



Electronics Line

# **FIRE CONTROL PANEL**

# **MAG2/4**



## **USER MANUAL**

MAG2 Soft. Version 2.1

MAG4 Soft.Version 2.0

**READ THIS MANUAL BEFORE CONNECTING THE EQUIPMENT  
AND KEEP IT SAFE FOR FUTURE REFERENCE.**

To call our technical support line dial

**+44 (0) 121 786 1881**

## **INSTALLER Instructions**

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### **WARNING**

This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer. The entire manual should be carefully read.

### **General Information**

The system is to be installed by a qualified person to the latest Fire Alarm and Installation Regulations which are mandatory in the applicable country of installation.

Before commencing the installation of this Fire Alarm Panel, ensure it is sited in a position, which is visible to the Fire Brigade when entering the premises, and where ease of access is provided for users and service engineers. Space must be available to easily open external and internal doors.

The Electrical Supply to the panel must be isolated and must not be capable of being accidentally switched off. A 'Lockable Switch fuse Unit' positioned within 2 meters of the panel should be clearly labelled FIRE ALARM - DO NOT SWITCH OFF.

#### **EN 54-2 compatible panels.**

All specifications are subject to change without notice.

## Using the MAG 2/4 Controls

- Refer to the instructions on the inside of the outer door.

## Indications / Outputs

- NORMAL:** • The **green** LED next to the 'power Supply 230V AC' will be illuminated.
- FIRE:** • Two integrated **red** status FIRE LED's and a zone identification LED will flash together on receipt of a FIRE condition and become steady after the Silence Alarm button is pressed.
- An internal buzzer will operate until silenced.
  - The external sounders will operate.
  - The FIRE relay will energize.
- FAULT:** • A **yellow** General Fault LED will always illuminate together with an external or internal identification LED.
- An internal buzzer will sound.
  - The FAULT relay will de-energize.

### Faults are monitored as follows:

- Zone fault - open or short circuit. Detector head removed.
- Sounder Circuit One fault - open or short circuit, reverse connected sounder, or bad sounder parameters.
- Sounder Circuit Two fault - open or short circuit, reverse connected sounder, or bad sounder parameters.
- A.C. Loss or Battery charger fault. ("A.C. Loss" means Mains Supply)
- Battery Loss.
- Low Battery condition.
- 24V DC Supply fault.
- Processor fault.
- Auxiliary supply fault.
- Short circuit to earth.

All fuses are monitored and will cause a fault condition should they fail. Selecting an 'Engineers Facility' will indicate and announce a Fault condition at the panel.

**NOTE: FAULT CONDITIONS WILL NOT BE ANNOUNCED INSTANTLY. THERE WILL BE A SHORT DELAY WHICH WILL VARY FROM CONDITION TO CONDITION. FAULTS WHEN CLEARED WILL AUTOMATICALLY RESET AT THE PANEL.**

## Engineers Facilities:

MAG 2/4 has the ability to select various facilities to assist the engineer during installation and testing of the system. These facilities include:

- Zone Test** - Individual zones can be tested and activated without the need to return to the panel to effect a RESET. This is done automatically by the panel.
- Isolate Sounders** - System can be tested without operating the Sounder circuits.
- Disable / Enable Zone** - Each zone can be disabled / enabled.

## Installing the Panel

- Decide the best location for the panel position, with an ambient temperature between 0 degrees C and 40 degrees C., away from heating systems, environmental dust and potential water ingress.
- Remove all packaging.
- Inspect the panel for any damage.
- Carefully remove the outer cover, by inserting unscrewing the two allen screws. Stow the cover in a safe position.
- Inspect the internal PCB and make sure the internal components are firmly in place.
- Observe the main PCB chassis and the associated securing screw, located in the front of the terminal blocks.
- Unfasten the chassis securing screw and remove the chassis. Stow in a safe location.
- Choose which cable entry points to knock out and carefully remove the knock-outs.
- Observe the top center fixing location at the back of the panel.
- Stow the back box in a safe position.
- Drill the wall to suit the back box center fixing position, plug and insert a fixing screw.
- Temporally hang the back box from the fixing screw and mark out the two bottom left and right fixing locations.
- Remove the back box from the center fixing screw position and drill and plug the bottom fixing holes.
- Hang the back box from the center fixing position and fix securing screws through the bottom fixing holes.
- Tighten all the fixing screws.
- Route the external cables onto the back box, make off connection glands etc., **BUT DO NOT make any connections at this stage. ENTER THE MAINS CABLE THROUGH ITS OWN CABLE ENTRY POINT AND KEEP MAINS WIRING AWAY FROM SYSTEM AND OTHER LOW VOLTAGE WIRING.**
- Re-fit the PCB chassis and re-connect the chassis mains connection.
- Connect the mains supply and earth to the main terminal block **BUT DO NOT** apply the main electrical supply at this stage.
- Position the standby battery in an upright position.

**The panel is now ready for testing.**

## Testing the Panel

- Connect the battery leads from the black power supply box to the positive and negative battery terminals.
- Apply the mains power.
- If the buzzer and indicator LED's are operating, press the RESET button.

If in the Normal Operating Mode other LED's are illuminated and the buzzer is sounding, carefully check that fuses and connections are sound. Refer to the part of the internal connections or circuitry the associated yellow LED's apply to. The connection diagram on the inside of the external cover will assist in identifying the LED.

*NOTE: The battery might show a 'Low Battery Fault' initially until it has had time to charge up to the required level.*

**If by some chance the fault will not cancel, and only on the advice of our Technical Support**

**Department, return the P.C.B. CHASSIS ONLY to your supplier. DO NOT return the metal box.**

**Once the panel is found to operate satisfactorily in the NORMAL MODE, it is time to connect the external circuits.**

**It has been assumed that prior to making the connection at the panel, the integrity of the system ALL wiring has been comprehensively tested, including insulation to earth.**

- Isolate the mains supply and disconnect the battery connection.
- Fit the Active End of Line Device to the last detection device of zone one.
- Ensure all terminations are made correctly and all detector heads are plugged into their bases.
- Connect Detector circuit ONE to the panel terminal block.
- Power up the panel with the mains and battery.
- Press RESET button.

**The panel should be in the ‘NORMAL MODE.’**

*NOTE: If General Fault and zone 1 FAULT LED's illuminate, there is a wiring / connection problem. Check the polarity of the connection, the connection of the devices and whether a head is removed. Check the EOL proper polarity and position.*

- Operate ALL detection devices applicable to this zone, to ensure correct receipt of a fire signal and the correct operation of the panel controls. Refer to the User Instructions on the inside of the panel.
- Repeat the connection process for zone two as stated above. ENSURE the supply voltages are initially disconnected prior to each stage.

**ONCE THE CONNECTION OF THE ZONES ARE COMPLETED, CONNECT AND TEST ANY OF THE OTHER AUXILIARY CIRCUITS BEFORE CONNECTING THE EXTERNAL SOUNDER CIRCUITS.**

**Relay Connection - The onboard relay volt free change over terminals are for low voltage use only.**

**MAINS SUPPLY MUST NOT BE APPLIED TO THESE TERMINALS.**

**Once the zone and auxiliary circuits have been connected and tested to function correctly, it is time to connect the first external sounder circuit:**

- Isolate the mains supply and disconnect the battery connection.
- Remove the End of Line Monitoring Resistor from the terminal block of sounder circuit 1 (SND 1) and fit to the last sounder of circuit one.
- Check all sounder connections are made.
- Connect sounder circuit ONE to the panel terminal block.
- Apply mains and battery power.
- Press RESET

**The panel should be in the ‘NORMAL MODE.’**

Activate a zone Call Point. The sounders should operate. Press the reset button.

Repeat the connection process for the second external sounder circuit, as stated above. ENSURE the supply voltages are initially disconnected prior to each stage.

*NOTE: If General Fault and SOUNDER FAULT / DISABLE LED. 's illuminate, there is a wiring / connection problem. Check the polarity of the connection of each of the devices, the polarity of the connection of the devices to the Panel terminal block or whether an earth fault exists.*

## Engineers Facilities:

### To Disable Zone 1:

Press ENABLE / DISABLE button:

*Zone 1 lamp will flash.  
DISABLE / ENABLE lamp will flash.*

Press ENABLE / DISABLE button:

*The zone lamp will become steady.*

Press RESET:

*At this point the zone 1 is disabled.*

### To Enable Zone 1:

Press ENABLE / DISABLE button TWICE:

*Zone 1 lamp will flash.  
DISABLE / ENABLE lamp will flash.*

Press RESET.

*At this point the zone 1 is disabled.*

### To Disable Zone 2:

Press ENABLE / DISABLE button:

*Zone 1 lamp will flash.  
ENABLE / DISABLE lamp will flash.*

Press TEST / SCROLL button:

*Zone 2 lamp will flash.  
ENABLE / DISABLE lamp will flash.*

Press ENABLE / DISABLE button:

*Zone 2 lamp will become steady.  
ENABLE / DISABLE lamp will flash.*

Press RESET:

*At this point the zone 2 is disabled.*

### To Enable Zone 2:

Press ENABLE / DISABLE button:

*Zone 1 lamp will flash.  
ENABLE / DISABLE lamp will flash.*

Press TEST / SCROLL button:

*Zone 2 lamp will be steady.  
ENABLE / DISABLE lamp will flash.*

Press ENABLE / DISABLE button:

*Zone 2 lamp will flash.  
ENABLE / DISABLE lamp will flash.*

Press RESET:

*At this point zone 2 is enabled.*

### To 'One Man' Test a Zone:

Press TEST / SCROLL button:

*TEST AND ZONE yellow LED's will flash.  
Zone 1 is in Test Mode.*

Press TEST / SCROLL button:

*Flashing LED will move down to zone 2.  
Zone 2 is in Test Mode.*

*The "One Man" Test Mode will exit when pressing the TEST / SCROLL button again, or at any time, by pressing RESET.*

### **Disable Sounders:**

- Press DISABLE / ENABLE button: *DISABLE / ENABLE lamp will flash.  
Zone 1 lamp will flash.*
- Press TEST / SCROLL button again:  
Press TEST / SCROLL button  
once again: *Zone 2 lamp will flash.  
  
SOUNDER FAULT / DISABLE lamp will flash.  
DISABLE / ENABLE lamp will flash.*
- Press ENABLE / DISABLE button: *SOUNDER FAULT / DISABLE lamp changes to steady.  
ENABLE / DISABLE lamp flashes.*
- Press RESET: *At this point zone the sounders are disabled.*

### **To enable Sounders:**

- Press DISABLE / ENABLE button: *DISABLE / ENABLE lamp will flash  
Zone 1 lamp will flash.*
- Press TEST / SCROLL button:  
Press TEST / SCROLL button  
once again: *Zone 2 lamp will flash.  
  
SOUNDER FAULT / DISABLE lamp will be steady.  
DISABLE / ENABLE lamp will flash.*
- Press ENABLE / DISABLE button: *SOUNDER FAULT / DISABLE lamp change to flashing.  
ENABLE / DISABLE lamp flashes.*
- Press RESET: *At this point zone the panel has reset.*

## **Connecting The Additional Facilities**

### **Class Change:**

Connect a 'non latching' switch to the class change terminals at the top of the MAINBOARD.  
*Operation of the switch will cause the external sounders to pulse one second on followed by one second off.*

**Once the panel connections and facilities have been functionally tested, replace and secure the front cover of the box, remembering to connect the earth bonding lead to the continuity terminal.**

## Specification

### Maximum number of detectors per zone

Up to 32 conventional detectors and unlimited number of manual call points.

### Thresholds for zone conditions

- 0 - 2 mA
- 2 - 6 mA
- 6 - 110 mA
- 110 mA - Short circuit

Open circuit fault condition.

Normal condition.

Fire Alarm condition.

Short circuit condition.

### Power Supply

Main Power supply

230V AC  $\pm$  10%

0.315A fuse

Standby Power supply

1 x 12V Sealed Lead Acid Battery

Up to 7Ah internally

2A fuse

### Maximum current available for system devices (with fully charged battery)

0.7 A

### Current consumption - mains failure

50 mA

### Outputs

Sounder Circuit 1

24V / 0.315A

0.3A fuse

Sounder Circuit 2

24V / 0.315A

0.3A fuse

Fault Relay

volt free changeover contacts

12V / 1A or 24V / 0.5A

Max voltage 125V

Max current 2A

### Auxiliary output

24V DC 0.3A fuse

### Cabling

Maximum 2.5mm diameter

### Environment

Working temperature 0 to 40 degrees C

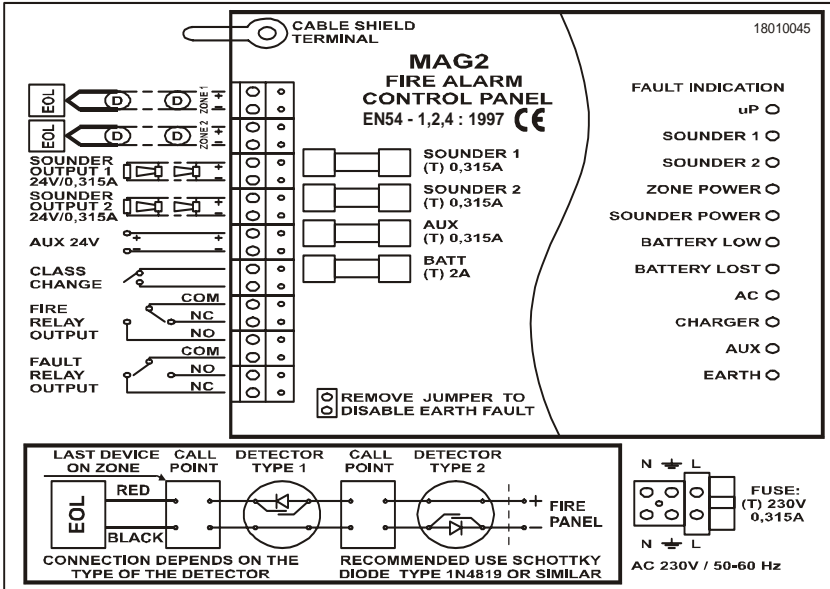
Storage temperature -20 to 60 degrees C

Humidity 0 to 95%

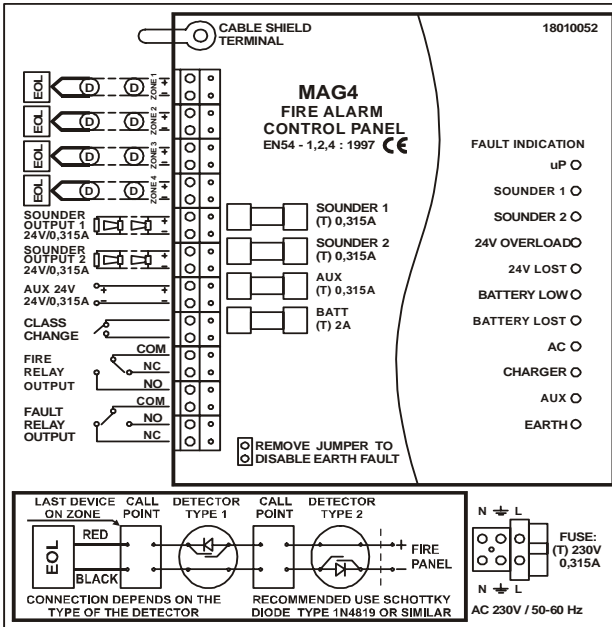




## Connection Circuit MAG 2



## Connection Circuit MAG 4



## **Guarantee**

During the guarantee period the manufacturer shall, at its sole discretion, replace or repair any defective product when it is returned to the factory. All parts replaced and/or repaired shall be covered for the remainder of the original guarantee, or for ninety (90) days, whichever period is longer. The original purchaser shall immediately send manufacturer a written notice of the defective parts or workmanship, which written notice must in all cases be received prior to expiry of the guarantee.

### **International Guarantee**

Foreign customers shall enjoy the same guarantee rights as those enjoyed by any customer in Bulgaria, except that manufacturer shall not be liable for any related customs duties, taxes or VAT, which may be payable.

### **Guarantee Procedure**

This guarantee will be granted when the appliance in question is returned. The manufacturer shall accept no product whatsoever, of which no prior notice has been received.

### **Conditions for waiving the guarantee**

This guarantee shall apply to defects in products resulting only from improper materials or workmanship, related to its normal use. It shall not cover:

- § Damages resulting from transportation and handling;
- § Damages caused by natural calamities, such as fire, floods, storms, earthquakes or lightning;
- § Damages caused by incorrect voltage, accidental breakage or water; beyond the control of the manufacturer;
- § Damages caused by unauthorized system incorporation, changes, modifications or surrounding objects;
- § Damages caused by peripheral appliances (unless such peripheral appliances have been supplied by the manufacturer);
- § Defects caused by inappropriate surrounding of installed products;
- § Damages caused by failure to use the product for its normal purpose; Damages caused by improper maintenance;
- § Damages resulting from any other cause, bad maintenance or product misuse.

In the case of a reasonable number of unsuccessful attempts to repair the product, covered by this guarantee, the manufacturer's liability shall be limited to the replacement of the product as the sole compensation for breach of the guarantee. Under no circumstances shall the manufacturer be liable for any special, accidental or consequential damages, on the grounds of breach of guarantee, breach of agreement, negligence, or any other legal notion.

### **Waiver**

*This Guarantee shall contain the entire guarantee and shall be prevailing over any and all other guarantees, explicit or implicit (including any implicit guarantees on behalf of the dealer, or adaptability to specific purposes), and over any other responsibilities or liabilities on behalf of the manufacturer. The manufacturer does neither agree, nor empower, any person, acting on his own behalf, to modify or alter this Guarantee, nor to replace it with another guarantee, or another liability with regard to this product.*

### **Unwarranted Services**

The manufacturer shall repair or replace unwarranted products, which have been returned to its factory, at its sole discretion under the conditions below. The manufacturer shall accept no products for which no prior notice has been received.

The products, which the manufacturer deems repairable, will be repaired and returned. The manufacturer has prepared a price list and those products, which can be repaired, shall be paid for every repaired appliance.

The closest equivalent product, available at the time, shall replace the products manufacturer deems unrepairable. The current market price shall be charged for every replaced product.

## Fire Alarm Record

Installation Address: .....

.....

.....

Contact Person: .....

Telephone: .....

Fax: .....

Date Completed: .....

Commissioned By: .....

Contract Reference: .....

Service Intervals:    Monthly / Quarterly / Half Yearly / Annually

ZONE NUMBER	LOCATION	DETECTOR TYPE and QUANTITY PER ZONE					SOUNDERS Zone Quantity and Related Circuit	
		Ion	Ph	RoR	F/T	C.P.	Circuit 1	Circuit 2
1								
2								
3								
4								
<b>TOTALS:</b>								

System Installed By: .....

.....

Telephone: .....

Fax: .....



**E.S.P.**

**Elite Security Products**

*Unit 7 Levis Trading Estate,  
Stechford, Birmingham*

*B33 9AE*

*Tel.: 0121 789 8111*

*Fax: 0121 789 8055*

*Distributed by:*