

CONTROL™

TRAINING MANUAL

INTEGRATED AUTOMATION
SOLUTIONS
FOR INTELLIGENT BUILDINGS



NAME:.....

COMPANY:.....

CONTACT:.....



the trusted choice



iCONTROL NAVIGATIONAL MENU

HOME SCREEN

- VIEW
- SECURITY
- FUNCTIONS
- PANEL
- SWITCH FROM PANEL
- TEST
- INSTALLATION
- SETUP
- TOOLS
- LICENCE

 User Access Level
 Installer Access Level

VIEW

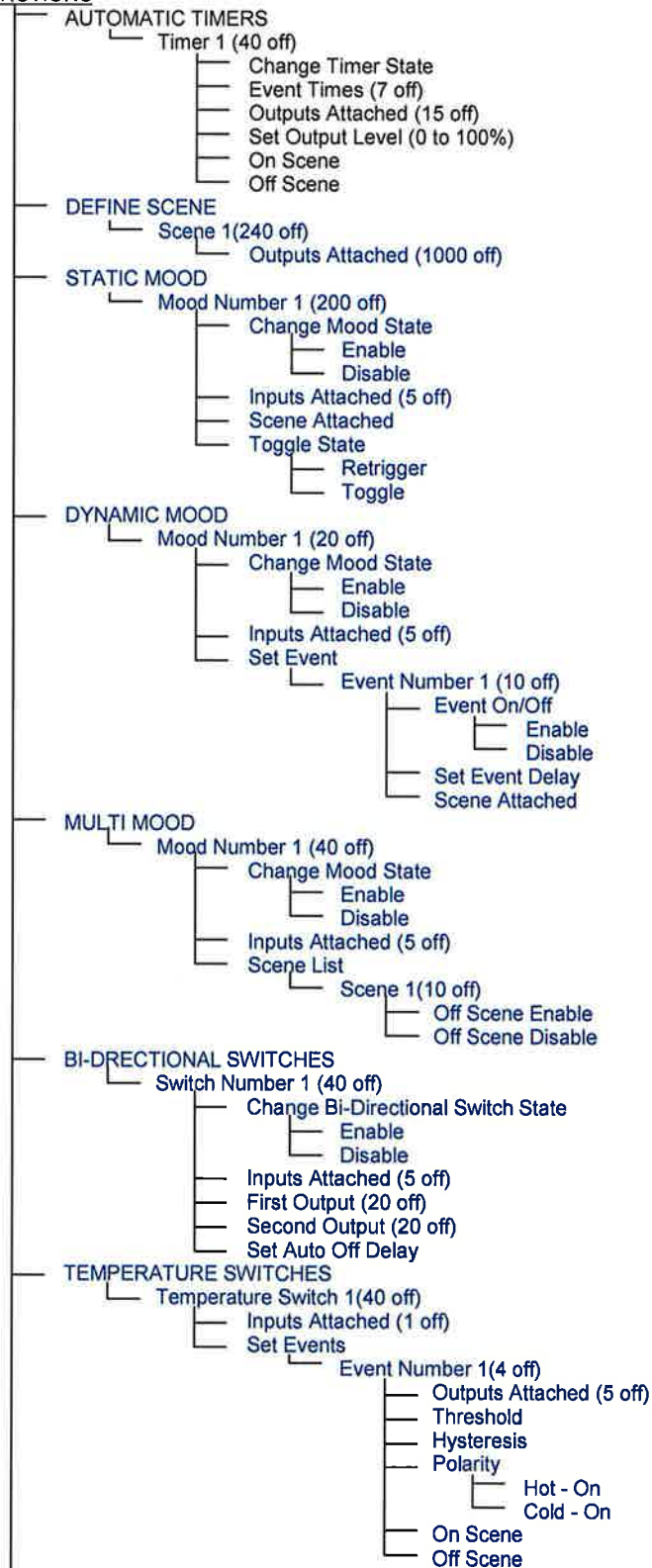
- ON CHANNELS
- CHANNELS BY LOCATIONS
- DEVICE BY LOCATIONS
- CHANNELS BY TYPE
- DEVICE BY TYPE
- CHANNEL LINKS
- SCENE INPUTS
- CHANNEL BY DEVICE
- DEVICE BY CHANNEL
- TEMPERATURE SENSORS
- LIGHT SENSORS
- BATTERY CONDITION
- DAWN & DUSK TIMES
- SOFTWARE VERSIONS

SECURITY

- ARM SECURITY AREA
- ENTRY DELAY
- EXIT DELAY
- SELF LEARN MODE
- SETUP AREAS
 - Area 0 (10 off)
- MUTE SIREN
 - Siren Is Muted
 - Siren Is Not Muted
- ATTACHED OUTPUT CHANNELS
- SECURITY MOODS
 - Fire Scene
 - Alert Scene
 - Panic Scene
 - Arm Scene
 - Disarm Scene
 - Intruder Off Scene
- PANIC BUTTONS
- SECURITY LOG
- EXPORT LOG
- PHONE NUMBER
 - Phone Number 1 (4 off)

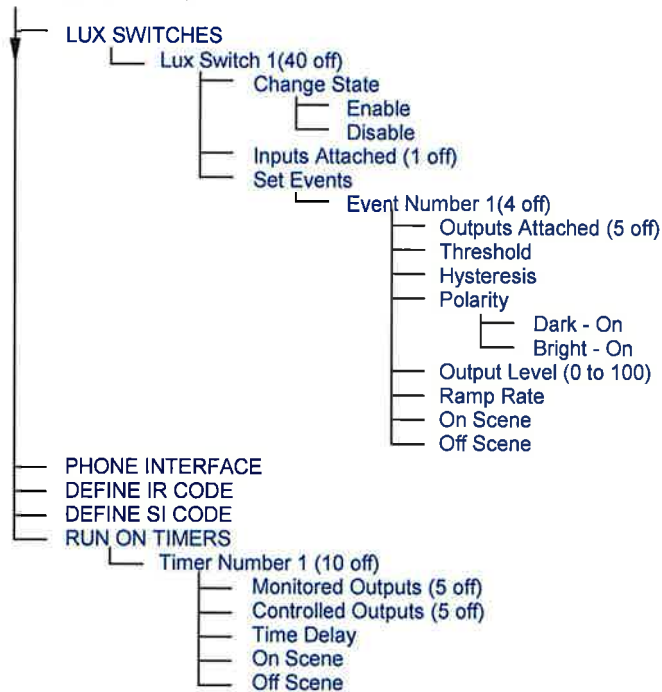


FUNCTIONS

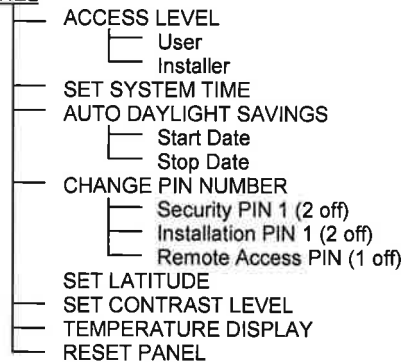




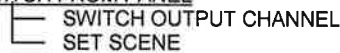
FUNCTIONS (continue)



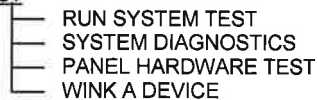
PANEL



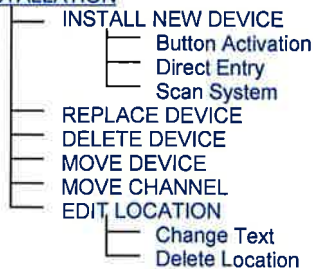
SWITCH FROM PANEL



TEST



INSTALLATION





SETUP

LINK INPUT TO OUTPUT

LINK OUTPUT TO INPUT

SETUP CHANNELS

Keypad Button

On Time for LEDs

Mode of Operation

On/Off Switch

On Switch

Off Switch

Dimmer Switch

Momentary Switch

(Note : Mood switch is setup via the FUNCTION menu)

(Note : Panic switch is setup via the SECURITY menu)

Auto Off Timer ON/OFF

Enable

Disable

Auto Timer Mode

Toggle

Retrigger

Automatic Off Time

Max/Min Levels

Ramp Rate

Relay Output

On Time for LEDs

Power On Delay

Output Polarity

Output Normally Open

Output Normally Close

Default Output

Off

On

Same

Dimmer Output

On Time for LEDs

Power On Delay

Max/Min Levels

Default Output

Off

On (0 to 100%)

Motion Sensor

PIR On/Off

Enable

Disable

Occupancy time out

Output Level (0 to 100%)

Ramp Rate

Night / Day Mode

Day & Night

Night Mode

Night / Day Threshold (Lux = 20 to 500)

Sensitivity

Normal Pulse Count

Security Pulse Count

Disable time

RF Receiver

Mode of Operation

On/Off Switch

On Switch

Off Switch

Dimmer Switch

Momentary Switch

Auto Off Timer ON/OFF

Enable

Disable

Auto Timer Mode

Toggle

Retrigger

Automatic Off Time



SETUP (continue)

SETUP CHANNELS (continue)

RF Receiver (continue)

- Max/Min Levels
- Ramp Rate
- Add Transmitter

Siren Alarm

- On Time For Siren
- On Time For Strobe

Security Keypad

- Mode of Operation
 - On/Off Switch
 - On Switch
 - Off Switch
 - Dimmer Switch
 - Momentary Switch

- Automatic Off Time
- Max/Min Levels
- Ramp Rate

SETUP GLOBAL

- Keypad Button
- Relay Output
- Dimmer Output
- Motion Sensor
- RF Receiver
- Siren Alarm
- Security Keypad
- Power Supply
- Light Sensor

TOOLS

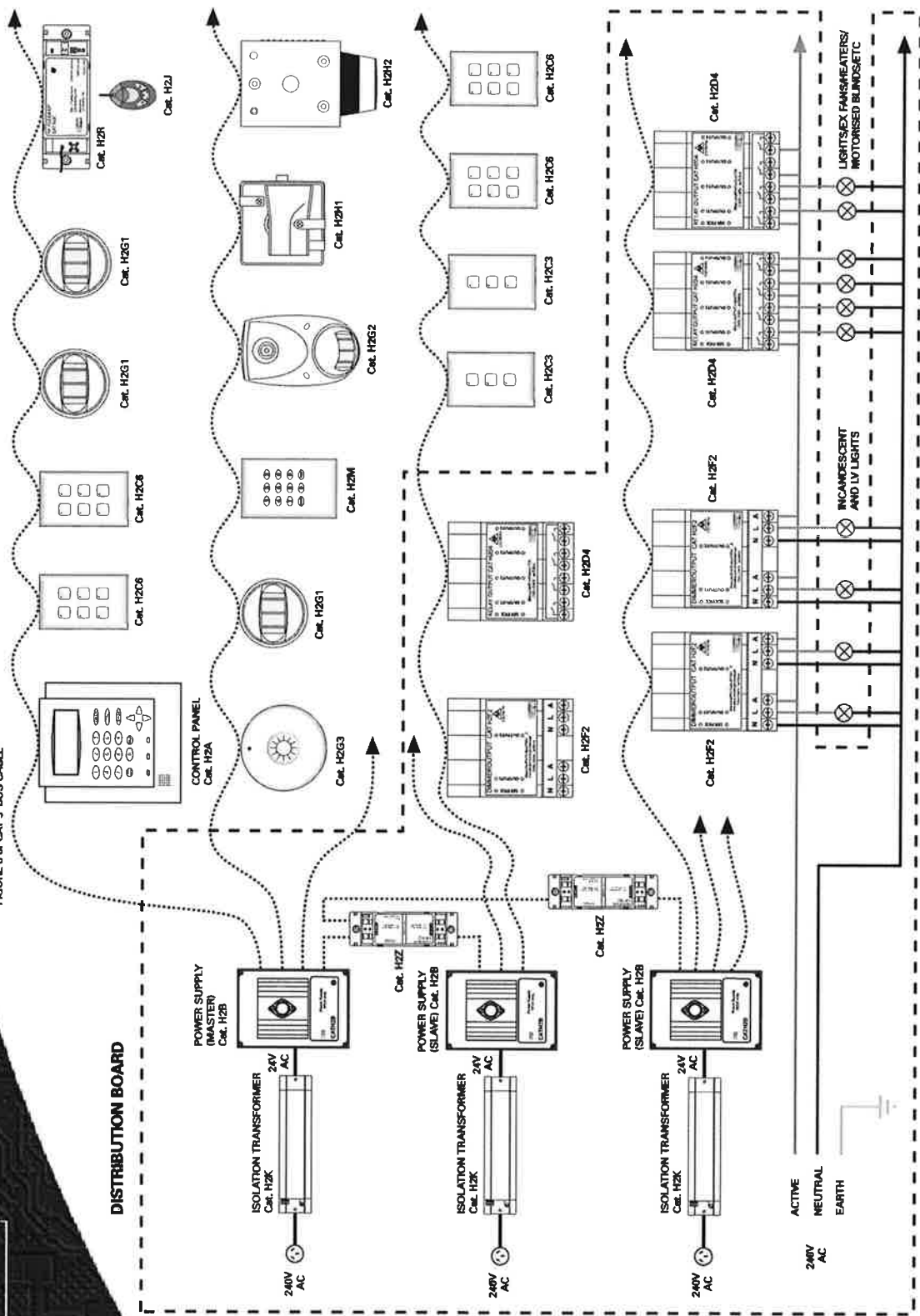
- SAVE DATABASE
- LOAD DATABASE
- UPDATE BINDING
- VIEW INSTALL ERROR
- REBUILD DEVICES
- UPDATE DEVICE FIRMWARE

LICENSE

- Enter License Number

Bus and Mains wiring

FIGURE 8 or CAT 5 BUS CABLE



Typical installation with more than one power supplyout prior notice.

Specifications subject to change without prior notice.

iCONTROL™

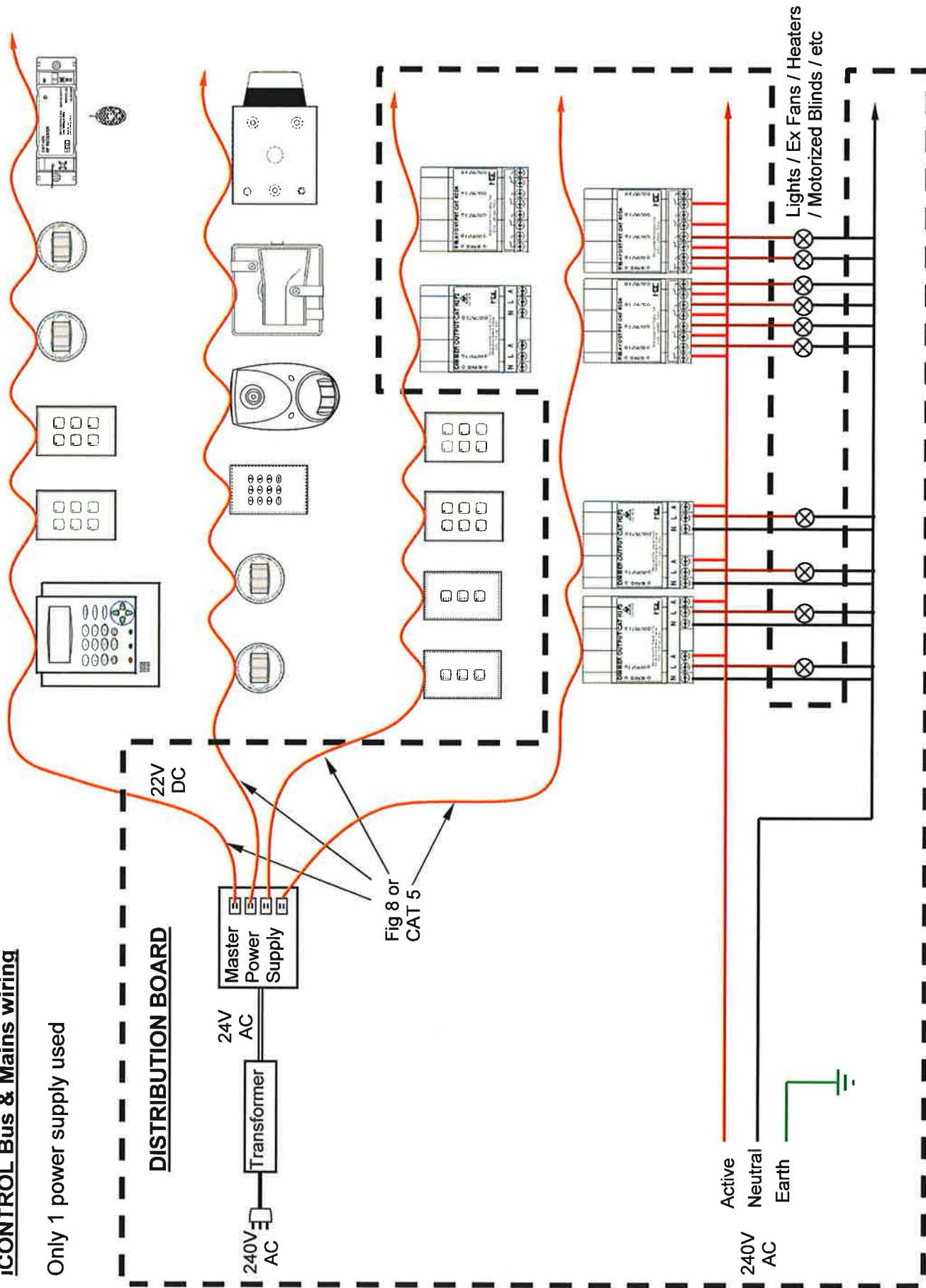
iCONTROL Automation Systems from HPM Technologies.

HPM Technologies Pty Ltd
www.hpmtech.com.au



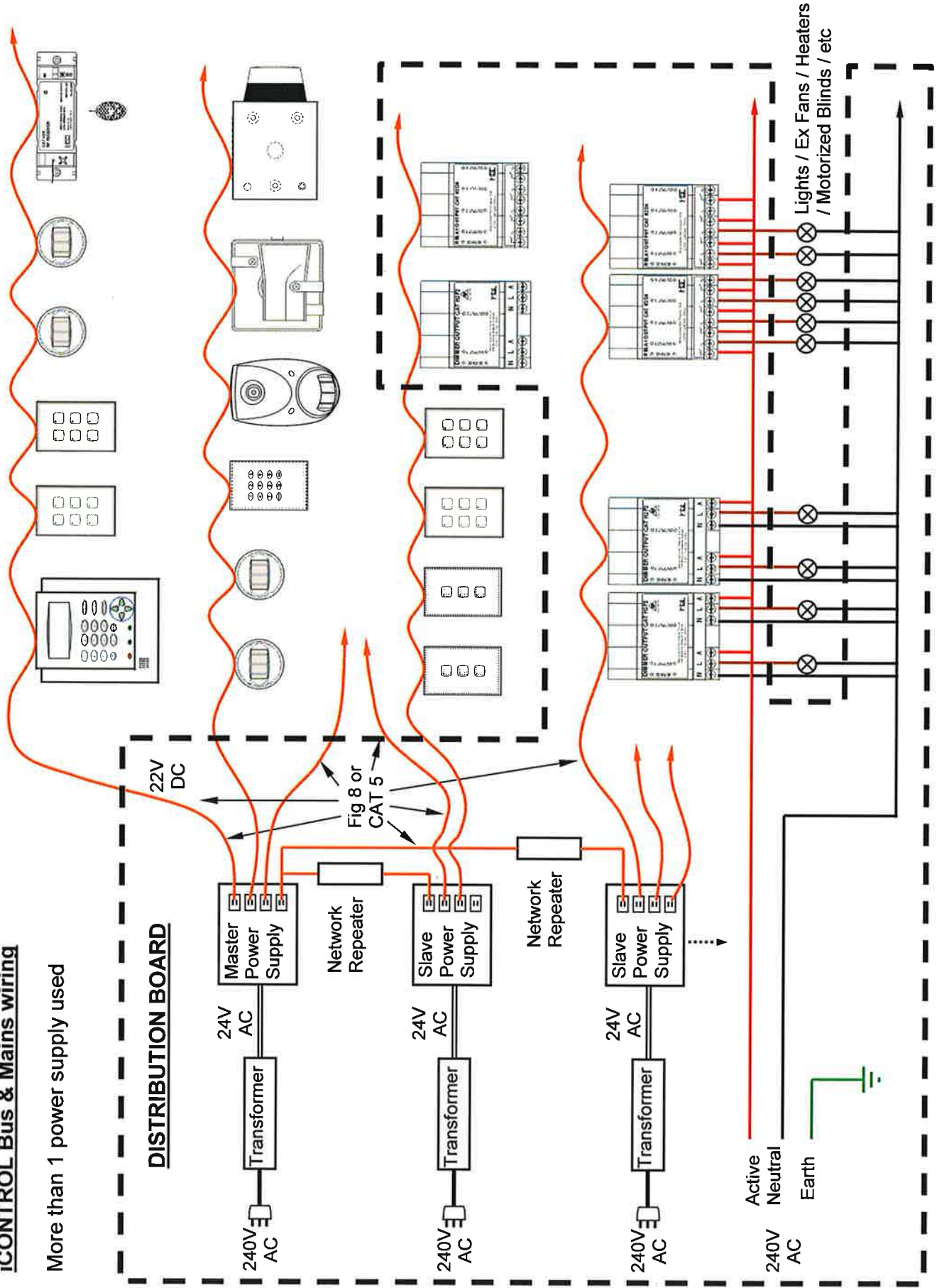
iCONTROL Bus & Mains wiring

Only 1 power supply used



iCONTROL Bus & Mains wiring

More than 1 power supply used



Technical Specifications

Isolation Transformer (50VA)

Cat No. H1K

Step-down 240-24Vac safety isolation transformer used to supply the working voltage for the Power Supply.

The transformer unit has internal mounting facilities, a thermal overload protection cut-out.

EMC compliant.



Specifications

CATALOGUE NO.	H1K
INPUT VOLTAGE	230-240V AC
OUTPUT VOLTAGE	24V AC
MAXIMUM LOAD	50VA
INSTALLATION	Surface mounted
THERMAL OVERLOAD	Self re-setting thermal cut out
ENCLOSURE	Slimline compact enclosure
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	39 mm(H), 207 mm(W), 47mm(D)
WEIGHT	800 g
NOTE	Please consult HPM Technologies when is appropriate to use this transformer

Technical Specifications

Isolation Transformer (100VA)

Cat No. H2K

Step-down 240-24Vac safety isolation transformer used to supply the working voltage for the Power Supply.

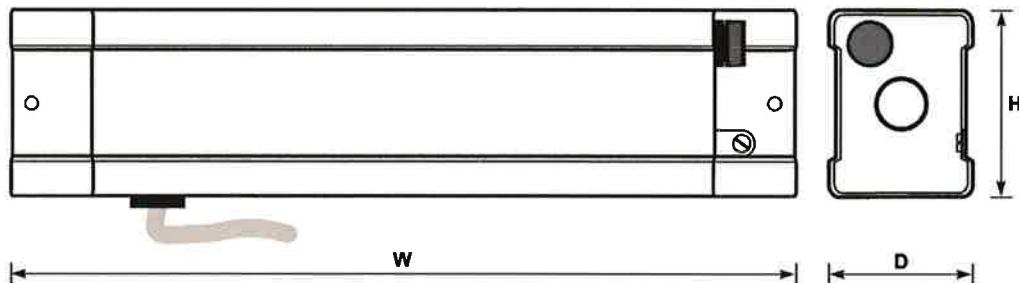
The transformer unit has internal mounting facilities, a thermal overload protection cut-out and a replaceable fuse.

EMC compliant.



Specifications

CATALOGUE NO.	H2K
INPUT VOLTAGE	230-240V AC
OUTPUT VOLTAGE	24V AC
MAXIMUM LOAD	100VA
INSTALLATION	Surface mounted
FUSE	7.5A Slow blow
THERMAL OVERLOAD	Self re-setting thermal cut out
ENCLOSURE	Durable aluminium case
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	68 mm(H), 300 mm(W), 58 mm(D)
WEIGHT	2.3 kg



Technical Specifications

Insulation Displacement Connector (IDC)

Cat No. H1N

Insulation Displacement Connectors (IDC) used to connect device to iCONTROL Bus cable.

Two IDC connector types are available. Cat No H1N for Figure 8 (2 x 0.75mm²) and Cat No H2CAT5 for Category rated cables.

The recommended Bus cable is Figure 8 flex Cat No H2FIG8.



Specifications

CATALOGUE NO.	H1N for Figure 8 Cable Cat No H2FIG8 H2CAT5 for Category rated cables
CONNECTORS PER BAG	100
WEIGHT	<1g (each)
CRIMP PROCEDURE	Please refer to Crimp Tool Technical Specifications Cat No H1P
INSTALLATION	When used on distribution boards it requires connector over Cat No H1NC

Technical Specifications

Crimp Tool

Cat No. H1P

Crimp Tool specially designed to crimp Insulation Displacement Connectors (IDC) onto the network Bus cable.

Two IDC connector types are available. Cat No H1N for Figure 8 (2 x 0.75mm²) and Cat No H2CAT5 for Category rated cables.

The recommended Bus cable is Figure 8 flex Cat No H2FIG8.



Specifications

CATALOGUE NO.	H1P
COMPATIBILITY	IDC for figure 8 flex cable requires Cat No H1N (Red line connector) IDC for Category 5 cable or better requires Cat No H2CAT5 (Black line connector)
WEIGHT	350 g
CRIMP PROCEDURE	Please see below



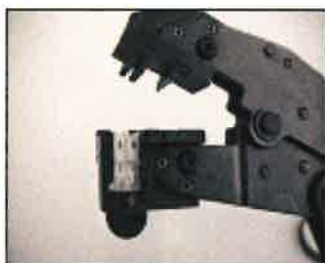
Step 1



Step 2



Step 3



Step 4



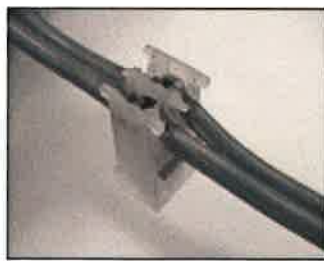
Step 5



Step 6



Step 7



Step 8



Step 9

Technical Specifications

Power Supply

Cat No. H2B

The Power Supply provides the power to the system. The Power Supply has a backup battery to cover a minimum of 30 minutes to interruptions to mains supply. Terminals are provided for the connection of external batteries when extended battery backup is required.

The Power Supply can support up to 50 standard load devices such as keypads, relays and dimmers. There are four terminals providing Bus interface connection.

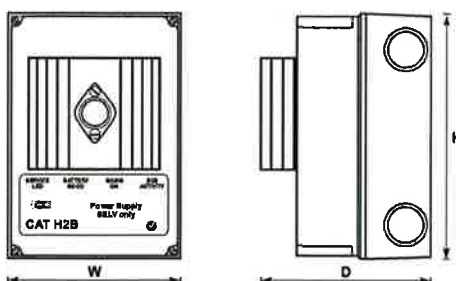
A tamper switch in the housing will trigger the alarm if activated. Short-circuit protection is provided.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2B
NETWORK CONNECTION	Bus interface (22V DC) via 4 IDC connectors
INPUT VOLTAGE RANGE	24V AC (from H2K transformer)
NOMINAL OUTPUT VOLTAGE	22V under normal operation
MAXIMUM LOAD CURRENT	1.5A @ 25°C
NETWORK CONNECTION TERMINALS	4
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mount unit with heatsink fins in vertical position where possible. Service button and LED are located inside the unit.
ENCLOSURE	Polycarbonate case with aluminium finned heatsink.
LED INDICATORS	Service LED: Flashes when device is not installed. (on = device faulty) Battery Good LED: Indicates battery status (on = battery OK, off = battery flat, flashing = battery charging) Mains On LED: Indicates presence of mains AC power. (when power supply is installed) Bus Activity LED: Indicates bus activity
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	163 mm(H), 115 mm(W), 120 mm(D)
WEIGHT	1.8 kg
CONNECTORS	Batt2: Used to connect additional sealed lead acid batteries for extended battery backup duration. Must be used if batteries have also been connected to the "Batt 1" terminal. The absence of batteries fitted to "Batt 1" (factory fitted flying leads) will prevent the security system from being armed. Both "Batt 1" and "Batt 2" Terminals are suitable for the connection of two series-connected 12 Volt battery, each rated between 1.2Ah and 12Ah. Tamper: Required for security installations where a Tamper switch is fitted to the enclosure housing the H2B and any additional backup batteries. If a Tamper switch is not fitted, these terminals must be connected together with a short piece of wire. (This is fitted at the factory). Aux: HPM use and must not be used for any purpose.



Technical Specifications

Power Supply for Security System

Cat No. H2B2

The Power Supply for security systems provides the power to monitored devices such as PIRs.

The Power Supply has a backup battery to cover a minimum of 8 hours to interruptions to mains supply. Terminals are provided for the connection of additional external batteries when extended battery backup is required.

The Power Supply can support up to 50 standard load devices such as keypads, relays and dimmers. There are four terminals providing Bus interface connection. (All monitored devices must be connected to this Power Supply)

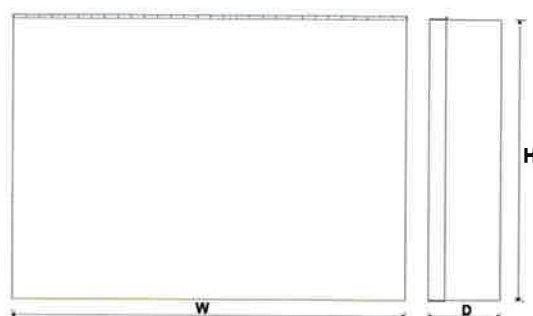
A tamper switch in the housing will trigger the alarm if opened or removed from the wall. Short-circuit protection is provided.

EMC, CE and AS2201 compliant.



Specifications

CATALOGUE NO.	H2B2
NETWORK CONNECTION	Bus interface (22V DC) via 4 IDC connectors
INPUT VOLTAGE RANGE	24V AC (from Cat No H2K transformer)
NOMINAL OUTPUT VOLTAGE	22V under normal operation
MAXIMUM LOAD CURRENT	1.5A @ 25°C
NETWORK CONNECTION TERMINALS	4
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mount unit. Service button and LED are located inside the unit.
ENCLOSURE	Metal case with aluminium heatsink.
LED INDICATORS	Red bus activity LED Red mains AC power LED Red battery status LED (on = battery OK, off = battery flat, flashing = battery charging)
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	255 mm(H), 357 mm(W), 117 mm(D)
WEIGHT	4.8 kg
BATTERY CAPACITY	Standard backup battery consists of 2 units of 12V 7Ah sealed lead acid battery. This can supply an average current of 600mA for an 8 hour period which is adequate for most combinations of 50 standard load devices (average 15mA per device) used in iCONTROL system. If the average current is higher than 750mA, the optional 12Ah batteries may be required. Please consult HPM Technologies for further advice about your specific application.



Technical Specifications

Power Supply Std

Cat No. H2B3

The Power Supply Std provides the power to the system. This low cost Power Supply can support up to 50 standard load devices such as keypads, relays and dimmers. There are four terminals providing Bus interface connection.

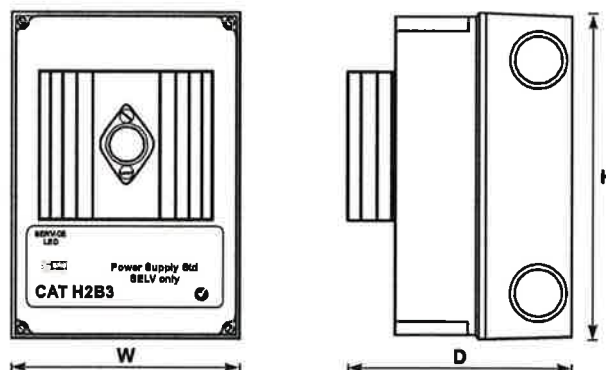
This Power Supply does not require to be installed on the system using the Control Panel or installation software iBAS.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2B3
NETWORK CONNECTION	Bus interface (22V DC) via 4 IDC connectors
INPUT VOLTAGE RANGE	24V AC (from H2K transformer)
NOMINAL OUTPUT VOLTAGE	22V under normal operation
MAXIMUM LOAD CURRENT	1.5A @ 25°C
NETWORK CONNECTION TERMINALS	4
SOFTWARE VERSION	No software required
INSTALLATION	Surface mount unit with heatsink fins in vertical position where possible. This Power Supply does not require to be initialised using the Control Panel or installation software iBAS.
ENCLOSURE	Polycarbonate case with aluminium finned heatsink.
LED INDICATORS	Bus activity LED only.
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	163 mm(H), 115 mm(W), 120 mm(D)
WEIGHT	0.4 kg



Technical Specifications

Network Repeater

Cat No. H2Z

Bi-directional optically isolated network repeater that allows expansion to the system by linking two sub-networks. (Sub-network = 50 devices)

A maximum 4 repeaters per system can be installed in a network.

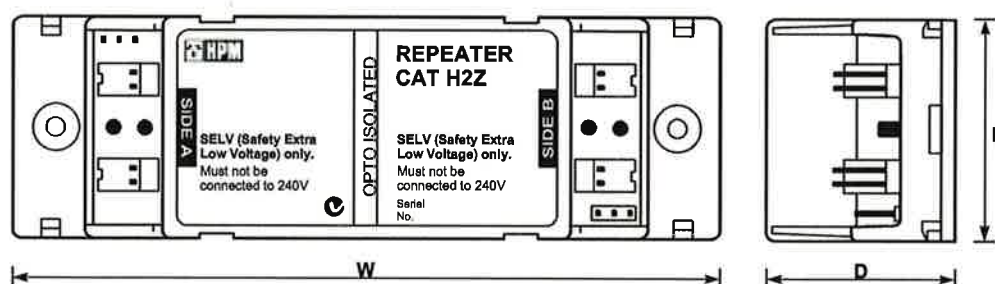
Provided with two IDC Bus connectors in each side of the repeater.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2Z
NETWORK INTERFACE	Bus interface (22V DC)
CURRENT CONSUMPTION	6mA
ELECTRICAL ISOLATION RATING	3500V AC RMS 1 minute
INSTALLATION	Surface mounted using 2 screws
ENCLOSURE	Surface mounted polycarbonate case, with polycarbonate covers for main unit and end pieces.
LED INDICATORS	Red bus activity LED at each end Red power LED at each end
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	152 mm(H), 45 mm(W), 40 mm(D)
WEIGHT	80 g
JUMPERS	Reserved



Technical Specifications

Control Panel

Cat No. H2A

The Control Panel provides the interface between the system and users. Used for installation, programming and configuration, as well as for monitoring, diagnostic and real time clock functions. It also holds system setup information and database.

The Control Panel can be used as an alarm keypad. The sophisticated software provides among other functions automatic daylight saving correction for timers.

The Control Panel architectural look has a four colour back lit keypad and 4-line LCD display.

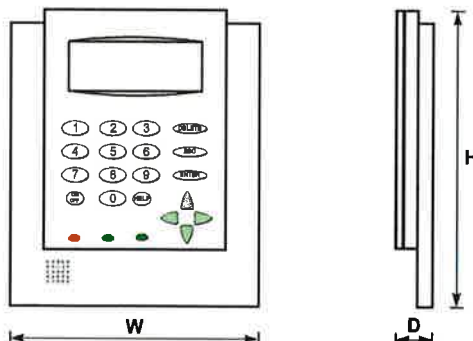
Its built-in RS-232 port is used for downloading and uploading firmware or databases. A tamper switch triggers the alarm if the Control Panel is removed from its bracket by an unauthorised user.

The Control Panel has a lithium backup battery with up to 2 year life and it is EMC and CE compliant.



Specifications

CATALOGUE NO.	H2A
NETWORK CONNECTION	Bus interface (22V DC) via IDC connector
CURRENT CONSUMPTION	85 mA in sleep state 95 mA in active state (Backlight on)
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Wall-mounted via a custom wall bracket, fitted with standard 84mm mounting centres. Housing has tamper-proof security screws. A 2-wire bus plugs into a connector at the rear of the unit. Service button at rear of panel.
USER INTERFACE	Information is displayed on the backlit 4 x 20 character LCD display. 19-key user interface used for entering information. Display has adjustable contrast.
ENCLOSURE	Slimline polycarbonate interface panel
LED INDICATORS	Red power LED Green bus traffic LED Yellow alarm status LED
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	180mm(H), 154mm(W), 29mm(D)
WEIGHT	440g
COLOUR	White
DIP SWITCH	Located at the rear of the Control Panel, DIP switch is used to activate the back up battery. Factory default is in the OFF (1) position. It MUST BE SWITCHED ON prior panel installation. (ON = Back up battery is connected, 1 = Back up battery is disconnected)
RESET BUTTON	Reset button located at the rear of panel (adjacent to Service button). Used to reset Control Panel's memory.
BACK-UP BATTERY	1 x CR2032 3Volts Lithium battery



Technical Specifications

Keypads

Cat No. H2C1/6

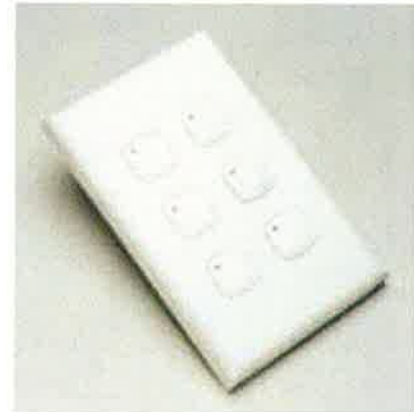
The wall keypad input unit is available in 1 to 6 button versions.*

Button functions are fully programmable, including dimming, simple switching, momentary switching, bi-directional switch, mood and scene control, or panic button. Each button can be programmed to control a function or a sequence of functions.

Each button has a tricolour LED indicator (red, green and orange) to represent the output state.

Wall keypad is weatherproof with an IP44 rating when using the optional weatherproof kit (Cat No. H2CW).

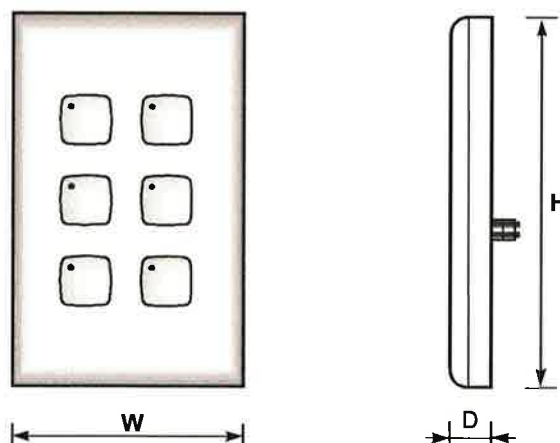
EMC and CE compliant.



Specifications

CATALOGUE NO.	H2C1, H2C2, H2C3, H2C4, H2C5, H2C6
NETWORK CONNECTION	Bus interface (22 V DC) via IDC connector
CURRENT CONSUMPTION (6-button version)	4mA in sleep state no LEDs on 15mA in active state no LEDs on 25mA in sleep state all LEDs on 34mA in active state all LEDs on
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on 84mm centres. Cut-out required for Bus cable only. Wall mounted in internal areas. Service button and LED used for installation located on grid underneath keypad cover
ENCLOSURE	Polycarbonate case. Standard switch plate sized product. IP44 rating.
LED INDICATORS	Tricolour LED indicator for each individual switch Red = Off, Green = On, Orange = Scene
IP RATING	IP 44 when used in conjunction with weatherproof kit (Cat No. H2CW)
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	114mm(H), 70mm(W), 11mm(D)
WEIGHT	85 g
ENDURANCE	Switch life is >100,000 operations
COLOURS	Cover colours: (WE) white, (BE) beige, (MG) misty grey, (CR) cream Metal cover finishes: (PS) polished silver, (PB) polished brass, (MS) matt silver, (BB) brushed brass, (SS) flush stainless steel and (GL) gun metal. Button colours: (PS) polished silver, (BR) Brown, (RE) Red, (GL) Gun metal Contact HPM for custom button colours and printed text identification.

* Contact HPM Technologies for larger sizes



Technical Specifications

Euro Keypads

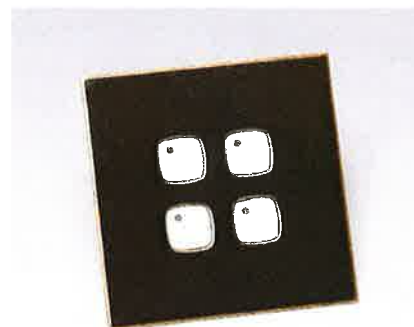
Cat No. H2CxU

The Euro range wall keypads are available in 1, 2, and 4 button versions.

Button functions are fully programmable, including dimming, switching, momentary switching, bi-directional switch, mood and scene control, or panic button. Each button can be programmed to control a function or a sequence of functions.

Buttons are made of hard polycarbonate material and each button has a tricolour LED indicator (red, green and orange) to represent the output state.

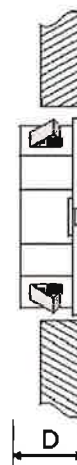
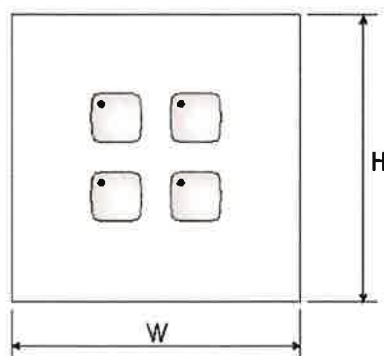
EMC and CE compliant.



Specifications

CATALOGUE NO.	H2Cx-1yUwz x = 1, 2, and 4 y = Plate finish, w = 1 Plate with screws, 2 Plate without screws z = Button colour
NETWORK CONNECTION	Bus interface (22 V DC) via IDC connector
CURRENT CONSUMPTION (6-button version)	4mA in sleep state no LEDs on 15mA in active state no LEDs on 21mA in sleep state all LEDs on 30mA in active state all LEDs on
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Flush mounted on 83mm circular wall box Cat No H2CUWALL. Cut out required for Bus cable only on wall box. Wall box suitable for brick or Gyprock walls. Service button and LED used for installation located on grid at the rear of the keypad.
ENCLOSURE	Polycarbonate case. Standard switch plate sized product.
LED INDICATORS	Tricolour LED indicator for each individual switch Red = Off, Green = On, Orange = Scene
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	95mm(H), 95mm(W), 25mm(D)
WEIGHT	85 g
ENDURANCE	Switch life is >100,000 operations
COLOURS	Button colours*: (WE) white, (BR) brown. Plastic cover finish*: (WE) white. Metal cover finishes: (PG) polished gold, (BG) brushed gold, (SS) stainless steel.

* Contact HPM Technologies for other colours



Technical Specifications

Red Silicone Buttons

Cat No. H2CBRED

The Red Silicone Buttons are typically used to indicate specially programmed functions such as Panic, Duress or any other special function.

Supplied in quantities of 10 buttons per bag.



Specifications

CATALOGUE NO.	H2CBRED
BUTTONS PER BAG	10
BUTTON COLOUR	Red
BUTTON HOLE FOR LED INDICATOR	2 mm diameter
INSULATION THICKNESS	1 mm minimum
ENDURANCE	Button life is >100,000 operations
IP RATING	IP 44 when button installed in any keypad (Cat No. H2Cx series) and mounted in conjunction with weatherproof kit (Cat No. H2CW)
INSTALLATION	Must be installed by qualified System Integrator
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
BUTTON DIMENSIONS	16 mm(H), 16 mm(W), 4 mm(D)
WEIGHT	10g (each)

Technical Specifications

iCOMO™ Keypads

Cat No. H2CxC

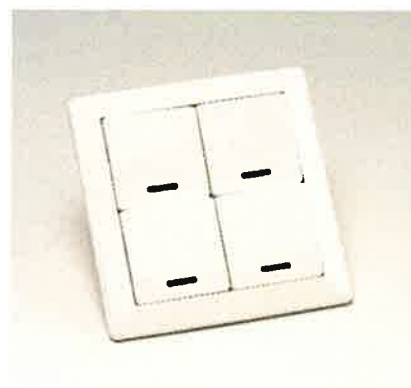
The iCOMO wall keypad units are available in 1, 2, 3, 4 and 6 button versions.

Button functions are fully programmable, including dimming, switching, momentary switching, bi-directional switch, mood and scene control, or panic button. Each button can be programmed to control a function or a sequence of functions.

Each button has a generous surface and tricolour LED indicator (red, green and orange) to represent the output state.

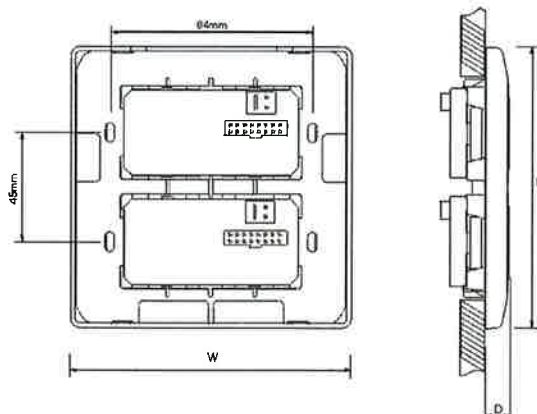
Keypads are supplied with white surround. Other surround finishes should be ordered separately.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2CxCy, x = 1, 2, 3, 4, 6 y = WE (White), PY (Putty), CC (Charcoal) Button and Surround colours. (Metal surrounds should be ordered separately)
NETWORK CONNECTION	Bus interface (22 V DC) via IDC connector
CURRENT CONSUMPTION (6-button version)	15mA in low brightness LEDs (Red/Green) 55mA in high brightness LEDs (Red/Green) 15mA in low brightness LEDs (Orange) 65mA in high brightness LEDs (Orange)
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on standard 84mm mounting centres. Hole cut-out 90mm x48mm for single size plate and 90mm x 92mm for double size plate. Service button and LED used for installation purposes.
ENCLOSURE	Polycarbonate case. Standard switch plate sized product. IP44 rating.
LED INDICATORS	Tricolour LED indicator for each individual switch Red = Off, Green = On, Orange = Scene
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	Single size 73mm(H), 116mm(W), 9mm(D) Double size 116mm(H), 116mm(W), 9mm(D)
WEIGHT	85 g for 2 button keypad and 157 g for 4 button keypad
ENDURANCE	Switch life is >100,000 operations
COLOURS	Button Cover colours: (WE) white, (PY) putty, (CC) charcoal Plastic Surrounds: (WE) white, (PY) putty, (CC) charcoal. Metal Surrounds: (PS) polished silver, (WR) white silver, (PB) polished brass, (SB) solid brass, (GL) gun metal, (SS) stainless steel



Technical Specifications

Digital Temperature Sensor

Cat No. H2CT

The Digital Temperature Sensor (Cat No H2CT) is an accurate digital thermometer able to measure temperatures between -10 and $+85$ degree centigrade with an accuracy of ± 0.5 degree.

The Digital Temperature Sensor unit is used in applications where thermostatic control is required. It allows control of devices (dimmers and relays) based on temperature levels.

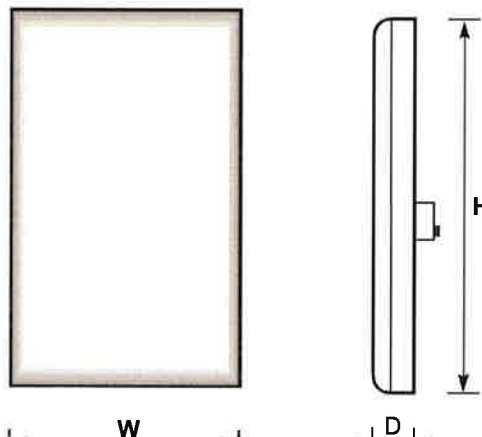
The sensor interfaces to the iCONTROL system via the Digital I/O (Cat No H2N) The unit is programmed through iBAS, which allows control of parameters such as hysteresis, threshold levels and polarity.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2CT
NETWORK CONNECTION	The sensor connects to the Digital I/O via a 3-wire connection GND, +5V, and Data. The Data line must be connected to input channel 1 of the Digital I/O (Cat No H2N) unit. Up to 40 sensors can be installed on one iCONTROL network.
CURRENT CONSUMPTION	200 nA in Standby state 1.5 mA in active state
SUPPLY VOLTAGE	5.0Vdc
INSTALLATION	Surface mounted on 84mm centres. Cut-out required for data cable only. Wall mounted in internal areas. Sensing element located on the side of the plate.
ENCLOSURE	Polycarbonate case. Standard switch plate sized product.
OPERATING TEMPERATURE	-10 to $+85^{\circ}\text{C}$
THERMOMETER ERROR	$\pm 0.5^{\circ}\text{C}$
TEMPERATURE RESOLUTION	0.1°C Controlled through iBAS (Cat No H2iBAS)
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	114mm(H), 70mm(W), 11mm(D)
WEIGHT	65 g
COVER COLOUR	(WE) white. Contact HPM for other colours and finishes.



Technical Specifications

Single Channel Relay

Cat No. H2D1

Voltage-free single channel relay output unit.

Suitable for all inductive loads, incandescent and fluorescent lighting.

The unit's small size makes it suitable for retrofit installations. It can be installed in into wall spaces or junction boxes (Cat No 405)

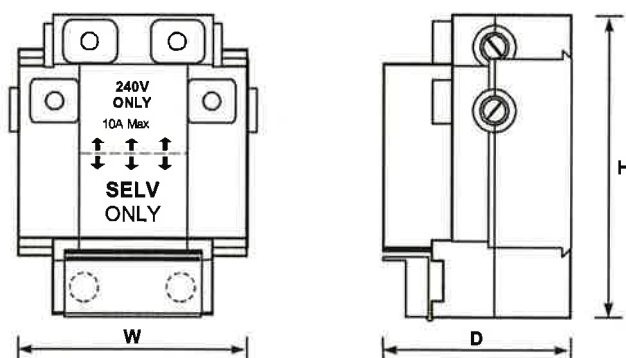
The unit incorporates a 240V 10A bi-stable relay.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2D1
NETWORK CONNECTION	Bus interface (22 V DC) via IDC connector
OPERATING VOLTAGE	230 – 240 Vac @ 50 Hz
MAXIMUM LOAD CURRENT	10A
MAXIMUM INRUSH CURRENT	80A (15ms)
SWITCH OPERATION	> 80,000
CURRENT CONSUMPTION	4mA in sleep state 9mA in active state
ELECTRICAL ISOLATION RATING	3500Vac RMS 1 minute
CONTACT TYPE	Voltage free bi-stable relay
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	To be mounted in junction box (Cat No. 405). Unit installed by shorting installation PIN legs.
ENCLOSURE	Polycarbonate enclosure designed to be installed in wall boxes, ceiling roses and on a DIN rail mounting clip
LED INDICATORS	Red service LED for installation
MANUAL OVERRIDE	Control through shorting the installation pins for 3 seconds
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	34mm(H), 40mm(W), 52mm(D)
WEIGHT	50 g



Technical Specifications

Four-Channel Relay

Cat No. H2D4

Four channel voltage-free relay DIN-rail mount module that can be used for control of devices up to 240V AC 10A per channel.

Ideally suited for commercial as well as domestic applications. Suitable for control of fluorescent lights, incandescent lights, single phase motors, etc.

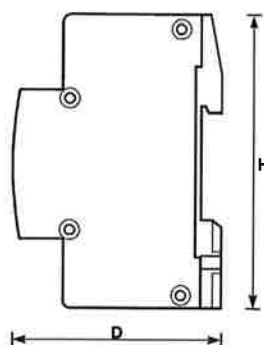
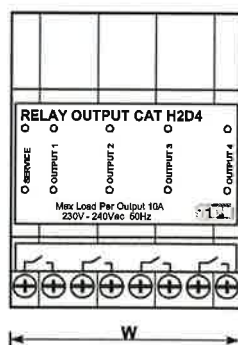
Each output channel incorporates a voltage free bi-stable relay, a manual override and status LED indicator. Status indicators are red when relays are open and green when relays are closed. Indicators can be programmed to glow only for few seconds for energy conservation.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2D4
NETWORK CONNECTION	Bus interface (22V DC) via IDC connector
OPERATING VOLTAGE	230 - 240 Vac @ 50 Hz
MAXIMUM LOAD CURRENT	10A per channel
MAXIMUM INRUSH CURRENT	80A (15ms) per channel
SWITCH OPERATION	> 80,000 per channel
CURRENT CONSUMPTION	10mA in sleep state 15mA in active state
ELECTRICAL ISOLATION RATING	3500Vac RMS 1 minute
CONTACT TYPE	Voltage free bi-stable relay
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	To be mounted in a DIN rail cabinet. Service button used for installation.
ENCLOSURE	Occupies 4 modules in a DIN rail
LED INDICATORS	Red service LED Bicolour LED indication of device ON/OFF state per channel
MANUAL OVERRIDE	Individual channel control through inbuilt tactile switch
OPERATING TEMPERATURE	0 to + 50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	90mm(H), 72mm(W), 63mm(D)
WEIGHT	220g



Technical Specifications

Two-Channel Dimmer Output

Cat No. H2F2

Leading-edge two-channel dimmer output module. The device is DIN rail-mounted and can be used to dim lights up to 750VA per channel.

It is suitable for the control of dichroic and incandescent lamps and fan motors and it provides 200 discrete dimming levels. Intensity levels, maximum and minimum dimming levels and ramp rates are software programmable. It also provides a manual override and status LED indicator. The dimmer unit has thermal overload protection.

EMC compliant.

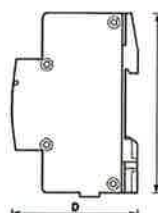


Specifications

CATALOGUE NO.	H2F2
NETWORK CONNECTION	Bus (22 V DC) via IDC connector
OPERATING VOLTAGE	230 - 240Vac @ 50Hz
MAXIMUM LOAD	750VA per channel (See table below)
MINIMUM LOAD	15W per channel
MAXIMUM LOAD CURRENT	3A @ 25°C per channel
DIMMING LEVEL	0 to 95%
CURRENT CONSUMPTION	10 mA in sleep state 25 mA in active state
ELECTRICAL ISOLATION RATING	3500Vac RMS 1 minute
DIMMER TYPE	Leading edge phase control
OVERHEAT PROTECTION	Thermal overload
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	To be mounted in a DIN rail cabinet. Where multiple devices are installed, the unit must be derated as specified below.
ENCLOSURE	Occupies 4 modules in a DIN rail enclosure
LED INDICATORS	Red service LED Bicolour LED indication of device ON/OFF state
MANUAL OVERRIDE	Individual channel control through inbuilt tactile switch
OPERATING TEMPERATURE	0 to +45°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	92mm(H), 72mm(W), 62mm(D)
WEIGHT	240g

	No. of H2F2	Incandescent Lamps	Dichroic Lamps (Mains frequency wire-wound Transformer)	Dichroic Lamps (100VA Electronic Transformer with 2x50W lamps)	Dichroic Lamps (60-70VA Electronic Transformer with 2x50W lamps)
Loose Installation Ventilation and 10mm air-gap between devices	1 or More	750VA	600VA	600VA	400VA
No Ventilation and 10mm air-gap between devices	1	750VA	600VA	600VA	400VA
	2	750VA	600VA	600VA	400VA
	3	600VA	500VA	500VA	350VA
	4 or More	500VA	400VA	400VA	300VA
No ventilation and No air-gap between devices	1	750VA	600VA	600VA	400VA
	2	600VA	500VA	500VA	350VA
	3	500VA	400VA	400VA	300VA
	4 or More	450VA	400VA	400VA	300VA

Compatible Electronic Transformers	
Atco	TEC070
Atco	TEC105
Atco	TED070
Atco	TED105
Nelson	FOX60
Nelson	FOX100
Osram	HTM70
Osram	HTM105



Technical Specifications

Two-Channel Dimmer Driver

Cat No. H2FD2

Two-channel DIN-rail mount dimmer driver for the Power Module (Cat. H2FP). It provides manual control and override through the inbuilt tactile switches.

It provides individual channel manual override and status LED indicator. Intensity levels and ramp rates are software programmable.

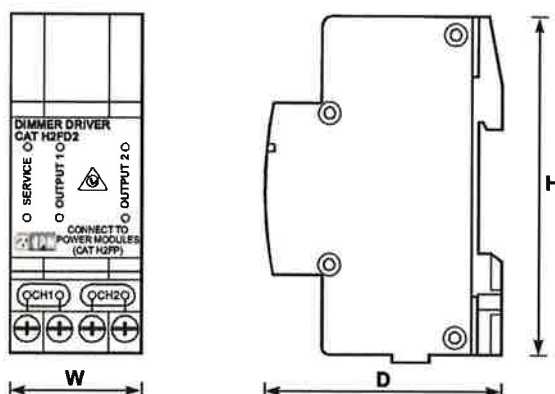
Must be used in conjunction with 1 or 2 Power Modules (Cat No H2FP).

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2FD2
NETWORK CONNECTION	Bus (22V DC) via IDC connector
OPERATING VOLTAGE	230-240Vac @ 50Hz
MAXIMUM LOAD CURRENT	See H2FP (2000VA power module)
DIMMING LEVEL	0 to 95 %
CURRENT CONSUMPTION	10mA in sleep state 25mA in active state
ELECTRICAL ISOLATION RATING	3500V AC RMS 1 minute
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	To be mounted in DIN rail cabinet. Cable length between driver and power modules must not exceed 10m.
ENCLOSURE	2-unit DIN rail mounting case 36mm wide
LED INDICATORS	Red service LED Bicolour LED indication per channel. Red = Off, Green = On
MANUAL OVERRIDE	Individual channel control through inbuilt tactile switch
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	92mm(H), 36mm(W), 62mm(D)
WEIGHT	100 g



Technical Specifications

Power Dimmer Output (2000VA)

Cat No. H2FP

This leading-edge power dimming module allows dimming of dichroic and incandescent lamps to 2000VA.

This power dimmer module is used in conjunction with the dimmer driver (Cat No. H2FD2). Suitable for commercial or large domestic applications.

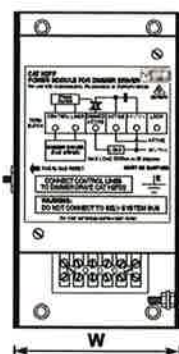
The module has a resetable over-current circuit breaker.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2FP
OPERATING VOLTAGE RANGE	230-240V
MAXIMUM LOAD	2000VA at 25°C
MINIMUM LOAD	75VA
MAXIMUM LOAD CURRENT	8A @ 25°C
DIMMING LEVEL	0 to 95% - programmable
ELECTRICAL ISOLATION RATING	3500Vac RMS 1 minute
DIMMER TYPE	Leading edge phase control
OVERLOAD PROTECTION	Resetable overload protection
INSTALLATION	Must be surface mounted in a suitable enclosure. Cable length to dimmer driver H2FD2 must not exceed 10m. Must be de-rated to account for adjacent heat producing devices including other dimmers
ENCLOSURE	Black anodised aluminium heatsink case
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	190mm(H), 100mm(W), 40mm(D)
WEIGHT	675g



Technical Specifications

Four-Channel Power Dimmer Output

Cat No. H2FC4-T10

Leading-edge four-channel power dimmer output module. The device is surface mounted and can be used to dim lights up to 2400VA per channel.

It is suitable for the control of dichroic, incandescent and neon lights. It provides 200 discrete control dimming levels. Intensity levels, maximum and minimum dimming levels and ramp rates are software programmable. It also provides a manual override and status LED indicator. The dimmer unit has thermal overload protection and independent circuit breaker per channel.

EMC and CE compliant.



Specifications

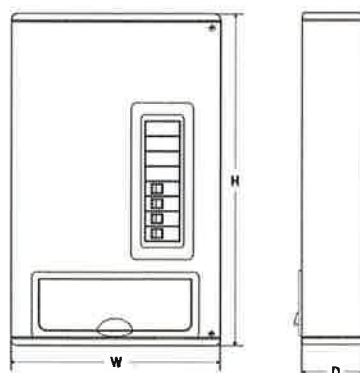
CATALOGUE NO.	H2FC4-T10
NETWORK CONNECTION	Bus (22 V DC) via IDC connector
OPERATING VOLTAGE	230 - 240Vac @ 50Hz
MAXIMUM LOAD	2400VA per channel (See derating table below)
MINIMUM LOAD	40VA per channel
MAXIMUM LOAD CURRENT	10A/Ch @ 25°C
LOAD TYPE	Incandescent, low voltage dichroic and neon lights (See Note below)
DIMMING LEVEL	0 to 95%
CURRENT CONSUMPTION	10 mA nominal (from iCONTROL Bus)
ELECTRICAL ISOLATION RATING	3500Vac RMS 1 minute
DIMMER TYPE	Leading edge phase control
OVERLOAD PROTECTION	Thermal overload and 16A circuit breaker/Ch
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Wall mounted. Metal cover hinged on the left hand side.
ENCLOSURE	Surface mount. Metal and plastic case
LED INDICATORS	Red service LED Bicolour LED indication of device ON/OFF state
MANUAL OVERRIDE	Individual channel control through inbuilt tactile switch
OPERATING TEMPERATURE	0 to +50°C Derate by 2% per degree above 25°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	435mm(H), 270mm(W), 95mm(D)
WEIGHT	6.3Kg
REPLACEMENT POWER MODULE	Cat CDRT10

Derating Table

	H2FC4-T10	Incandescent Lamps	Dichroic Lamps (Mains frequency wire-wound Transformer)	Dichroic Lamps 100VA Leading Edge Electronic Transformer with 2x50W lamps	Dichroic Lamps 60-70VA Leading Edge Electronic Transformer with 1x50W lamps	Dichroic Lamps Trailing Edge Electronic Transformers	Neon (See Note 1)
VA Rating/ch @ 25°C	1 or More	2400VA	1920VA	2400VA	1500VA	Not Suitable	400VA

Note 1: Only argon-filled neon lamps can be dimmed. The dimmer and cabling must be derated by 60%. Ensure that any power factor capacitors are wired to the supply side of the dimmer.

Compatible Electronic Transformers	
Atco	TEC070
Atco	TEC105
Atco	TED070
Atco	TED105
Nelson	FOX60
Nelson	FOX100
Nelson	ICE60
Nelson	ICE105
Osram	HTM70
Osram	HTM105



Technical Specifications

Eight-Channel Power Dimmer Output

Cat No. H2FC8-M04

Leading/Trailing-edge eight-channel power dimmer output module. The device is surface mounted and can be used to dim lights up to 1000VA per channel.

It is suitable for the control of dichroic, incandescent and neon lights. It provides 200 discrete control dimming levels. Intensity levels, maximum and minimum dimming levels and ramp rates are software programmable. It also provides a manual override and status LED indicator. The dimmer unit has thermal overload protection and independent circuit breakers per channel.

EMC and CE compliant.



Specifications

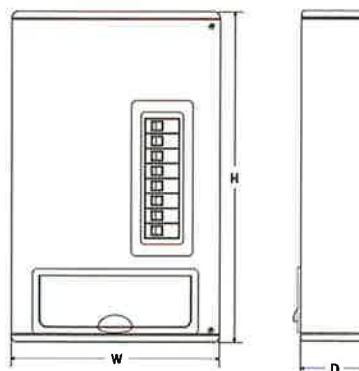
CATALOGUE NO.	H2FC8-M04
NETWORK CONNECTION	Bus (22 V DC) via IDC connector
OPERATING VOLTAGE	230 - 240Vac @ 50Hz
MAXIMUM LOAD	1000VA per channel (See derating table below)
MINIMUM LOAD	100VA per channel
MAXIMUM LOAD CURRENT	4A/Ch @ 25°C
LOAD TYPE	Incandescent, low voltage dichroic and neon lights (See Note below)
DIMMING LEVEL	0 to 95%
CURRENT CONSUMPTION	10 mA nominal (from iCONTROL Bus)
ELECTRICAL ISOLATION RATING	3500Vac RMS 1 minute
DIMMER TYPE	Leading/Trailing edge phase control – Adaptive
OVERLOAD PROTECTION	Thermal overload and 16A circuit breaker/Ch
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Wall mounted. Metal cover hinged on the left hand side.
ENCLOSURE	Surface mount. Metal and plastic case
LED INDICATORS	Red service LED Bicolour LED indication of device ON/OFF state
MANUAL OVERRIDE	Individual channel control through inbuilt tactile switch
OPERATING TEMPERATURE	0 to +50°C Derate by 2% per degree above 25°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	435mm(H), 270mm(W), 95mm(D)
WEIGHT	5.7Kg
REPLACEMENT POWER MODULE	Cat CDRM04

Derating Table

	H2F8-M04	Incandescent Lamps	Dichroic Lamps (Mains frequency wire-wound Transformer)	Dichroic Lamps Leading Edge Electronic Transformer	Dichroic Lamps Trailing Edge Electronic Transformer	Neon (See Note 1)
VA Rating/ch @ 25°C	1 or More	1000VA	800VA	1000VA	1000VA	400VA

Note 1: Only argon-filled neon lamps can be dimmed. The dimmer and cabling must be derated by 60%. Ensure that any power factor capacitors are wired to the supply side of the dimmer.

Compatible Electronic Transformers	
Atco	TEC070
Atco	TEC105
Atco	TED070
Atco	TED105
Nelson	FOX80
Nelson	FOX100
Nelson	ICE80
Nelson	ICE105
Osram	HTM70
Osram	HTM105



Technical Specifications

Indoor Occupancy Sensor

Cat No. H2G1

Suitable for all indoor applications. Can be mounted on walls and ceilings. Can trigger either the security system or any other output module in the system.

The unit's sensitivity, and other parameters are programmable through the Control Panel.

It houses a light level sensor that can be used to control output devices according to ambient light levels. It also houses a temperature sensor that can be used to display temperature levels on the Control Panel. It can also act as a receiver for infrared remote control signals and has a built in tamper switch.

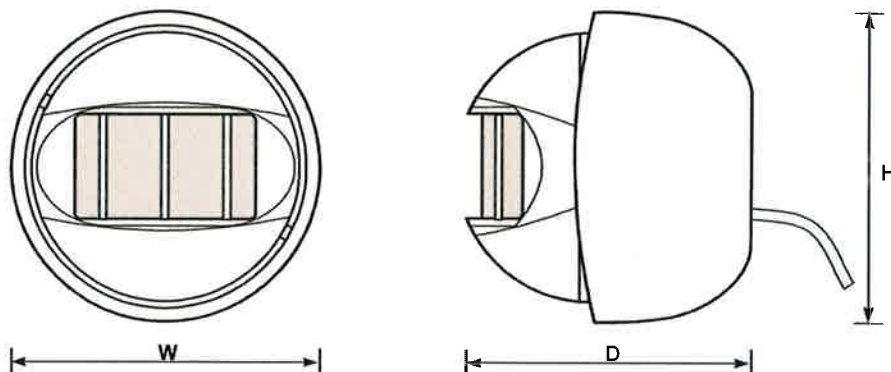
Red LED indicator light flashes when movement is detected and Green when IR signal is detected.

EMC, CE and AS2201 compliant

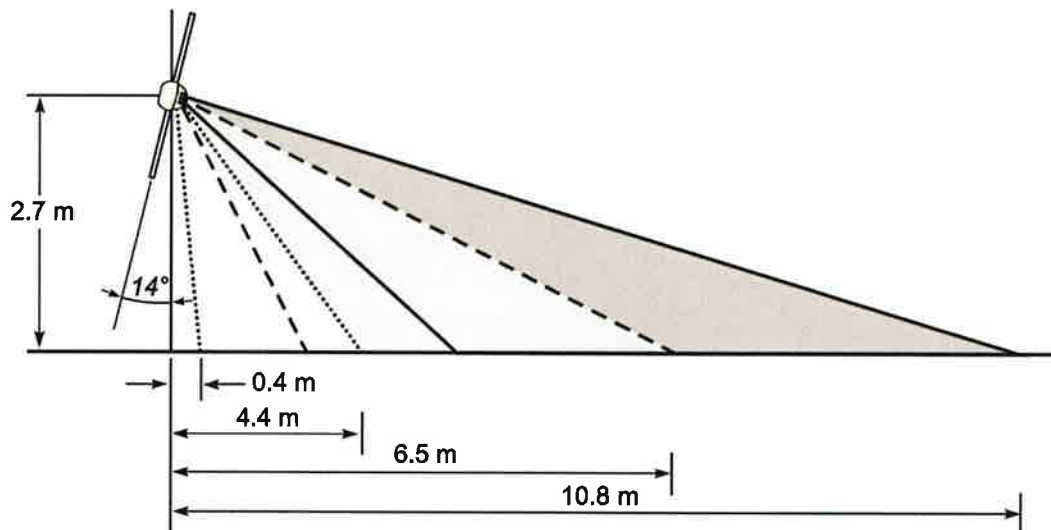


Specifications

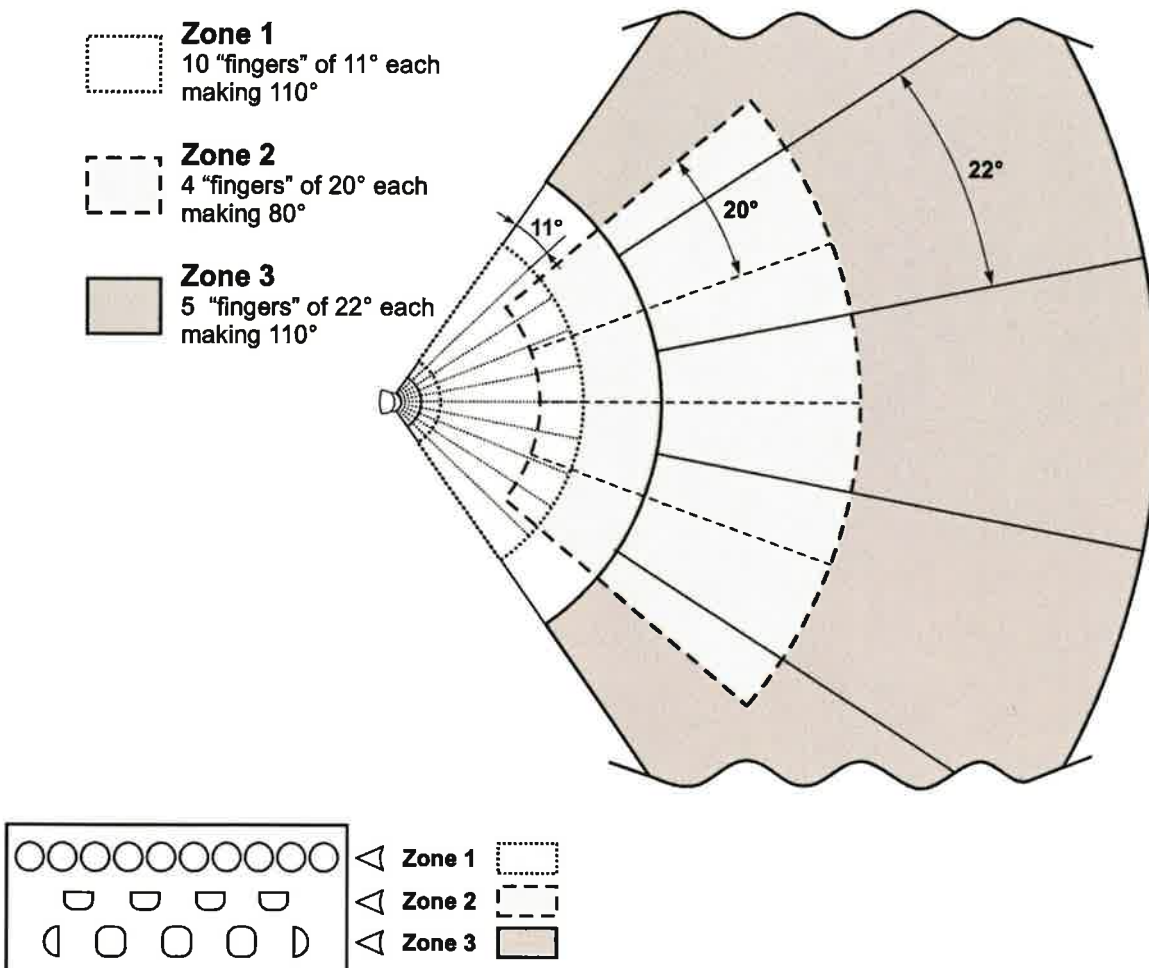
CATALOGUE NO.	H2G1
NETWORK CONNECTION	Bus (22V DC) via IDC connector
CURRENT CONSUMPTION	6mA in sleep state 22mA in active state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on any wall or ceiling. Easily mounted with a choice of mounting holes. Cut-out required for bus cable entry. Service button and red LED on rear of unit used for installation.
MOUNTING HEIGHT	1.4 – 2.7m
DETECTION METHOD	Passive infra-red
DETECTION RANGE	110° horizontal, 68° vertical, maximum distance 10.8 metres Sensor rotates ±85° in the mounting case.
WARM-UP PERIOD	20 seconds
TAMPER SWITCH	Magnetic switch
PULSE COUNT	1 to 8 – programmable
ENCLOSURE	Polycarbonate case.
LED INDICATORS	Red LED beneath lens indicates movement is detected. Green LED beneath lens indicates infra-red remote control signal is being received.
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	70mm(H), 67mm(W), 62mm(D)
WEIGHT	85g
COLOUR	White



Side view showing coverage of sensor:



Top view showing coverage of sensor:



Technical Specifications

Outdoor Occupancy Sensor

Cat No. H2G2

Designed for outdoor applications this sensor device can trigger either the security system or any other output module in the system.

The unit's sensitivity and other parameters are programmable through the Control Panel.

It houses a light level sensors that can be used to control output devices according to ambient light levels.

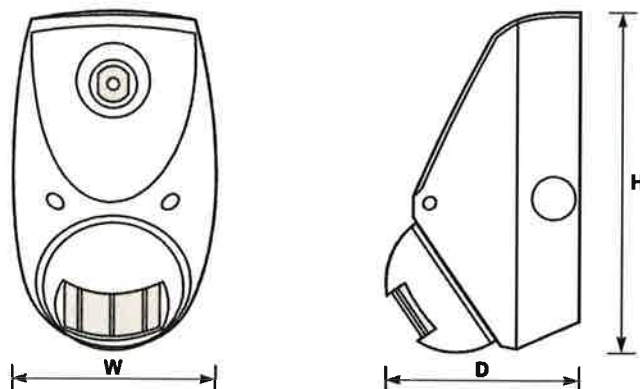
LED indicator light flashes when movement is detected.

EMC, CE and AS2201 compliant

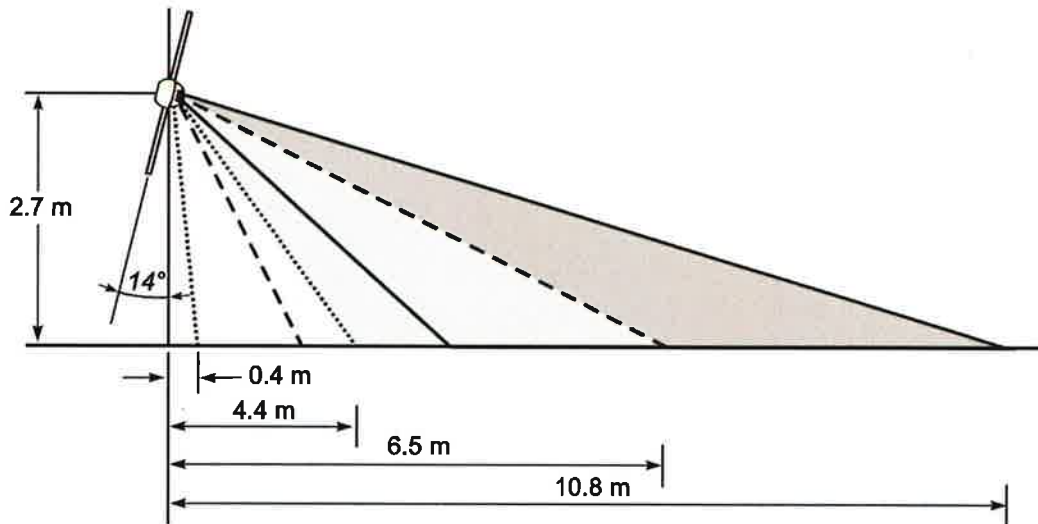


Specifications




CATALOGUE NO.	H2G2
NETWORK CONNECTION	Bus interface (22V DC) via IDC connectors
CURRENT CONSUMPTION	6mA in sleep state 22mA in active state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on any wall or under eaves. Bus cable entry through cut-out on rear of unit or conduit on side of unit. Built-in service button and LED used for installation.
MOUNTING HEIGHT	1.4 – 2.7m
DETECTION METHOD	Passive infra-red
DETECTION RANGE	110° horizontal, 68° vertical, maximum distance 10.8 metres Sensor rotates +250° and -90° in the mounting case.
WARM-UP PERIOD	20 seconds
PULSE COUNT	1 to 8 – programmable
ENCLOSURE	Weatherproof polycarbonate case. IP55 rated.
LED INDICATORS	Red LED indicates when movement is detected
OPERATING TEMPERATURE	-10 to +50°C
HUMIDITY	0 to 100%
DIMENSIONS	141mm(H), 84mm(W), 88mm(D)
WEIGHT	196g
COLOUR	White

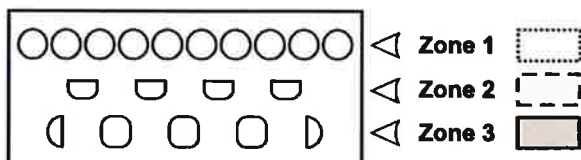
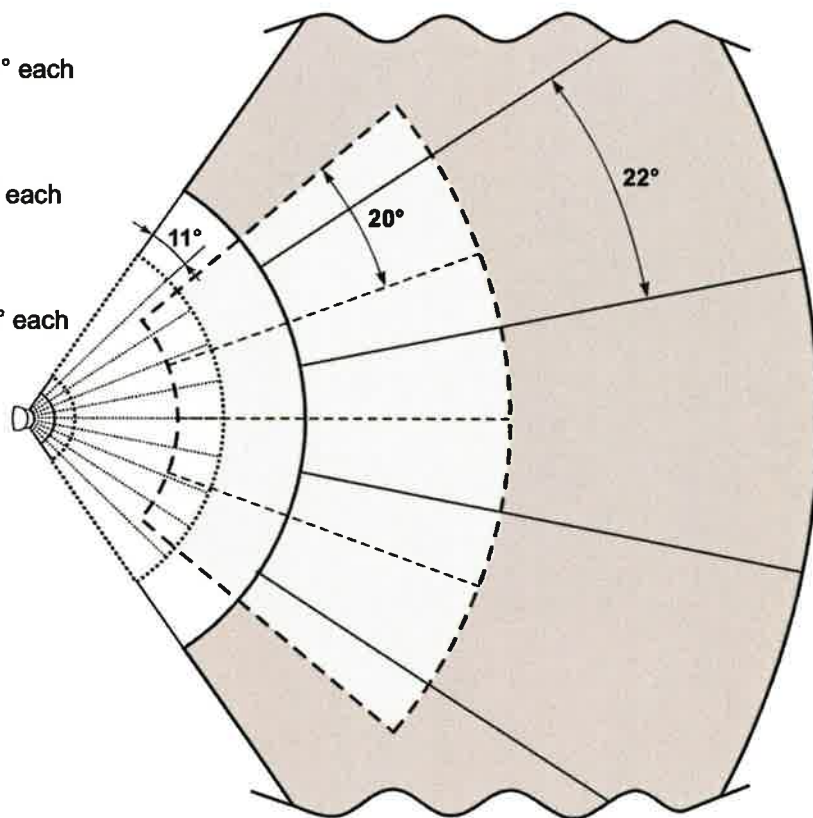


Side view showing coverage of sensor:



Top view showing coverage of sensor:

-  **Zone 1**
10 "fingers" of 11° each
making 110°
-  **Zone 2**
4 "fingers" of 20° each
making 80°
-  **Zone 3**
5 "fingers" of 22° each
making 110°



Technical Specifications

Indoor Occupancy Sensor 360° Adv

Cat No. H2G3

Suitable for commercial applications where coverage of large areas is required. This indoors 360-degree multi-functional occupancy sensor device can trigger either the security system or any other output module in the system.

The unit's sensitivity and other parameters are programmable through the Control Panel.

It houses a light level sensor that can be used to control output devices according to ambient light levels. It also houses 2 multi-purpose digital inputs that can be connected to reed switches to activate the security systems or any other digital signal. Input 1 can also be used to connect an external temperature sensor such as Cat No. H2CT to activate devices based on temperature levels. It can also act as a receiver for infrared remote control signals.

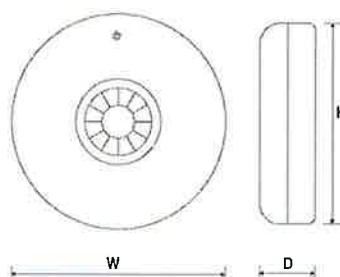
Red LED indicator light flashes when movement is detected and Green when IR code is detected.

EMC, CE and AS2201 compliant

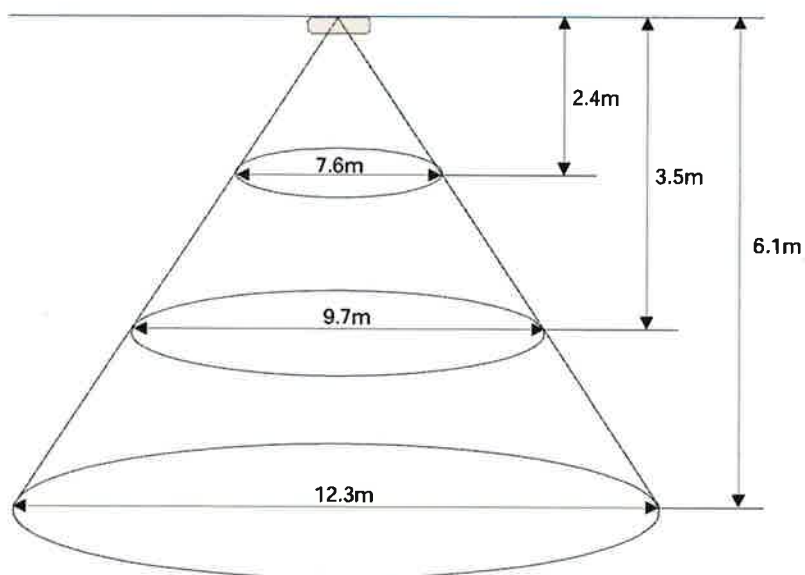


Specifications

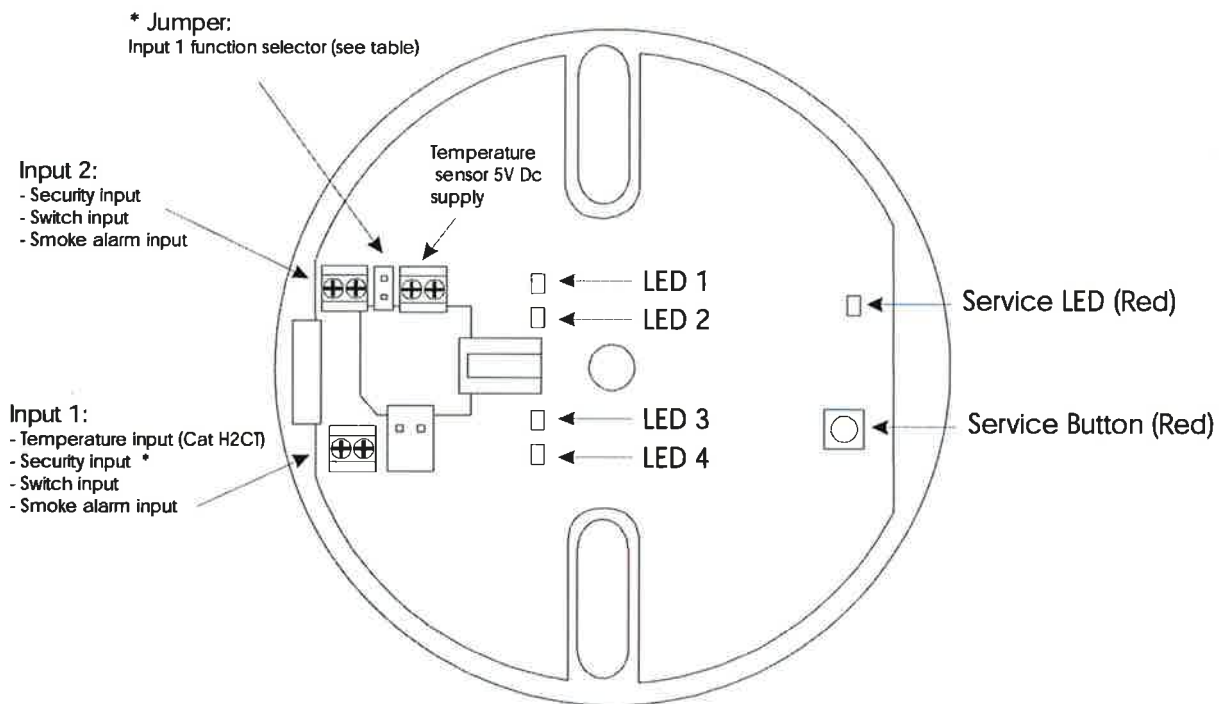
CATALOGUE NO.	H2G3
NETWORK CONNECTION	Bus (22V DC) via IDC connector
CURRENT CONSUMPTION	29mA in sleep state 50mA in active state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on ceiling. Easily mounted with a choice of mounting holes. Cut-out required for bus cable entry. Service button and red LED used for installation.
MOUNTING HEIGHT	2.4 – 6.1m
DETECTION METHOD	Passive infra-red
DETECTION RANGE	360° floor-focused field of view (7.6m – 12.3m diameter)
WARM-UP PERIOD	20 seconds
TAMPER SWITCH	Magnetic switch
SENSITIVITY	8 programmable levels.
ENCLOSURE	Polycarbonate case.
LED INDICATORS	Red LED beneath lens indicates movement is detected. Green LED beneath lens indicates infrared remote control signal is being received.
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	110mm(H), 110mm(W), 33mm(D)
WEIGHT	85g
COLOUR	White
TERMINAL BLOCKS	Input1: Input for end-of-line resistor for security system or temperature sensor (Cat No H2CT) or Normal Open (NO) contact. Input2: End-of-line resistor input for the security system. Output1: Power and ground for distributed temperature sensor (Cat No. H2CTS)
JUMPER	Jumper J1: Selects Input 1 function. ON: Normally Open, OFF for End-of-line resistor



Sensor Field of View



Wiring Configuration

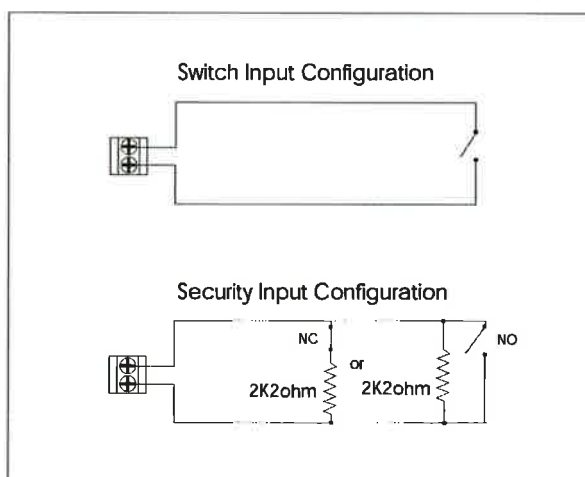


Input 1 (Jumper applies to Input 1 only)

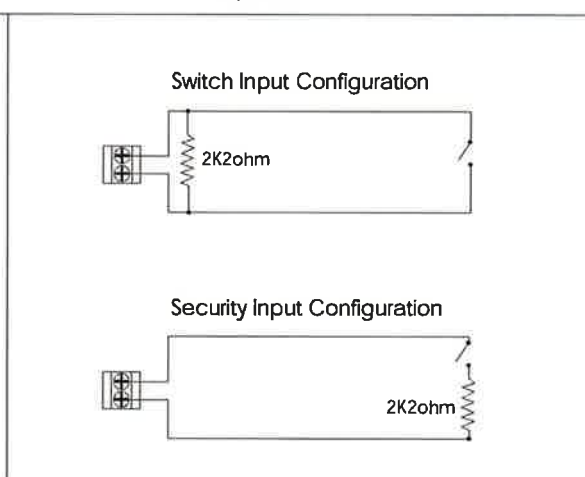
Jumper	Function	Input	LED 1
Off	Security Input EOL	Short	Off
Off	Security Input EOL	Open	On
Off	Security Input EOL	EOL	Off
On	Digital SW Input	Short	On
On	Digital SW Input	Open	Off

LED 1: Red colour - Digital Input 1 (See table)
 LED 2: Red colour - Digital Input 2 (See table)
 LED 3: Green colour - Flashes every 5 seconds
 (Beat signal) and when IR signal is received
 LED 4: Red colour - On when motion sensor is triggered

Input 1



Input 2



Technical Specifications

Indoor Occupancy Sensor 360° Std

Cat No. H2G4

Suitable for commercial applications where coverage of large areas is required. This indoors 360-degree occupancy sensor device can trigger either the security system or any other output module in the system. The unit's sensitivity and other parameters are programmable through the Control Panel.

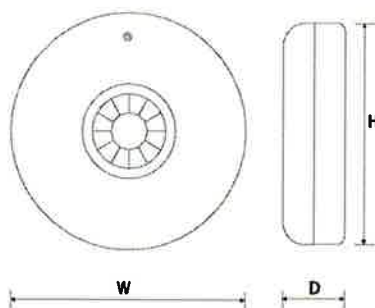
LED indicator light flashes when movement is detected.

EMC, CE and AS2201 compliant

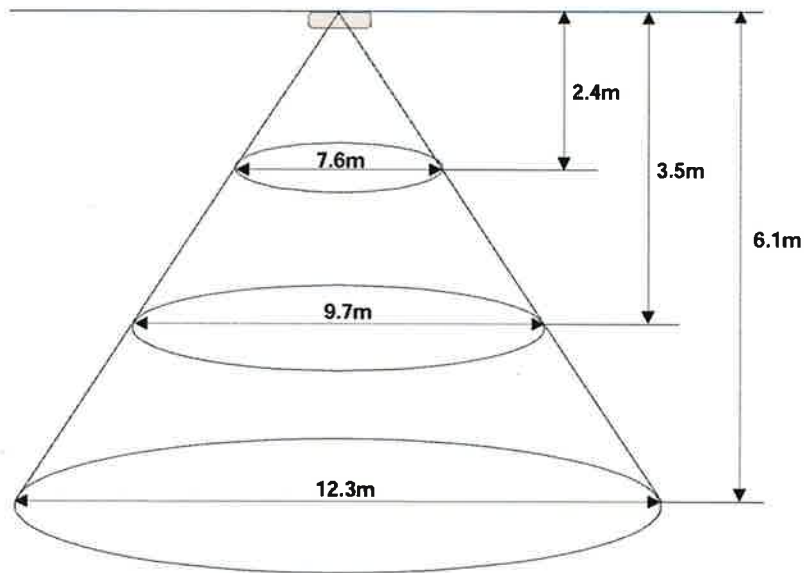


Specifications

CATALOGUE NO.	H2G4
NETWORK CONNECTION	Bus (22V DC) via IDC connector
CURRENT CONSUMPTION	7mA in sleep state 23mA in active state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on ceiling. Easily mounted with a choice of mounting holes. Cut-out required for bus cable entry. Service button and red LED used for installation.
MOUNTING HEIGHT	2.4 – 6.1m
DETECTION METHOD	Passive infra-red
DETECTION RANGE	360° floor-focused field of view (7.6m – 12.3m diameter)
WARM-UP PERIOD	20 seconds
TAMPER SWITCH	Microswitch
SENSITIVITY	8 programmable levels.
ENCLOSURE	Polycarbonate case.
LED INDICATORS	Red LED beneath lens indicates movement is detected. Green LED beneath lens flashes every 5 seconds to indicate unit is operating.
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	110mm(H), 110mm(W), 33mm(D)
WEIGHT	85g
COLOUR	White



Sensor Field of View



Installation Procedure

Security Sensors

Cat No. H2Gx

All the iCONTROL™ occupancy sensors (H2G1-H2G4) use Passive Infrared (PIR) technology. This allows occupancy sensors to be used for a variety of functions including motion detection.

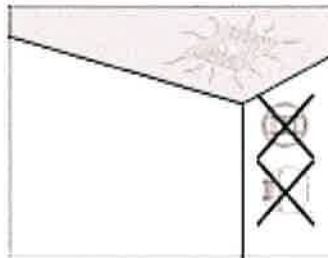
Locating PIR detectors appropriately is most important in security applications and good installation practice should be observed before making adjustments to software sensitivity.

Installers need to take into account many factors when installing PIR detectors for security applications. Bear in mind that the tips below will also apply to iCONTROL™ multi- functional PIRs being used for movement switching applications.

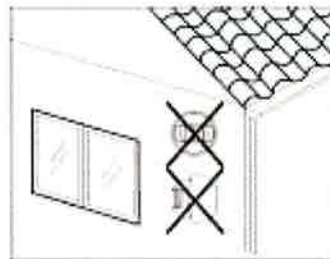
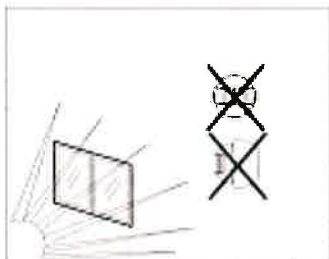
PIRs are designed to pick up infrared radiation that is emitted by any object at any temperature above absolute zero. Basically, PIRs operate by detecting the change in energy that occurs when a body of one temperature passes in front of a background of another temperature within the detector's field of view.

As a consequence of the above, PIRs are unlikely to be triggered by constant streams of hot or cold air, however, where PIRs are installed immediately adjacent to heating or air conditioning vents.

It should be noted however that where PIRs are installed directly next to heating or air conditioning vents, the rapid changes in temperature caused by turning the system on or off can cause the PIR to be triggered.



Avoid installing your PIR close to, or facing, any heating device such as a heater or central heating air vent. The rapid change in temperature can often be mistaken for movement.

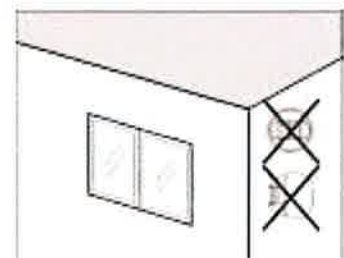
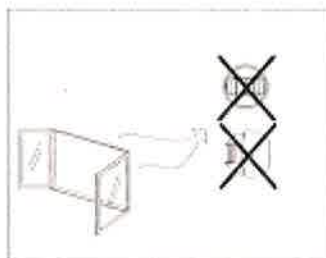


Natural energy, ie. from the sun, can also trigger PIRs. Avoid installing PIRs where they can be affected by direct sunlight.

Because detection is caused by relative changes in energy, PIRs can be triggered by drafts from open doors or windows. Avoid installing PIRs where they can be affected by drafts. This includes the installation of PIRs next to or in the vicinity of air conditioning vents.

Avoid installing PIRs where they can be affected by infrared rays reflected by surfaces like glass, mirrors and even swimming pools.

Glass can heat rapidly in direct sunlight so avoid installing PIRs facing glass windows or doors.



Technical Specifications

Indoor Siren

Cat No. H2H1

The internal alarm consists of a 116dB piezo siren that is used as an audible alert when the security system is triggered.

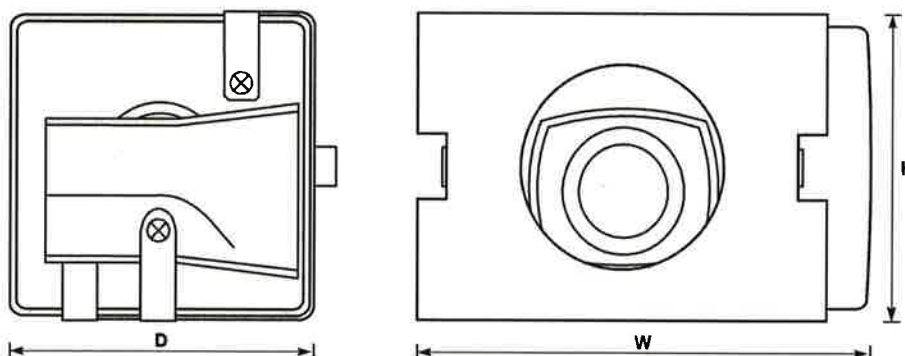
Designed for indoor use it is installed out of sight in the ceiling cavity. Supplied with a ceiling-mountable a polymer grille cover.

EMC, CE and A2201 compliant



Specifications

CATALOGUE NO.	H2H1
NETWORK CONNECTION	Bus interface (22V DC) via IDC connector
CURRENT CONSUMPTION	30mA nominal in sleep state 140mA peak in alarm state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	To be mounted inside the ceiling cavity. Height of ceiling cavity must be at least 100mm.
ENCLOSURE	Low profile polymer cover, with steel mounting bracket for siren assembly
LED INDICATORS	Red Service LED mounted internally
OPERATING TEMPERATURE	0 to 50°C
HUMIDITY	0 to 95% (non-condensing)
DIMENSIONS	110mm(H), 75mm(W), 75mm(D) Grille diameter 154mm
WEIGHT	280g
COLOUR	White
BACKUP BATTERY	12V sealed lead acid battery is mounted externally as a backup supply (not included)
CONNECTORS	Batt: For external backup batteries. (Batteries not supplied)
JUMPER	Jumper needs to be fitted after connecting Bus interface.



Technical Specifications

Outdoor Strobe/Siren

Cat No. H2H2

Outdoor intelligent combined strobe and siren incorporates a 116dB piezo siren and a blue strobe flasher.

Constructed from corrosion resistant stainless steel. Tamper switch will trigger the alarm if activated and siren time is software programmable.

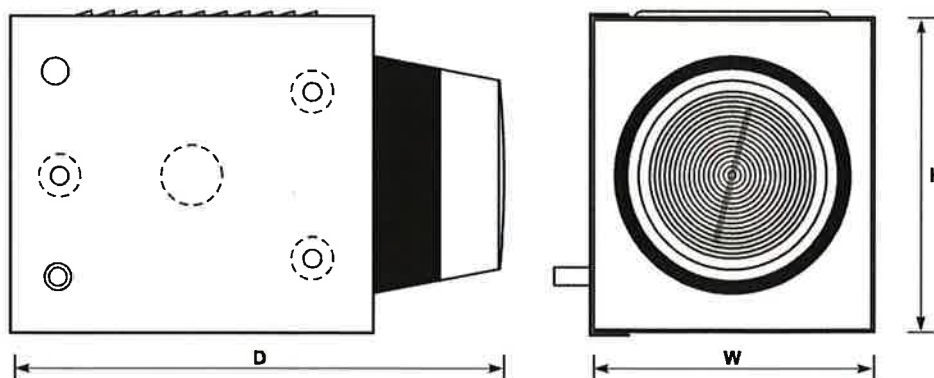
Rechargeable backup battery included.

EMC, CE and AS2201 compliant.



Specifications

CATALOGUE NO.	H2H2
BUS INTERFACE	Bus interface (22V DC) via IDC connector
POWER CONSUMPTION	30mA nominal in sleep state 100mA peak consumption in alarm state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on an outside wall under eaves. Backing plate attaches to wall. Service button and LED inside unit.
ENCLOSURE	1mm stainless steel to provide extended life
LED INDICATORS	Red Service LED mounted internally
OPERATING TEMPERATURE	-10 to 50°C
HUMIDITY	0 to 95% (non-condensing)
DIMENSIONS	110mm(H), 100mm(W), 170mm(D)
WEIGHT	1.4kg
BACKUP BATTERY	12V sealed lead acid battery
JUMPER	Jumper needs to be fitted after connecting Bus interface.



Technical Specifications

Key ring RF Transmitter

Cat No. H2J

Weather-resistant, key ring remote control transmitter. This transmitter uses high-security KEELOQ™ technology that generates encrypted rolling code transmission. Each transmission is unique even if the same button is pressed.

Can be used to control functions such as lights, scenes, moods, panic switch and garage doors.

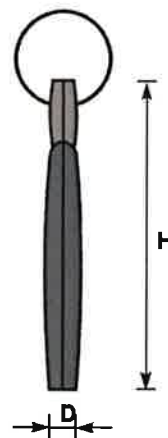
Has three programmable buttons that can be programmed via the Control Panel.

EMC and CE compliant



Specifications

CATALOGUE NO.	H2J
TRANSMISSION RANGE	20m in open space
TRANSMISSION FREQUENCY	433.92MHz
ENCODING	Keeloq™ - code hopping technology
ENCLOSURE	Weatherproof high-resistant plastic case
LED INDICATORS	Red LED indicates transmission activity
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 95% (non-condensing)
COLOUR	Black (contact HPM Tech for other colours)
DIMENSIONS	59 mm(H), 36 mm(W), 12 mm(D)
WEIGHT	25g
BATTERY	2 x CR1202 3V Lithium batteries



Technical Specifications

RF Receiver

Cat No. H2R

Three-channel radio frequency receiver used in combination with keyring RF-transmitter Cat No. H2J.

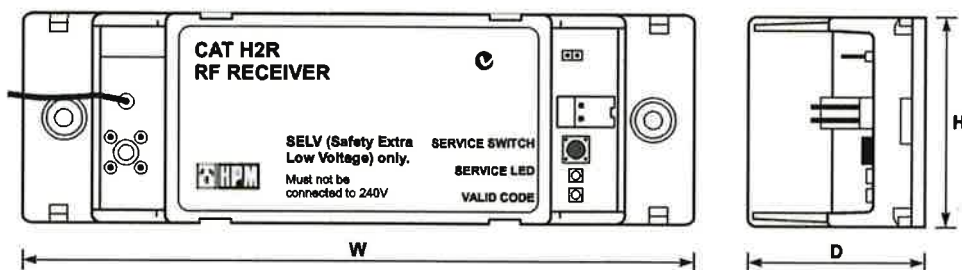
The device can be programmed to work with up to 8 keyring remote transmitters. Suitable for a variety of applications like controlling garage doors, gates, scenes, lights and security functions.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2R
NETWORK CONNECTION	Bus interface (22 V DC) via IDC connector
CURRENT CONSUMPTION	10mA in sleep state 25mA in active state
RECEPTION RANGE	20m in open space
RECEPTION FREQUENCY	433.92 MHz
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM web site for latest version)
INSTALLATION	Surface mounted using 2 screws at least 2m away from metal objects and electronic devices e.g. PCs. Antenna must be extended fully and in vertical position.
ENCLOSURE	Polycarbonate case with two protective covers
LED INDICATORS	Green LED shows valid code received from transmitter Red Service LED
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	45 mm(H), 150 mm(W), 40 mm(D)
WEIGHT	85 g
OPTION	Contact HPM for external antenna options
JUMPER	Reserved



Technical Specifications

Remote Security Keypad

Cat No. H2M

The Remote Security Keypad unit is used to arm and disarm security functions via PIN code and can be used as an access control device.

The unit has an audible and visual feedback for button presses.

Can use up to two 4-digit PIN codes and can control up to 10 security Areas with up to 30 zones in each area. A flashing button indicates status of the relevant zone.

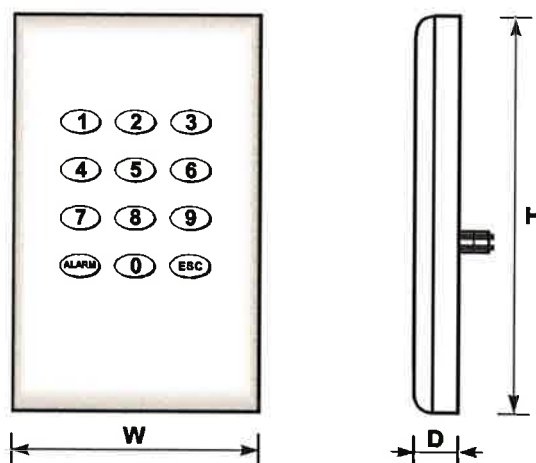
Up to 10 Remote Alarm Keypads can be installed on one system.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2M
NETWORK CONNECTION	Bus interface (22V DC) via IDC connector
CURRENT CONSUMPTION	10mA - sleep state 50mA - active state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
INSTALLATION	Surface mounted on 84mm centres. Cut-out required for Bus cable only. Wall mounted in internal areas. Service button and LED used for installation located on grid underneath keypad cover
ENCLOSURE	Polycarbonate case. Standard switch plate sized product. IP44 rating.
LED INDICATORS	Bicolour LED indicator for each individual colour backlit key. Green = Not armed; Red = Zone armed; Red flashing = Zone alert
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	117mm(H), 73mm(W), 12.5mm(D)
WEIGHT	98g
COLOURS	Cover colours: white, beige, mist grey, cream and flush stainless steel



Technical Specifications

4+4 Digital I/O

Cat No. H2N

The Digital I/O interface unit features 4 voltage-free multipurpose input channels and 4 Extra Low Voltage solid-state relay output channels.

Input channels can be configured to provide functions such as digital input, smoke alarm input, security sensor input and temperature sensor (H2CT) input.

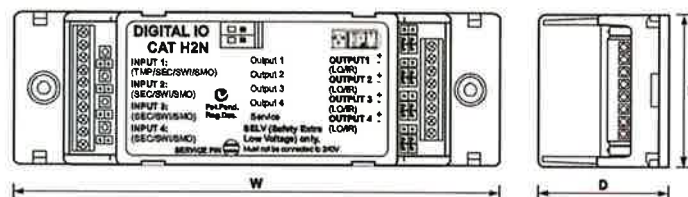
The device allows the interface with a wide range of devices with digital outputs or inputs. (See below for common functions) Functions are jumper selectable.

EMC and CE Compliant.



Specifications

CATALOGUE NO.	H2N
NETWORK CONNECTION	Bus interface (22V DC) via IDC connector
OPERATING VOLTAGE RANGE	Inputs: Voltage-free contacts only Outputs: relay output (50V max)
MAXIMUM LOAD CURRENT	100mA continuous (per channel)
POWER CONSUMPTION	25-50mA nominal sleep state 75mA in active state
SOFTWARE VERSION	Embedded software is field upgradeable (check HPM Tech web site for latest version)
FUNCTIONS	Input channels can be configured to provide the following functions: 1. Digital temperature sensor (accurate to $\pm 0.5^{\circ}\text{C}$) 2. Smoke detectors. 3. Alarm sensors (with cable monitoring). 4. Switch contact interface. Output functions can be either: 1. Infra-red remote control driver output. 2. Low power relay contact. 3. 5V logic output.
INSTALLATION	Inputs and Outputs cabling must be physically separated from mains cables and must only be connected to Extra Low Voltage devices and never used with 240V Mains voltage
ENCLOSURE	Surface mounting polycarbonate case
LED INDICATORS	4 x Red input state indicators 4 x Red output state indicators Red service indicator
OPERATING TEMPERATURE	0 to $+50^{\circ}\text{C}$
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	152mm(H), 45mm(W), 40mm(D)
WEIGHT	100 g



Input Jumpers

Input Type	Input Connection	Jumper Setting
Temperature Sensor	HPM Tech Temp Sensor (H2CT)	1-2
Switch Input	Normally Open Switch Contact	1-2
Smoke Sensor	Normally Open Relay Contact	1-2
Security Sensor	2k2 Ohm EOL Resistor	OFF

1 2

1 2
3 4
5 6

Output Jumpers

(* Default setting)

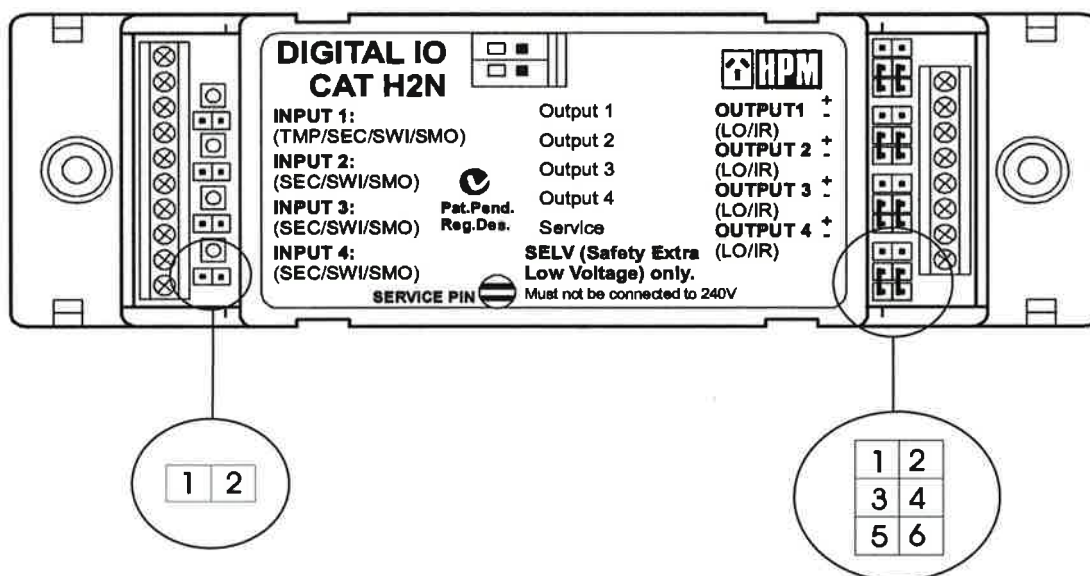
Output Type	Out Connection	Jumper Setting
Logic Output	Clean Contacts	1-2, 3-4
Logic Output	0/ 5V or LED drive	3-5, 4-6 *
Infrared Output	IR Emitter	2-4, 3-5

Technical Note

Jumper Setting

Cat No. H2N

The 4+4 Digital I/O unit can be configured to perform different functions based on the following jumper configuration:



Input Jumpers

Input Type	Input Connection	Jumper Setting
Temperature Sensor	HPM Tech Temp Sensor (H2CT)	1-2
Switch Input	Normally Open Switch Contact	1-2
Smoke Sensor	Normally Open Relay Contact	1-2
Security Sensor	2k2 Ohm EOL Resistor	OFF

Output Jumpers

(* Default setting)

Output Type	Out Connection	Jumper Setting
Logic Output	Clean Contacts	1-2, 3-4
Logic Output	0 / 5V or LED drive	3-5, 4-6 *
Infrared Output	IR Emitter	2-4, 3-5

Technical Specifications

Telephone Interface

Cat No. H2T

This programmable telephone interface module allows control of the system functions via a voice prompted menu from any tone dialling enabled telephone or mobile phone.

The telephone interface connects to a standard telephone line via a digital modem. (Cat No. H2MODEM1).

User actions are prompted and actions confirmed via voice messages. The telephone line is electrically isolated from iCONTROL bus network.

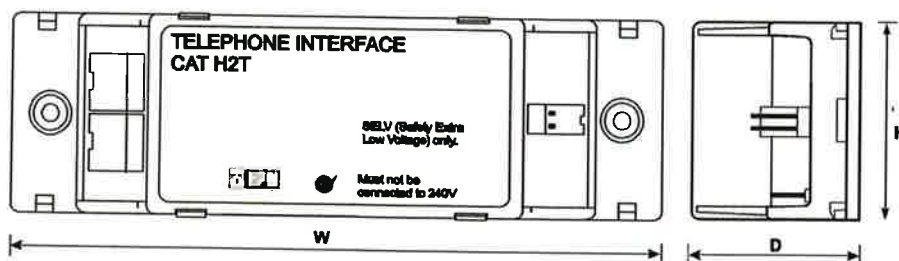
The interface is programmable using iBAS via a builtin RS232 communication port.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2T
NETWORK INTERFACE	Bus interface (22V DC) via IDC connector
RS232 CONNECTOR TYPE	Two RJ45 - RS232 interface
CURRENT CONSUMPTION	47mA idle state 55mA active state
ELECTRICAL ISOLATION RATING	3000V AC RMS 1 minute
SOFTWARE VERSION	Embedded software is field upgradeable. (Check HPM Tech website for latest version)
BAUD RATE	38.4Kbps
DATA	8 bit
START BIT	1
STOP BIT	1
PARITY	N
FLOW CONTROL	CTS/RTS
ONBOARD MEMORY	32KB
INSTALLATION	Wall mount
ENCLOSURE	Polycarbonate case with two protective covers
LED INDICATORS	Tx1 (COM1) Green LED1 Tx2 (COM2) Green LED 2 Rx1 (COM1) Red LED3 Rx2 (COM2) Red LED4 Status Green/Red LED5 Service LED6
FIRMWARE	iCONTROL protocol (contact HPM Technologies for further details)
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	152 mm(H), 45 mm(W), 40 mm(D)
WEIGHT	98g
TERMINAL BLOCK	Auxiliary terminal block on the Bus connector side for backup 22V power supply
CABLE	DB9-RJ45 cable connects Modem to Telephone Interface
COMM PORTS	Com1: Connect to Modem (Cat No. H2MODEM1) Com2: Maintenance



Technical Note

Telephone Interface Voice Menu V1.05

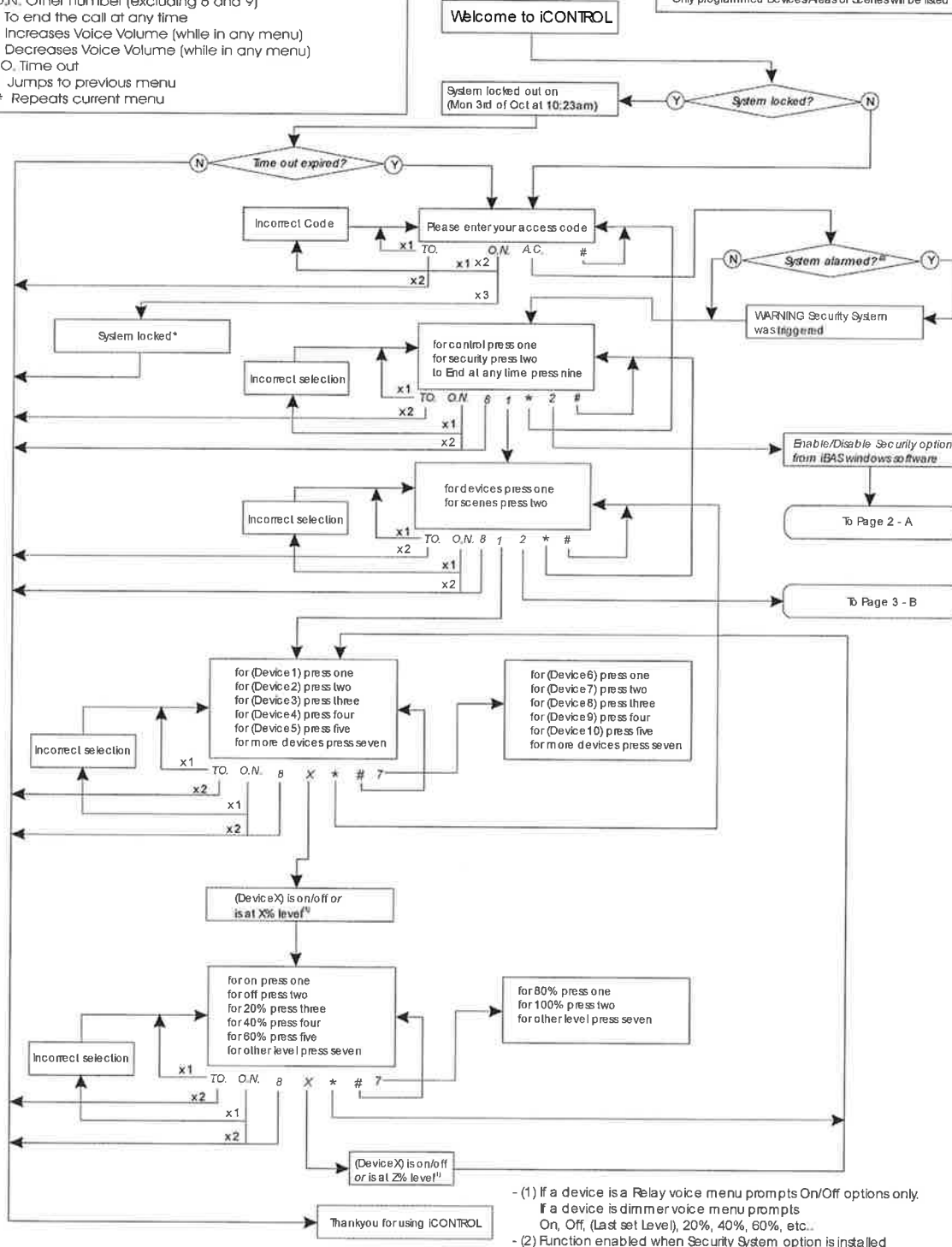
Cat No. H2T

Keys

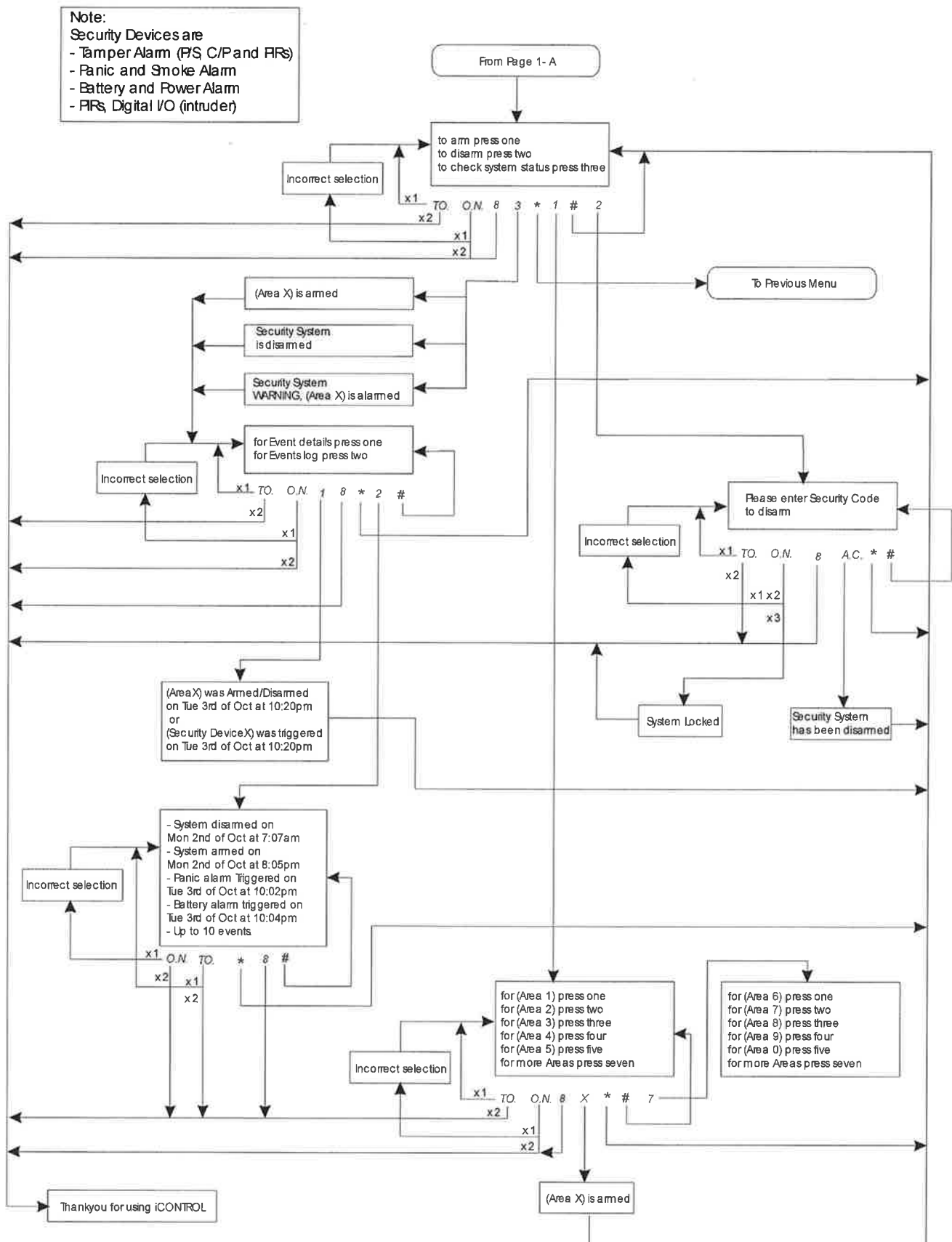
- X means a number from 1 to 5
- DeviceX or SceneX means device/scene name.
- 2 means 20%, 40%, 60%, 80% or 100%
- O.N, Other number (excluding 6 and 9)
- 8 To end the call at any time
- 6 Increases Voice Volume (while in any menu)
- 9 Decreases Voice Volume (while in any menu)
- T.O, Time out
- * Jumps to previous menu
- # Repeats current menu

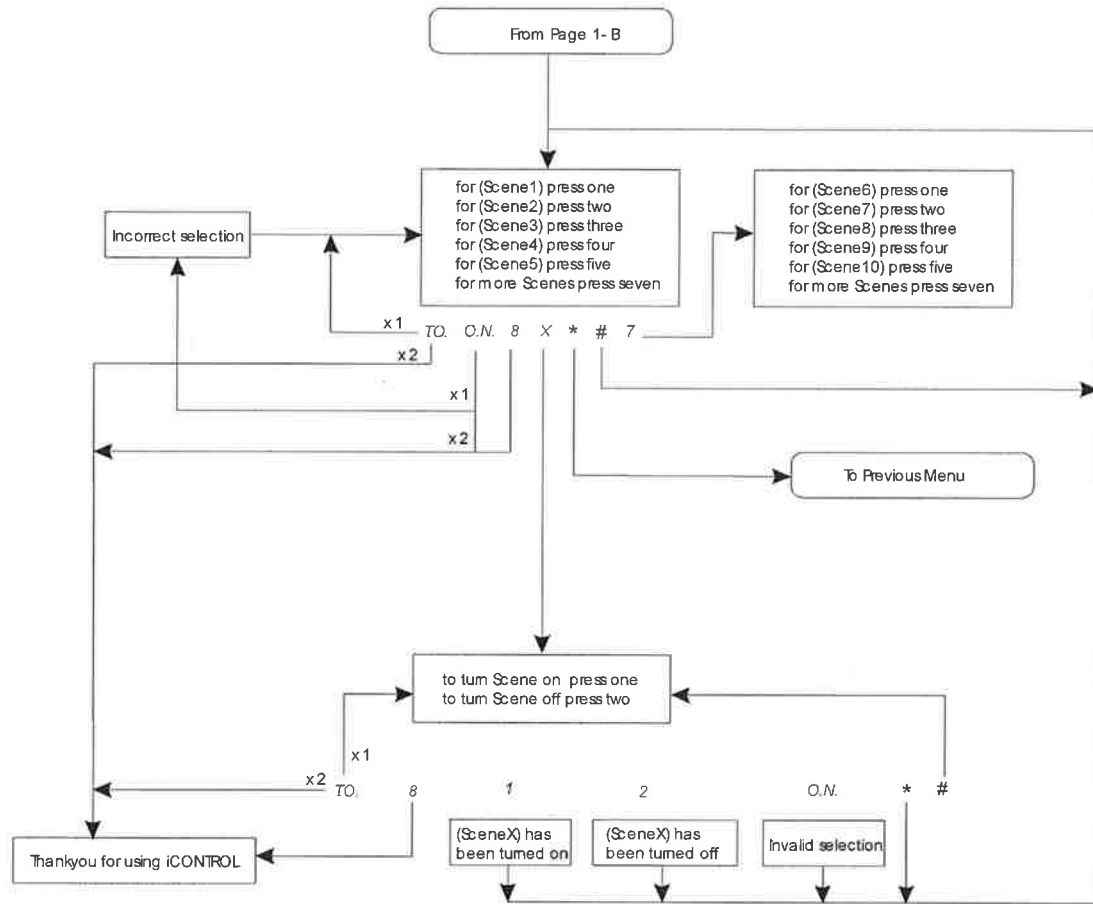
Notes

- Words in *italic* fonts represent remarks not voice menus
- Allow for 10 words to replace DeviceX, AreaX and SceneX
- * When system is locked it becomes disabled for 1 hr
- Only programmed Devices/Areas or Scenes will be listed



- (1) If a device is a Relay voice menu prompts On/Off options only.
If a device is dimmer voice menu prompts On, Off, (Last set Level), 20%, 40%, 60%, etc..
- (2) Function enabled when Security System option is installed





Technical Specifications

Security Telephone Dialler

Cat No. H2TDIALER1

This device is a fully compliant telephone dialler with a serial interface designed to provide a high level interface via RS232 commands (Required Cat No. H2U1).

When the alarm is triggered the dialler will dial to a security monitoring company sending out messages encoded in CONTACT ID security protocol standard.

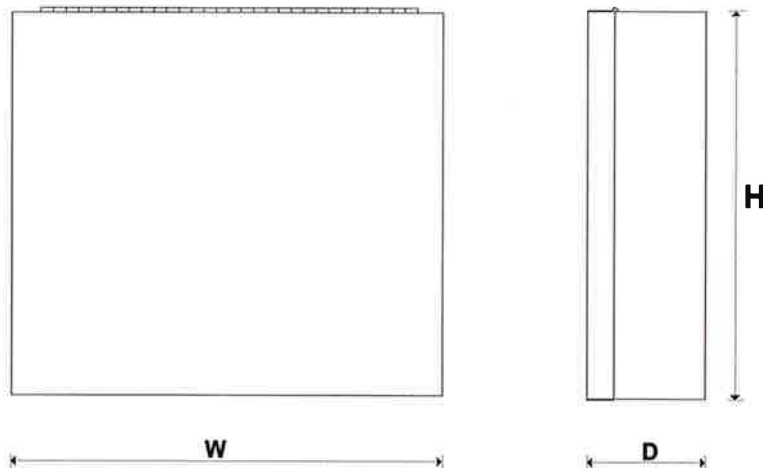
The dialler is fully electrically isolated from the iCONTROL Bus.

EMC, CE and AS2201 compliant.



Specifications

CATALOGUE NO.	H2TDIALER1
NETWORK INTERFACE	Via Cat No. H2U1Interface (required)
OPERATING VOLTAGE	12-16Vac (Wall mount power pack supplied)
RS232 CONNECTOR TYPE	DB9F – RS232 interface
CURRENT CONSUMPTION	55mA idle state
LOOP RESISTANCE	Standard loop 300Ohms Maximum
ENTRY/EXIT DELAY	Programmable from 10 to 255 seconds
ALARM AREAS	10
TELEPHONE NUMBERS	4 dial out numbers
NUMBER OF RINGS TO ANSWER	3
BACKUP BATTERY	12V 7Ah backup battery provides power to security devices for at least 4 hours
SOFTWARE VERSION	Embedded software is field upgradeable. (Check HPM Tech website for latest version)
INSTALLATION	Wall mount, knockouts on the back and side for power, telephone and iControl Bus
ENCLOSURE	Tamper proof steel security enclosure
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	247 mm(H), 215 mm(W), 92 mm(D)
WEIGHT	4.3Kg



Technical Specifications

RS232 Interface

Cat No. H2U

This multifunctional RS-232 serial interface device enables the communication between the system and third party peripherals such as touch screen displays and internet gateways.

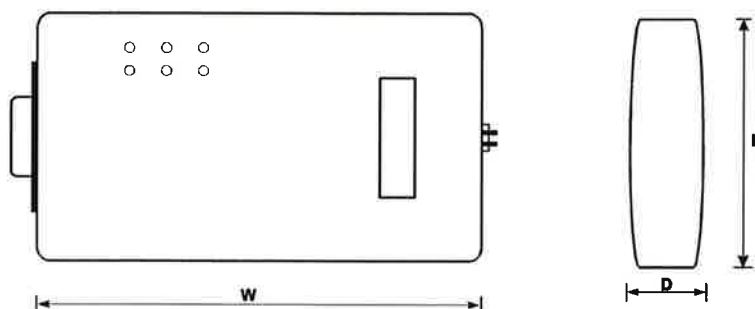
The interface is programmed with iCONTROL RS232 command string.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2U
NETWORK INTERFACE	Bus interface (22V DC) via IDC connector
RS232 CONNECTOR TYPE	DB9 - RS232 interface
CURRENT CONSUMPTION	51mA
ELECTRICAL ISOLATION RATING	3000V AC RMS 1 minute
SOFTWARE VERSION	Embedded software is field upgradeable. (Check HPM Tech website for latest version)
BAUD RATE	Default 4800bps. Can be set to 1200bps, 2400bps, 4800pbs, 9600bps, 19200bps, 38400bps, 57600bps, 115000bps, 250000bps
DATA	8 bit
START BIT	1
STOP BIT	1
PARITY	N
FLOW CONTROL	Selectable: Hardware or None
ONBOARD MEMORY	32KB
INSTALLATION	Stand alone
ENCLOSURE	ABS case, with polycarbonate covers.
LED INDICATORS	Red LED for installation
CONTROL STRINGS	iCONTROL RS232 Commands (contact HPM Technologies for further details)
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	50 mm(H), 90 mm(W), 16 mm(D)
WEIGHT	59g



Technical Specifications

RS232 Interface Dialler

Cat No. H2U1

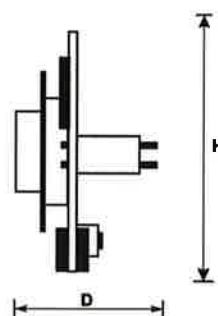
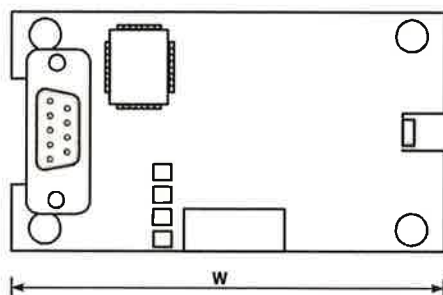
This RS-232 serial interface is designed to provide a high level interface with third party security panels.

EMC and CE compliant.



Specifications

CATALOGUE NO.	H2U1
NETWORK INTERFACE	Bus interface (22V DC) via IDC connector
RS232 CONNECTOR TYPE	DB9F – RS232 interface
CURRENT CONSUMPTION	47mA idle state 50mA active state
ELECTRICAL ISOLATION RATING	3000V AC RMS 1 minute
SOFTWARE VERSION	Embedded software is field upgradeable. (Check HPM Tech website for latest version)
BAUD RATE	4800Kbps
DATA	8 bit
START BIT	1
STOP BIT	1
PARITY	N
FLOW CONTROL	CTS
ONBOARD MEMORY	32KB
INSTALLATION	Mounted into security dialler board.
ENCLOSURE	Tamper proof metal security enclosure
LED INDICATORS	Red LED for installation Green LED for Reset Red LED for Test communications with dialler board
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	45 mm(H), 82 mm(W), 31 mm(D)
WEIGHT	26g



Installation Procedure

RS232 Dialler Interface

Cat No. H2U1

Installation

This procedure applies only to IBAS v1.04.015, Control Panel v1.04.32 and H2U1 v1.07 and higher.

1. Connect **Plug pack, Battery and Tamper switch** to NX-4, as shown on the box label.
2. Connect the iControl **bus** and the **NX-584 power cables** to H2U1.
3. Connect H2U1 to NX-584 **DB9** connector.
4. At least **one security area** in iControl has to be set up.
5. If any of the DS3, 4, 5 or 6 LEDs on NX-584 are flashing, keep pressing the **Reset** button until they are extinguished. Refer to **Figure 1** for button assignment.
6. Using either the H2A Control Panel or IBAS Installation software (IBAS) install H2U1 to iControl home automation system by pressing the **Service button**. Follow the standard iControl installation procedure.
7. H2U1 will automatically install to NX-4 **after** installation to iControl has completed. **Wait for 30s** until Installation to NX-4 is completed before performing any other work on the system. On completion of installation **Reset** all **Install** LEDs will flash four times and then all LEDs will turn off, except DS1 on NX-4.
8. a) If you are installing from the Control Panel, enter **Account Code, PIN Numbers and Phone Numbers 1 & 2**. Set Phone Numbers as **Disabled**.
8. b) If you are installing from IBAS, open **LS DAS Interface dialog** and enter **Account Code**. Open **Security System dialog** and enter **Phone and PIN Numbers**. Download new database to the Control Panel.
9. Connect the security system to a **phone line**. The system is ready for use.

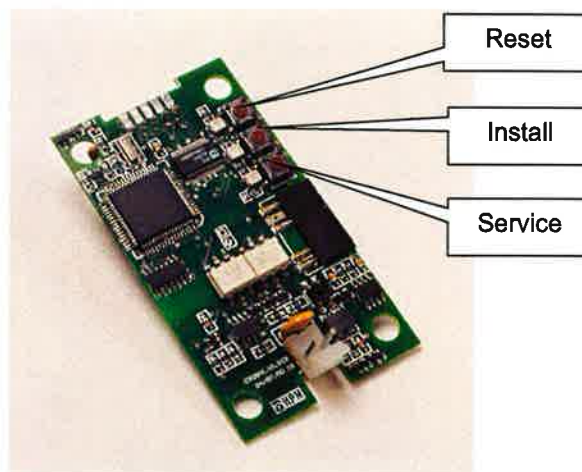


Figure 1 H2U1 Button Assignment

Troubleshooting

This procedure applies only to IBAS v1.04.015, Control Panel v1.04.32 and H2U1 v1.07 and higher.

1. Make sure the **H2U1** sits firmly in the **DB9** connector.
2. Make sure **NX-584 Jumpers** are set according to **Figure 2**.
3. Make sure the **NX-584 power cable** is connected to H2U1.
4. Make sure the iControl **bus** is connected to H2U1.
5. Make sure there is **power** connected to **H2TDIALER1** box.
6. Make sure the **battery** is connected to **NX-4**.
7. Make sure the **NX-584** is connected correctly to **NX-4** and the **DS1** LED is flashing.
8. Flashing of DS3, 4, 5 and 6 on NX-584 and **Reset** and **Install** LEDs on H2U1 indicates the installation is in progress. On completion of installation **Reset** and **Install** LEDs will flash four times and then all LEDs will turn off, except DS1 on NX-4.
9. If the installation is completed and the **Reset** and **Install** LEDs did not flash, press the **Install** button to complete the installation.
10. If the interface would not complete the installation or it does not work properly, press the **Reset** button and then press the **Install** button to complete the installation.
11. If there are any problems with settings in iCONTROL's Control Panel re-enter the setting (e.g. Phone Number or Account Code) and make sure the new entry has been passed on to NX-584 by monitoring the flashing of the LEDs on both H2U1 and NX-584.

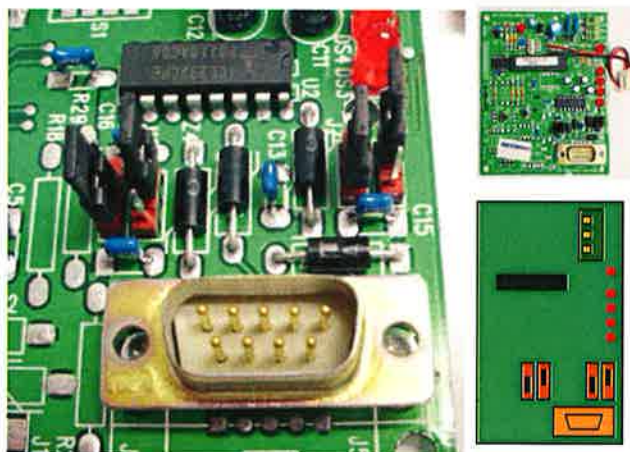


Figure 2 NX-584 Jumper Setting

Note: To check the operation of the system you might have to use the Base Station Emulator. The Emulator should be connected to the battery, for power, and to the RJ-11 connector on NX-4, for communications line.

Technical Specifications

LCD Colour Touch Screen

Cat No. H2CTS1/2

The iCONTROL Colour Touch Screen provides a handheld or wall mounted graphical user interface between the system and users.

Using wireless Infrared transmission, the iCONTROL Colour Touch Screen allows users to activate up to 40 different iCONTROL static moods or dynamic moods, through the use of a fully customisable graphical interface.

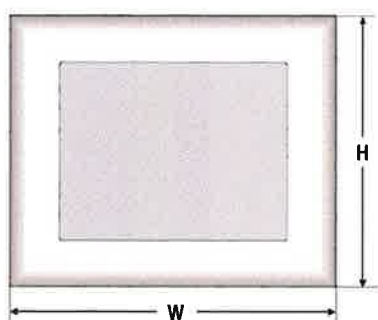
Programmable Infrared code-sets allow the iCONTROL Colour Touch Screen to control almost any TV, DVD, VCR and Stereo System or any other Infra-red Controlled System.

The iCONTROL Control Touch Screen uses new energy saving technology, facilitating the use of ordinary alkaline batteries and is EMC compliant.

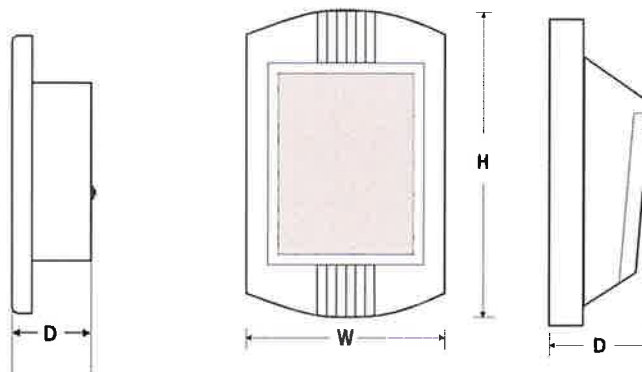


Specifications

CATALOGUE NO.	H2CTS1 (Handheld) H2CTS2 (Wall mount)
LCD SCREEN	TFT Passive Matrix, Colour CCFL Backlit Size (diagonal): 100mm
SCREEN RESOLUTION	Resolution: 240 x 320 pixels
SCREEN INTENSITY	Adjustable via potentiometer
POWER	Handheld: 4 x AA alkaline batteries (supplied) Wall mount: 15Vdc Flying lead (power pack supplied)
MEMORY	4Mb Flash
WIRELESS TRANSMISSION	IR 38KHz, Long Range High Power Output
RANGE	40m – (daylight)
ENCLOSURE	ABS matte black finish Other colours available to order
SOFTWARE VERSION	Windows based software.
INSTALLATION	For wall mount recommended using HPM wall box Cat No 429-2
OPERATING TEMPERATURE	0 to +50°C
HUMIDITY	0 to 90% (non-condensing)
DIMENSIONS	118mm(H), 143mm(W), 38mm(D) – Wall mount 130mm(H), 85mm(W), 40mm(D) – Handheld
WEIGHT	300gr (approx) including batteries – Handheld 345gr (approx) – Wall mount



Cat No H2CTS2



Cat No H2CTS1

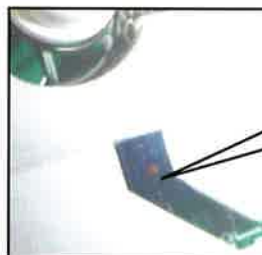
Installation Tips

Control Panel

Cat No. H2A

The Control Panel holds a backup lithium battery in case of prolonged absence of power. A DIP switch is located at the rear of the Control Panel and is used to activate the back up battery.

It **MUST BE SWITCHED ON** prior panel installation. The factory default is on the OFF (1) position.



Back up Battery DIP Switch
ON = Battery is on
1 = Battery is off

Control Panel (rear view)

Digital Input/Output

Cat No. H2N

The inputs of the Digital I/O can be configured as a temperature sensor, switch input, smoke sensor input and security sensor input.



Digital input

Input Jumpers

Input Type	Input Connection	Jumper Setting
Temperature Sensor	HPM Tech Temp Sensor (H2CT)	1-2*
Switch Input	Normally Open Switch Contact	1-2*
Smoke Sensor	Normally Open Relay Contact	1-2*
Security Sensor	2K2 Ohm EOL Resistor	OFF

*factory default



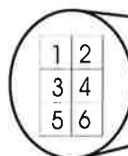
The outputs of the Digital I/O can be configured as a logic output, clean contacts or 0-5V LED drive and IR emitter.

Output Jumpers

(* Default setting)

Output Type	Out Connection	Jumper Setting
Logic Output	Clean Contacts	1-2, 3-4
Logic Output	0 / 5V or LED drive	3-5, 4-6 *
Infrared Output	IR Emitter	2-4, 3-5

*factory default

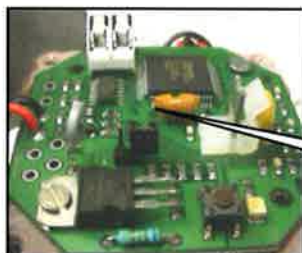


Digital Output

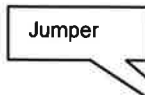
Indoor/Outdoor Siren

Cat No. H2H1/H2H2

Jumper should be fitted after connecting the IDC BUS interface.



Outdoor Siren



Indoor Siren





Specifying iCONTROL

Ver. 1.3

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Specifying iCONTROL for Projects

1.0 System

The automation system will use HPM Technologies' programmable iCONTROL software and hardware devices arrayed, connected and installed in accordance with the manufacturer's instructions ("the System"). The System will incorporate lighting and device control integrated with a security system complying with the requirements of AS 2201.

2.0 Installation

Installation topology shall permit the installation of System devices in several groups or distributed discretely, provided such devices are attached to the network bus cable. The system will be capable of installation with free network bus topology.

3.0 Bus

A network bus cable operating at 22volts DC (safety extra low voltage) shall carry the power and communications for the System devices and shall be either Category 5(e) or 0.75²mm 240VAC rated flexible unsheathed Figure 8.

4.0 Operating Protocol

The intelligent System devices shall be individually addressable and shall operate with distributed intelligence. Each device shall retain its programmed instruction set in the event of either power failure or a short circuit of the bus. Devices attached to the bus must have the ability to operate independently without the presence of a central PC or controller.

4.1 Bus connection

All System devices shall be powered via and communicate on the System network using only the bus cable. The system shall be polarity independent in order to expedite the fit-off and installation of system devices. System devices shall be simple to attach, detach or replace on the bus using easy to install IDC (insulation displacement connectors) connectors. Connections to the bus shall be completed in accordance with manufacturers instructions using the manufacturers supplied hand tool.

4.2 Short Circuit Functionality

In the event of a short circuit of the network bus System devices will retain functional capabilities including programmed functions. When the short circuit is corrected the System shall resume normal functionality.

4.3 Hot-swapping

All changes or replacement of System devices shall be transparent to users. System downtime during replacement, repair or servicing is not permitted.

4.4 Field upgradeability

All System devices including the system control panel (if supplied) must be field upgradable in respect of software, in order to take advantage of any new developments that may add to the functionality of that device. This software relates both to the firmware of the physical device and the software pertaining to the database for that project.

5.0 Power Supply

Power supplies must be intelligent System devices and must be capable of supporting up to 50 other System devices. A battery power supply back-up will be provided where the system is installed as a security system conforming to AS 2201. The battery back-up will be capable of continuing to power the System security devices for a minimum of 8 hours in the event of mains power failure.

When the system is installed in a non security application the power supplies shall again have battery back-up capable of supporting the network devices in the event of mains failure.

6.0 Keypads

All System keypads must be intelligent System devices. Keypads shall have all combinations from 1 to 18 buttons on a stainless steel, plastic or metal faceplate as required and be available in a range of colours. Multi-gang keypads containing more than 18 buttons will be realized using stainless steel faceplates with engraving as required and be able to accommodate up to 24 buttons. Keypad devices shall be capable of satisfying the requirements of International Standard IP44 for outdoor use.

7.0 Buttons

The buttons on each keypad must be made of a durable and flexible material with the option of different colors and printed text. In high use locations a heavy duty plastic keypad button construction shall be available as an option.

Each button shall incorporate an integral light emitting diode (LED) with three different color indications:

Red = output OFF

Green = output ON

Orange = mood (scene) – intermittent flashing operation

To suit variable visibility conditions the degree of illumination of keypad buttons shall be programmable to either of 2 settings ("high" or "low"). The time during which the keypad button LED is illuminated shall be programmable.

Each button shall have the capability to be configured as a:

Switch

Dimmer

Dimming level is set by holding the button depressed until the attached load is dimmed to the desired level. Ramp rates and maximum levels must be programmable.

Auto-off Timer

Load turns off automatically after a programmable time delay.

Static mood (scene)

Multiple mood (scene)

Dynamic mood (scene)

Bi Directional switch

One button is able to operate the UP/DOWN or OPEN/CLOSE operation of electric blinds, doors, gates etc.

8.0 Multi-functional Motion Sensors

Motion sensors must be multi-functional and shall be intelligent System devices. When the iCONTROL security system is armed, motion sensors shall be able to activate the security alarm upon detection of motion or tamper and in-turn initiate outputs or moods as programmed. The sensitivity of motion detection shall be adjustable. Motion sensors shall have the ability to measure light and temperature levels and be programmable to control corresponding loads within the premises. Multi-functional motion sensors shall be capable of receiving infra-red signals (eg.

audio visual) and transmitting same via the network bus cable. Each PIR shall incorporate a walk test indicator that can clearly be seen through the viewing lens. When motion is detected a red light must be visible through the lens. When not activated by movement the PIR must intermittently display a green light indicating fault free operation.

These same sensors must also have integrated light sensing ability and temperature sensing ability that can subsequently be used in relation to threshold and hysteresis limits to control either individual or groups of outputs and scenes.

9.0 Moods (Scenes)

“Moods” are the programmed switching, dimming or brightening of multiple loads controlled by the System within the installation or within part of the installation. Moods can incorporate all elements of lighting, motor control and other controlled outputs and are sometimes alternatively called “scenes.”

The System shall allow for the programming of moods that can be activated from keypad buttons, timers and other system devices without the addition of specialized hardware. Each mood or scene shall be capable of incorporating any or all controlled loads within the premises.

9.1 Static moods

Any keypad button or other System control device connected to the network within the installation must be programmable to actuate a static mood or scene. Upon actuation the keypad button will activate only the programmed static mood or scene.

9.2 Multiple moods

Any System keypad button connected to the network within the installation must be programmable to actuate multiple moods or scenes without the addition of specialized hardware. A keypad button programmed for multiple moods shall activate a new scene each time the button is pressed. Up to ten (10) scenes shall be programmable per multiple mood keypad button. The system shall allow for the programming of multiple moods that can be activated from keypad buttons, timers and other system devices.

9.3 Dynamic moods

Any System keypad button connected to the network within the installation must be programmable to actuate dynamic moods or scenes without the addition of specialized hardware. A dynamic mood is a continuous sequence of up to ten (10) static moods separated by a programmable time interval and is actuated by the single press of a keypad button or other system control device. The System shall allow the designation of dynamic mood buttons

When activated the LED display of any mood or scene keypad button shall be illuminated with an orange colour.

9.4 Common mood or scene examples

- **“Panic”** – Typically activated from keypads located in the bedroom, kitchen and building entrance. All selected loads are switched on (eg. all lights are switched on) and the security system is triggered activating external sirens and back-to-base dial out response.
- **“All off”** - Typically activated from a keypad located near the building entrance. All selected system loads are turned off.
- **“Good Night”** – Typically activated from a bedside keypad button. All selected loads are turned off. Certain lights (eg. bathrooms, certain passageways, children’s bedrooms) are dimmed (eg. to 25%).
- **“Welcome Home”** – Typically activated from a keypad located near the building entrance. Selected loads are actuated (eg. exterior lights off, entrance lights on,

passageway lights on, kitchen lights on, air-conditioning or heating on, audio/video on).

- **"Holiday"** – Activated from the System Control Panel. Up-to seven days previous building activity is recorded and replayed while the occupants are absent giving the impression that the building is still occupied. The system shall have on board programmable "filtering" to exclude actuation of selected recorded loads (eg. garage doors should not open, air-conditioning or heating should not switch on, spa pools should not be heated, gates or doors should not open).
- **"Clean"** – Typically activated from a keypad located at building entrance (or a convenient location for the cleaner). Selected loads are actuated (eg. 50% of lights switched on or all lights switched on to 50% brightness to provide cleaner with sufficient light to clean premises).
- **"Presentation"** – Typically activated from a keypad located within a boardroom or meeting room. Selected lights dim leaving sufficient light for note taking, lectern is fully illuminated, curtains or blinds closed, projector lowers ready for use, projector screen deploys, room temperature may be lowered by several degrees (NOTE: this mood would commonly be actuated as a dynamic mood).
- **"Movie"** - Typically activated from a keypad located within a living area or home theatre. Room lights dim to "off", curtains or blinds close, kitchen, passageway and bathroom lights dim to provide sufficient light for safe movement, all other lights switch off, projector and/or screen deploys. (NOTE: this mood would commonly be actuated as a dynamic mood).
- **"Party"** – Typically activated from a keypad located near the kitchen. All selected loads (internal and external) are actuated to create the required result.
- **"Alarm Set"** – Activated when the alarm system is set. Selected loads are actuated (eg. perimeter lights on).
- **"Alarm Disabled"** – Activated when the alarm is disabled. Selected loads actuated (eg. exterior lights on, access control enabled, entrance lights on).
- **"Intruder Alarm"** – triggered by the alarm system. All selected loads are actuated (all lights turned on, access control systems disabled).
- **"Smoke Alarm"** – triggered by installed and interfaced smoke alarm. All selected loads actuated (exit pathway lights on, all other lights off, access control enabled, security system triggered).

10.0 Timers

The System shall provide forty (40) software timers each with up to seven (7) events. Each event shall comprise two (2) actuations of system loads or scenes up to seven times within a seven (7) day period. An actuation is either one "on" or one "off" switching or dimming programmed instruction. Each timer shall control up to forty (40) output channels.

System timers shall be an integral part of the system software and shall reside in the system Control Panel.

11.0 Programming

The System shall provide alternative means of programming and configuration.

11.1 Control panel

The System shall provide a Control Panel unit that can be attached at any location on the network bus and allow the complete configuration of the installation. This unit must also incorporate a RS232 communications port for interfacing purposes.

11.2 PC software

The System shall allow programming and configuration via personal computer running the appropriate software, however shall not require the permanent connection of such for normal operation.

11.3 Pre-programming

The System shall allow the flexibility of being delivered on-site, fully programmed, in-order to minimize installation time and expedite hand-over.

12.0 Dimmer output channels

12.1 Resistive and inductive loads

All System dimmers shall be intelligent system devices. The System shall provide dimming ability with thermal overload protection that requires manual reset. DIN rail mountable dimming devices shall be capable of driving resistive and inductive loads up to a maximum of 750VA 240VAC. All dimmers shall incorporate leading edge technology and have 2 output terminals.

Wall or panel mounted dimmers shall be capable of driving resistive and inductive loads up to a maximum of 2000VA at 240VAC.

Each dimmer unit shall incorporate manual override switches that immediately override automatic control when pressed. Each override switch is to be accompanied by a respective 2-color LED indicator with RED indicating OFF and GREEN indicating ON at the last preset level for that channel.

12.2 Capacitive loads

The system shall interface to DALI dimmable ballasts for the control of capacitive loads.

13.0 Relay output channels

All System relays shall be intelligent System devices. All relay output channels shall incorporate voltage-free relay contacts rated to 10A at 240VAC with an inrush current load rating of up to a maximum of 80A. Each channel shall have discreet common and normally open terminals. Channels shall be programmable for normally open or normally closed operation. Each channel shall have the ability to stagger activation upon the restoration of mains supply.

DIN rail mountable relay devices shall contain four relay output channels. Free standing, wall or panel mount relays shall contain one relay output channel.

Each relay unit shall incorporate manual override switches that immediately override automatic control when pressed. Each override switch is to be accompanied by a respective 2-color LED indicator with RED indicating OFF and GREEN indicating ON for that channel.

14.0 Security

The System shall incorporate a fully integrated security system compliant to Australian Standard AS2201. The following features shall be included:

Back to Base dial-out

10 areas

Security event logging

Security moods (eg. Fire, Panic, Alert, Arm and Disarm)

Panic buttons

Interface with 3rd party devices (eg Reed switches, glass break sensors)

Remote Security Keypad

Internal/External 116dB min. siren/strobe

Holiday Playback

All the necessary software shall be provided as standard requiring only the addition of System motion sensors to realize the security functionality.

15.0 Infra-red Signal Generation

The System shall be capable of generating infra-red signal codes for the control of third party output devices such as security cameras and audio-visual equipment. Such signals shall be generated consequent upon inputs from system devices such as passive infra-red sensors and keypads or third party devices such as door bell switches and reed switches.

16.0 Access Control

Any System remote security keypad ("RSK") shall be an intelligent System device and shall also be capable of operating as an access control device. The RSK shall be capable of storing and assigning up-to 4 separate personal identification numbers ("PIN"). Upon entry of the PIN a signal shall be sent to linked access devices such as doors or gates. RSK devices shall be capable of satisfying the requirements of International Standard IP44 for outdoor use.

17.0 Dial-in control

The System must be capable of providing remote control by means of a mobile or touch-tone telephone. The control is to be performed via an audio enabled interface whereby the user is prompted for a response by voice messages, similar to current day telephone banking systems.

18.0 Digital inputs

All digital input/output devices (if installed) shall be intelligent System devices. Digital input/output devices shall be capable of accepting up to four digital inputs and supplying up-to four digital outputs per device.

19.0 Interfacing

The System is to provide several means of communicating with third party systems within its environment, including low-level digital I/O and RS232 high level ports.

20.0 RF Remote Control

All RF transceiver modules (if installed) shall be intelligent System devices. The transceiver shall be actuated by a three button mobile transmitter unit capable of attachment to a keyring or other such portable attachment. The mobile transmitter unit shall be robust and weather-resistant to IP 44. Each mobile transmitter button shall have the equivalent functionality of any button on a fixed system keypad including relay, dimmer and mood control. All RF transmission devices shall use high security rolling code technology.

21.0 System Documentation

The System will be supplied with a fully documented user guide detailing system capabilities and functions. The user guide will specify the software version installed. A complete plan of the installation and installed program database will be maintained by the installer and a copy provided for the user and placed in a convenient location (eg. near the System distribution board).