



# Beacon

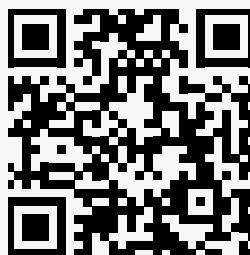
---

## B1A4ZM

Beacon Assist Call 4 Zone Module



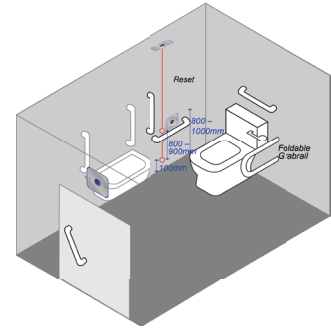
Installation Instructions



[www.espuk.com](http://www.espuk.com)

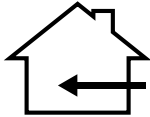
# 1. Overview

The B1A4ZM is a four-zone control module which can be used to monitor up to 4 zones of Assist Call devices. It requires 12 volts DC to operate which is supplied by the matching B1A4ZMPS power supply module. These modules are only compatible with Assist Call devices. For mounting information please see below. The 4-zone control module would be mounted in a permanently staffed location to alert staff that the occupant requires assistance. If a repeater is required, then a further B1A4ZM would be used and configured as a repeater. This repeater can be mounted where it is required.



# 2. Important Safety Information

This Equipment must only be installed and maintained by a suitably skilled and competent person. This Equipment is defined as Class 1 in EN IEC62368-1:2020+A11:2020 (Low Voltage Directive) and must be EARTHED.



- Caution Indoor Use Only
- Warning Shock Hazard - Isolate Before Opening
- Warning TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE
- Warning THIS UNIT MUST BE EARTHED
- Warning NO USER SERVICEABLE PARTS

Each 4 zone control module requires a 3A switched fuse spur.

# 3. Anti-static Handling Guidelines

Make sure that electrostatic handling precautions are taken immediately before handling PCBs and other static sensitive components. Before handling any static-sensitive items, operators should get rid of any electrostatic charge by touching a sound safety earth. Always handle PCBs by their sides and avoid touching any components.



# 4. Unpacking the B1A4ZM

Remove the equipment from its packing, and check the contents against the following list:

- B1A4ZM 4 Zone Control Module
- Installation and operation manual
- Accessory pack with the following contents:
  - 2 x Mounting Screws
  - 4 x 10 kΩ end of line resistor

# 5. Cable Information

## 5.1. Module Cabling

Cabling between control and PSU module requires data and power, please see table below for information

System Type	Cable Type	Max length (m) between PSU module to Control Module		
		Power Pair Single	Data Pair Single	Power Pair Twin twisted
1 x PSU & 4ZM	CAT5/6	50	100	100
1 x PSU & 2 x 4ZM	CAT5/6	50	100	100

Table 1 - Module Cabling Information

## 5.2. Alarm Field Cabling

The Assist Call system uses 2 core cable for the field devices such as call buttons, switches, pull cords, cancel plates and over door plates.

Cable Type	Size	Distance from controller
LSF flex, T & E	1.00mm	500m
CAT5/6, Security	0.22mm	1 Pair: 50m 2 Pair 100m

Table 2 - Alarm Field Cabling Information

## 6. Installation Single Control Module

The B1A4ZM control module mounts onto a 25mm UK double gang back box.

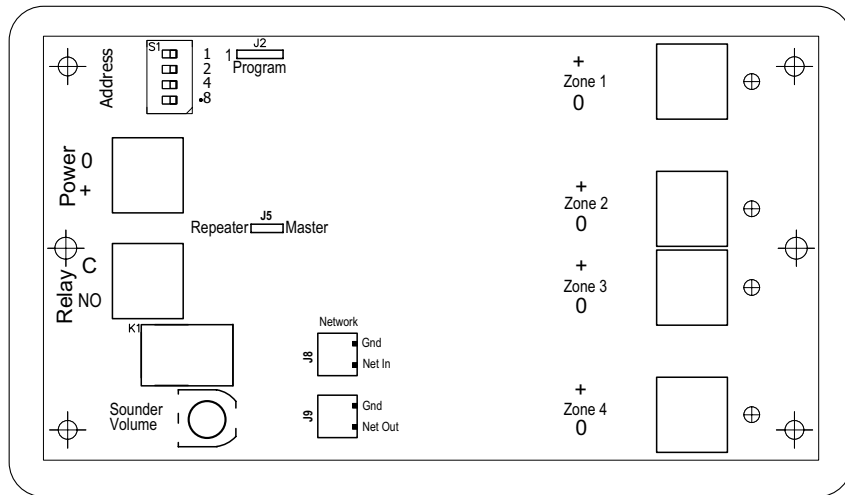


Figure 1 - B1A4ZM Rear View

### 6.1. Required Equipment

Where a single point of indication and control is required, 1 x B1A4ZM control module and 1 x B1A4ZMPS power module will be required. These should be mounted near to each other.

### 6.2. Cabling

The cabling required is 1 pair (2 core) for 12VDC power, a suitable cable would be a CAT5/6. Please see *Table 1 – Module Cabling Information*.

The control module requires 12VDC from the B1A4ZMPS power module which should be connected to the terminals marked 'power 0+' as shown in Figure 1 B1A4ZM Rear View.

It is recommended that the power module is located next to controller module.

### 6.3. Network Terminals

There are 2 x network terminals marked 'GND & Net In' and 'GND & Net Out', these terminals should be ignored when used as a Single Control Module.

### 6.4. Field Device Wiring

The Assist Call field devices are wired to the terminals marked Zone 0 and +, the devices are polarity sensitive, cabling between the control module and the devices is 2 core. This cable does not need to be screened or twisted.

A 10kΩ end of line resistor needs fitting in the last assist call device. The circuit is monitored for open and short circuit. If the line isn't being used, the 10kΩ end of line resistor must be inserted into the Zone terminal.

All system wiring should be installed to meet the appropriate parts of BS 7671 (Wiring Regulations). Other national standards of installation should be adhered to where applicable.

Extra Low Voltage (ELV) Wiring: - Always segregate low voltage wiring from the main wiring.

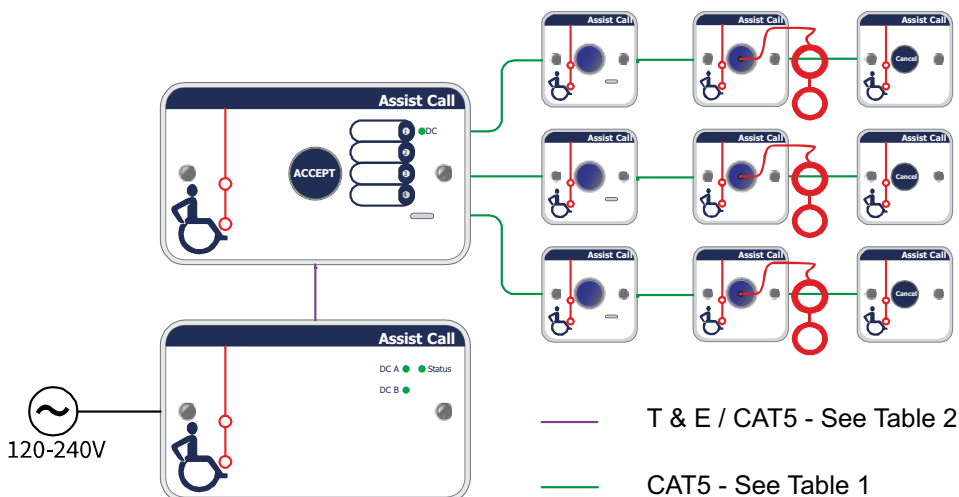


Figure 2 - Simple Wiring Schematic

## 7. ADDITIONAL FUNCTIONS

### 7.1. Buzzer Volume Control

There is a potentiometer on the rear of the PCB labelled Sounder volume turning it anti clockwise reduces the volume.

### 7.2. Volt Free Relay

The controller has an on-board volt free NO, Com relay contact rated at 1A @30V DC. The relay operates whenever an alarm is present. This can be used to signal ancillary equipment such as sounders or beacons. An external power supply would be required for this purpose.

### 7.3. Lamp & Buzzer Test

Pressing the accept button for 5 seconds will perform a lamp and buzzer test, the test is cancelled by pressing the button again.

## 8. Installation Master Repeater Control Modules

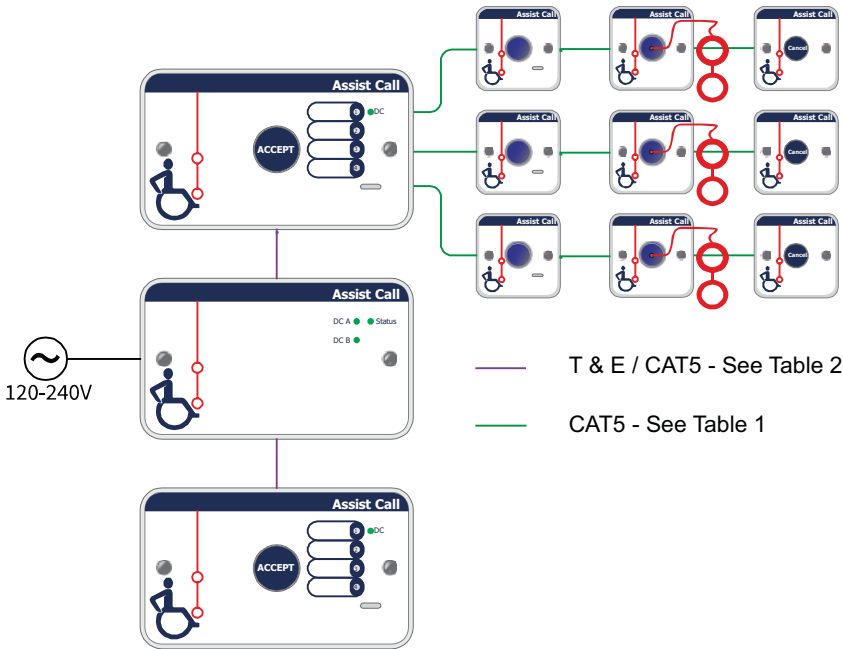


Figure 3 - Master Repeater Schematic

### 8.1. Required Equipment

Where a simple master repeater set up is required, 2 x B1A4ZM control modules will be required and 1 x B1A4ZMPS power supply module.

### 8.2. Cabling

The cabling required is 1 pair (2 core) for Data and 2 pair (4 core) for 12VDC power, a suitable cable would be a CAT5/6. Please see Table 1 – Module Cabling Information. The recommendation is to use the Brown and Blue pairs of the CAT5/6 cable for the positive and negative power terminals respectively, and the Orange pair for the data terminal, with the white-orange wire being used for ground. The green pair can also be used for the data instead of the orange pair. Whichever pair is unused must be isolated. An example of how the ends of the CAT5/6 cable should be terminated can be seen in Figure 4 - CAT5 Terminations. The power supply module should be located next to either the controller or repeater modules.

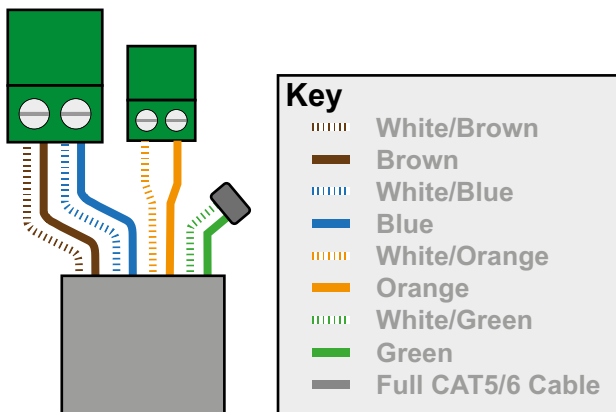


Figure 4 - CAT5 Terminations

### 8.3. Network Terminals

There are 2 x network terminals marked 'GND & Net In' and 'GND & Net Out',  
 The data pair should be connected from the master Net Out to the Net In on the power module then from Net Out to Net In on the repeater. This can be seen in Figure 5 - Master-Repeater Wiring Example below.

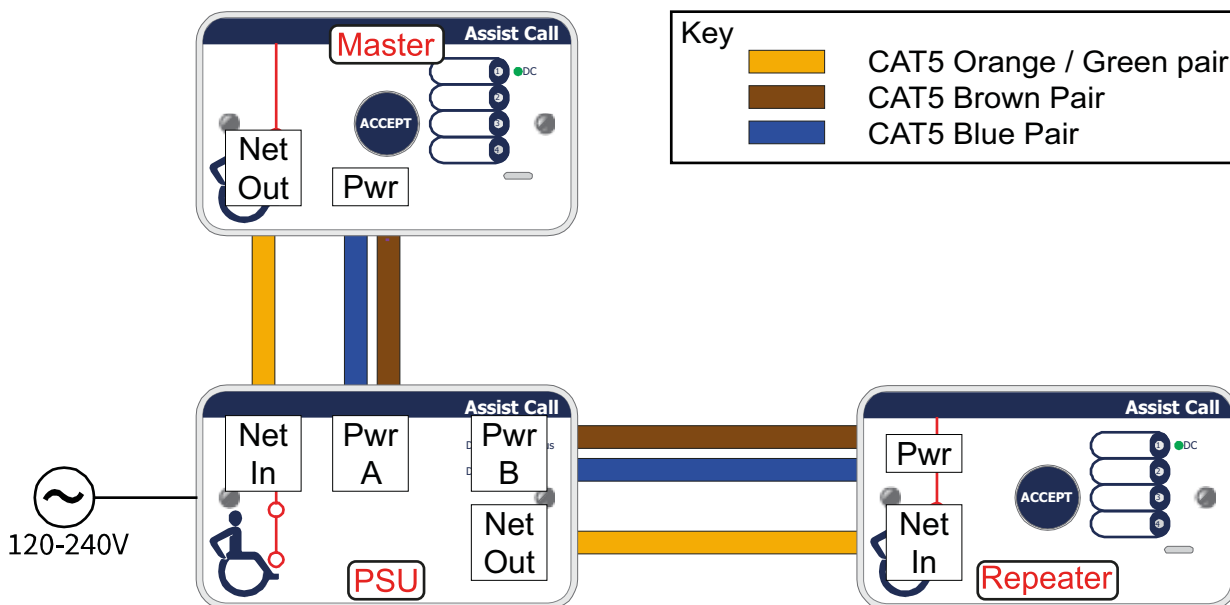


Figure 5 - Master Repeater Wiring Example

## 8.4. Repeater Option

The B1A4ZM control module can be configured as a repeater when used in-conjunction with another control module acting as the master. This is achieved by simply moving the jumper selector to the 'Repeater' position as shown in Figure 1 B1A4ZM Rear View. The network is not monitored in this configuration.

## 8.5. Address DIP Switch

This will be set on address 1 as a factory default, for a simple master repeater set up, the address should be left as address 1 in each control module. The address switch is shown in Figure 1 B1A4ZM Rear View. The addressing should be ignored unless forming part of a larger 'Assist Call Network' system, if so consult 'Assist Call Network' Installation and Commissioning manual for guidance.

# 9. System Operation

## 9.1. Raising the alarm inside the WC

The person in distress raises the alarm by pulling on one of the red pull cord bangles, the blue indicator on the ceiling plate will indicate steady blue and the blue indicator flash and sounder will activate on the cancel plate.

## 9.2. Indication outside the WC

The overdoor indicator plate would be located either above the doorway or on the ceiling near to the WC door, it flashes and sounds to show the location of the alarm. The B1A4ZM control module should be located within a permanently staffed area, blue zone indicator will flash on the control module to indicate the alarm location. The accept button/indicator will flash with blue indication and the sounder will activate on the control module to alert staff of an alarm.

## 9.3. Acknowledging the alarm

A member of staff acknowledges the alarm by pressing the 'accept' button on the control module, the blue indicator will change state from flashing to steady and the internal sounder will sound intermittently every 15 seconds. The ceiling pull cord indication will extinguish, the blue indicator on the cancel plate and the overdoor indicator changes state from flashing to steady with intermittent sounder operation every 15 seconds to confirm to the occupant that help is on the way.

## 9.4. Resetting the system

When the alarm has been attended to, the system is reset by pressing the cancel button within the WC.

## 10. Commissioning

### 10.1. Single Master Control

To commission a single system consisting of a B1A4ZM control module and a B1A4ZMPS power module. Visit each assist call location, operate the alarm as detailed in section 9 checking that the correct zone number indicates, then cancel it. Repeat at each location.

### 10.2. Master Repeater Control

To commission a master repeater system consisting of 2 x B1A4ZM control modules and a B1A4ZMPS power module. Visit each assist call location, operate the alarm as detailed in section 9 checking that the correct zone number indicates, then cancel it. This process should be repeated and checked at the other B1A4ZM control module position.

## 11. Status Indication

The status indicator is located on the top right hand of the fascia and indicates as follows:-




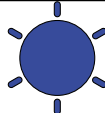

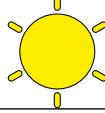

Power LED	LED Description	Control Module Power Status
	Solid Green	V12 DC supply healthy
	LED Off	V12 DC supply not present
Zone LED	LED Description	Control Zone Status
	LED Off	Line idle and healthy
	Flashing Blue	Line is in alarm
	Solid Blue	Line is acknowledged
	Flashing Yellow	Line is open or has a short circuit
	Solid Yellow	Line fault accepted

Table 3 - B1A4ZM Status Indication

## 12. Maintenance

The maintenance schedule should be as follows:

Frequency	Test
Weekly	Test the system weekly by operating a pull cord, acknowledge the call using the control module, check all indicators and reset from the cancel plate within the WC. Record these results in the site log.





Elite Security Products UK, Unit 7 Target Park, Shawbank Road, Lakeside,  
Redditch, Worcestershire, B98 8YN

Tel: +44(0) 1527 51 51 50

Fax: +44(0) 1527 15 01 43

Email: [info@espuk.com](mailto:info@espuk.com)

Registered in England; Company Registration Number: 02769392; VAT Registration: GB614686525



For more product information please visit [www.espuk.com](http://www.espuk.com)  
E&OE - Errors and Omissions Excepted. F24