

## PA6 Area Alarm

Wall Mounted • Flush / Surface Fitting

### Classification

- Conforming to HTM 2022, HTM02 and C11 requirements

### Construction

- BZP plated back box
- White powder coated surround
- Vinyl front panel with speaker
- Circuit board controls

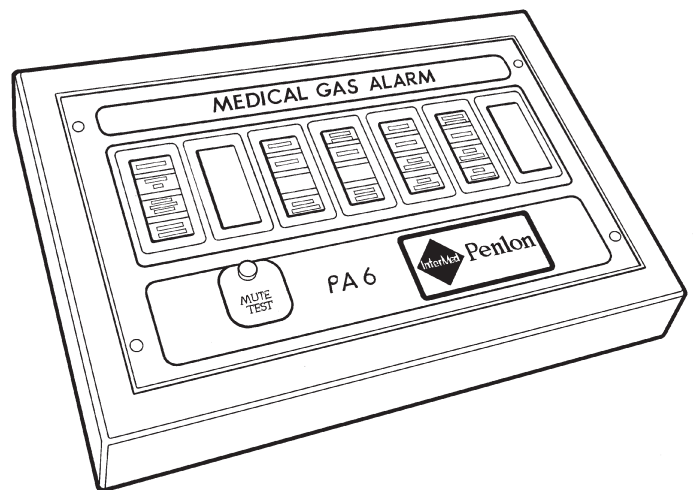
### Features

- Termination boards (if required)
- Light grey and white membrane
- Alarm status indicator
- Status indicators
  - Power On
  - Alarm System Fault
- Battery back up
- Gas description
- Pressure status indicators
  - Normal
  - High Pressure (except Vacuum)
  - Low Pressure
- Volt-free contacts for common alarm output

### Installation Requirements

- Pipeline pressure switches
- 230 VAC power supply
- Screened cable\* (Ø 0.5 mm, minimum)
- 3 amp fuse
- 1 x core per alarm condition, plus common

\* Stranded cable is recommend as solid cable is more susceptible to breaking



### Part Numbers

No. of Gases	PA6 Area Alarm
One Gas	3260001
Two Gas	3260002
Three Gas	3260003
Four Gas	3260004
Five Gas	3260005
Six Gas	3261551

Refer to next pages for further information

## PA6 Area Alarm

Wall Mounted • Flush / Surface Fitting

### Applications

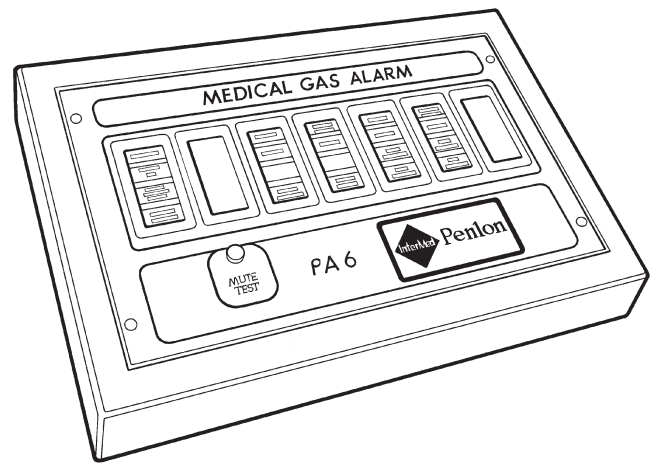
The PA6 Area Alarm is used to monitor pipeline pressure within a ward, theatre etc. The pressure is monitored by pressure switches in the pipeline downstream from the last AVSU. Pressure is monitored for both high and low pressure (low only for vacuum). The integrity of the cabling between the pressure switches and the alarm panel is monitored, and a fault on this cable will result in the following:

- i) A system fault alarm
- ii) The alarm condition(s) affected by the fault going into alarm condition

The monitoring of the cable requires a termination board to be mounted as close as practical to the pressure switches. The termination boards are supplied as bare PCBs which must be mounted in an enclosure. As optional extras, these termination boards can be supplied already mounted in a box, or mounted in a box together with the cables for connection to the pressure switches already fitted, allowing significant savings in on-site work. When an PA6 Area Alarm is mounted in a zone module or AVSU, where the pressure switches are in the same enclosure as the alarm panel, cable monitoring is not required and therefore termination boards are not required.

The alarm panel can be set to operate with or without termination boards (please specify when ordering)

The PA6 Area Alarm can be used in a Master-Slave configuration, with a maximum of two Slaves per Master, using a three core screened cable (Ø 0.5 mm, minimum) to connect the alarm panels, with a maximum of 100 metres of cable on the system.



### Please Note

- When two slaves are used, the cabling must run from the Master to the first and second Slave in series, and **NOT** from the Master to each of the Slaves units individually.
- PA6 Area Alarms will not work in conjunction with PAX-6 Area Alarms.



### PA6 Area Alarm

Wall Mounted • Flush / Surface Fitting

**PA6 Area Alarm  
Flush Fitting**

**Installed Size**  
Height 220 mm  
Width 330 mm

**Protrusion (from wall)**  
7 mm

**Depth into wall**  
80 mm

All dimensions are in millimetres

**PA6 Area Alarm  
Surface Fitting**

**Installed Size**  
Height 220 mm  
Width 330 mm

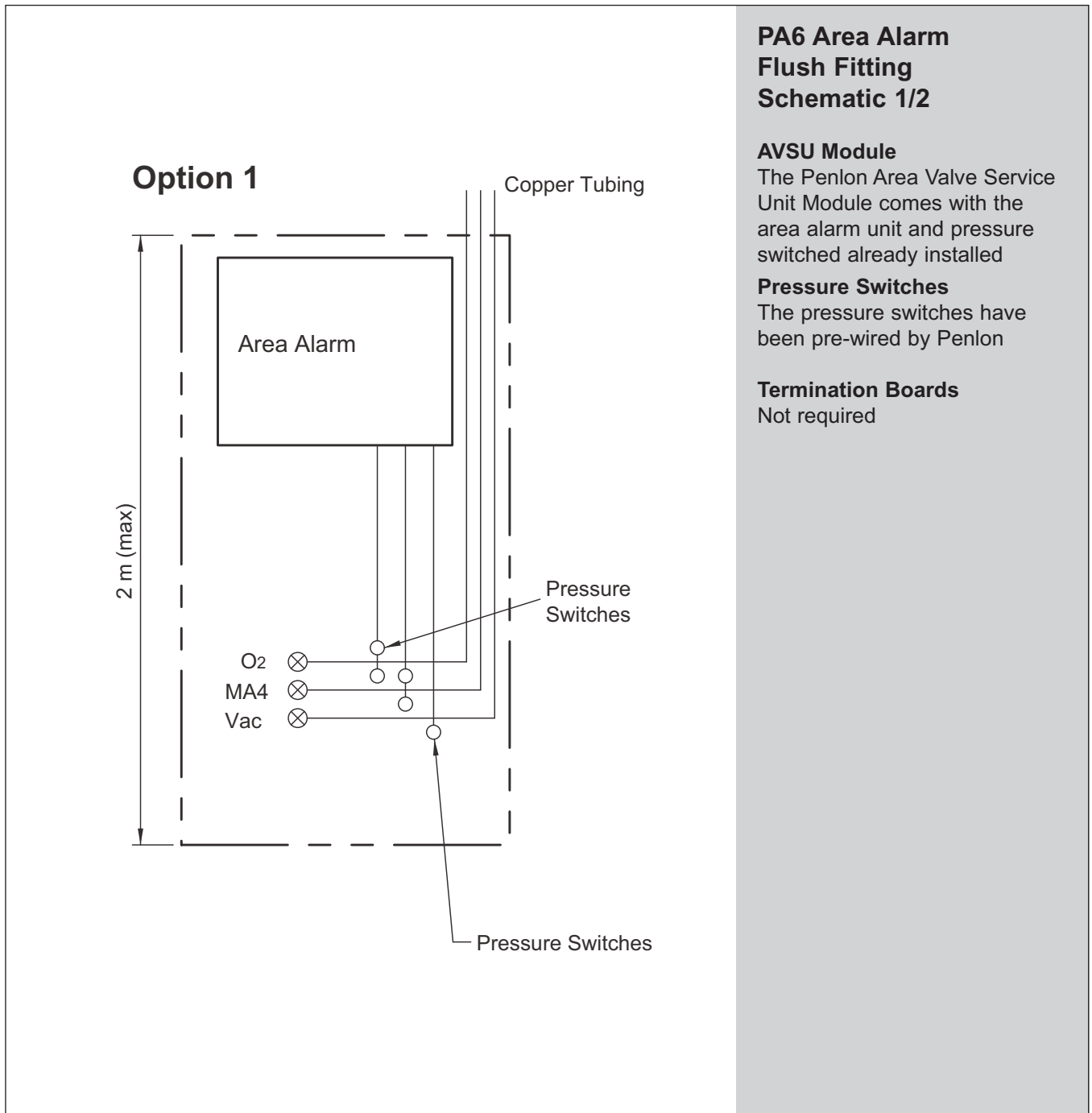
**Protrusion (from wall)**  
65 mm

**Depth into wall**  
Nil

All dimensions are in millimetres

## PA6 Area Alarm

AVSU Module Mounted • Flush Fitting



### PA6 Area Alarm Flush Fitting Schematic 1/2

#### AVSU Module

The Penlon Area Valve Service Unit Module comes with the area alarm unit and pressure switched already installed

#### Pressure Switches

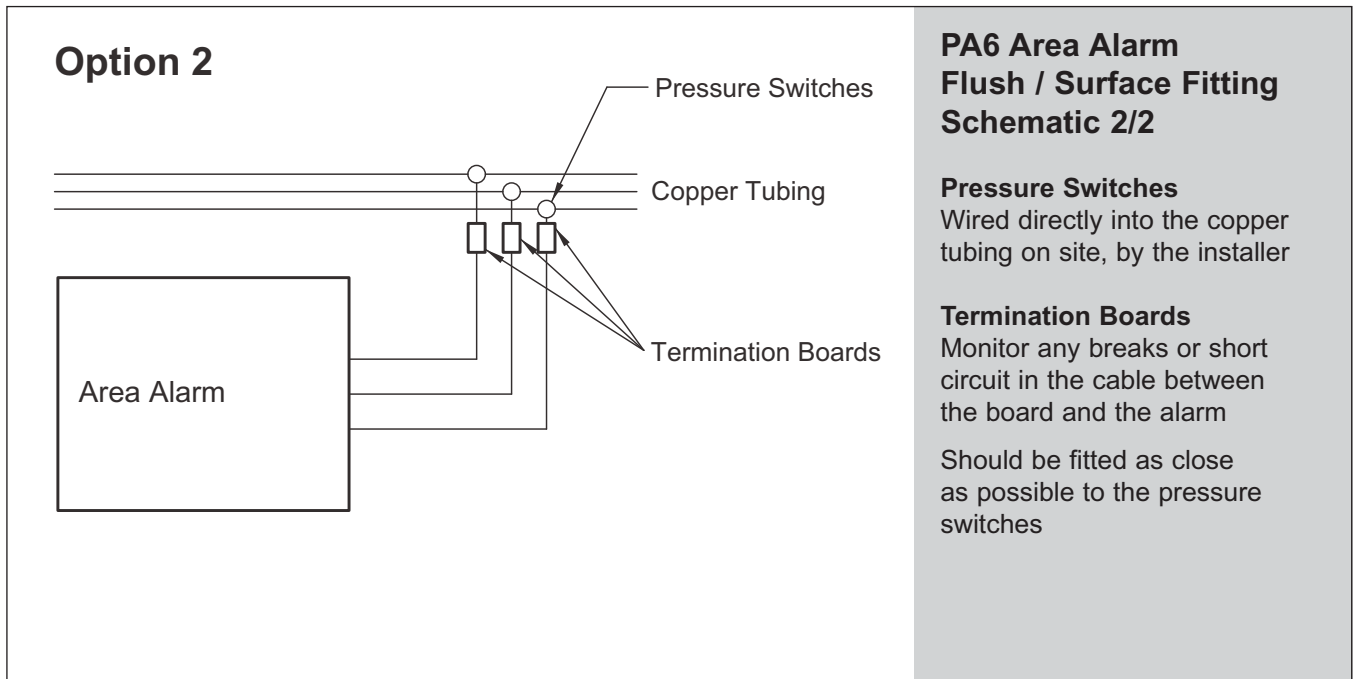
The pressure switches have been pre-wired by Penlon

#### Termination Boards

Not required

## PA6 Area Alarm

Wall Mounted • Flush / Surface Fitting



## PAX-6 Area Alarm

Wall Mounted • Flush / Surface Fitting

### Classification

- HTM 2022 HTM02, BS EN 737 Part 3 and BS EN 4754

### Construction

- BZP plated back box
- White powder coated surround
- Vinyl front panel with audio speaker
- Circuit board controls

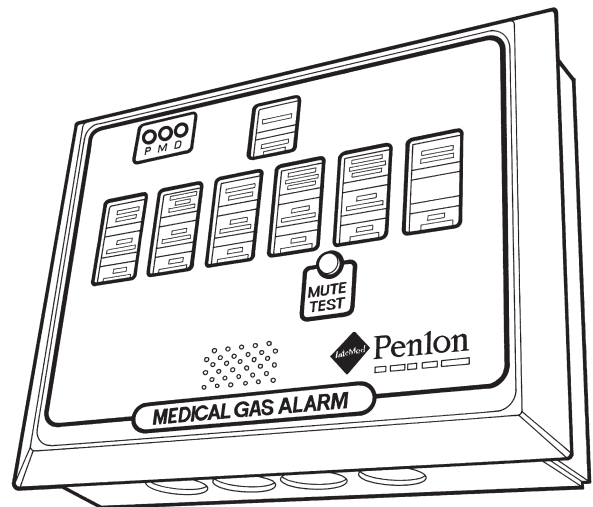
### Features

- Termination boards (if required)
- Light grey and white membrane
- Alarm status indicator
- Status indicators
  - Power On
  - Alarm System Fault
- Gas description
- Pressure status indicators
  - Normal
  - High Pressure (except Vacuum)
  - Low Pressure
- Volt-free contacts for common alarm output

### Installation Requirements

- Pipeline pressure switches
- 230 VAC power supply
- Screened cable\* (Ø 0.5 mm, minimum)
- 3 amp fuse
- 3 cores

\* Stranded cable is recommend as solid cable is more susceptible to breaking



### Part Numbers

No. of Gases	PAX-6 Area Alarm
One Gas	390004
Two Gas	390005
Three Gas	390006
Four Gas	390007
Five Gas	390008
Six Gas	390009

Refer to next pages for further information

## PAX-6 Area Alarm

Wall Mounted • Flush / Surface Fitting

### Applications

#### Simple Connections

Three cores connect the alarm to the end of line components, regardless of the number of gases.

#### Simple Maintenance

All connections (including mains) are plug and socket. The alarm components can be changed in approximately one and a half minutes.

#### Versatile

Several PAX-6 Area Alarms can be connected to the same end of line components using just 3 cores. The PAX-6 can transmit either a common alarm or all alarm conditions, using the MEDCON data protocol, for display on the PDX-15 Main Alarm System, and can also receive data from the PDX-15 System.

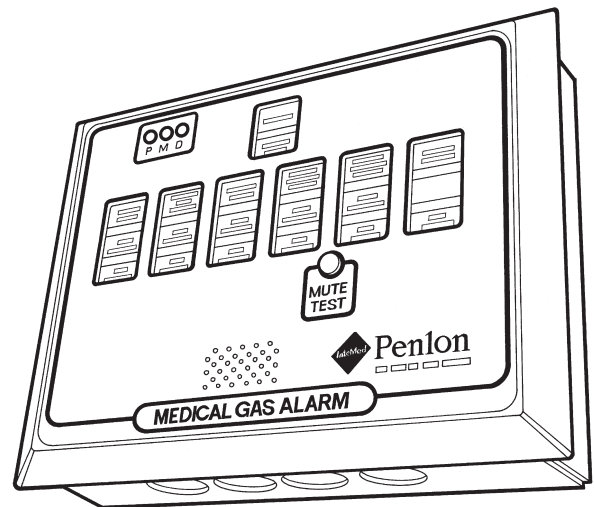
#### Two Year Warranty

No parts or labour charges for repairs to alarms which fail due to faulty parts or manufacture.

#### Ten Year Compatibility Warranty

Install the PAX-6 with the confidence that equipment will be available to modify or extend the system for at least 10 years.

The PAX-6 Area Alarm is used to monitor pipeline pressure within a ward, theatre etc. The pressure is monitored by pressure switches in the pipeline downstream from the last AVSU. Pressure is monitored for both high and low pressure (low only for vacuum). The integrity of the cabling between the pressure switches and the alarm panel is monitored, and a fault on this cable will result in a system fault alarm, with all affected alarm conditions going into alarm condition.



The monitoring of the cable requires a termination box to be mounted as close as practical to the pressure switches.

As an optional extra, these termination boxes can be supplied with the cables for connection to the pressure switches already fitted, allowing significant savings in on-site work.

To use more than one PAX-6 Area Alarm with one set of pressure switches, simply connect all PAX-6 Area Alarms to the three-core screened cable (Ø 0.5 mm, minimum) from the termination box (either at the termination box itself, or at another PAX-6).

#### Please Note

PAX-6 Area Alarms will not work in conjunction with PA6 Area Alarms



## PAX-6 Area Alarm

Wall Mounted • Flush / Surface Fitting

**PAX-6 Area Alarm  
Flush Fitting**

**Installed Size**  
Height 194 mm  
Width 241 mm

**Protrusion (from wall)**  
10 mm

**Depth into wall**  
35 mm

All dimensions are in millimetres

**PAX-6 Area Alarm  
Surface Fitting**

**Installed Size**  
Height 178 mm  
Width 225 mm

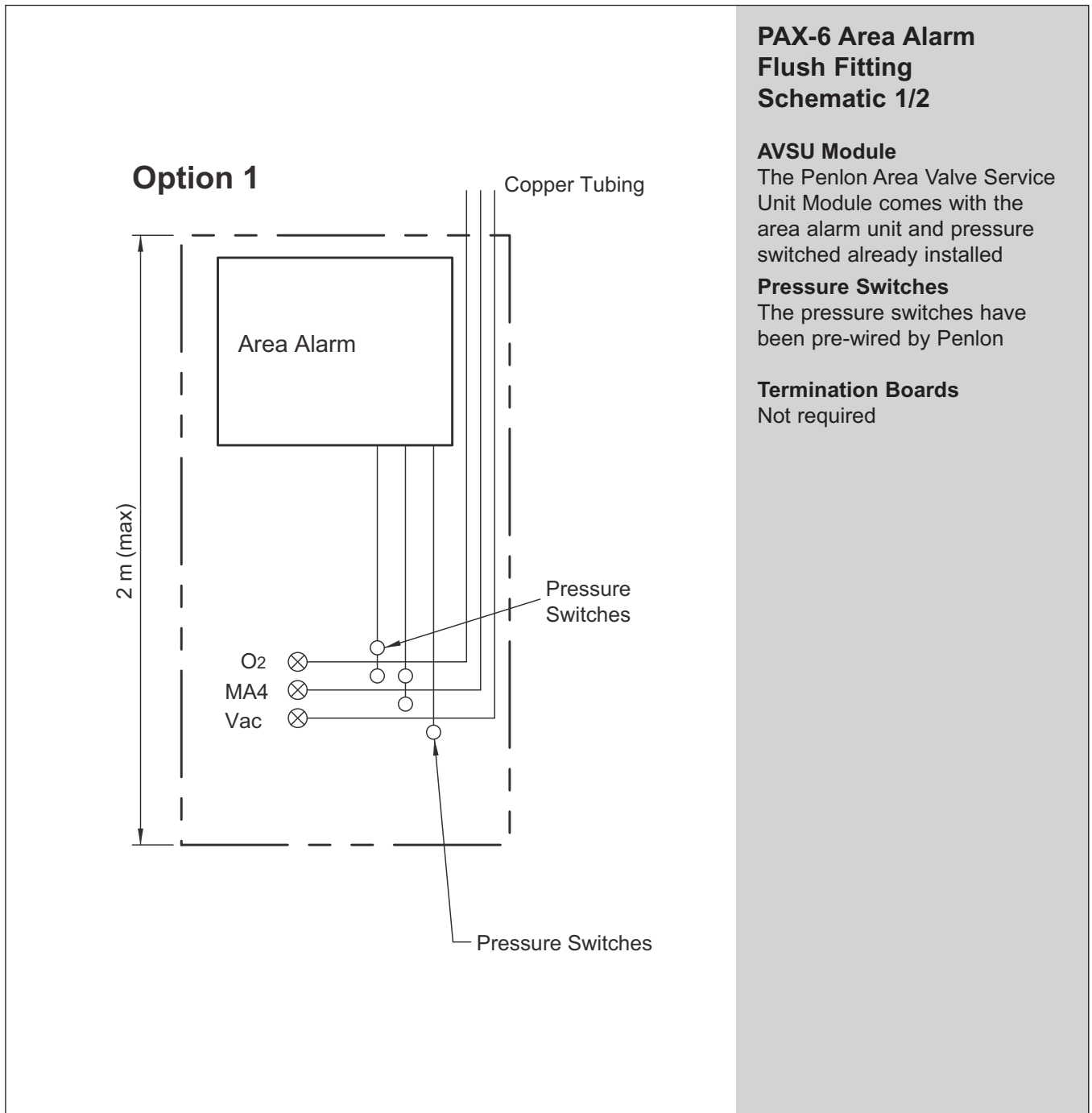
**Protrusion (from wall)**  
45 mm

**Depth into wall**  
Nil

All dimensions are in millimetres

## PAX-6 Area Alarm

AVSU Module Mounted • Flush Fitting



### PAX-6 Area Alarm Flush Fitting Schematic 1/2

#### AVSU Module

The Penlon Area Valve Service Unit Module comes with the area alarm unit and pressure switched already installed

#### Pressure Switches

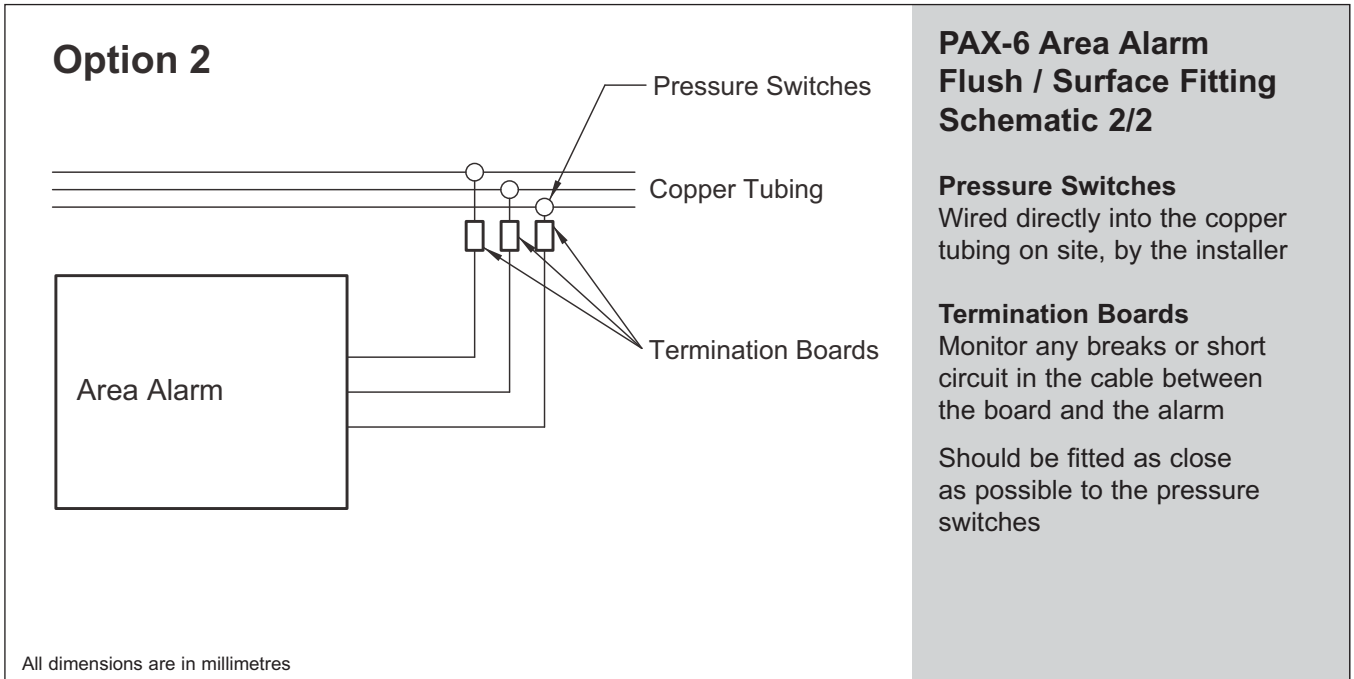
The pressure switches have been pre-wired by Penlon

#### Termination Boards

Not required

## PAX-6 Area Alarm

Wall Mounted • Flush / Surface Fitting



## PDX-15 Main Alarm and Accessories

Wall Mounted • Flush / Surface Fitting

### Classification

- HTM 2022, HTM02, BS EN 737 Part 3 and BS EN 4754

### Construction

- Flush or surface mounted
- Steel enclosure with a bezel housing and an aluminum front plate covered by a PVC membrane
- Power supply, control board, selector switches and optional transmitter are fully contained within the enclosure
- Hinged front plate, and control board
- Interfaces for connection to BMS or other alarm system are available

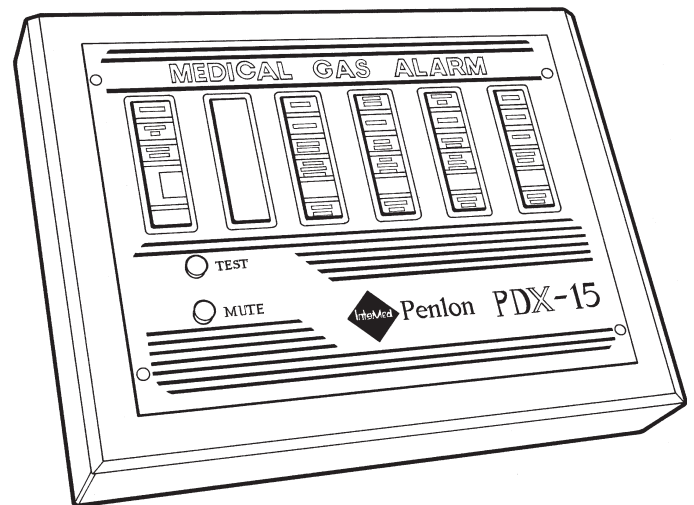
### Features

- Termination boards (if required)
- Light grey and white PVC membrane
- Alarm status indicator
- Status indicators
  - Power On
  - System Failure
- Battery back up
- Gas description
- Alarm status indicators
  - Liquid Oxygen
  - Oxygen - Manifold
  - Nitrous Oxide
  - 50% Nitrous Oxide / 50% Oxygen
  - Medical Air
  - Vacuum
- Volt-free contacts for common alarm output
- Up to 15 service/conditions can be displayed

### Installation Requirements

- 230 VAC power supply
- 3 amp fuse
- Screened cable\* (Ø 0.5 mm, minimum) from Plant/Manifold to the Remote Transmitter (1 core per signal plus common), maximum 100 metres
- 2 core screened cable\* (Ø 0.5 mm, minimum) connecting the Remote Transmitter to the alarm system data cable

\* Stranded cable is recommend as solid cable is more susceptible to breaking



### Part Numbers

PDX-15	Main Alarm Panel	Repeater Alarm Panel
One Gas	3264016	3264022
Two Gas	3264017	3264023
Three Gas	3264018	3264024
Four Gas	3264019	3264025
Five Gas	3264020	3264026

Refer to next pages for further information

## PDX-15 Main Alarm and Accessories

Wall Mounted • Flush / Surface Fitting

### Applications

The PDX-15 Medical Gas Alarm system is a multiplexed system using the MEDCON data transmission standard, a pulse width modulated signal, on two-core inter-panel wiring, capable of displaying up to 15 services, each consisting of up to four conditions plus normal.

Any service may be split into four individual displays to be used to bring signals, such as the common alarm output from area alarms, to a central point or to any point where this information is required. Signals from plant or other monitored equipment are fed into the system via transmitters located adjacent to the equipment. A complete service can be transmitted from one transmitter or, if required (EMS for plant located remotely to the plant, for example), the service can be transmitted from several transmitters.

The services are displayed at each panel as required, the service being selected by a rotary switch for each service within the panel. Five long-life, 10 x 20 mm block LEDs per service show the conditions of the service through a replaceable lens mounted behind a wipe-clean membrane.

As an alarm condition occurs, the appropriate alarm condition will flash and the audible alarm will sound if selected by a four way DIL switch for that service within the panel. Operating the Mute switch on a repeater panel will silence the audible on that panel. Operating the Mute switch on the central panel will silence the audible on the central panel and convert the flashing lights to steady on all panels. (The audible on repeaters is not affected). If the condition remains, the audible will re-trigger, requiring re-muting. If a condition is to be in an alarm condition for a prolonged period, e.g. for pipeline maintenance, the re-trigger can be prevented by silencing the audible with the Lockout button within the panel.

The audible will not then sound for that condition of that service until it has returned to normal and then back to alarm condition. A volume control is fitted within the panel. A loud speaker is used for the audible rather than a buzzer, to give a mellow sound, which, whilst drawing attention to the alarm condition, can be tolerated by staff otherwise occupied. Remote audible and muting units are available for use in areas where full display is not required or access to the panel is not possible.

Operation of the test button on the front of the panel will cause the normal lamps to illuminate, the alarm conditions to flash, the system fault lamp to flash and the audible to sound. Any fault condition, which is locked out, will not flash, showing at a glance if a condition has returned to normal operation. A seven-segment display below the system fault lamp will also illuminate, showing which system fault, if any, is present (Power failure, data transmission failure, flashing circuit failure or contact line fault).

To make a functional system, you will need the following as a minimum:

- PDX-15 set as a central alarm panel, displaying all gas services on the system
- One channel on a Transmitter / Plant to Alarm interface for each service on the system
- 240 VAC power supply, fused at 3 amps, to each alarm panel, transmitter and interface
- Two core screened or SWA cable, (Ø 0.5mm, minimum) linking all alarm panels, transmitters and interfaces

### Note

The items can be connected in any sequence including teeing from junction boxes.

All screens and armouring must be connected to earth. Screen and armouring continuity must be maintained through plastic boxes etc.



### PDX-15 Main Alarm and Accessories

Wall Mounted • Flush / Surface Fitting

**PDX-15 Main Alarm  
Flush Fitting**

**Installed Size**  
Height 251 mm  
Width 324 mm

**Protrusion (from wall)**  
7 mm

**Depth into wall**  
57 mm

All dimensions are in millimetres

**PDX-15 Main Alarm  
Surface Fitting**

**Installed Size**  
Height 251 mm  
Width 324 mm

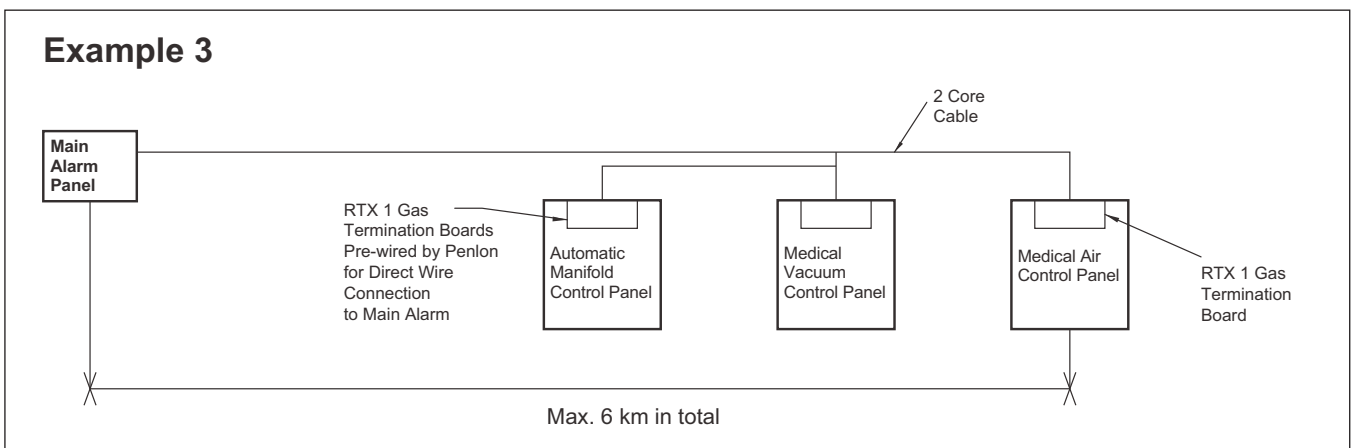
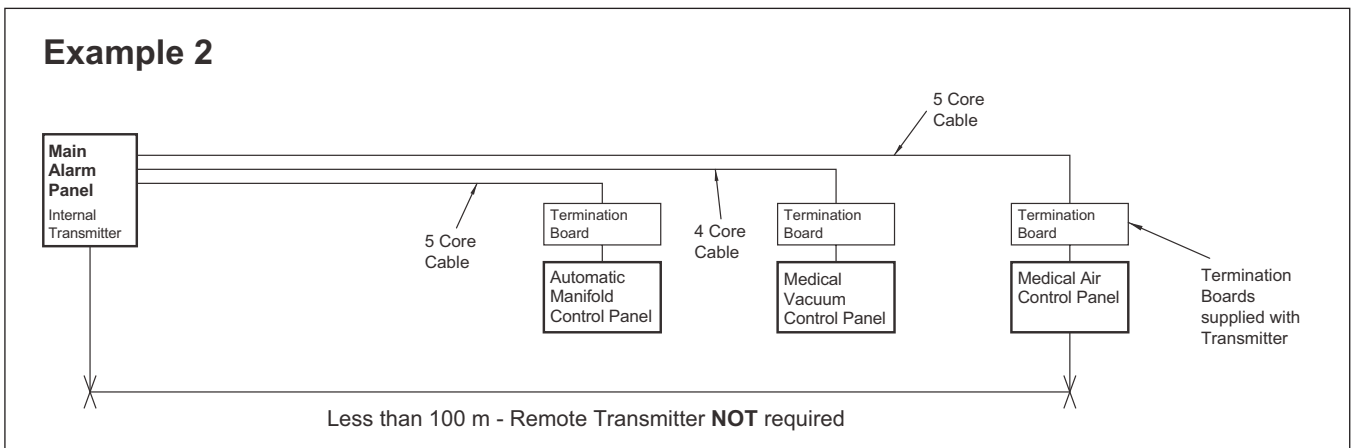
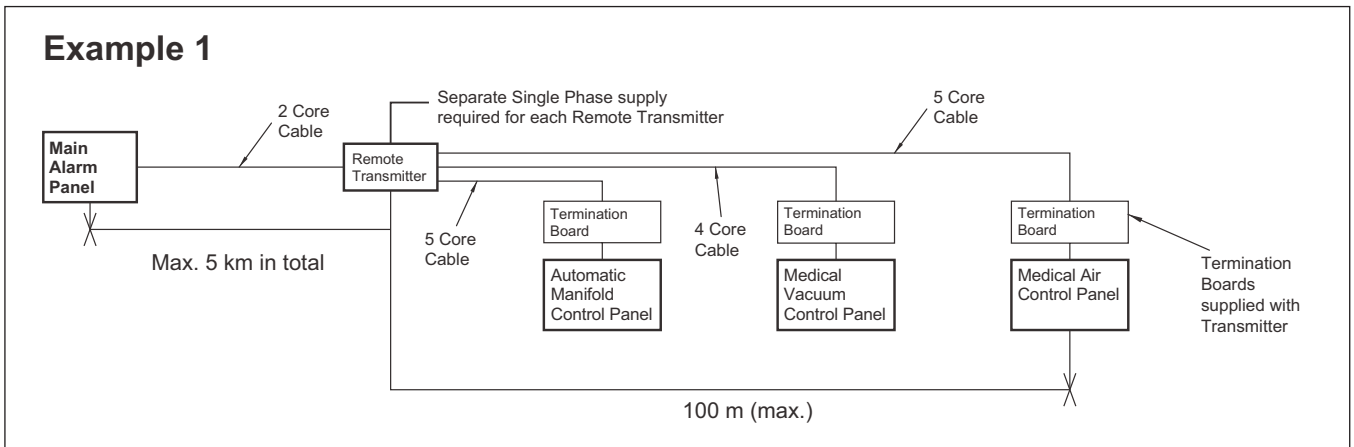
**Protrusion (from wall)**  
60 mm

**Depth into wall**  
Nil

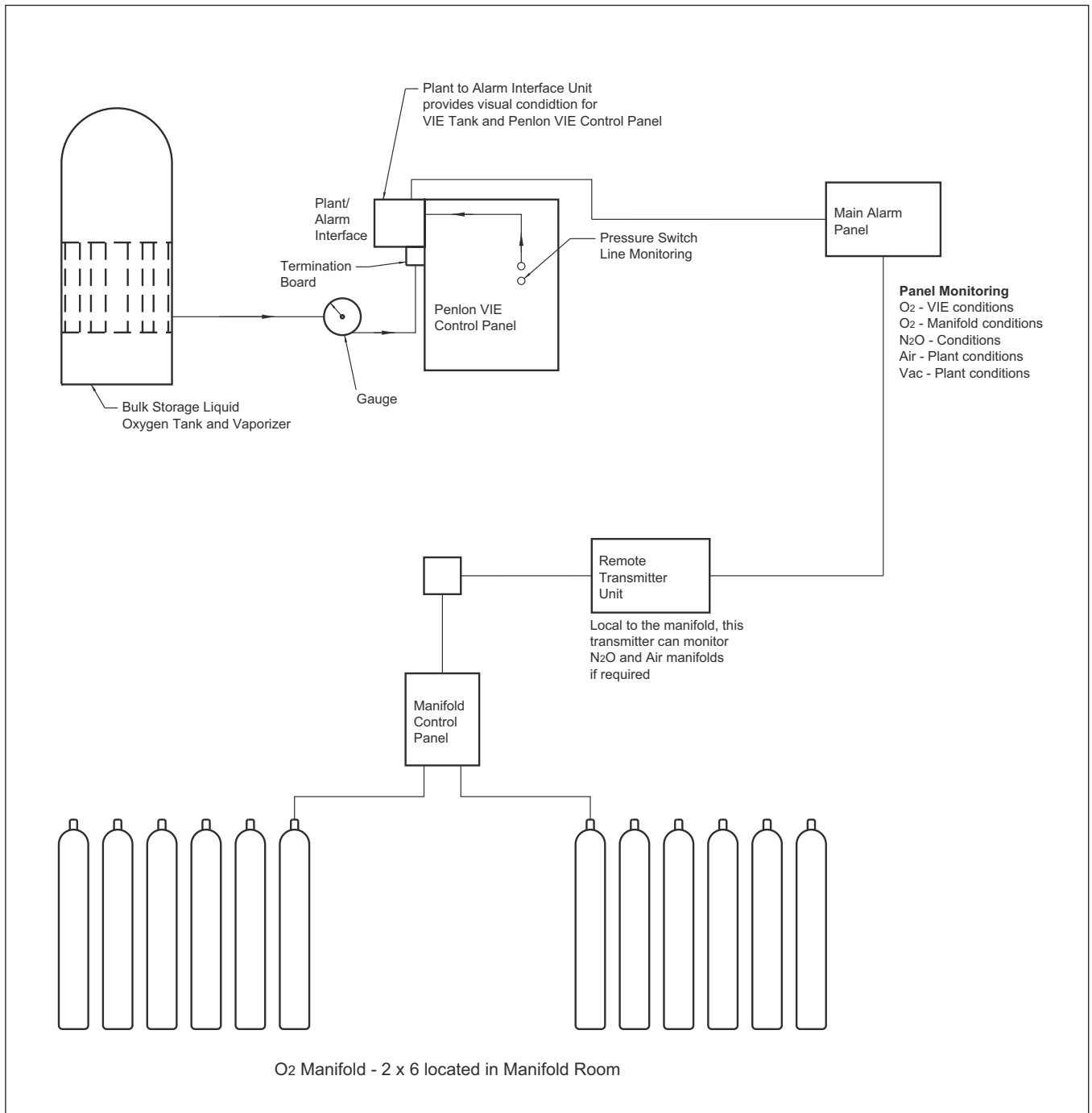
All dimensions are in millimetres

## PDX-15 Main Alarm and Accessories

Wall Mounted • Flush / Surface Fitting



## VIE and Back-up Systems Monitoring Schematic



## PDX-15 Main Alarm - Transmitters

Internal / Remote Mounted

### Internal Transmitters (1 to 4 Gas Monitoring)

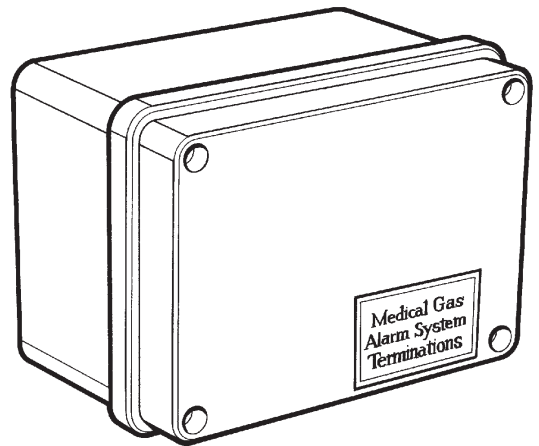
The Internal Transmitter is used to convert data from the plant, manifold etc. into the multiplexed signal, which is carried around the alarm system on the two-core signal cable. It is used where a PDX-15 Main Alarm panel is installed within the plant or manifold room and is fitted within the alarm panel. The integrity of the cabling between plant or manifold and the transmitter is monitored. A fault on this cable will cause the signal(s) affected by the fault to fail to alarm condition and a system fault lamp to flash on the PDX-15 Main Alarm panel. Pressing the Test button on the alarm whilst this cable fault is present will cause a number four to show on the display below the system fault lamp, enabling easy fault diagnosis. The Internal Transmitter is available in one to four gas configurations.

### Installation Requirements

- PDX-15 Main Alarm
- Screened cable (Ø 0.5 mm, minimum) from Plant / Manifold to the Internal Transmitter (one core per signal and common). Maximum 100 metres

### Dimensions

This unit is mounted directly into the PDX-15 Main Alarm panel



### Remote Transmitters (1 to 4 Gas Monitoring)

The Remote Transmitter is used to convert data from the plant, manifold etc. into the multiplexed signal, which is carried around the alarm system on the two-core signal cable. The integrity of the cabling between plant or manifold and the transmitter is monitored. A fault on this cable will cause the signal(s) affected by the fault to fail to alarm condition. An internal LED will also flash to indicate that a cable fault is present. The Remote Transmitter is available in one to four gas configurations.

### Installation Requirements

- 230 VAC supply, fused at 3 amps, fed from the essential supply
- Screened cable (Ø 0.5 mm, minimum) from Plant / Manifold to the Remote Transmitter (one core per signal and common). Maximum 100 metres
- Two core screened cable (Ø 0.5 mm, minimum) connecting the Remote Transmitter to the alarm system data cable

### Dimensions

- Width 225 mm x Height 200 mm x Depth 98 mm

## PDX-15 Main Alarm - Transmitters

### Plant - Alarm / Computer Interface

#### Plant to Alarm Interface (1 Gas Monitoring only)

The Plant to Alarm Interface fulfils the requirements of HTM 2022 and HTM02 for a plant to alarm interface (now known as an Alarm Signal Status Unit) as follows:

- Power On lamp
- Monitoring of the integrity of the cabling between plant, manifold etc. and causing the signal(s) affected by the fault to fail to alarm condition and a system fault lamp to flash
- Volt-free, normally closed, contacts for each alarm condition for connection to an alarm system

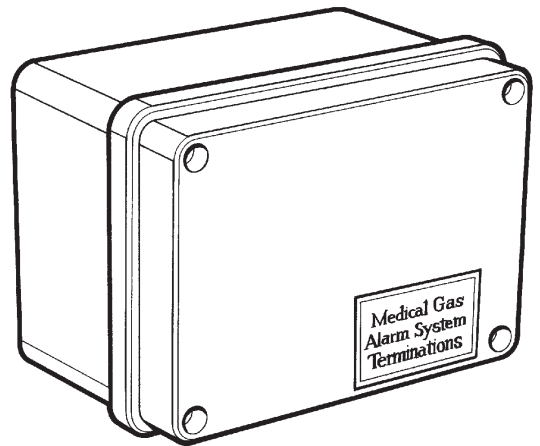
It also has an integral one gas transmitter converting the alarm conditions into the multiplexed signal which is carried around the alarm system on the two core signal cable, allowing an PDX-15 Main Alarm system to operate from the transmitter and another alarm system to operate from the contacts.

#### Installation requirements

- 230 VAC supply, fused at 3 amps, fed from the essential supply
- Two core screened cable (Ø 0.5 mm, minimum) connecting the computer Interface to the alarm system data cable

#### Dimensions

- Width 147 mm x Height 185 mm x Depth 115 mm



#### Computer Interface - BMS Relay Unit

The computer interface decodes the multiplexed signals on the PDX-15 Main Alarm system and provides volt free contacts for each alarm condition, this can be then transmitted to the BMS system.