

PRODUCT OVERVIEW

The PTA/MK4 is designed to supersede the successful MK3 unit, offering additional benefits which include prolonged battery life, Modbus option, long life LED miniature indicators and more robust mute switch. It also has the benefit of being stand alone or panel mounted. Like its predecessor it has full battery back up, but with this version up to 5 individual person trapped switches (PTS) can be connected alleviating the need for one alarm unit per door. The shrill sounder will alert staff to the alarm and it cannot be silenced without entering the room and releasing the captive personnel. Robust halo flashing LED person trapped switches are also a new addition for this unit.



FEATURES

- Compact design.
- 230Vac supply, with 12Vdc battery backed o/p.
- Supplied with a person trapped switch (PTS.)
- Up to 5 person trapped switched can be fitted.
- Volt free C/O contacts for use with a BMS system.
- Option to add door open alarm.
- Option to network on an existing MODBus system.
- Visual/audible indication of supply/alarm status.

SPECIFICATION

Alarm Board (PTA/MK4)

Power: Supply:	230Vac 50/60hz
Consumption:	< 6VA
Protection:	100mA type T 5 x 20 glass Fuse
Battery:	2 x NI-MH 6.0V 330MAH (At full charge back up for approx 3hrs)
Protection:	IP20
Dimensions:	89mm (w) x 108mm (h) x 73mm (d)
Operating Temp:	5c to 45c
Terminals:	Screw cage clamp
Inputs:	AC, AC 230Vac supply +VE, -VE 12Vdc out PT+, PT- 12Vdc to person trapped switch. DO 12V dc to Door switch (Option)
Outputs:	C, N/C, N/O Volt free alarm relay (max load: 30Vdc/220Vac 3A) SND Remote sounder
Indicator:	Power on (LED) Red
Polycarbonate box:	122mm (w) x 185mm (h) x 90mm (d)

Display Board (PTA/DB, PTA/DBDO)

Power Supply:	Via RJ45 Cat5/6 cable from alarm bd.
Indicators:	Power On LED (Green) Power Fail LED (Red) flashing Person Trapped LED (Red) flashing Door Open LED (Red) flashing
Sounder:	12Vdc, 9mA, 93dB @ 300mm
Pushbutton:	Mute

Sound Bomb

Dimensions:	122mm (w) x 185mm (h) x 90mm (d)
Sounders (x2)	12Vdc, 85mA, 104dB @1m

OPERATION

The PTA/MK4 is ideally suited for coldrooms and other such enclosed storage areas to safeguard against the likelihood of personnel being trapped inside.

The alarm works in conjunction with an activation unit (Person Trapped Switch - PTS) pictured left. This is located inside the coldroom, usually adjacent to the door.

If there is more than one entrance then an additional PTS can be connected, in series, up to a maximum of 5 per alarm unit.

The PTS consists of an IP65 Polycarbonate enclosure with a operating push button with a Red halo type LED.

The LED will flash and remain illuminated (even on a mains failure) to assist the operator in locating it, in the event they find themselves trapped and the coldroom lights turn off. The LED will extinguish once the push button has been operated, thus giving reassurance that the button has been successfully operated.

Once the alarm unit has been triggered a red warning indicator on the display board will flash and the siren sound. Note it is not possible to mute person trapped (although all other alarm types are mutable). This can only be achieved by deactivating the relevant PTS from within the coldroom and by necessity releasing the person(s) trapped within. The button is reset by pressing again so that the LED returns to its flashing state.

As an additional safety feature the push button is a normally closed contact which breaks the circuit to operate the alarm; therefore any additional switches fitted should be series wired as shown below. In the event of a break in the circuit, the alarm will sound indicating there is a problem.

The display board (pictured right) also has a mains on, mains fail and door open LED's. Should there be a loss of the mains supply to the board then the Green LED will extinguish and the Red LED will flash and siren sound. The sounder can be muted but the LED's will only change state once power is restored.

There is also an alarm to monitor if cold room doors have been left open. Each door should be fitted with a electro/mechanical switch which should be electrically made when the door is open. All door switches should be wired in parallel as the alarm board detects a closed circuit between terminals +VE and D/O and after a delay of 30 mins triggers a flashing Red LED and sounder.

The sounder can be muted and closing the offending door will cancel the alarm.

The door open is standard on the complete system, but needs to be specified on the loose PCB.



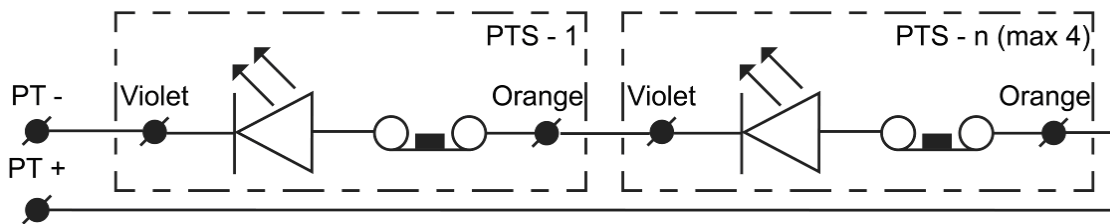
A volt free changeover contact on the alarm board; terminals C, N/C, N/O can be wired to a building management system to signal an alarm condition has occurred or to an external bell or remote station. This fault relay is energised when there is no alarm (terminals N/C electrically open, N/O electrically closed) and de-energised when an alarm event occurs (terminals N/C electrically closed, N/O electrically open).

Provision is also made for the connection of a Sound Bomb remote sounder. This should be connected between terminals +VE and SND.

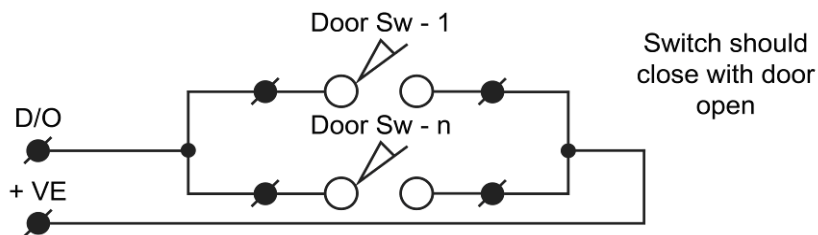
It is also possible to connect the alarm unit into an existing network system; that is using the MODBUS protocol. If this is required it should be requested at time of ordering.

The alarm is supplied boxed as standard in a polycarbonate enclosure or alternatively supplied as open PCB boards for customers to integrate into their own equipment. The interconnecting RJ45 cable can be supplied in various lengths (see ordering details below) to accommodate varying enclosure depths.

CONNECTION OF MULTIPLE PTS



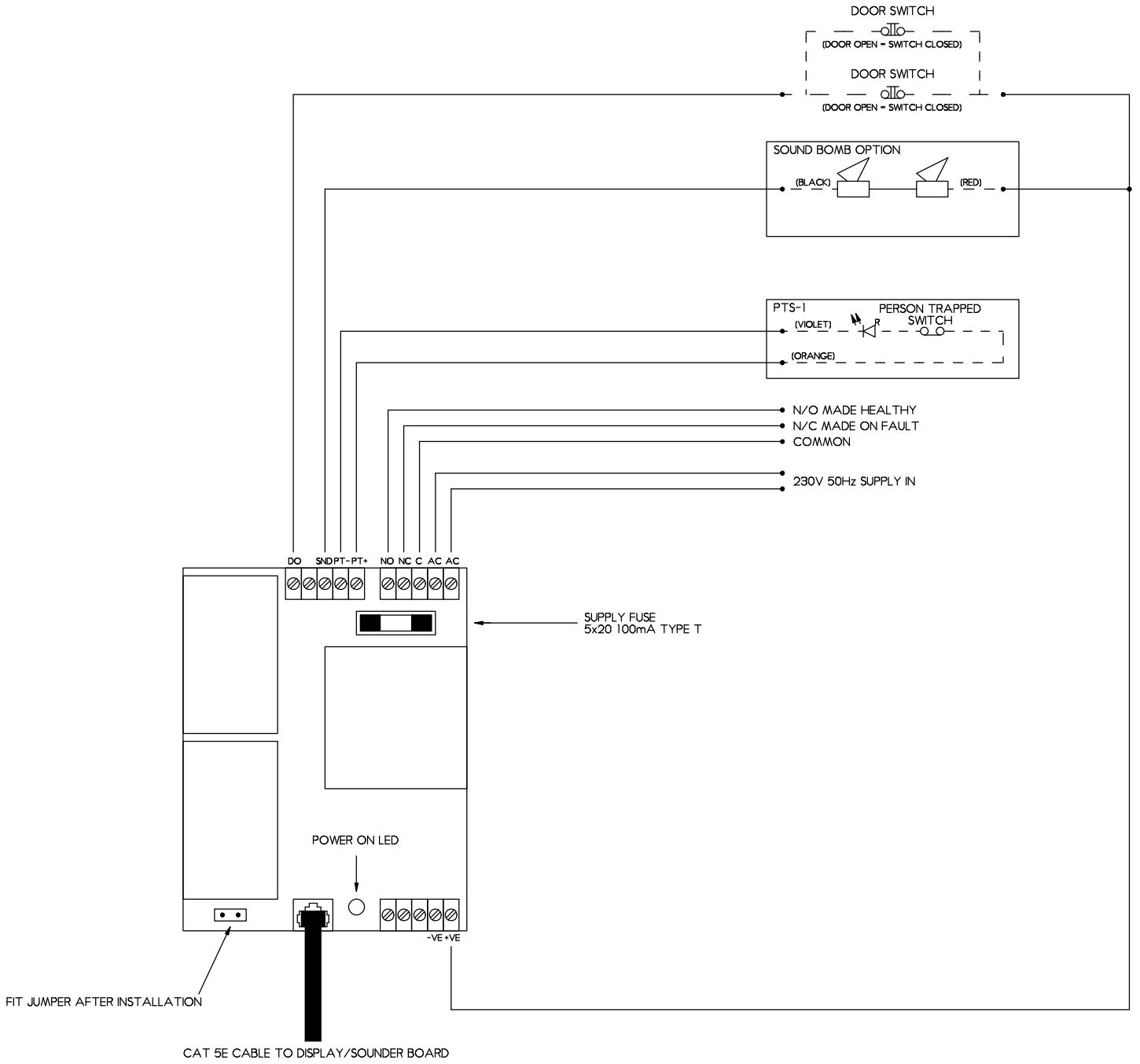
CONNECTION OF MULTIPLE DOOR SWITCHES



ENABLE BATTERY OUTPUT



WIRING DIAGRAM



COMMISSIONING

1. Check all connections are secure in the terminals and have been wired as per the wiring diagram on sheet 4.
2. Make sure the RJ45 cable has been plugged in between the base alarm board and the display board.
3. Fit the 'Battery Enable' jumper on the alarm board.
4. Switch on mains supply and verify correct voltage at terminals AC, AC which should be 230Vac 50Hz. The red LED on the alarm board and the green LED on the display board should be on.
5. Batteries will take approx 14-16 hours to reach full charge from initial start up. Check the voltage at terminals -VE and +VE it should be in the region of 12 -14Vdc.
6. Disconnect the mains supply the green 'Power On' LED should go off, the red 'Power Fail' LED should flash, the sounder should sound and relay contacts terminals C & N/C should be made.
7. Press the 'Mute' the sounder should be silenced.
8. Re-connect the mains supply and the 'Power Fail' and 'Power On' LED's should change state.
9. Check each PTS fitted within the Coldroom, the red halo LED should be flashing. Operate each one in turn to ensure that the 'Person Trapped' LED flashes and the sounder sounds and relay contacts terminals C & N/C are made. (Note the LED on the PTS will go out when the alarm is active.)
10. Press again to reset the alarm (note: the mute push button has no effect on this alarm condition).
11. If the optional door open alarm has been used; check each door in turn to ensure that the alarm operates correctly. Please note there is a fixed delay of 30 minutes before the alarm activates.

TROUBLE SHOOTING

Symptom

Red LED on main alarm board does not light

Possible Cause

No incoming mains supply
Fuse on alarm board blown
Faulty alarm board.

Green 'Power On' LED does not light

No incoming mains supply.
Faulty RJ45 cable or sockets.
Faulty display board.

Sounder will not mute.

Person trapped alarm activated.
Faulty mute Pushbutton.
Faulty RJ45 cable or sockets.
Faulty display board.

Flashing Red alarm LED will not reset

Person trapped or door open switch incorrectly wired or not reset.
Faulty RJ45 cable or sockets.
Faulty display board.

Sounder will not operate (Power Fail, Door Open alarms.)

Mute push button has been operated.
Faulty RJ45 cable or sockets.
Faulty display board.

Sounder will not operate (Person Trapped alarm.)

Faulty Sounder.
Faulty RJ45 cable or sockets.
Faulty display board.

Alarms do not operate on mains failure

Batteries not fully charged.
Batteries at end of service life.

ORDERING DETAILS

Complete Person Trapped MK4 alarm in a polycarbonate box: PTA/MK4/P

REPLACEMENT PARTS & ACCESSORIES

Person Trapped Switch Illuminated: PTS/MS25/YNC

Person Trapped Switch Illuminated c/w 5m lead: PTS/MS25/Y

Base Mounted alarm PCB: PTA/MK4

Door display/Sounder board with door open: PTA/MK4/DBDO

Door display/Sounder Board without door open: PTA/MK4/DB

Sound Bomb remote sounder upgrade in polycarbonate box: PTA/MK4/SB

RJ45 cable: specify Length required. RJ45 CABLE 0.5, 1, 2, 3 (metres)



CONTACT US

Frostechnic Ltd, Power Park, Station Approach
Banbury, Oxon OX16 5AB

Tel: (01295) 266500 Fax: (01295) 275434

Web: www.frostechnic.com