameter ***)

System > System Options >

Area Options | MENU 7-7-1

1	Area 1 = Common Area	N
2	First To Open Last To Close	N
3	Reset Siren All Users (All Areas)	Y
4	Power Up In Same State As Powered Down	Y
5	Fault Acknowledge All Areas	Y
6	Delay Trouble Beeps	Y
7	Power Up Disarmed	N
8	Reserved	N

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished. (*** System Wide Parameter ***)

System > Options >

Keypad Idle Screen | MENU 7-7-2

0 = No Idle Screen `0`
1 = Date and Time   (*** System Wide Parameter ***)
2 = Time
3 = Time + Temp Alternating

Use Keys [↑] and [↓] keys or enter 0 - 3 Then Press [OK] To Program The Keypad Idle Screen - Single Option Only.

System > Options >

Keypad Hi/Lo Temp | MENU 7-7-3

(*** System Wide Parameter ***) `0` `0` ℃   `0` `0` ℃
Hi TEMP   **Lo TEMP**

Using The 0 - 9 Keys Enter The High / Low Keypad Monitor Temperature. You Should Enter Two Digits For Each Option eg. 9 degrees = 09. Use The [→] key to move to the next field. Press [OK] to save or [MENU] to exit without saving. Max Temp = 50 Min Temp = 0

System > Installer Options >

Installer Options | MENU 7-7-4

1	Report/Log Entry/Exit Intstaller Menu	N
2	Report/Log Program Data Change	Y
3	Arm Only Installer Pin	N
4	Reserved	N
5	Auto Exit Installer Menu In 2 Hours	Y
6	Auto Exit Service mode In 2 Hours	Y
7	Reserved	N
8	Factory Defaulting Allowed	Y

This location is a Bit option field. Press Keys [1] – [8] to turn ON and OFF the required options. The option is selected or ON when the coresponding zone indicator is on. Press [OK] To Save when finished. (*** System Wide Parameter ***)

System >Options >

Language | MENU 7-7-5

0 = English `0`
1 = Alternate Language

(Enter Digits 0 – 1 To Select the Primary (English) Lanuage or the Alternative Language Then Press [OK] To Save. Early Version Panels Only Support English Language.

System > System Testing >

Walk Test All Zones | MENU 7-9-0

Battery Test | MENU 7-9-1

TESTING THE SYSTEM

You will need to be in programming mode before accessing the test functions listed below.

Walk Test

Use the walk test command MENU 3-9-0 to test and verify that all zones work correctly.

External Audible Test

Use MENU 4-9-0 to test and verify that all horn speakers operate. This test will sound the horn speaker for two seconds.

Internal Audible Test

Use MENU 4-9-1 to test and verify that all 12 VDC sirens operate. This test will sound the siren for two seconds.

Strobe Test

Use MENU 4-9-2 To test and verify that the strobe operates. This test will turn on the strobe until you manually stop the test.

Battery Test

Use MENU 7-9-1 to test the back-up battery that is connected to the control panel.

Communication Test

Use MENU 5-9-0 to test the telephone reporting capability of the control panel. You can also activate a communication test by holding down the Test / Mail key on the keypad.

SPECIFICATIONS

Panel	Solution 16i (Part Number CC500)
Voltage Input	16-18V A.C. 50-60Hz - 24VA External Power Adaptor or 220-240V A.C. to 18V A.C. 50-60Hz - 24VA Internal Transformer (Primary Power Source)
Continuous Power	1 Amp MAX (Combined power drawn from Accessory Power(+12V) Lan Power (Module LAN +) and Output Power (C+) terminals must not exceed 1 amp)
Alarm Power	4 Amp (Total with Primary and Secondary Power Sources Fitted)
Stand-by Battery	12 VDC, 7.2AH sealed rechargeable battery - Panasonic LC-P127R2P or equivalent. (Secondary Power Source) Dispose of used batteries according to the instructions.
Min Operating Voltage	10.2 VDC
Battery Charger	Pulse by pulse charger. (Note: Charge voltage can't be measured unless battery is fitted.)
Module Connection (RS485 LAN)	Max total LAN length using multi strand security cable = 300m , Max total LAN length using 2 pair twisted shielded data cable (Belden 8723) = 1500m. See the product installation manual for complete wiring instructions.
Telephone Connections	RJ-12 Socket or 4-way terminal
Temperature	0˚ to 55˚ C
Enclosure Fixing Method	**CM700B - Small Enclosure** Use appropriate fasteners capable of handling a minimum of 6kg to fix the cabinet against a sturdy surface using the mounting holes provided. **CM710B - Large Enclosure** Use appropriate fasteners capable of handling a minimum of 12kg to fix the cabinet against a sturdy surface using the mounting holes provided.
Relative Humidity	5 to 85% non-condensing.
Compatible Keypads	CP300i - 8 Zone ICON Keypad - White CP510i - 16 Zone ICON Keypad - White CP301i - 8 Zone ICON Keypad + Prox - White CP511i - 16 Zone ICON + Prox Keypad - White
Compatible Accessories	CM704B - 8/16 Zone Expander SW500B - Solution Link (RAS) Software CM710B - 4 Way Relay Output Module CM900 - Direct Link Interface CM720B - 1-Amp LAN Power Supply MW710B - Large Enclosure CM195 - Multi RF Receiver Interface
Enclosure Dimensions:	P/N: MW700 - (W)320, (H)260, (D)75mm P/N: MW710 - (W)320, (H)520, (D)75mm
PWA Dimensions:	(W) 235, (H) 85 (H), (D) 40mm
Warranty:	3 years from date of manufacture (return to base)

The following parts are supplied with the panel
(Australian models only - content may differ in export models)

Panel Assembly Includes	1 x CM700B Metal Enclosure + Tamper 1 x Installer Reference Guide 1 x Panel PWA 1 x Resistor Pack 1 x User Manual
Resistor Pack Includes	1 x Red Battery Lead 10 x 3K3 – 0.25W +/- 1% Metal Film Resistors 1 x Black Battery Lead 10 x 6K8 – 0.25W +/- 1% Metal Film Resistors 1 x 2-Way Shunt With Handle 1 x 3-Way Removable Terminal Block 2 x Phillips Pan Head Zinc Plated Screws 1 x Panel Tamper Switch + Tamper Lead 1 x Telephone Cable RJ12 6P/4C 1 x Tamper Switch Bracket 1 x Pack PCB Mounting Clips (5 pc/pack) 1 x Product Identification Label
Available Separately	Solution 16i Installation Manual Part Number BLCC500I Solution Link (RAS) Software Part Number: SW500B

A = 🄰 X = ⅄ o = ▫ + = ⊦

B = 🄱 Y = ⅄ p = 🄿 , = ⌐

C = 🄲 Z = ⊇ q = 🅀 - = -

D = 🄳 [= 🄲 r = ⌐ . = ▁

E = 🄴 \ = ⌐ s = 🄂 0 = 🄌

F = 🄵] = 🄐 t = ⊢ 1 = 🄀

G = 🄶 ^ = ⌐ u = ⊔ 2 = ⊇

H = 🄷 _ = ▁ v = ⊔ 3 = ⊐

I = 🄸 ` = ⌐ w = ⊔ 4 = ⅄

J = 🄹 a = 🄰 x = ⅄ 5 = 🄂

K = 🄺 b = 🄱 y = ⅄ 6 = 🄂

L = 🄻 c = ⌐ z = ⊇ 7 = 🄀

M = 🄼 d = 🄳 SP = 8 = 🄱

N = 🄽 e = 🄴 ! = ⌐ 9 = 🅀

O = 🄾 f = 🄵 " = ▫ / = ⌐

P = 🄿 g = 🄶 # = 🄷 : = -

Q = 🅀 h = 🄷 $ = ⊪ ; = ⌐

R = 🅁 i = ⌐ % = 🄂 < = ⊏

S = 🄂 j = 🄹 & = ⊟ = = ⊟

T = ⊢ k = 🄺 ' = ⌐ > = ⊐

U = ⊔ l = ⌐ (= 🄲 ? = 🄐

V = ⊔ m = 🄼) = 🄐 @ = 🄳

Figure 33: Character Set

N12138   N12138   TELEPERMIT   CE   RoHS

BOSCH