Technical Manual

Honeywell

Touchpoint 4
4 Channel Gas Detector Controller

Safety

Ensure that this Technical Manual is read and understand **BEFORE** installing/operating/ maintaining the equipment.

This manual supports software revision 1.02 for the Common Module and 1.04 for the Channel Modules.

Pay particular attention to **Warnings** and **Cautions**.

All document **Warnings** are listed here and repeated where appropriate at the start of the relevant chapter(s) of this Technical Manual. **Cautions** appear in the sections/sub-sections of the document where they apply.

WARNINGS

Touchpoint 4 is designed for installation and use in indoor safe area non-explosive atmospheres. Installation must be in accordance with the recognized standards of the appropriate authority in the country concerned.

Before carrying out any work ensure local regulations and site procedures are followed.

Access to the interior of the controller, when carrying out any work, must only be conducted by trained personnel. Switch off and isolate the power supply to the controller when access is required. Take any necessary precautions to prevent false alarms.

The detectors/sensors that the controller connects to may be used for gas detection in hazardous atmospheres. Refer to the individual detector/sensor instructions for their details.

Information

Honeywell Analytics can take no responsibility for installation and/or use of its equipment if this is not done in accordance with the appropriate issue and/or amendment of the Technical Manual.

The reader of this Technical Manual should ensure that it is appropriate in all details for the exact equipment to be installed and/or operated. If in doubt, contact Honeywell Analytics for advice.

The following types of notices are used throughout this Technical Manual:

WARNING

Identifies a hazardous or unsafe practice which could result in severe injury or death to personnel.

Caution ***Identifies a hazardous or unsafe practice which could result in minor injury to personnel, or product or property damage.***

Note *Identifies useful/additional information.*

Every effort has been made to ensure the accuracy of our documents, however, Honeywell Analytics can assume no responsibility for any errors or omissions in our documents or their consequences.

Honeywell Analytics greatly appreciates being informed of any errors or omissions that may be found in the contents of any of our documents.

For information not covered in this document, or there is a requirement to send comments/ corrections about this document, please contact Honeywell Analytics.

Honeywell Analytics reserve the right to change or revise the information supplied in this document without notice and without obligation to notify any person or organization of such revision or change. If information is required that does not appear in this document, contact the local distributor/agent or Honeywell Analytics.

Contents

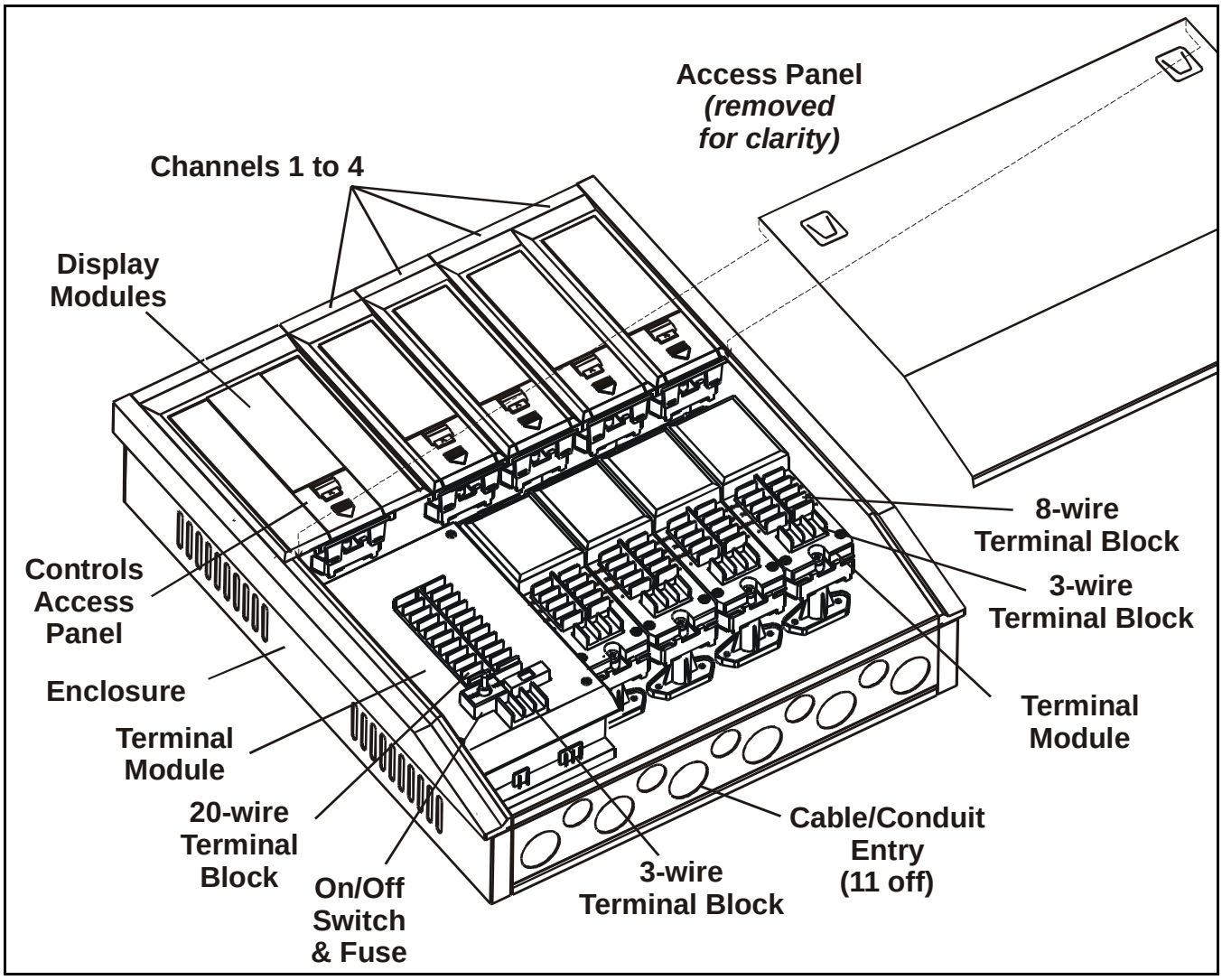
Introduction

Touchpoint 4 is a self-contained 4 channel gas detector controller for use in indoor safe areas. It is designed for use with the Zareba range of Flammable, Toxic and Oxygen gas detectors — Sensepoint, Sensepoint Plus and Sensepoint Pro.

For each channel one of two types of control unit is available:

- **mV version — for 3-wire mV flammable gas detectors, e.g. Sensepoint Flammable detector**
- **4-20 mA version — for 2 and 3-wire 4-20 mA gas detectors, e.g. Sensepoint Toxic and Oxygen detectors, Sensepoint Plus and Sensepoint Pro detectors**

Touchpoint 4 is wall mounted and displays gas concentration, alarm, fault and status information via backlit LCDs and LEDs, together with a built-in audible alarm. A keypad, located beneath a panel under each display, enables user adjustment.



The controller is AC and/or DC powered. Up to four gas detectors are connected to the unit via any of 4 channels, each featuring a terminal module that also provides connections for relay and repeated 4-20 mA signals. The controller features powered audio/visual outputs and also a remote reset. The controller can be monitored via a serial communication link.

Enclosure

The rigid steel enclosure houses a ***Common Module*** and up to four ***Channel Module***s, each featuring a ***Display Module*** and a ***Terminal Module***. It has integral mounting hooks on the rear for fitting to a supplied mounting plate.

The base of the box has a removable plate with multiple cable/conduit knock-out entries to enable wiring to all the terminal modules.

A hinged panel below the display modules accesses the terminal modules.

For mechanical installation details see ***page 13***.

Common Module

This part of the controller features a ***Display Module*** and a ***Terminal Module***.

The ***Display Module*** provides a common point for alarm/fault display and management, and provides configuration control and displays common system functions.

It features an LCD screen and 4 buttons, three behind a ***Controls Access Panel***, that are used to navigate through an integral menu system to set up the common controller settings, and view various functions.

The ***Terminal Module*** provides a connection point for power and signal wiring, and features the following:

- **20-wire terminal block for common relay output signals, RS485 data, remote relay outputs, remote reset, remote audible/visual outputs and battery supply/backup power, see *page 16***
- **3-wire terminal block mains power, see *page 16***
- **power on/off toggle switch and replaceable fuse**
- **3 relays for alarms and faults**

For electrical installation details see ***page 17***.

Channel Module

Caution ***The type of Channel Module fitted is specific to the type of attached gas detector and must*** *NOT* ***be used with other detector types.***

Either of the following types of ***Channel Module*** can be fitted to any of the controller's four channel positions:

- **mV module**
- **4-20 mA module**

Each of these types of ***Channel Module*** consists of a specific type of ***Display Module*** and ***Terminal Module***. Both types allow easy set up and configuration/calibration of the channel to the attached gas detector.

The ***Display Module*** features an LCD screen, to display gas concentrations and ranges, settings, alarms and faults, and 4 buttons, three behind a Controls Access Panel, that are used to navigate through an integral menu system to set up the channel/detector settings and view a history record of channel status, e.g. alarms, etc.

The ***Terminal Module*** provides the connection point for channel signals, and features the following:

- **8-wire terminal block for the gas detector signals, relay outputs, and repeated 4-20 mA signal, see *page 16***
- **2 relays for alarms**

For electrical installation details see ***page 20***.

General

This Technical Manual provides all the information necessary to install, commission, operate and maintain the controller in conjunction with the Zareba range of gas detectors. It consists of the following chapters:

- **Introduction**
- **Installation, see *page 10***
- **Operation, see *page 29***
- **User Settings, see *page 44***
- **Commissioning, see *page 57***
- **Maintenance, see *page 61***
- **Parts, see *page 65***
- **Specification, see *page 67***

Installation

WARNINGS

Touchpoint 4 is designed for installation and use in indoor safe area non-explosive atmospheres. Installation must be in accordance with the recognized standards of the appropriate authority in the country concerned.

Before carrying out any work ensure local regulations and site procedures are followed.

Access to the interior of the controller, when carrying out any work, must only be conducted by trained personnel. Switch off and isolate the power supply to the controller when access is required. Take any necessary precautions to prevent false alarms.

The detectors/sensors that the controller connects to may be used for gas detection in hazardous atmospheres. Refer to the individual detector/sensor instructions for their details.

This chapter provides the following information about installing ***Touchpoint 4***:

- **where to locate the controller, its dimensions and how to mount it**
- **how to access the interior of the controller*, see page 13***
- **cabling and wiring, see *page 15***

Note *It is recommended that a local fused power feed spur, with lockout switch, is used.*

Earth/Ground loops or poor screening are the most common cause of false alarms.

Proper installation, using appropriate earth techniques improves:

- **resistance to radio frequency interference (RFI), e.g. mobile phones and walkie-talkies**
- **resistance to *induced* signals from magnetic fields (EMC), e.g. high power cables and switch gear.**

Location

Touchpoint 4 can only be installed in indoor safe areas.

Refer to International codes of practice, e.g. National Electrical Code (NEC) or Canadian Electrical Code (CEC), where applicable, for guidance when installing.

Ensure that the maximum distance from the controller to the detector is within specification. Locate the bracket so that when the controller is fitted to it there is:

- ***easy access to it***
- ***a clear view of the controller's displays (normally eye level), check for national/ local regulations regarding the viewing of displays***
- ***enough space to open the enclosure's access panels, for cabling, maintenance, adjustments, etc.***
- ***enough space for cable or conduit access to the bottom of the enclosure***

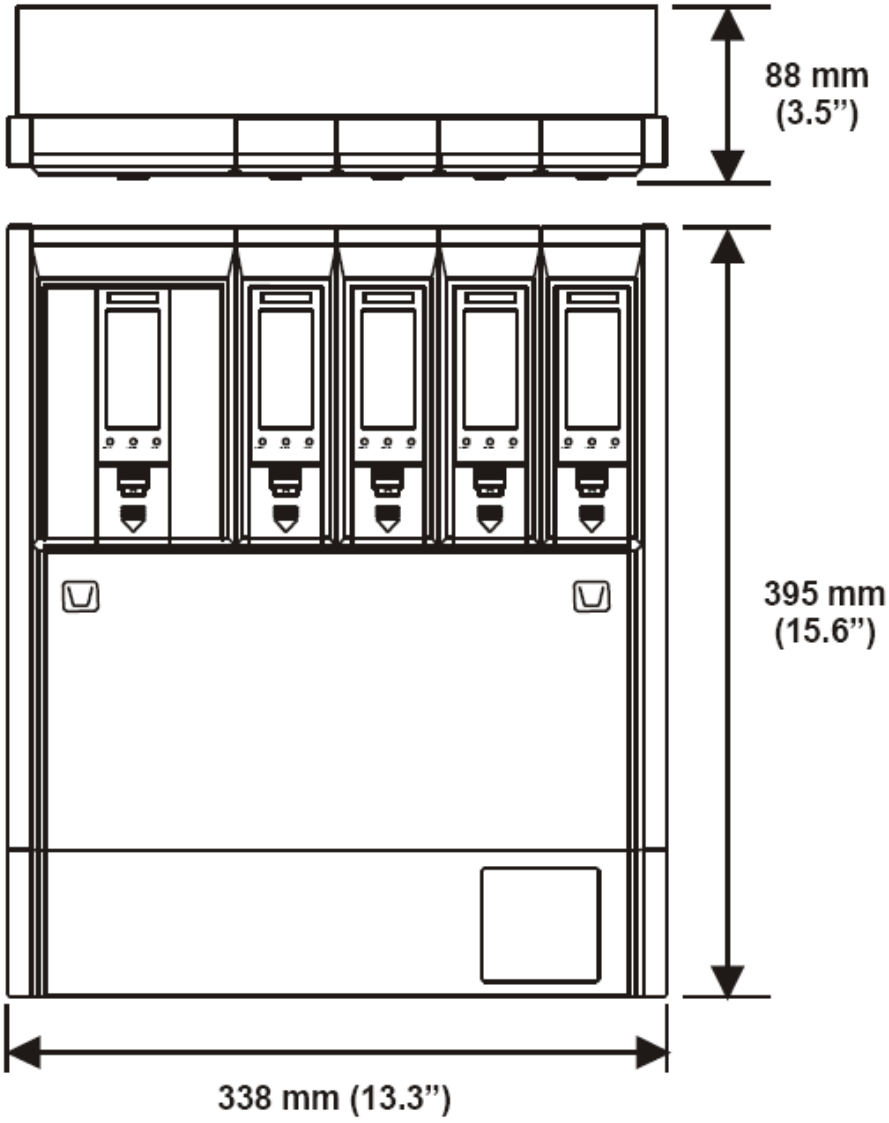
Follow the advice of:

- **experts having specialist knowledge of gas detection and control systems**
- **experts having knowledge of the process plant system and equipment involved**
- **safety and engineering personnel**

Always record the location of the detectors connected to the controller.

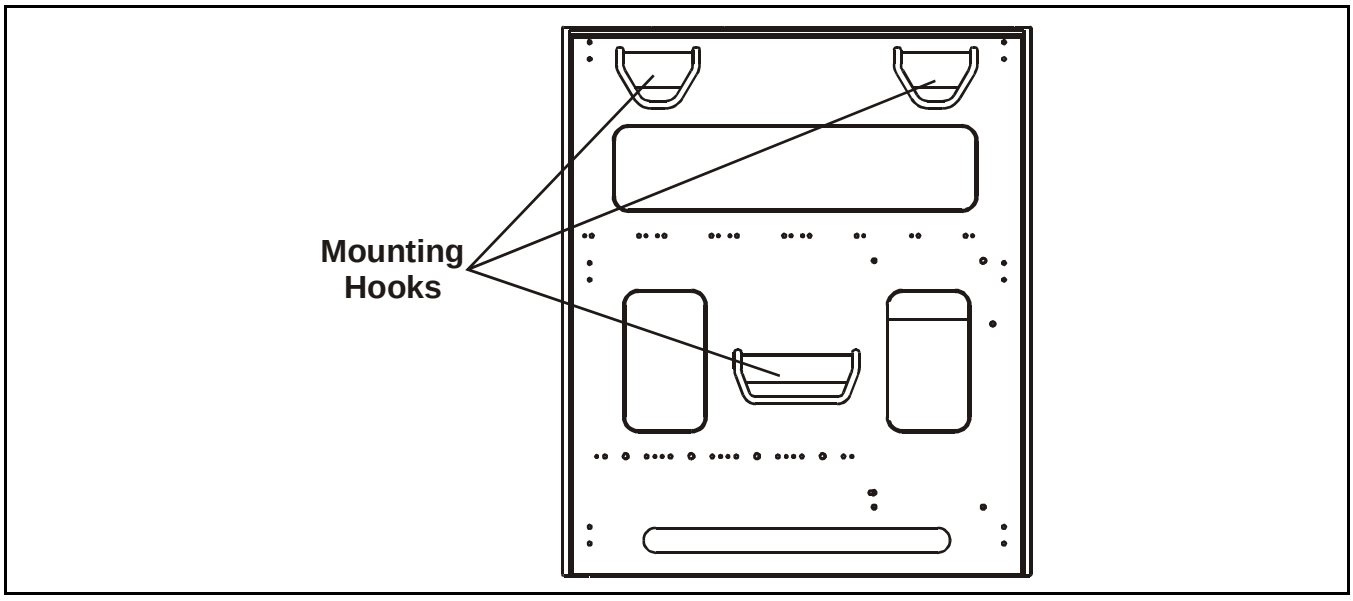
Dimensions

Enclosure

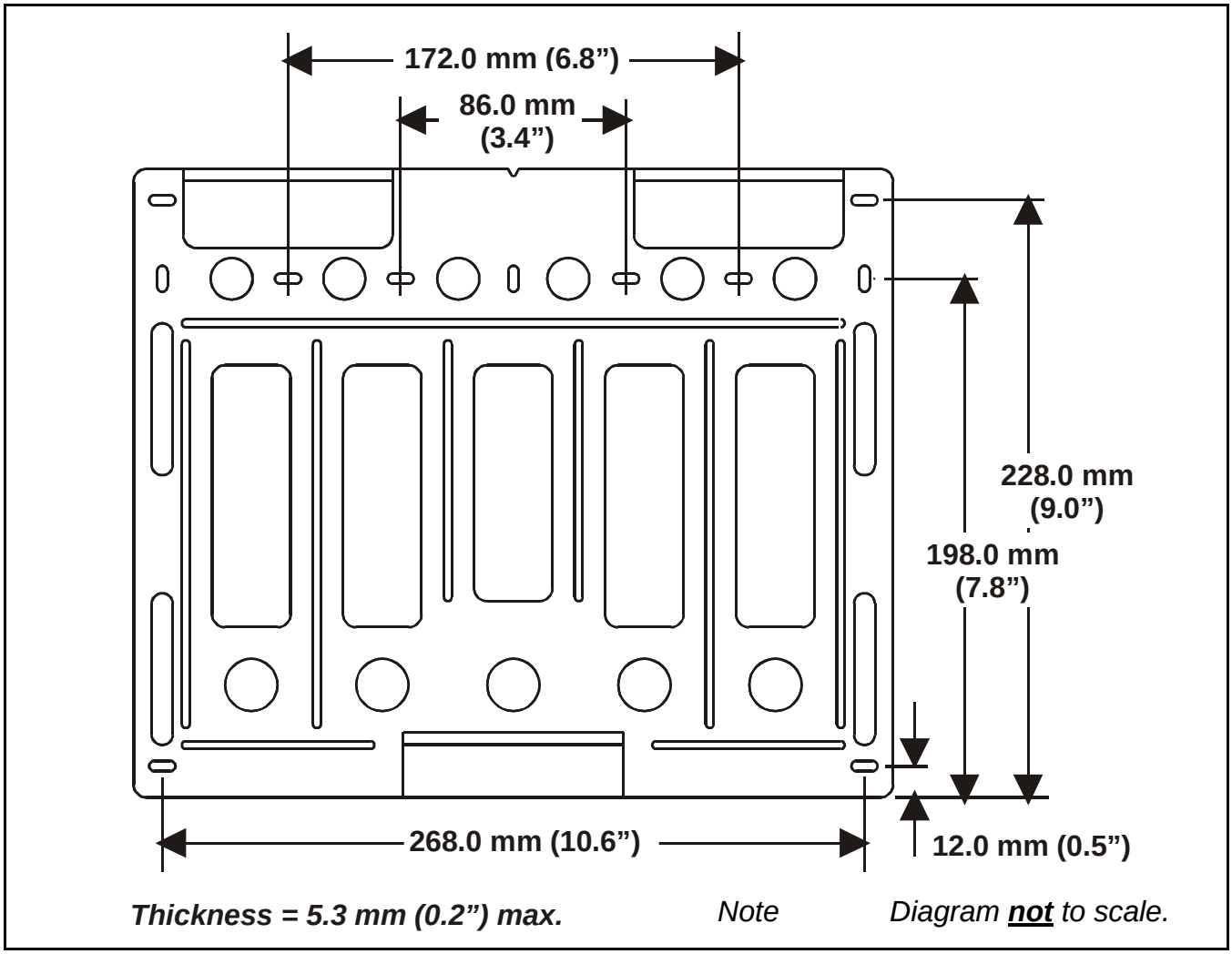


Note *Diagram **not** to scale*

Rear Panel Detail



Mounting Bracket



Thickness = 5.3 mm (0.2”) max. *Note* *Diagram **not** to scale.*

Mounting

Touchpoint 4 is supplied with a mounting bracket that fits onto a suitable wall. The controller is then hooked onto the bracket. The previous diagrams show dimensions for the enclosure and the bracket. Fit the bracket to a flat, firm surface, e.g. wall, suitable for the controller's size and weight.

1 Mark out and drill holes for the mounting bracket screws.

*Use the mounting bracket as a template for the position of the holes. Use **4** off **M3.5 x25** screws*

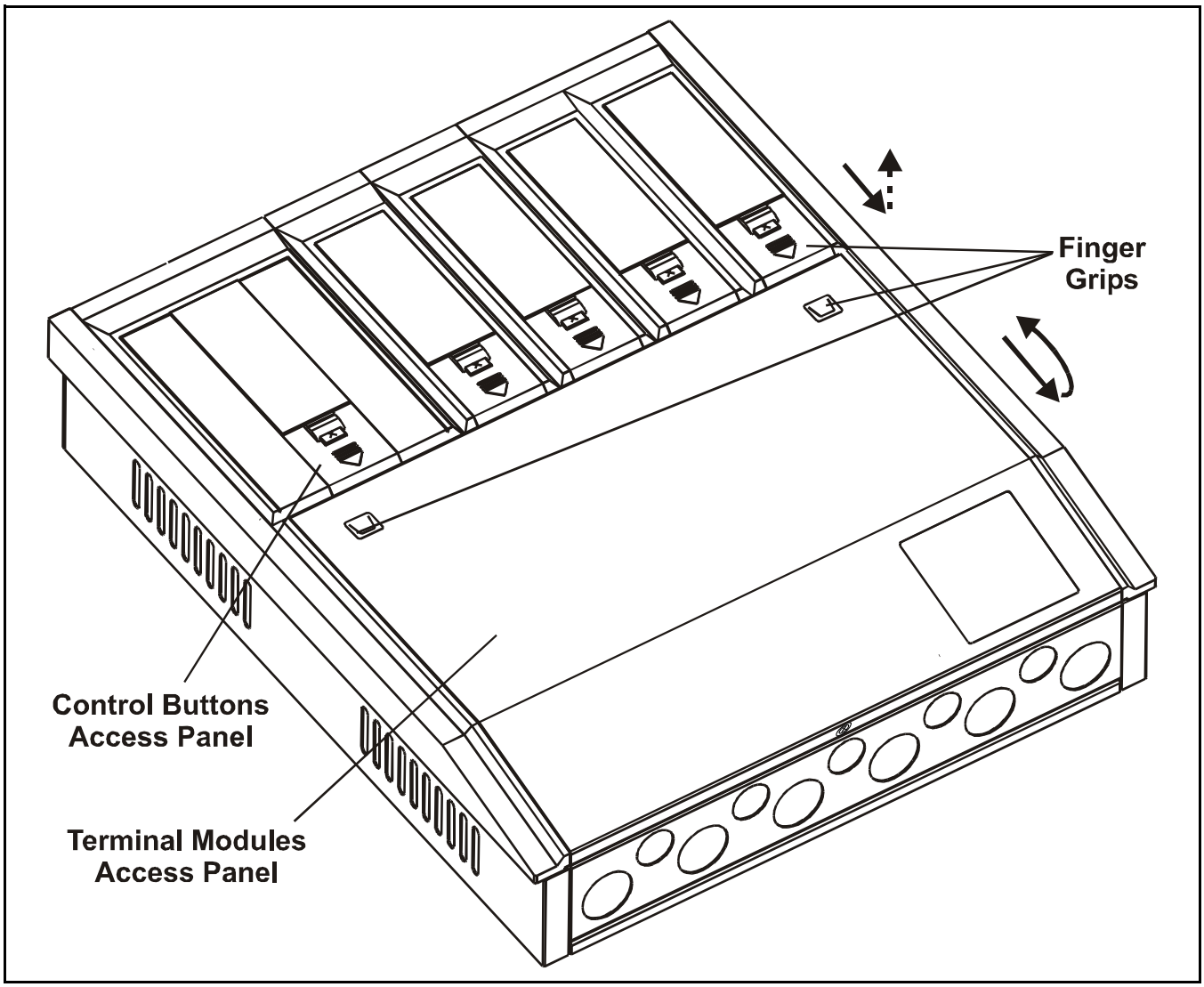
2 Fix the bracket securely to the wall.

*When mounting **Touchpoint 4** ensure the screws do not catch on the back of the controller when it is fitted onto the bracket.*

3 With the bracket secure, locate and then lower *Touchpoint 4* onto it.

Ensure the two top and single bottom hooks on the back of the unit engage properly in the mounting bracket slots.

Controller Components



This procedure describes how to access the components inside the controller.

1 Loosen the single screw securing the *Terminal Module Access Panel*.

2 Push down on the finger grips located at the top of the panel.

See previous diagram.

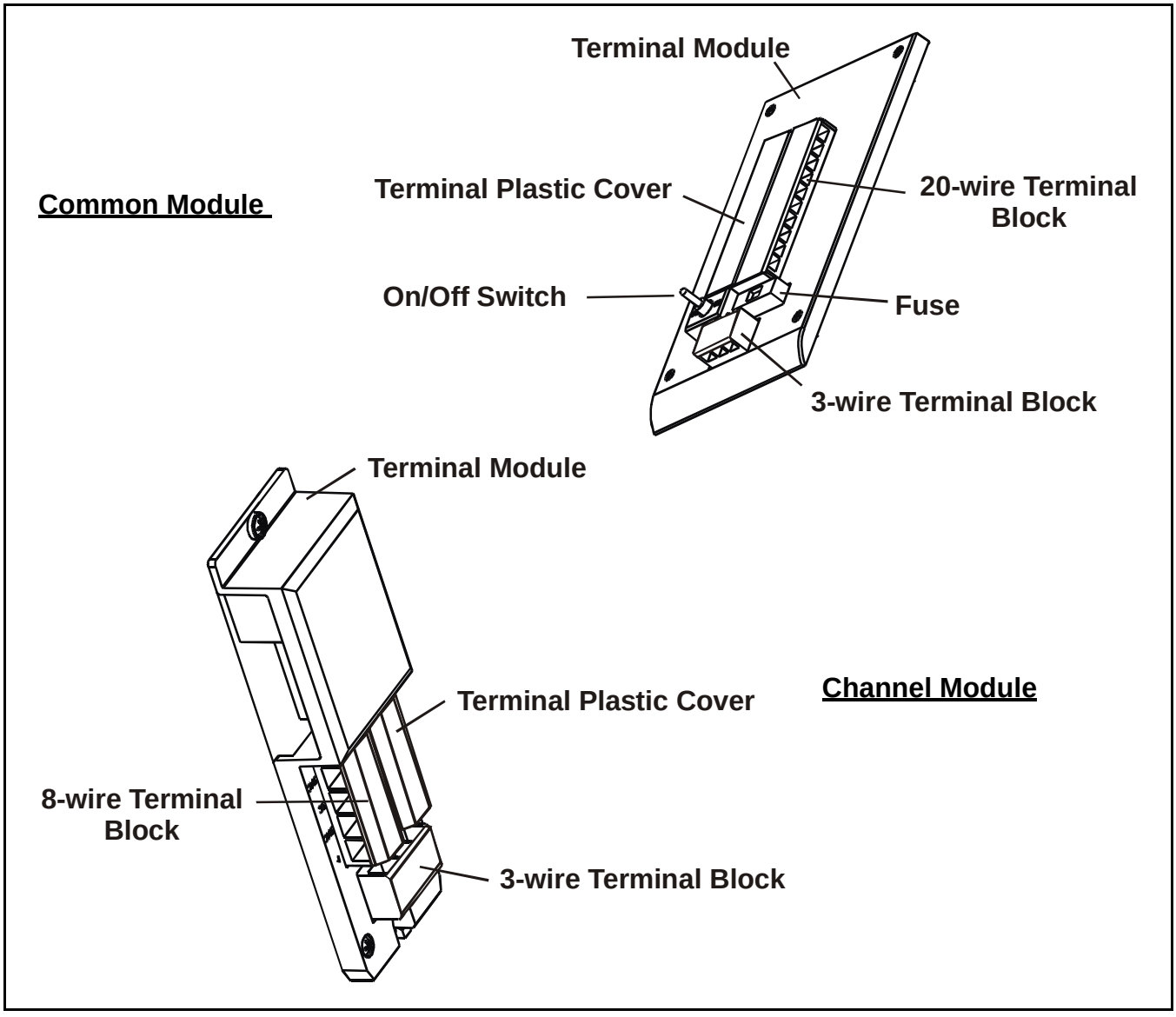
3 Slide the panel down to release it.

4 Pull the panel outward.

Pull it until the door is approximately at a right-angle to the enclosure.

5 Push the panel inward toward the enclosure.

*This locks it in the open position and provides two-handed access to the **Terminal Modules**.*



To access the connections on the terminal blocks, slide the clear plastic cover fitted over them off.

The plastic cover can be completely removed if required.

6 After carrying out the procedures subsequently described close and secure the Terminal Module Access Panel with the screw.

Caution ***Always ensure the Terminal Module Access Panel is replaced/ refitted after work is complete.***

Power

Touchpoint 4 has an auto sensing power supply capable of operating between ***85*** and ***265 Vac***, ***50/60Hz*** mains supply, and/or ***19*** to ***30 Vdc***.

Honeywell Analytics recommend that the power to the controller is sourced from a locally fused circuit. This should have an isolation facility for maintenance purposes.

The table on ***page 19*** and the terminal block diagram following the table show the wiring for power to ***Touchpoint 4***.

Maximum power requirement for worst case detector configuration and relays activated is ***160Wac*** and/or ***63Wdc***.

Touchpoint 4 can accept signals from three types of detector. The table summarizes the types of detector compatible with the controller and the maximum power required.

Type of detector	Maximum Power	Recommended Detector
2-wire 4-20 mA sink	500 mA (19 to 30 Vdc)	Sensepoint Toxic and Oxygen
3-wire 4-20 mA source	500 mA (19 to 30 Vdc)	Sensepoint Plus and Sensepoint Pro
3-wire mV bridge	2.9-3.5V, 200 mA, 0.7W (max)	Sensepoint Flammable

Cabling

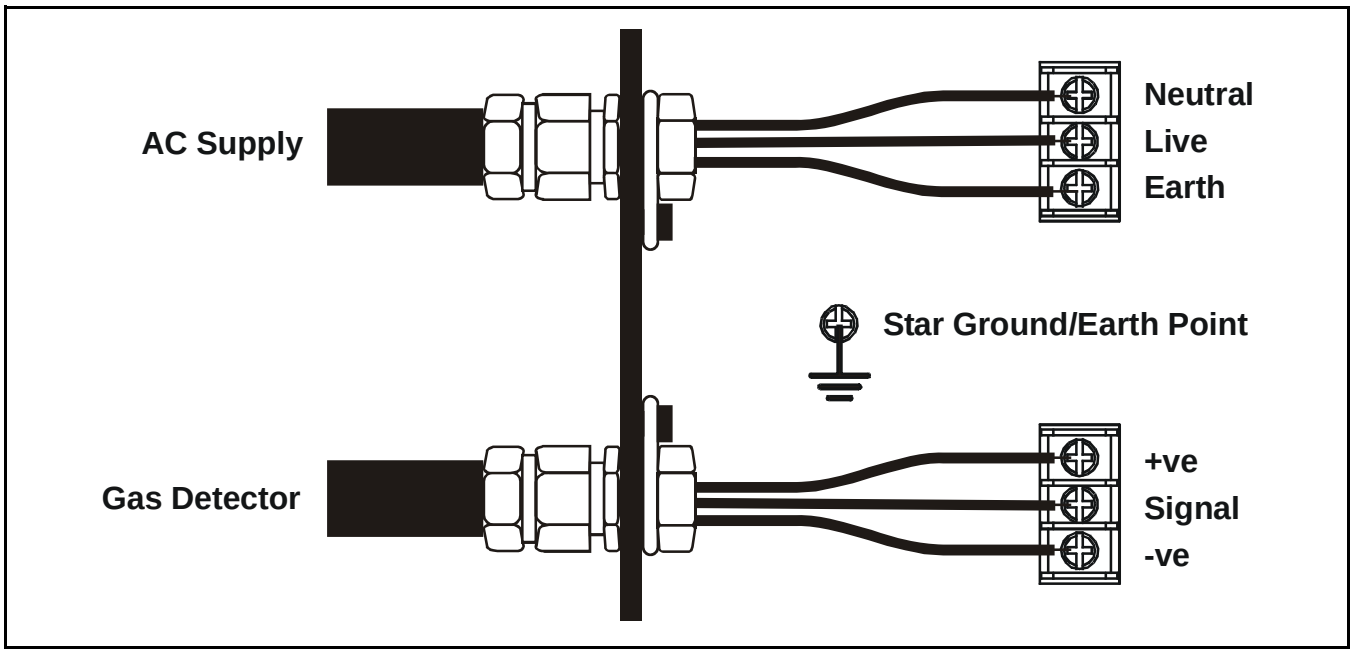
Touchpoint4 is designed for use in safe areas. Electrical installation should follow national guidelines using suitably approved cable and glands (***M20*** or ***3/4"NPT***) or conduit ***(3/4"NPT)***. Approved cable glands must accommodate a 360 degree termination of the EMI shield. Screened ***0.5mm² (20AWG)*** to ***2.5mm² (14AWG)*** cross sectional area cable should be used where appropriate to minimize unwanted effects from RF sources. ***1.0 mm²*** is preferred. Wires can be either solid or stranded type. Ensure the cable gland is installed correctly and fully tightened. The enclosure has 11 knockouts in the base sized for both ***M20*** and ***3/4 in***. NPT fittings.

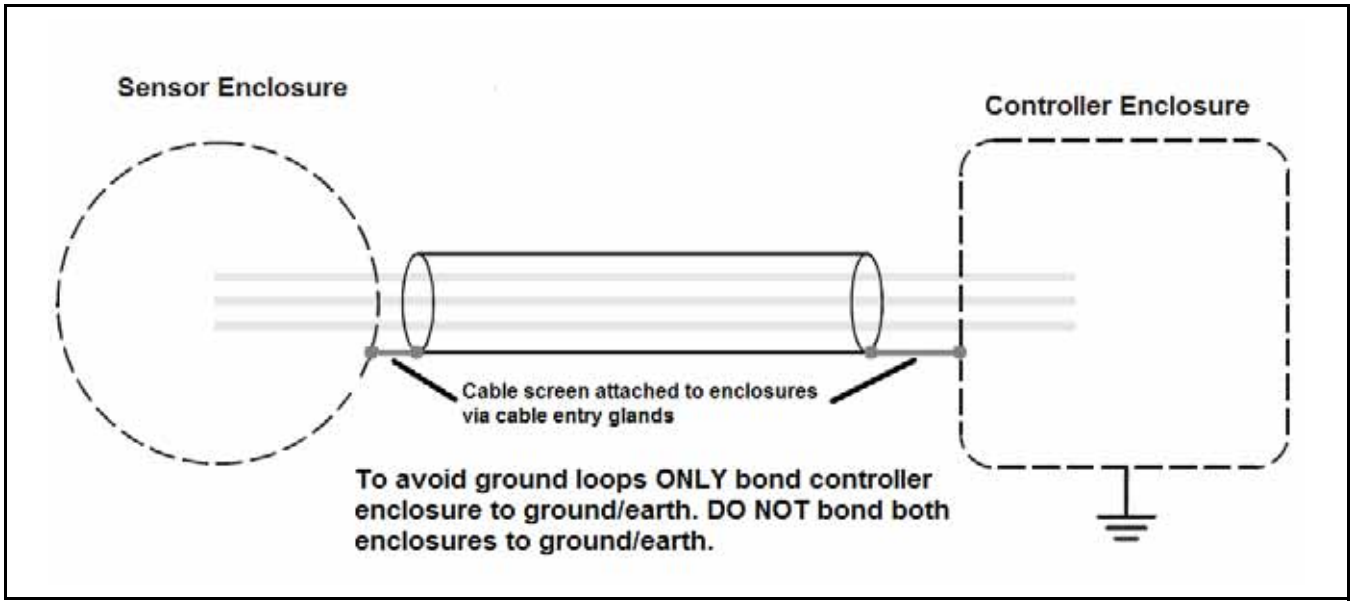
When running cabling to the unit consider conduit/cable weights to avoid any stress to the unit.

The following diagrams show examples of how to earth-bond Steel Wired Armored (SWA) cable at enclosures. The same principles apply to conduit installations. These bonding techniques provide good RFI/EMC performance.

To calculate the maximum cable run length from the controller to the detector see ***page 27***.

For RS485 signal wiring/protocol contact Honeywell Analytics for further details.





Wiring

Caution	***An earth point is provided inside the controller. Ensure that all detector screens/armor are grounded at a single earth star point at the controller or detector — BUT NOT BOTH — to prevent false alarms due to earth loops.***

All electrical wiring connections are made via the ***Terminal Module***s.

Wire size from ***0.5*** to ***2.5 mm***^{2} (***20 AWG*** to ***14 AWG***). ***1.0 mm***^{2} is preferred.

Always use suitable wiring techniques and crimps when terminating cable cores, especially if running two cores to a single terminal.

Common controller connections are made at the ***Terminal Module*** for the ***Common Module***.

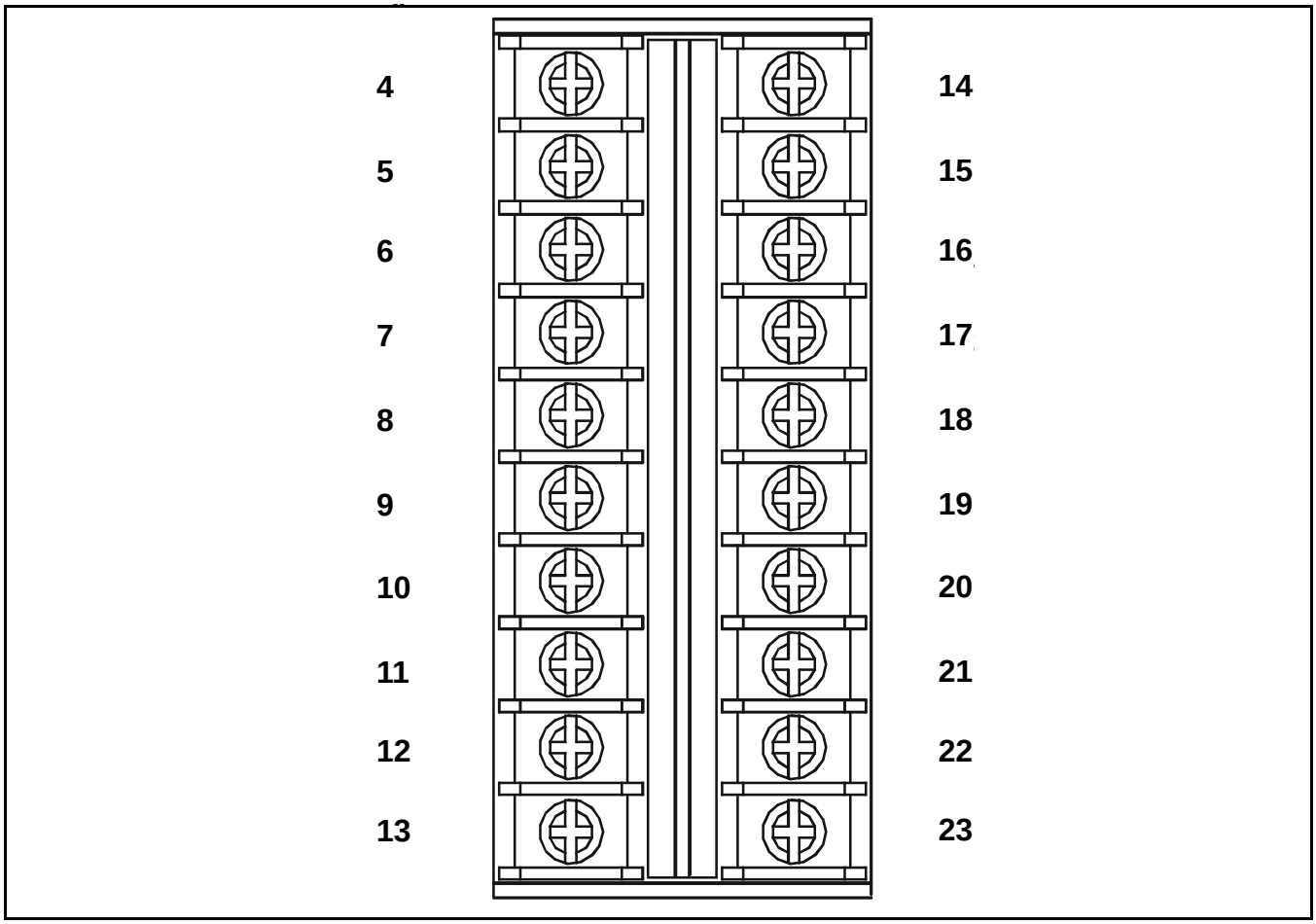
Connections for each detector are made at the ***Terminal Module*** for each ***Channel Module***.

Common Module Wiring

Signals and DC power are connected to a ***20-wire*** terminal block, and mains power is connected via a ***3-wire*** terminal block on the ***Terminal Module***,

Terminal Module

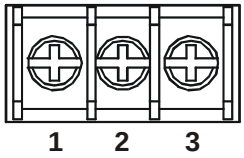
The following table lists the terminals and their functions and specifications.



The next diagram shows the ***20-wire*** terminal block layout with terminal identifiers.

Id.	Name		Function	Input/ Output	Specification
4	N/O Contact	**NO**	Alarm Relay 1	Output	240 Vac, 3A max.
5	Common	**C**			
6	N/C Contact	**NC**			
7	N/O Contact	**NO**	Alarm Relay 2	Output	240 Vac, 3A max.
8	Common	**C**			
9	N/C Contact	**NC**			
10	N/O Contact	**NO**	Fault Relay	Output	240 Vac, 3A max.
11	Common	**C**			
12	N/C Contact	**NC**			
13	DC Power	**+DC**	DC supply/ battery back-up	Input	19~30 Vdc, 63Wdc max
14	RS485	**D+**	RS485 Communication Link	Input/ Output	-7 to12V
15		**D-**			
16	Remote Reset	**R1**	Remote Reset	Input	<12 Vdc
17		**R2**			
18	A1 Output	**A1**	Dedicated audio/ visual alarm drive	Output	24 Vdc, <300 mA
19	A2 Output	**A2**			
20	F Output	**F**			
21	Visible Output	**VIS**			
22	Power	**+VE 24V**			
23	DC Power	**-DC**	DC supply/ battery back-up	Input	0 Vdc

The following diagram shows the ***3-wire*** mains terminal block layout with terminal identifiers.



The table lists the mains terminals and their functions and specification.

Id.	Name		Function	Input/ Output	Specification
1	Live	**L**	Power Supply	Input	85 to 265 Vac, 50/60 Hz
2	Neutral	**N**			
3	Earth/Ground	**E**			

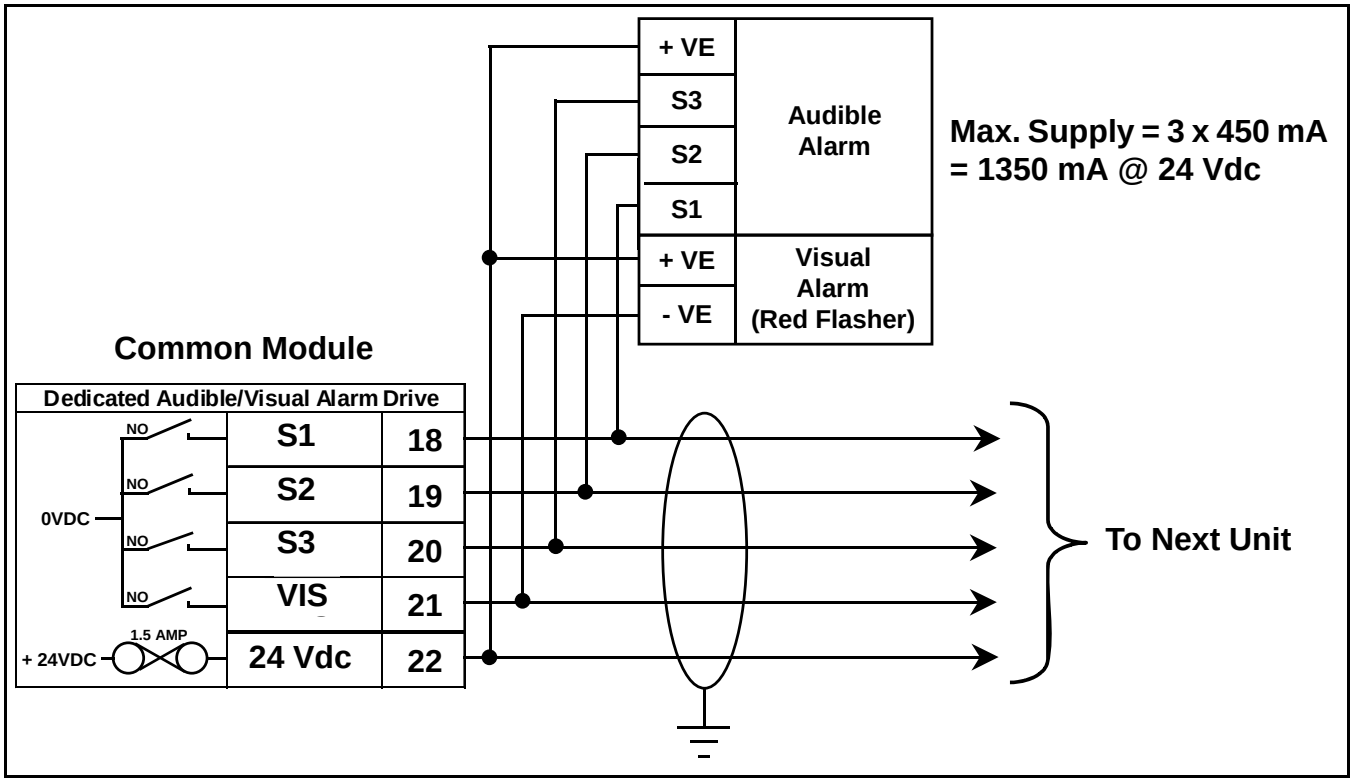
RS485 connection

This link is for serial connection by RS485 link to other control equipment. The link settings can be configured for address and data rate, see ***page 46***. For signal wiring contact Honeywell Analytics for further details. For the communication protocol manual, please visit our website at www.honeywellanalytics.com or contact one of our representatives.

Remote reset

These terminals are to connect an external reset button to ***Touchpoint 4***. The button needs to operate in the same way as the ***Cancel*** button on the ***Display Module***, i.e. normally open, momentary close to activate. ***1 mm^2*** shielded cable recommended with a maximum cable length to the remote reset switch of ***500 m*** (***1640 ft***).

Dedicated audio/visual alarm drive

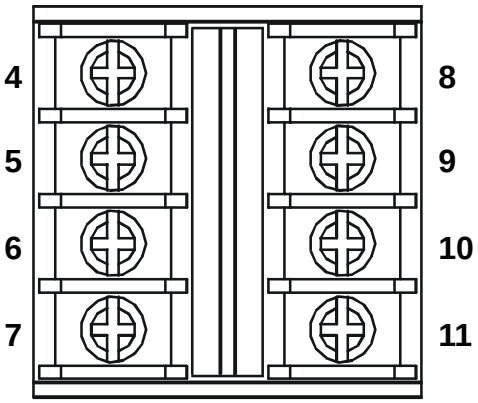


Four audio/visual signals are output in addition to the common relays. They are for connection to remote audio/visual devices. The outputs are ***A1***, ***A2***, ***F*** with a common master alarm.

Channel Module Wiring

Detector power, signal, relay and repeated isolated 4-20 mA connections are made via ***8-wire*** and ***3-wire*** terminal blocks on each ***Terminal Module***

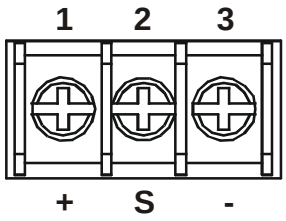
The following diagram shows the ***8-wire*** terminal block layout with terminal identifiers



The table lists the terminals and their functions and specifications.

Id.	Name		Function	Input/ Output	Specification
4	Alarm Relay 1 N/O Contact	**NO**	Alarm Level 1	Output	240 Vac, 3A max.
5	Alarm Relay 1 Common	**C**		Output	240 Vac, 3A max.
6	Alarm Relay 1 N/C Contact	**NC**		Output	240 Vac, 3A max.
7	Isolated signal output	**+I**	4-20 mA signal	Output	0~22 mA
8	Alarm Relay 2 N/O Contact	**NO**	Alarm Level 2	Output	240 Vac, 3A max.
9	Alarm Relay 2 Common	**C**		Output	240 Vac, 3A max.
10	Alarm Relay 2 N/C Contact	**NC**		Output	240 Vac, 3A max.
11	Isolated signal output	**–I**	4-20 mA signal	Output	0~22 mA

The next diagram shows the *3-wire* detector power/signal terminal block layout with terminal identifiers.



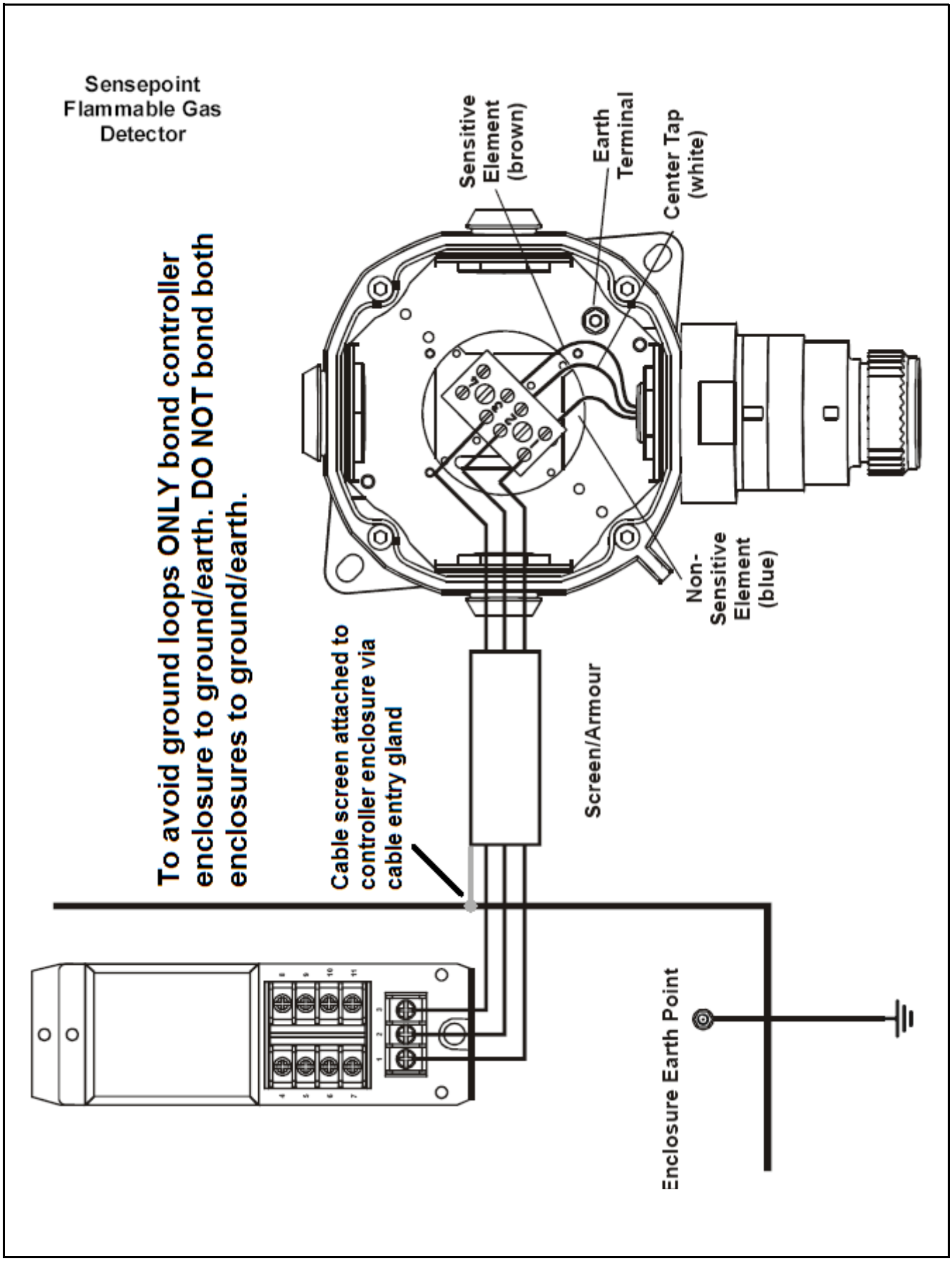
The table lists the detector power/signal terminals and their functions and specification.

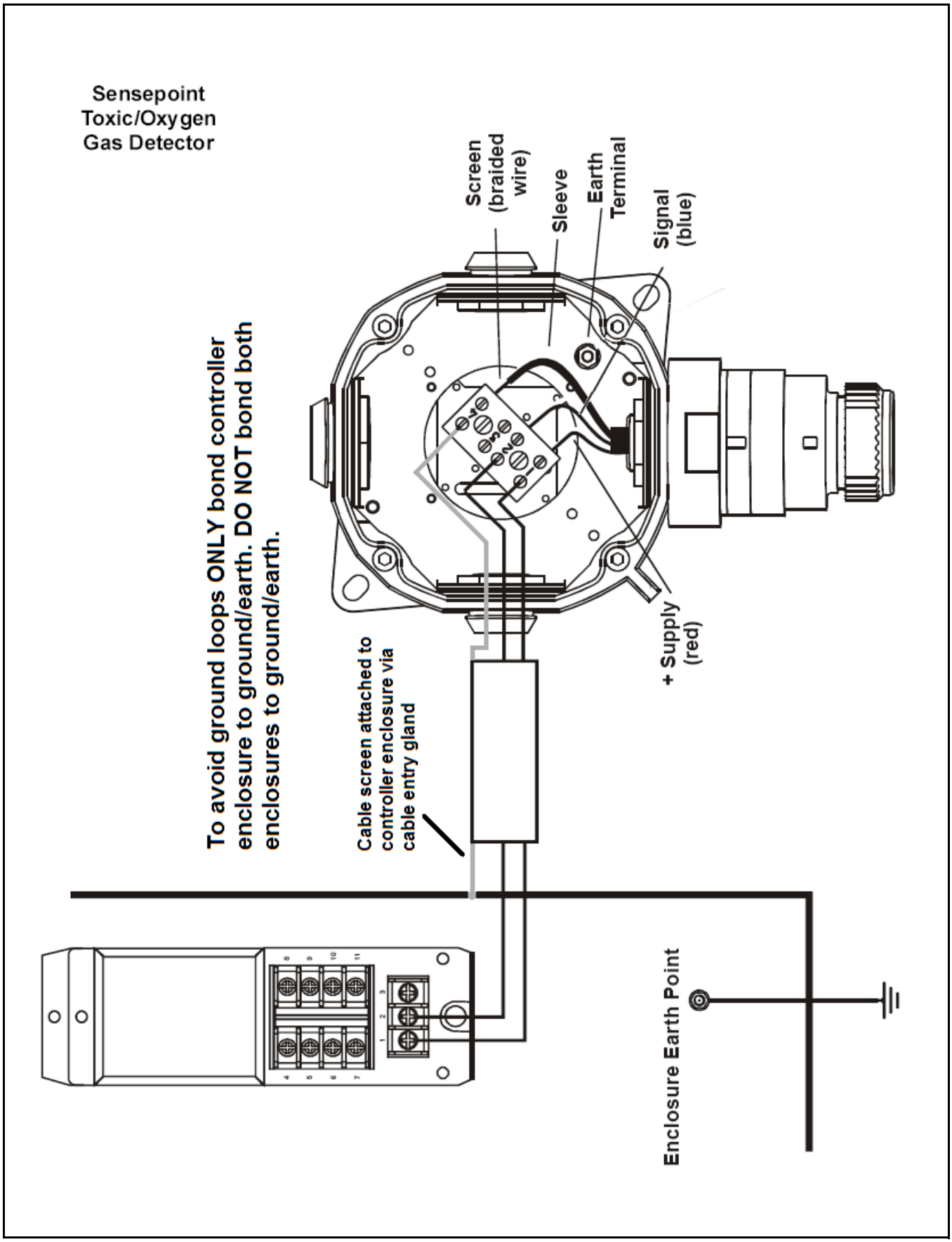
Id.	Name		Function	Input/ Output	Specification
1	Power supply	**+**	Gas Detector power and signal	Output	4-20 mA input module: 2-wire, 4-20 mA loop powered, or, 3-wire, 4-20 mA source Min guaranteed 19 Vdc, Input impedance: 100 Ohms mV input module: 3-wire, mV bridge self regulating supply voltage (subject to cable resistance) Maximum loop resistance: 100 Ohms
2	Signal	**Signal**		Input	Variable signal
3	Power supply	**-**		Output	0 Vdc

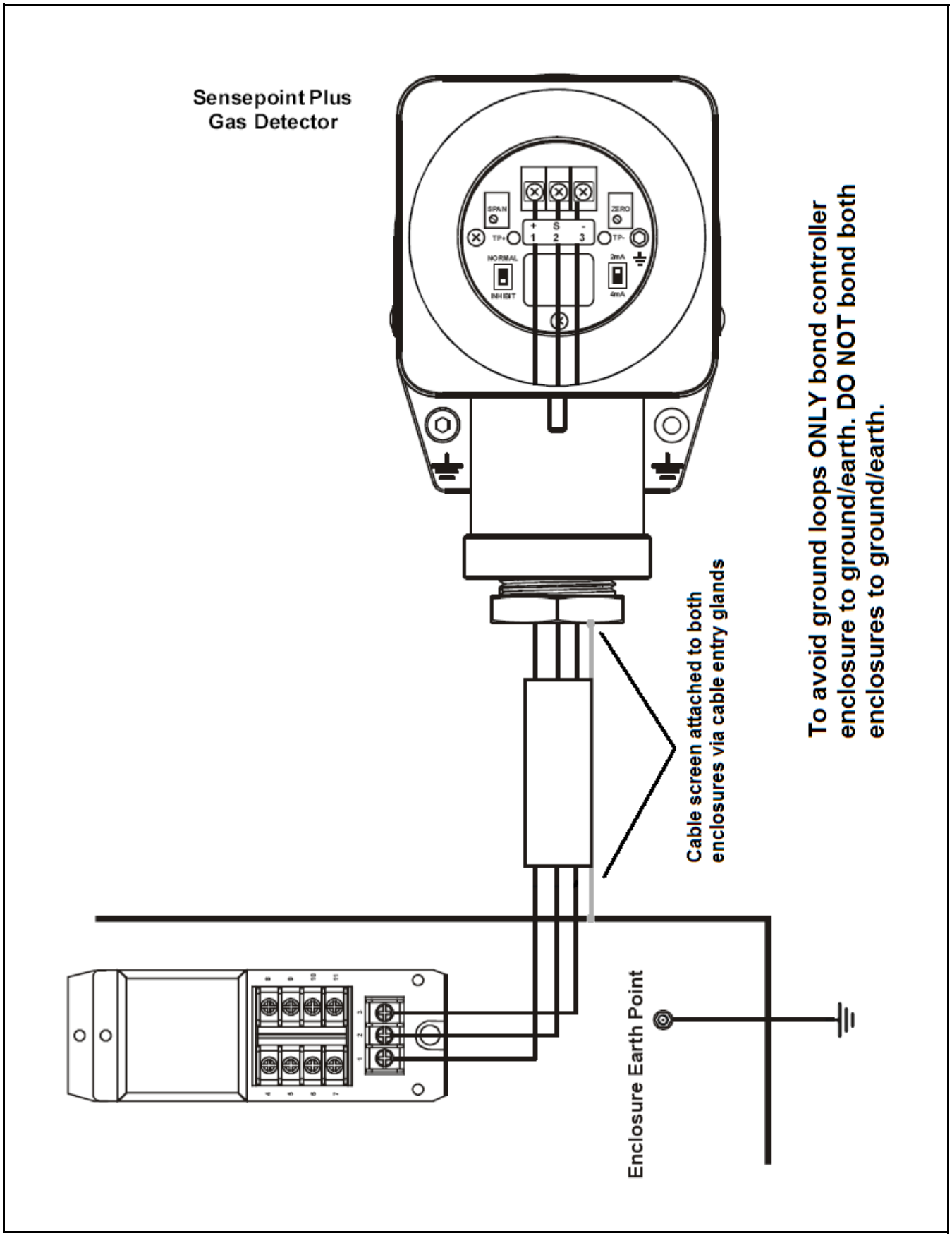
Zareba Sensepoint Gas Detector Connections

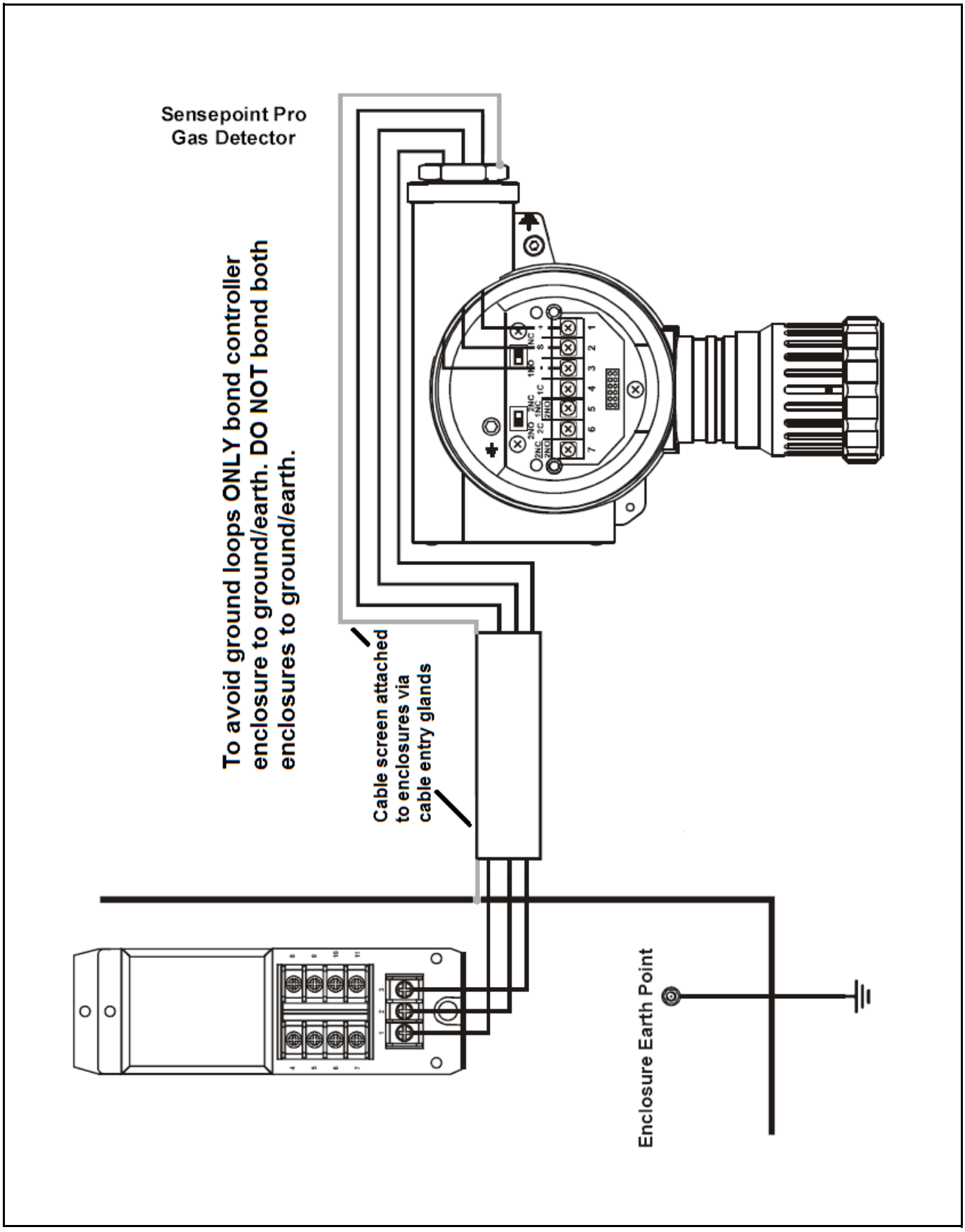
Touchpoint 4 is specifically designed for use with the Zareba Sensepoint range of gas detectors. The subsequent diagrams show connection details for these units.

For further information about Zareba Sensepoint detectors refer to their individual user guides.


Sensepoint
Flammable Gas
Detector
To avoid ground loops ONLY bond controller enclosure to ground/earth. DO NOT bond both enclosures to ground/earth.
Sensitive Element (brown)
Earth Terminal
Center Tap (white)
Non-Sensitive Element (blue)
Cable screen attached to controller enclosure via cable entry gland
Screen/Armour
Enclosure Earth Point


Sensepoint
Toxic/Oxygen
Gas Detector
Screen (braided wire)
Sleeve
Earth Terminal
Signal (blue)
+ Supply (red)
To avoid ground loops ONLY bond controller enclosure to ground/earth. DO NOT bond both enclosures to ground/earth.
Cable screen attached to controller enclosure via cable entry gland
Enclosure Earth Point

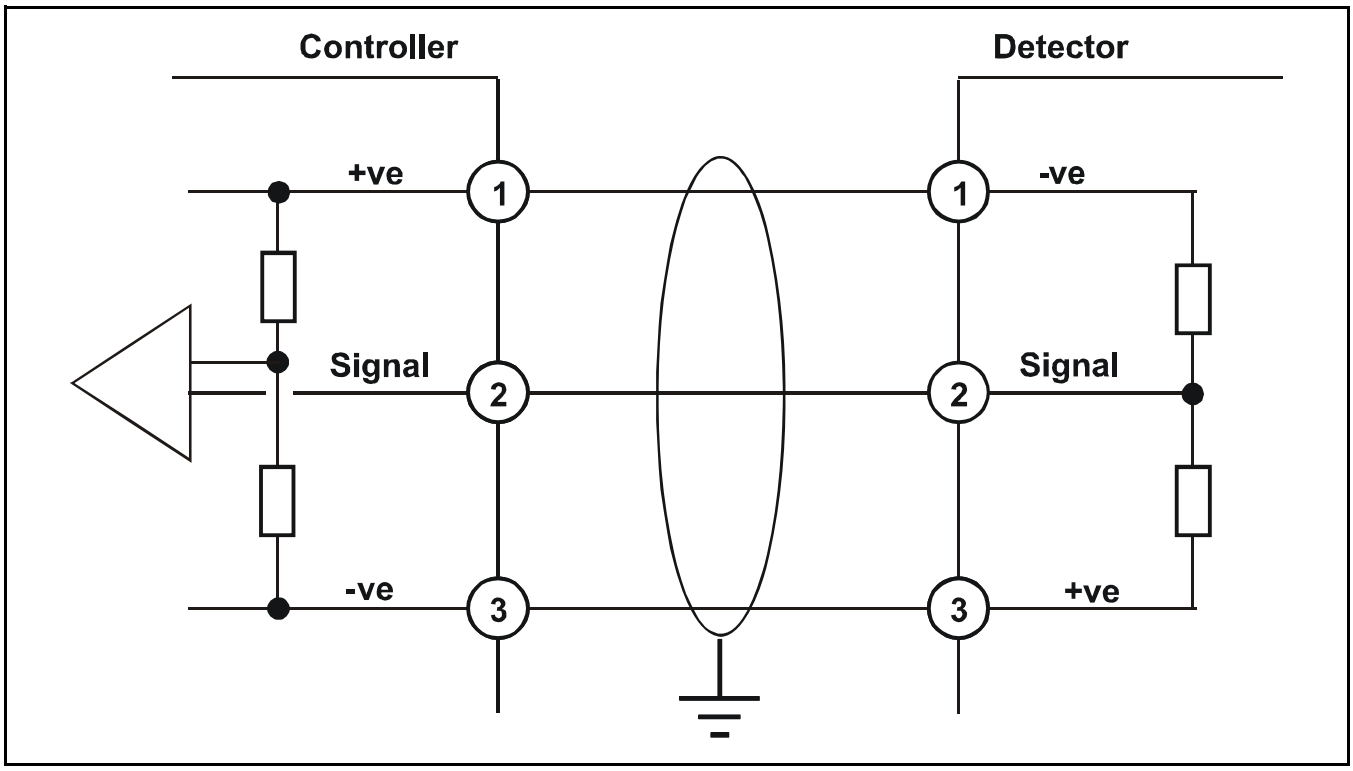

Sensepoint Plus
Gas Detector
SPAN
ZERO
TP+
TP-
+ S -
1 2 3
NORMAL
INHIBIT
3mA
4mA
Cable screen attached to both enclosures via cable entry glands
To avoid ground loops ONLY bond controller enclosure to ground/earth. DO NOT bond both enclosures to ground/earth.
Enclosure Earth Point


Sensepoint Pro
Gas Detector
To avoid ground loops ONLY bond controller enclosure to ground/earth. DO NOT bond both enclosures to ground/earth.
Cable screen attached to enclosures via cable entry glands
Enclosure Earth Point

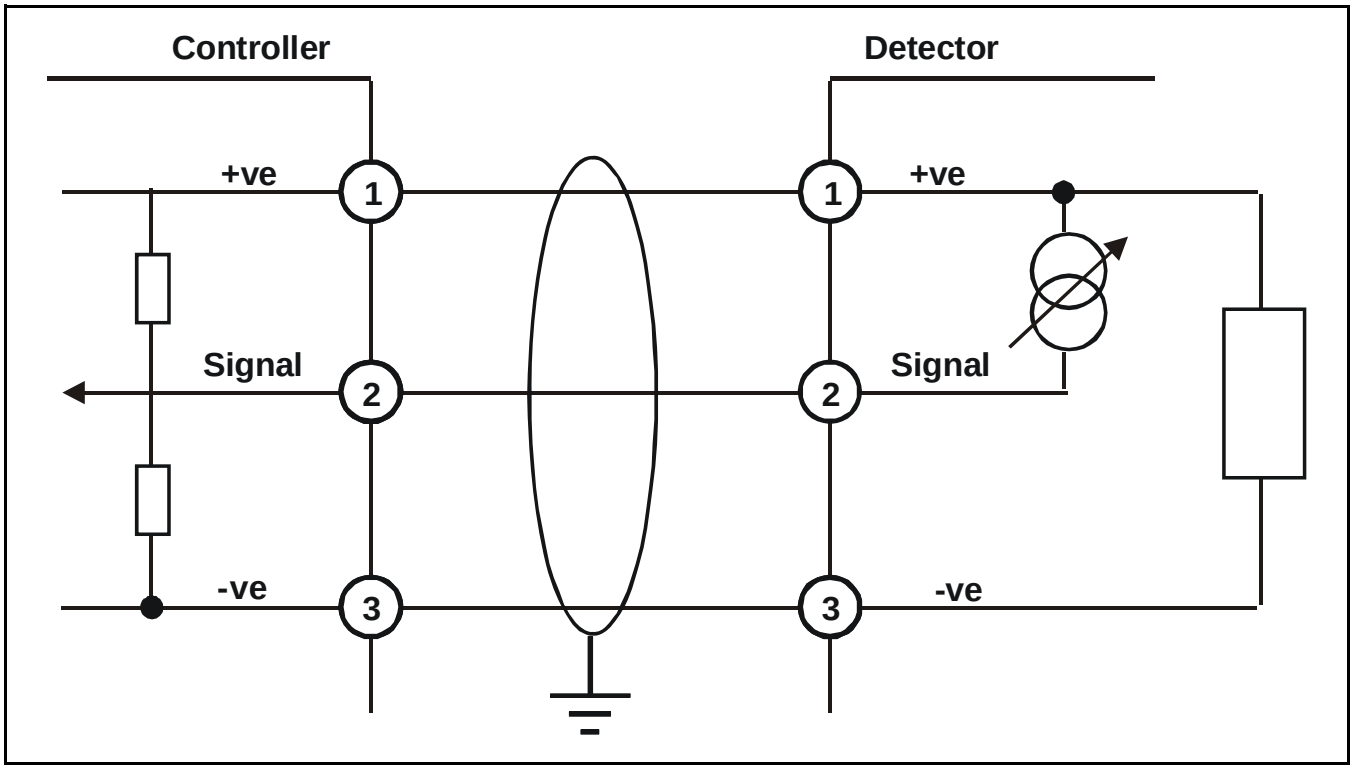
Generic Gas Detector Connections

The following diagrams show generic installation connections for other gas detectors.

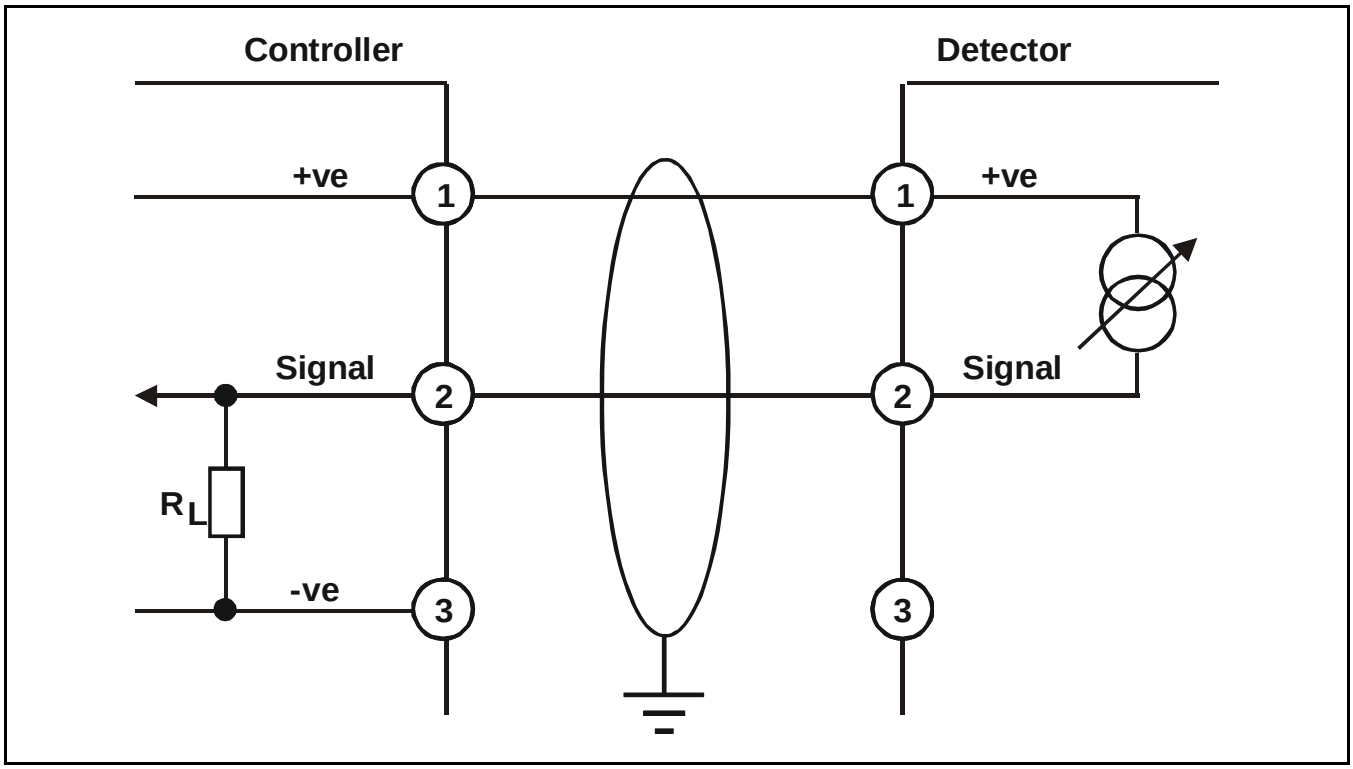
3-Wire mV Detector



3-Wire 4-20 mA Detector



2-Wire 4-20 mA Detector



Maximum Cable Lengths

To calculate the maximum cable run length from power source to the detector refer to the following example diagram and formula.

$$R_{loop} = (V_{controller} — V_{detector\ min}) / I_{detector}$$

Maximum cable run length = R_{loop} / cable per metre resistance

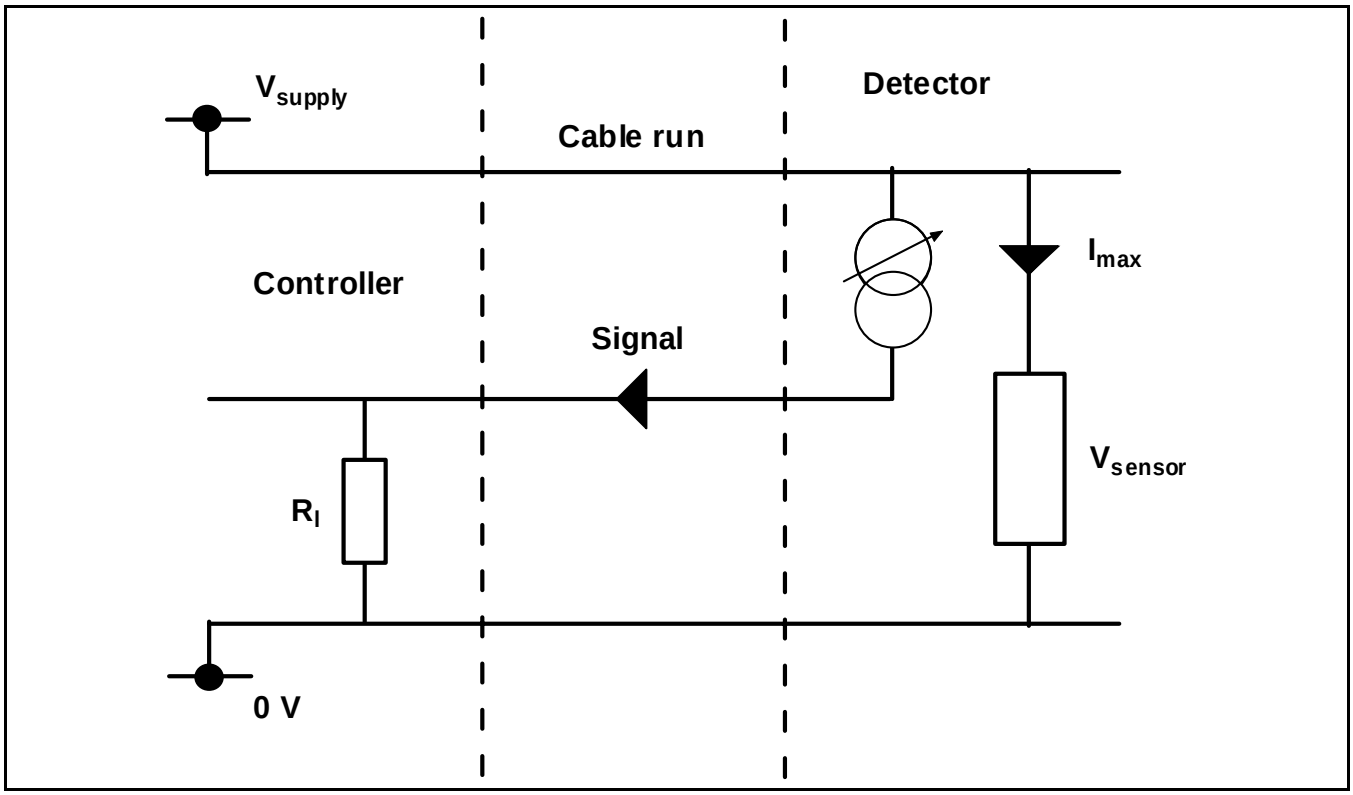
where:

R_{loop} = maximum working cable run resistance

$V_{controller}$ = maximum available supply voltage at controller

$V_{detector\ min}$ = minimum voltage at which the connected sensor can operate (sensor dependent, see individual sensor technical manual/data sheets)

$I_{detector}$ = sensor maximum drawn current (sensor dependent, see individual sensor technical manual/data sheets)


V_{supply}
Detector
Cable run
I_{max}
Controller
Signal
V_{sensor}
R_l
0 V

Operation

WARNINGS

Access to the interior of the controller, when carrying out any work, must only be conducted by trained personnel. Switch off and isolate the power supply to the controller when access is required. Take any necessary precautions to prevent false alarms.

Once powered and connected properly with the gas detector(s), ***Touchpoint 4*** displays gas concentration, alarm, fault and status information on each ***Channel Module***, and shows channel and system related information on its ***Common Module***. Management of the overall system and individual channels is via menus and control buttons.

This chapter provides operational information about the following:

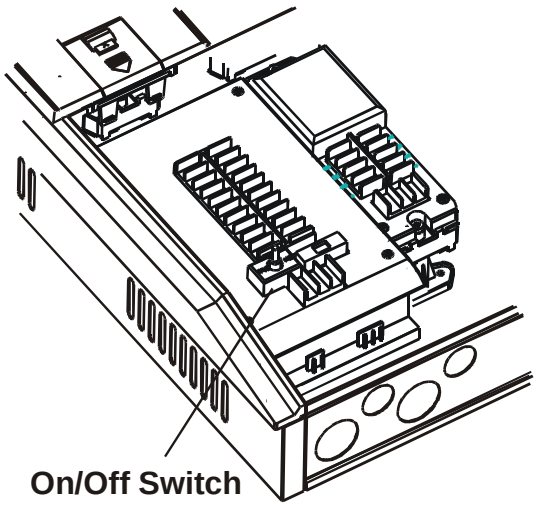
- **powering-up**
- **information on the displays, see *page 30***
- **control buttons, see *page 31***
- **using menus, see *page 32***
- ***Common Module* options, see *page 34***
- ***Channel Module* options, see *page 38***

Powering Up

Touchpoint 4 is mains AC and/or DC powered. Power up/power down the controller using the **ON/OFF** switch located on the Terminal Module, as follows.

1 Access the interior of the controller.

*See **page 13**.*



2 Switch on *Touchpoint 4*.

*Use the **On/Off** switch on the **Common Module**. The controller is now in normal operation.*

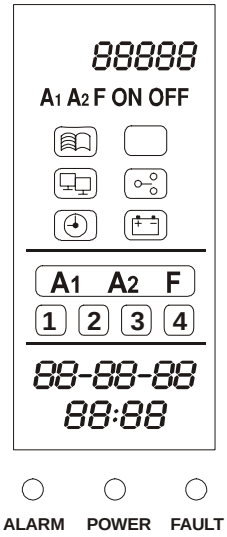
Note *After switching on or off always close the access panel.*

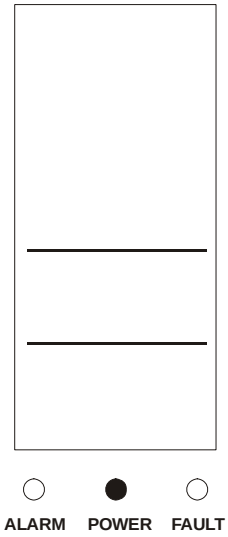
Information on the Displays

At switch on:

- **all display icons/text/numbers/symbols on the *Common Module* are lit**
- **all LEDs on the *Common Module* are lit**
- **the alarm buzzer sounds for *1.0* seconds.**

  This sequence repeats twice and is the controller's self-test procedure.

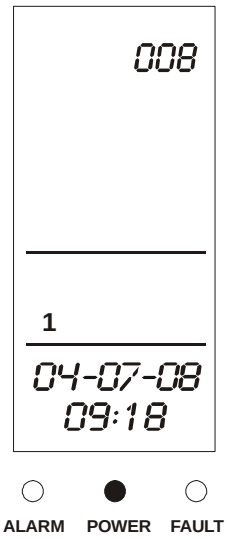


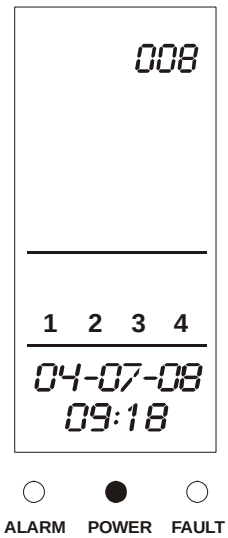


The ***Common Module*** display then shows:

- **local time and date**
- **power LED indicator lit**

The ***Common Module*** then tries to communicate with any connected individual ***Channel Module*** to show the number of ***Channel Module's*** (*1 - 4*) connected





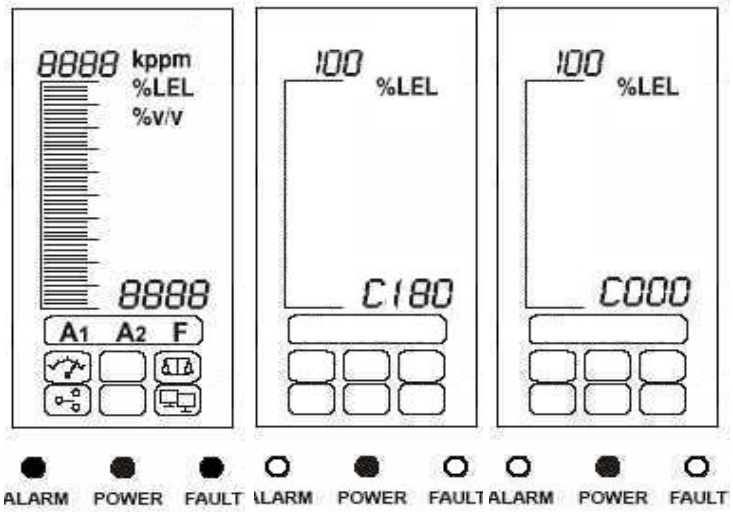
The controller then begins normal operation.

Simultaneously all the icons on the display of each of the ***Channel Modules*** come on for ***1*** second.

They then show a warm-up count down from ***C180*** (***3*** minutes) to ***C000***.

To skip the warm-up sequence press the channel's ***Cancel*** button for **3** seconds.

After completing the warm-up the individual channels start to communicate with the ***Common Module***.



Control Buttons

The control buttons for the ***Common Module*** and each ***Channel Module*** are located beneath an access panel underneath their displays. To access the buttons carry out the following procedure:

1 Access the controller interior.

*See **page 13**.*

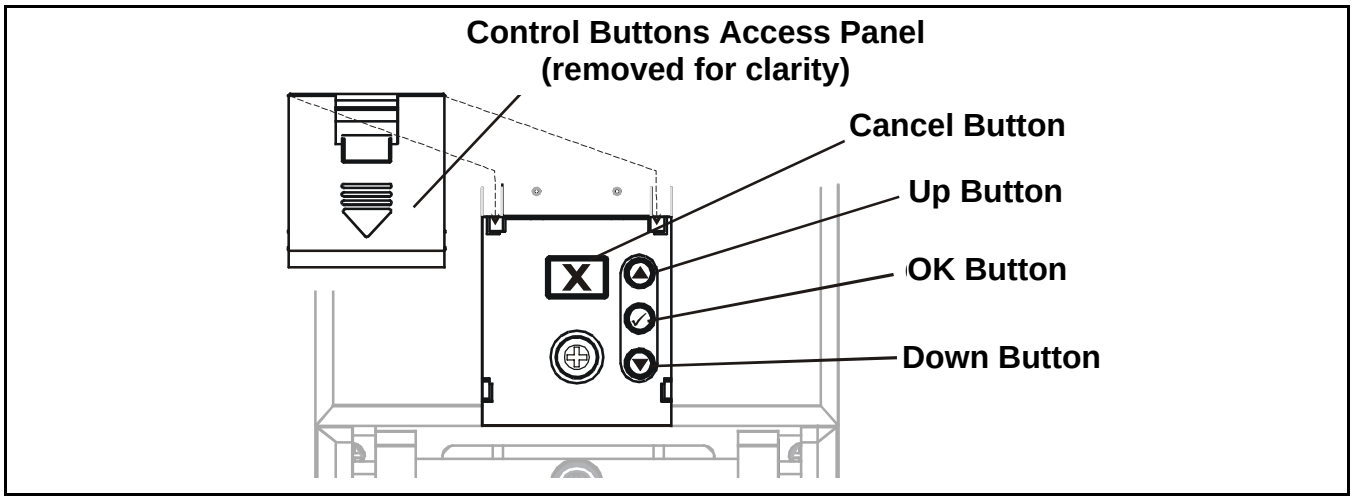
*Note None of the **Control Buttons Access Panels** can be opened until access is made.*

2 Push down on the finger grip located at the bottom of the *Control Buttons Access Panel*.

*See the subsequent diagram and the diagram on **page 13**.*

3 Slide the panel down to release it.

The panel springs upward and is held in the open position. This provides access to the buttons.



The four control buttons provide the following functions.

Button	Function	In Text
▲	Navigates up through menus and lists and is used to select (highlight) a menu option. Also used to increment values, e.g. range.	***Up***
▼	Navigates down through menus and lists and is used to select (highlight) a menu option. Also used to decrement values.	***Down***
✓	Enters a menu function. Saves a user setting.	***OK***
X	Exits/cancels the current screen/option and returns to the previous screen/option. Acknowledges alarm/fault. With no gas event reported, press the button once to put the controller through it self-test routine, see ***page 30***.	***Cancel***

The results of these actions are displayed on the associated display.

Using Menus

Both the ***Common Module*** and each ***Channel Module*** use a menu system for configuration/ control that is displayed/navigated in the same way.

Displaying Menus

■ **Press the ▲ and ▼ — *Up* and *Down* — control buttons at the same time.**

*The **Common Module** shows the **Event History** menu icon flashing.*

*Each **Channel Module*** displays ***000** in the gas reading position and the **Gas Units/Range** menu icon flashes.*

Navigating Menus

1 Press either the ▲ or ▼ — *Up* or *Down* — control buttons.

This steps through the menu choices until one is selected. The associated icon flashes.

2 Press the ✓ — *OK* — control button to enter the selected menu.

Accepting Menu Choices

■ **Press the ✓ — *OK* — control button.**

This saves the selection/value and moves to the next step.

Cancelling Operations/Choices

To cancel operations/choices:

■ **Press the X — *Cancel* — button.**

This returns to the previous menu level, setting, etc.

*Pressing **Cancel** again returns to normal operation.*

Note *The system automatically returns to normal operation if no buttons are pressed for more than **30 minutes**.*

For details of the ***Common Module*** menu see ***page 37***. For details of the ***Channel Module*** menu see ***page 43***. To change user settings/configuration using the menus and control buttons see ***page 44***.

Alarms

This section describes how detector events are shown at the ***Common Module*** and the ***Channel Module***, and how to respond to them.

All channel alarms and faults are monitored by the ***Common Module*** and can be acknowledged/ reset there.

When any detector event occurs, e.g. ***Alarm 1***, ***Alarm 2*** or ***Fault***, the related ***Channel Module*** reports this as follows:

- **the status icon for the type of event flashes, e.g.  — for *Alarm 1***
- **the LED for the type of event flashes, e.g,  — ALARM**
- **the channel's audible alarm sounds**

At the same time the ***Common Module*** reports events as follows:

- **the audible alarm sounds continuously**
- **the channel number, with the event condition, is highlighted by a flashing square around it, e.g  — for channel number 1**
- **the LED for the type of event flashes, e.g,  — ALARM**
- **the corresponding relays/outputs are activated**

To acknowledge/accept any alarm press the ***Cancel*** button on the ***Common Module***.
This causes:

- **the *Common Module* audible alarm to be silenced**
- **the related icons and LEDs on the *Common Module* change from flashing to steady**
- **the icons and LEDs on the relevant *Channel Module* change from flashing to steady**

The alarm can be acknowledged at the individual ***Channel Module*** by pressing its ***Cancel*** button but, although the alarm/fault LED becomes steady there, the audible alarm and event LED at the ***Common Module*** continue.

Pressing the ***Cancel*** button again, silences the ***Common Module*** audible alarm and turns off all the related icons, outputs and LEDs. This resets the alarm/fault.

Common Module

Caution ***Gas events occurring at detectors while the Common Module is in the menu mode are not reported there. The Channel Module continues to monitor gas detector events and report them.***

The ***Display Module*** on the ***Common Module*** provides a graphical user interface that, during normal operation shows:

- **common system status information**
- **individual *Channel Module* alarm information**
- **the time/date**

An audible alarm sounds whenever an abnormal event is detected, e.g. alarm, fault, etc. Alarms can be acknowledged/reset from the ***Common Module***.

The display also features a set of menus accessed and controlled via the set of four buttons below the display (3 are hidden under a panel), see ***page 31*** and ***page 43***.

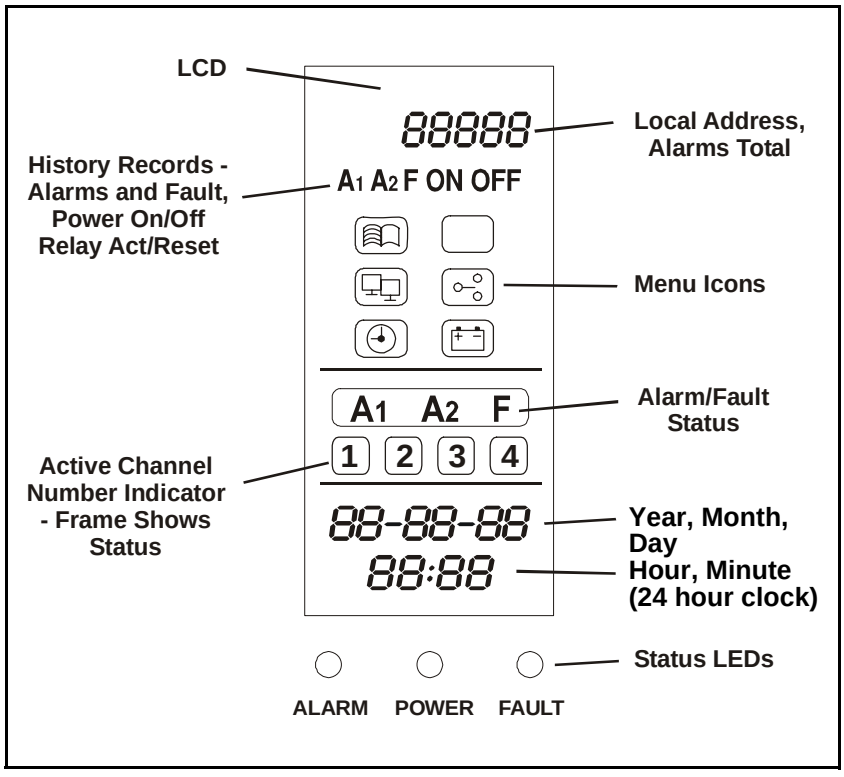
Three LEDs below the screen indicate status information - power on (green), gas alarm (red) and fault (amber).

The history of the recorded events for each ***Channel Module*** can be viewed to show time/date of alarms, faults and power on/off.

The display shows the alarm/ fault status of each channel, configuration mode, controller address, and current date and time.

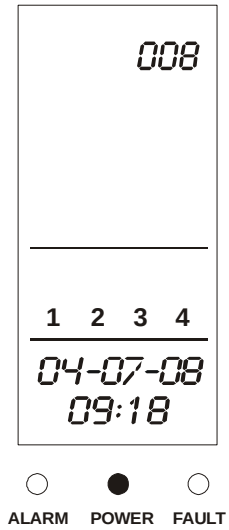
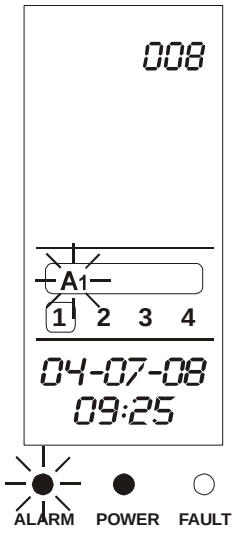
The diagram shows the display layout.

The meaning of the menu icons is explained on ***page 37*****.**

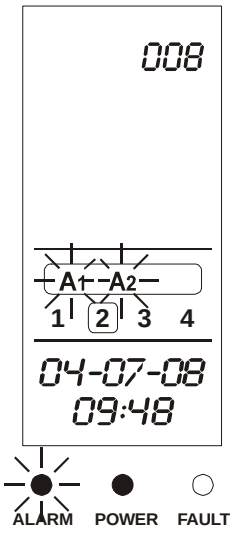
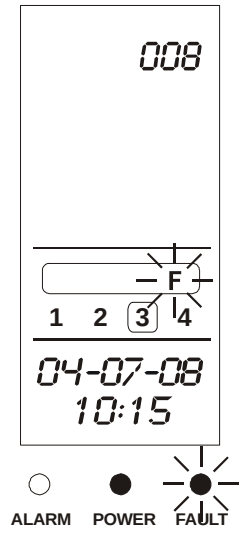


Status Indications

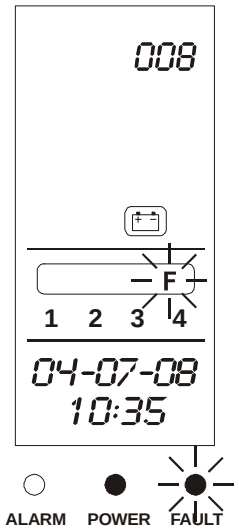
Typical display indications and default relay status for a particular operational state are shown in the following examples.

Operational State	Status			Audio/Visual Output
	Display	Audible Alarm	Relays	
Normal operation		Off	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay energized (default)	—
Alarm 1 - Channel 1		On	Alarm Relay 1 energized Alarm Relay 2 de-energized Fault relay energized	A1, VIS

Key:	●	LED on	○	LED off
	✳	LED flashing	A1	Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Operational State	Status			Audio/Visual Output
	Display	Audible Alarm	Relays	
Alarm 2 - Channel 2		On	Alarm Relay 1 energized Alarm Relay 2 energized Fault relay energized	A2, VIS
Detector Fault - Channel 3		On	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay de-energized	F VIS

Key:	● LED on	○ LED off
	✳ LED flashing	A1 Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Operational State	Status			Audio/Visual Output
	Display	Audible Alarm	Relays	
Power Fault		On	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay de-energized	F VIS

Key:	● LED on	○ LED off
	✳ LED flashing	A1 Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Alarms

Common Module alarms, and how to deal with them, are described on ***page 33***.

Menus

The ***Common Module*** has ***5*** menu options for configuring/controlling the system. They are represented on the display by the icons described in the following table.

Menu	Description	Function	More information
	View Event History	Check the time/date of each alarm and power on/off	See ***page 46***
	RS485 Communications	Set the controller's address and baud rate	See ***page 46***
	Set relay actions	Set relays to energized or de-energized, and latching or non-latching	See ***page 47***
	Set time and date	Set the real-time clock on the controller	See ***page 49***
	Choose power source	Set power source to AC, DC or both	See ***page 50***

Channel Module

Caution ***Gas events occurring at the detector while the Channel Module is in the menu mode are not reported at the Channel Module*** or ***Common Module.***

The ***Channel Module*** features a user interface that, during normal operation, shows gas reading information, and also channel fault and information messages. It displays channel status and configuration information for the channel via a menu accessed and controlled via four buttons (3 are hidden) below the display, see ***page 31*** and ***page 43***.

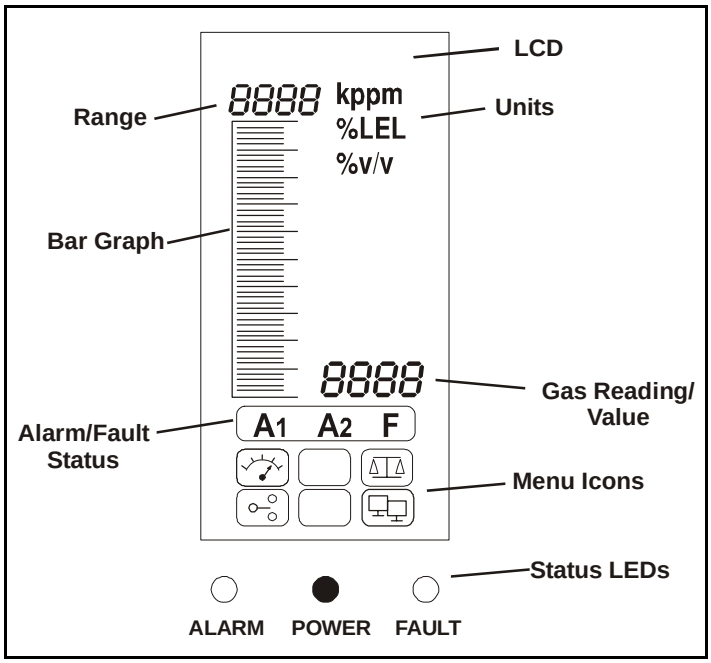
An audible alarm sounds whenever a channel event occurs, e.g. gas alarm, fault, etc.

3 LEDs below the screen indicate channel status information - power on (green), gas alarm (red) and fault (amber).

Each channel's alarms and faults are output to the ***Common Module*** where they are monitored and where common alarms are invoked.

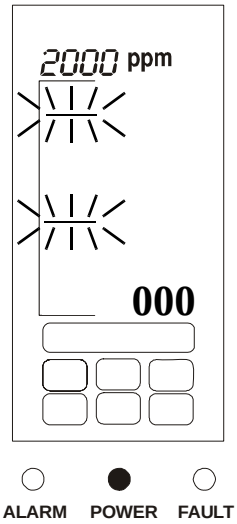
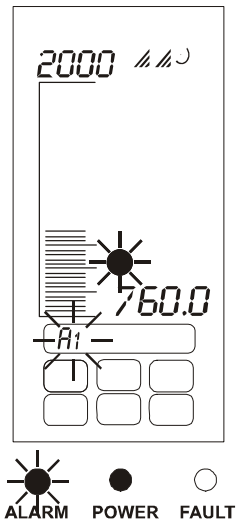
The display screen on each ***Channel Module*** shows the gas concentration (both graphically and numerically), range, units, alarm/fault status, and configuration mode. The diagram shows the display layout.

The meaning of the menu icons is explained on ***page 43*****.**

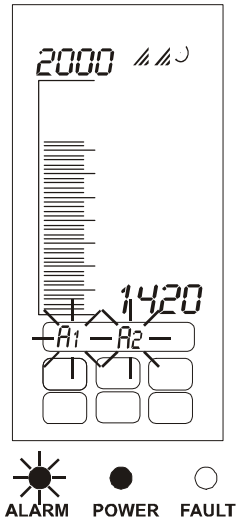
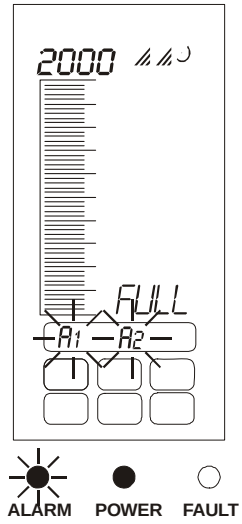


Status Indications

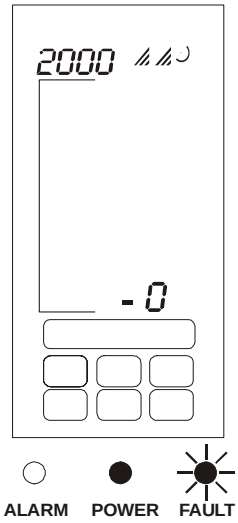
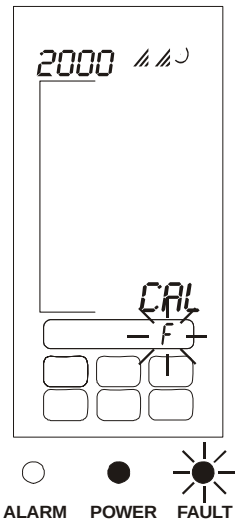
Typical display indications and default relay status for a particular operational state are shown in the following examples.

Operational State	Status			Outputs	
	Display	**Audible Alarm**	**Relays**	**4-20 mA (for 2000 ppm range)**	**Comms.**
Normal operation		Off	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay energized (default) Alarm set point indicators (bars) flash	4 mA	
Alarm 1		On	Alarm Relay 1 energized Alarm Relay 2 de-energized Fault relay energized	10 mA	A1

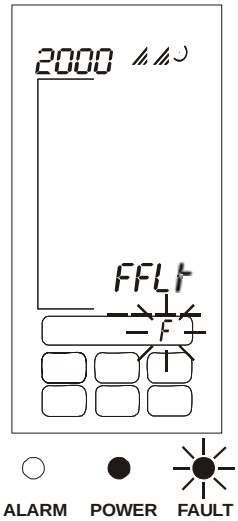
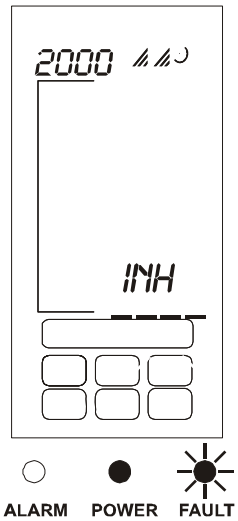
Key:	● LED on	○ LED off
	✳ LED flashing	A1 Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Operational State	Status			Outputs	
	Display	Audible Alarm	Relays	4-20 mA (for 2000 ppm range)	Comms.
Alarm 2		On	Alarm Relay 1 energized Alarm Relay 2 energized Fault relay energized	15.3 mA	A1 & A2
Greater than full scale alarm		On	Alarm Relay 1 energized Alarm Relay 2 energized Fault relay energized	22 mA	A1 & A2

Key:	● LED on	○ LED off
	✳ LED flashing	A1 Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Operational State	Status			Outputs	
	Display	Audible Alarm	Relays	4-20 mA (for 2000 ppm range)	Comms.
Deadband (negative drift <5%)		On	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay energized	4 mA	
Fault (negative drift >5%)		On	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay de-energized	2.5 - 3.2 mA	F

Key:	● LED on	○ LED off
	✳ LED flashing	✳ A1 Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Operational State	Status			Outputs	
	Display	Audible Alarm	Relays	4-20 mA (for 2000 ppm range)	Comms.
Fault (open/short circuit)		On	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay de-energized	0 mA	F
Inhibit		-	Alarm Relay 1 de-energized Alarm Relay 2 de-energized Fault relay energized	1.5 - 2.5 mA (normally 2.0 mA)	F

Key:	● LED on	○ LED off
	✳ LED flashing	A1 Alarm 1, A_1, flashing (and/or A_2, and/or F may flash)

Alarms

Channel Module alarms, and how to deal with them, are described on ***page 33***.

Menus

The ***Channel Module*** has ***4*** menu options for configuring/controlling the channel. They are represented on the LCD screen by the icons shown in the following table, which describes them and explains what they are for.

Menu	Description	Function	More information
	Gas units/range settings	Change gas units (%V/V, %LEL, kppm, ppm) and range	See ***page 52***
	Set zero and span	Calibrate the detector zero and span.	See ***page 52***
	Set alarm levels and relay actions	Change the gas levels at which alarms occur. Set relays to: latching or non-latching, energized or de-energized, ***O_2 only*** — also rising and falling	See ***page 54***
	Set channel address	Set the channel address	See ***page 55***

User Settings

The controller is supplied pre-configured with factory defaults, see ***page 56***.

These can be used if suitable, or customized by the user to suit site requirements.

This chapter describes:

- **how to carry out changes**

Note *Some of these must be set up prior to commissioning, see* ***page 57****.*

- **defaults for the common controller settings,** *see* ***page 56***
- **defaults for the two types of *Channel Module*,** *see* ***page 56***

A menu system is used at the ***Common Module*** to change common controller settings, and also at each ***Channel Module*** to change the individual channel configuration.

For the ***Common Module*** the chapter explains how to:

- **browse the controller's event record, see *page 46***
- **set up the RS485 communication link, see *page 46***
- **set relay actions, see *page 47***
- **set the real-time clock, see *page 50***
- **set the power source, see *page 51***

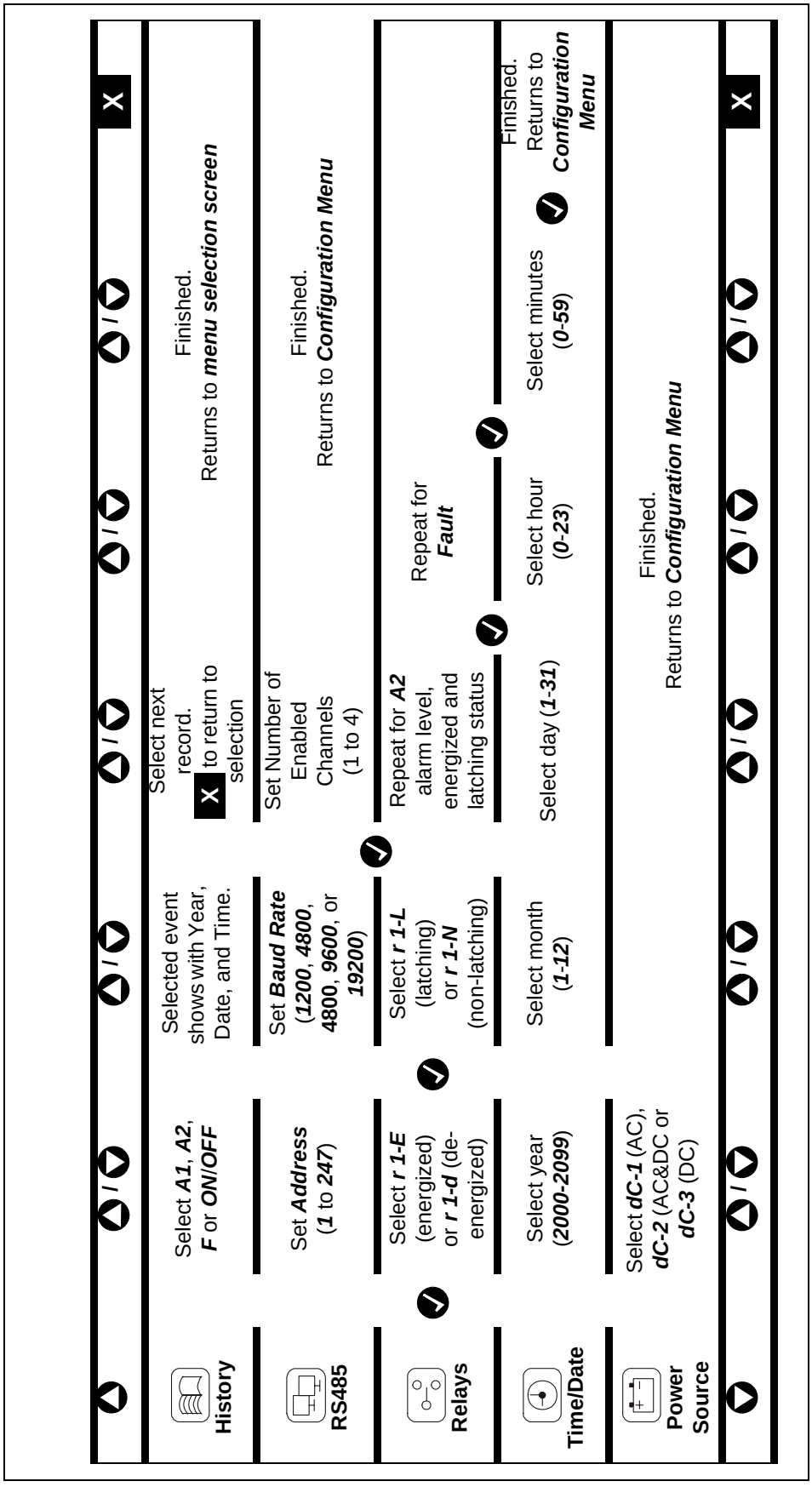
For each ***Channel Module*** it explains how to:

- **set gas units and range, see *page 53***
- **set zero and span, see *page 54***
- **set alarm levels and relay actions, see *page 55***
- **set the channel address, see *page 56***

Before performing any of the above actions refer to the procedures that explain how to use menus, see ***page 32***.

Common Module Settings

This table provides a summary of the common configuration options. For detailed step-by-step instructions for each menu see the subsequent sections.



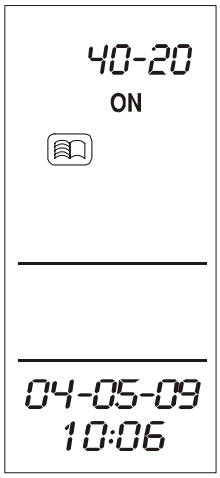
Event History

This menu is to review up to ***40*** time and date records for alarms, faults (including channel number) and controller ***Power On/Off*** events.

1 Access the menu system and select the menu option.

*Press **Up** or **Down**. The icon flashes.*

2 Press OK.



The display shows the following information:

- ***40-xx - the record number out of 40 — latest shown first***
- ***the time and date of the event***
- ***A1, A2, F ON - alarm/fault activated***
- ***A1, A2, F OFF - latched alarm/fault accepted/reset, or non-latched alarm/fault automatically reset***
- ***ON/OFF- power switched on/off***
- ***1, 2, 3 or 4 - channel number***

*The example shows that this is the **20th** record out of **40** and the event is a **Power ON** at **10:06am** on the **9th May 2004**.*

3 Select a different record using the *Up/Down* buttons.

4 Press *Cancel*.

Goes to the event history record menu screen.

5 When record viewing is complete press *Cancel*.

Returns to the menu selection screen.

6 Press *Cancel*.

Returns controller to normal operation.

Note *Addressing/communications faults (between common and channel modules) are displayed in history by showing ALL channel indications (1 2 3 4) regardless of which channel had the fault.*

RS485

This menu is for setting the RS485 communication link settings.

1 Access the menu system and select the menu option.

*Press **Up** or **Down**. The icon flashes.*

2 Press OK.

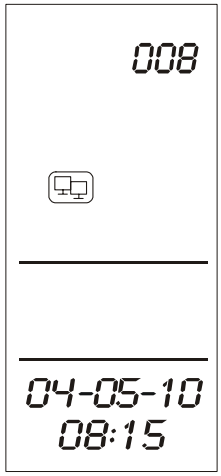
The controller's current address is displayed.

3 **Use *Up/Down* to change the address.**

*Between 00**1** and **247** (decimal).*

4 **Press *OK* to accept the change.**

The display changes to show the current baud rate.

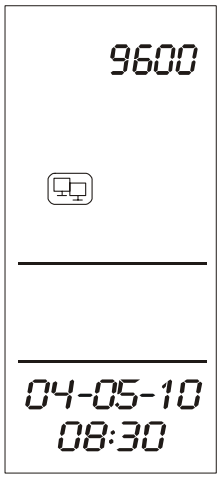


5 **Use *Up/Down* to change the baud rate.**

*From **1200**, **4800**, **4800**, **9600**, or **19200**.*

6 **Press *OK* to accept the change.**

The display changes to show the number of channels connected ot the common module.



7 **Use Up/Down to change the number of channels fitted.**

8 **Press OK to accept the change.**

Returns to the menu selection screen.

9 **Press *Cancel*.**

Returns controller to normal operation.

Relay Action

This section sets up the two alarm relays and the single fault relay.

1 **Access the menu system and select the menu option.**

*Press **Up** or **Down**. The icon flashes.*

2 Press OK.

*The display changes to the **A1** alarm relay action menu.*

*The display shows either **r 1-d** (for relay 1 de-energized), or **r 1-E** (for relay 1 energized).*

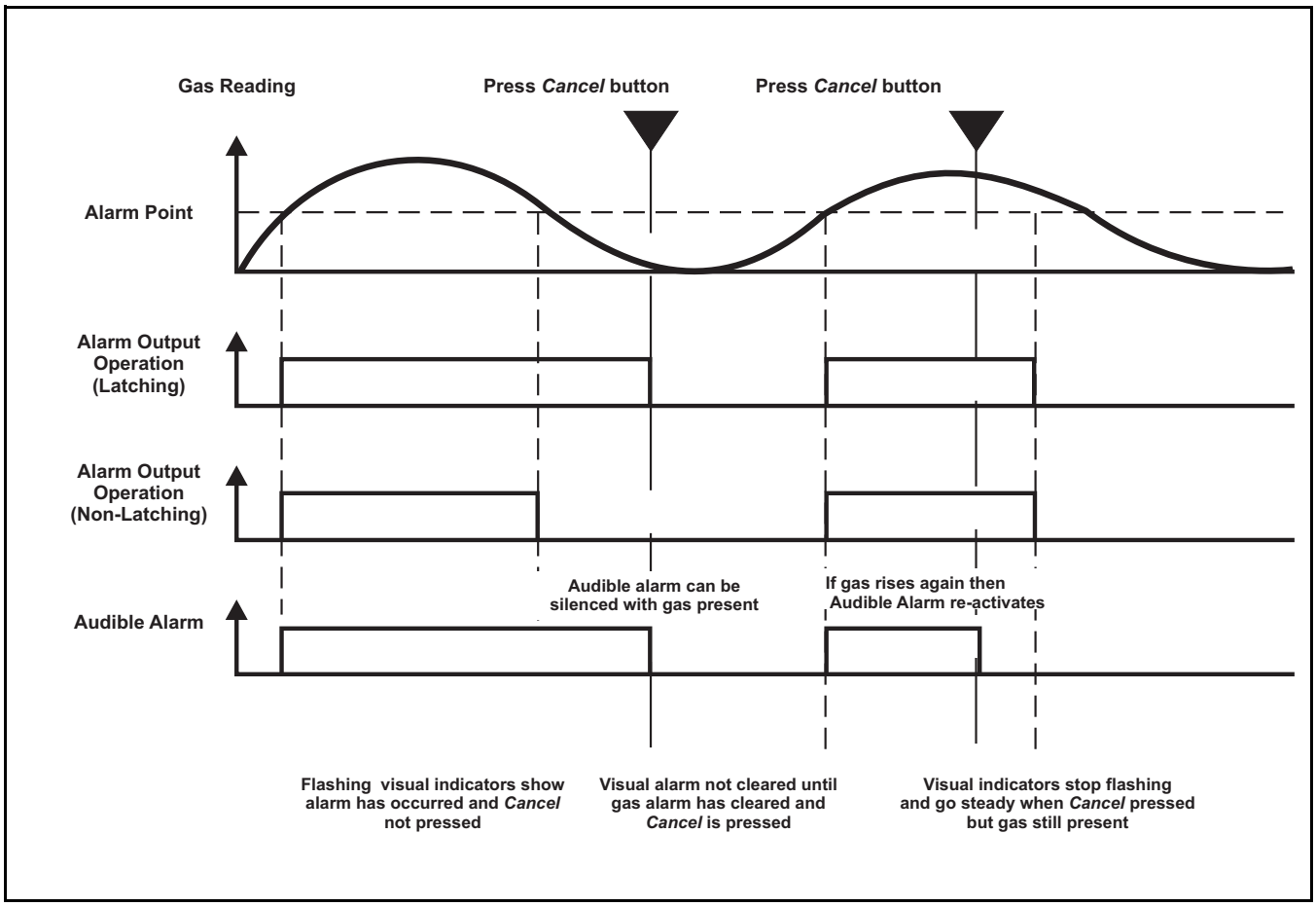
3 Use *Up/Down* to change the relay action.

4 Press *OK* to accept the change.

*The display changes to the relay latching or non-latching menu and shows either **r 1-L** (for relay 1 latching), or **r 1-nL** (for relay 1 non-latching).*

5 Use *Up/Down* to change the relay action.

The following diagram shows the effect of latching or non-latching relays.



6 Press *OK* to accept the change.

*The display now changes to the current **A2** alarm relay action menu.*

7 Change A2 relay settings as for relay A1.

8 **Press *OK* to accept the changes.**

*The display now changes to the **F** fault relay settings.*

9 **Change *F* relay settings as for relay A1.**

*Change the settings as for relay **A1**, see **step 3** to **step 6**.*

10 **When settings are complete press *OK*.**

Returns to the menu selection screen.

11 **Press *Cancel*.**

Returns controller to normal operation.

Time and Date

This menu sets the controller's real-time clock.

1 **Access the menu system and select the menu option.**

*Press **Up** or **Down**. The icon flashes.*

2 **Press *OK*.**

At the bottom of the display the current selected year flashes.

3 **Use *Up/Down* to change the year.**

*Between **2002** and **2099**.*

4 **Press the *OK* button to accept the change.**

The display changes to a flashing display of the current month setting.

5 **Use *Up/Down* to change the month.**

*Between **1** and **12**.*

6 **Press *OK* to accept the change.**

The display changes to a flashing display of the current day.

7 **Use *Up/Down* to change the day.**

*Between **1** and **31**.*

8 **Press *OK* to accept the change.**

The display changes to a flashing display of the current time (hours).

9 **Use *Up/Down* to change the hours.**

*Between **00** and **23**.*

10 **Press *OK* to accept the change.**

The display changes to a flashing display of the current time (minutes).

11 **Use *Up/Down* to change the minutes.**

*Between **00** and **59**.*

12 **Press *OK*.**

The display returns to the menu selection screen.

13 **Press *Cancel*.**

Returns controller to normal operation.

Power Source 

This menu programs ***Touchpoint 4*** for the type of available power source(s).

The controller can be set to any of three different power supply modes.

1 Access the menu system and select the  menu option.

*Press **Up** or **Down**. The icon flashes.*

2 Press *OK*.

The display shows one of the following power modes:

- ***dC-1 — AC only power supply***
- ***dC-2 — AC and DC power supplies***
- ***dC-3 — DC only power supply***

3 Use *Up/Down* to select the required power configuration.

Note *If the system is powered by an **AC** supply, only **dC-1** or **dC-2 should be** selected.*
*If the system is powered by a **DC** supply, only **dC-2** or **dC-3 should be** selected.*

4 Press *OK*.

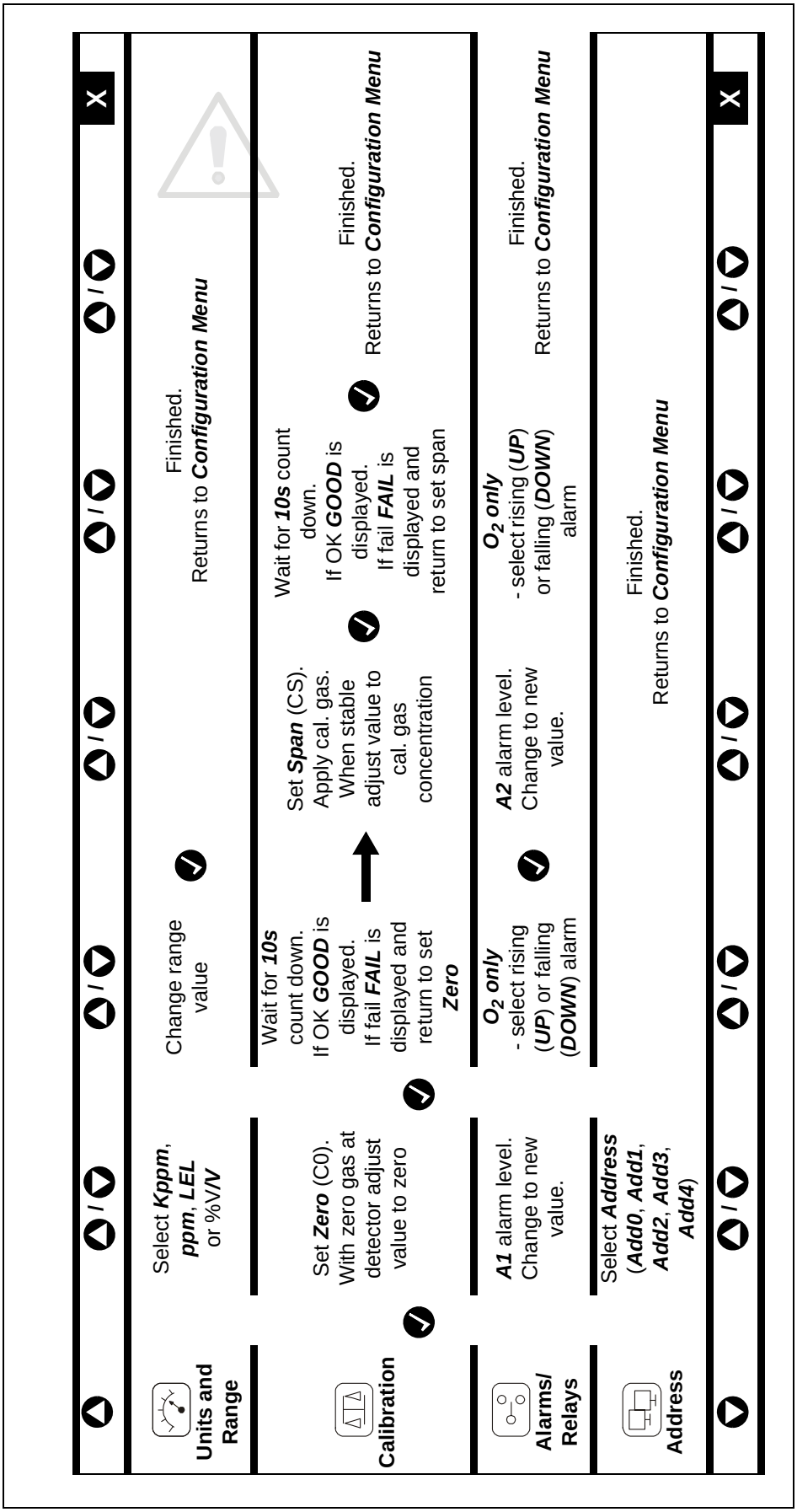
The display returns to the menu selection screen.

5 Press *Cancel*.

Returns controller to normal operation.

Channel Settings

This table provides a summary of the individual channel configuration options. For detailed step-by-step instructions for each menu see the subsequent sections.



Gas Units and Range

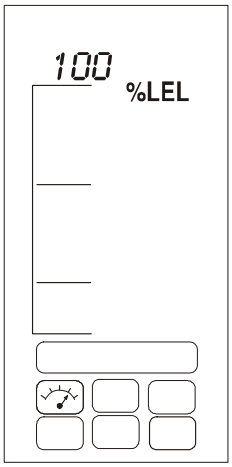
WARNING

If the range is changed, the alarm set points also change. Verify desired set points per page 55.

This menu is the first one displayed when the menu system is accessed. It sets the units of gas measurement and the range.

1 **Press the *Up* and *Down* down buttons simultaneously.**

This accesses the menu system and displays the *menu icon, which flashes.*



2 **Press OK.**

The current units and range are displayed.

3 **Press *Up* or *Down* to select a different unit of gas measurement.**

See the subsequent table.

4 **Press *OK* to accept the selected unit.**

The display now shows the current range.

5 **Press the *Up* or *Down* buttons to select a different range.**

Default units and ranges are shown in the following table.

Unit	kppm	ppm	%LEL	%v/v
Range	1.0 - 999.9	1.0 - 999.9 or 10 - 9999	10 - 100	1.0 - 100

6 **When settings are complete press *OK*.**

Returns to the menu selection screen.

7 **Press *Cancel*.**

Returns controller to normal operation.

Caution ***If the range is changed, the alarm level will also be changed. Set desired alarm levels per page 55.***

Zero and Span

This menu is for calibrating the controller measurements to the connected gas detector.

1 Access the menu system and select the menu option.

*Press **Up** or **Down**. The icon flashes.*

2 Press OK.

*The top left of the display reads **CO** to indicate the set zero menu mode. The gas reading displays the current real zero value.*

Note *Ensure the sensor is in clean air before carrying out the next step. For **oxygen** apply **nitrogen** to the sensor at **0.3 l/min**.*

3 When the gas reading is stable adjust the reading to zero.

*Use the **Up**/**Down** buttons.*

4 Press *OK* when the reading is zero.

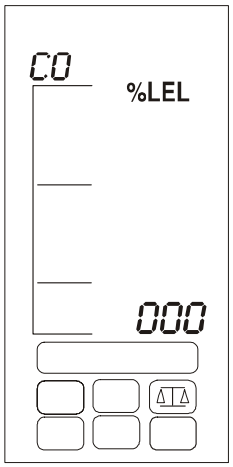
*The display now shows a **10** second countdown.*

*When the countdown is complete the display shows **GOOD** if the zero has succeeded and then change to the span mode.*

*If the zero fails the display shows **FAIL** and returns to the beginning of the set zero mode.*

*After successfully setting the zero the display then changes to show **CS** in the top left to indicate the set span mode.*

***For O_2 only —** apply **N2** at a flow rate of **0.3 l/m** to perform a zero. Alternatively press Cancel to by-pass the zeroing and move directly to the span function.*



5 Fit a flow adapter to the gas detector sensor.

First remove any accessory fitted to the sensor, e.g. weather protection.

6 Apply calibration (span) gas to the detector at a flow rate of *0.3 l/min*.

Note *Honeywell Analytics recommend the use of half full-scale gas for calibration purposes (contact a distributor for the supply of calibration gas).*

The gas reading on the controller display shows the measured reading from the detector

7 When the gas reading is stable adjust the reading to the actual concentration of the calibration gas being applied to the detector.

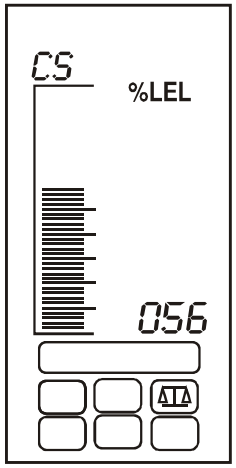
*Use the **Up/Down** buttons.*

8 Press *OK*.

*The display then shows a **10** second countdown.*

*When the countdown is complete the display shows **GOOD** if the span has succeedd.*

*If the span fails the display shows **FAIL** and returns to the beginning of the span menu.*



9 When settings are complete, press *Cancel*.

Returns controller to normal operation.

Alarm Levels and Relay Action

Sets the alarm levels for ***Alarm 1*** and ***Alarm 2*** as well as how the alarm relays operate. For ***oxygen*** either a ***Rising*** (oxygen enrichment) or ***Falling*** (oxygen deficiency) alarm can be selected.

1 Access the menu system and select the menu option.

*Press **Up** or **Down**. The icon flashes.*

2 Press OK.

*The current **A1** (alarm 1) setting is displayed.*

3 Use Up/Down to change the value.

***A1** alarm levels can be set between **0**% and the **FS** (full-scale) range. The default setting is **25%** of the full-scale range.*

4 Press *OK* to accept the change.

*If the gas units are **%V/V** and the gas being detected is **oxygen** then a rising alarm **UP** or a falling alarm **DOWN,** can be selected. Use **Up/Down** to change the value.*

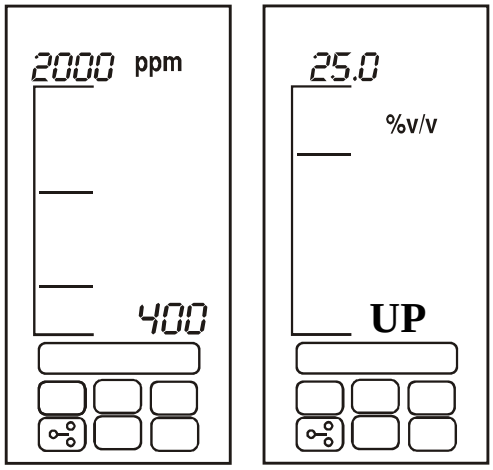
5 Press *OK* to accept the change.

*The display changes to the **A1** relay action menu.*

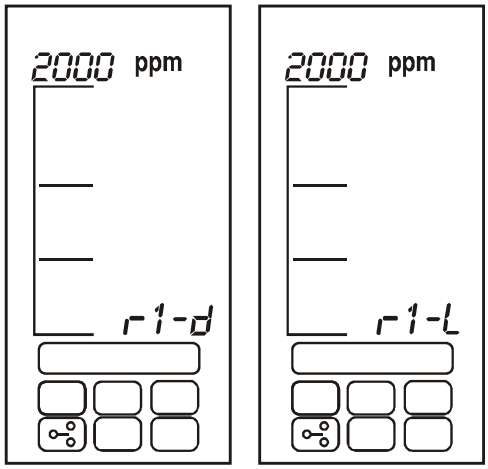
*The display shows either **r 1-d** (for **Relay 1** de-energized), or **r 1-E** (for **Relay 1** energized).*

6 Use *Up/Down* to change the relay action.

7 Press *OK* to accept the change.



O2 only



*The display changes to the relay latching or non-latching menu and shows either **r 1-L** (for relay 1 latching), or **r 1-N** (for relay 1 non-latching).*

*Use **Up/Down** to change the relay action. The diagram on **page 47** shows the effect of latching or non-latching relays.*

8 Press *OK* to accept the change.

*The display now changes to the current **A2 Alarm 2** setting.*

9 *Alarm 2* settings are changed in the same way as for *Alarm 1*.

***A2** alarm levels can be set between the **A1** alarm level and the full scale range. The default setting is **50%** of the full scale range.*

10 When settings are complete press *OK*.

Returns to the menu selection screen.

11 Press *Cancel*.

Returns controller to normal operation.

Channel Address

This option sets the channel's address. By default the four channels are set to ***Add1, Add2, Add3*** *and* ***Add4*** *(from left to right).*

1 Access the menu system and select the menu option.

*Press **Up** or **Down**. The icon flashes.*

2 Press OK.

The display shows the channel address.

3 Use *Up/Down* to change the channel address.

*From **Add0**, **Add1, Add2, Add3** or **Add4**.*

*Note Setting the address of a channel to **Add0** disables the channel.*

4 Press the *OK* button to accept the change.

5 Press *Cancel* to return to normal operation.

Common Module Default Configuration

Function	Default Configuration
Address	001
Baud Rate	9600
Alarm Relay 1 (A1)	Latching, normally de-energized, energizes on any A1 alarm
Alarm Relay 2 (A2)	Latching, normally de-energized, energizes on any A2 alarm
Fault Relay (F)	Non-latching, normally energized, de-energizes on fault/power loss

Channel Module Default Configuration

Touchpoint 4 is supplied from the factory with standard default channel configurations. The configuration is based on settings typically used in gas detection systems.

The two channel versions are factory configured as follows.

mV input detector

Function	Default Configuration	
Display range and units	0-100% LEL	
mV Signal	<2.9 mV	Fault (open circuit)
	2.9 - 3.5 mV	Normal operation
	>3.5 mV	Overrange
Alarm Relay 1	Alarm level 1 — 20% LEL Latching, normally de-energized, energizes on alarm (Single Pole Change Over 240 Vac 3A max)	
Alarm Relay 2	Alarm level 2 — 40% LEL Latching, normally de-energized, energizes on alarm (Single Pole Change Over 240 Vac 3A max)	
Fault Relay	Non-latching, normally energized, de-energizes on fault (Single Pole Change Over 240 Vac 3A max)	

4-20 mA input detector

Function	Default Configuration	
Display range and units	0-100% FS	
mA Signal	0 - 1.5 mA	Open circuit fault
	1.5 - 2.5 mA	Inhibit
	2.5 - 3.2 mA	Drift fault
	3.2 - 4.0 mA	Deadband
	4.0 to 20.0 mA	Normal operation
	22.0 mA	Max. overrange
Alarm Relay 1	Alarm level 1 — 20% of full scale Normally de-energized, energizes on alarm (Single Pole Change Over 240 Vac 3A max)	
Alarm Relay 2	Alarm level 2 — 40% of full scale Normally de-energized, energizes on alarm (Single Pole Change Over 240 Vac 3A max)	
Fault Relay	Non-latching, normally energized, de-energizes on fault (Single Pole change over 240 Vac 3A max)	

Commissioning

WARNINGS

Touchpoint 4 is designed for installation and use in indoor safe area non-explosive atmospheres. Installation must be in accordance with the recognized standards of the appropriate authority in the country concerned.

Before carrying out any work ensure local regulations and site procedures are followed.

Access to the interior of the controller, when carrying out any work, must only be conducted by trained personnel. Switch off and isolate the power supply to the controller when access is required. Take any necessary precautions to prevent false alarms.

Caution ***Calibration of the gas detector and the controller is mandatory during commissioning to ensure their proper functioning.***

The controller with attached gas detectors should be commissioned in the following order:

- **first set the general controller configuration, see *page 45***
- **set up any gas detectors that require local commissioning, e.g. Sensepoint Pro — this has its own display and user interface**
- **set the configuration of the channels fitted to the controller, see *page 51***
- **further commission the channels to match the types of gas detector attached to the controller following the procedures described in this chapter**

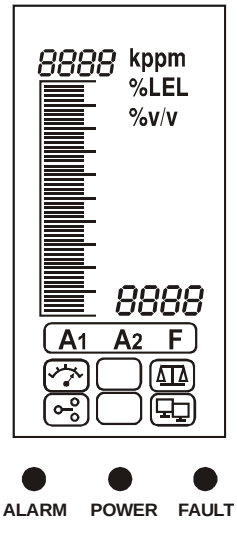
The chapter describes how to put the two versions of each channel module into service with the following types of gas detectors:

- **3-wire mV bridge**
- **2-wire 4-20 mA sink, see *page 59***
- **3-wire 4-20 mA source, see *page 60***

Note *On the subsequent diagrams, ● = LED **ON**, ○ = LED **OFF***

3-wire mV Bridge

This description covers connection to gas detectors such as ***Sensepoint Flammable***. Carry out the following procedure.



1 **Check that all power and electrical connections to the controller, and electrical connections to the gas detector are correct.**

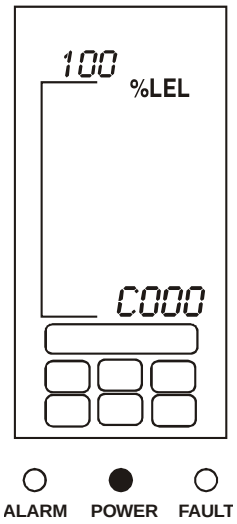
*For gas detector details see its user manual. For detector to controller wiring details see **page 21**.*

2 **Apply power to the controller and check basic channel information is displayed.**

*See **page 29**. To skip the channel warm up sequence press and hold the* **Cancel** *button on the **Channel Module** for **3 seconds**.*

3 Check for a minimum voltage of *2.9 Vdc* at the detector.

*If incorrect check for constant current supply of **200 mA +/-2 mA**. For detectors other than **Sensepoint Flammable** refer to their operating instructions.*



4 Close the detector enclosure.

For gas detector details see its user manual.

5 Press the *Up/Down* buttons on the controller simultaneously.

*This enters configuration mode and the **Set Gas Units and Range** menu icon is displayed and flashes.*

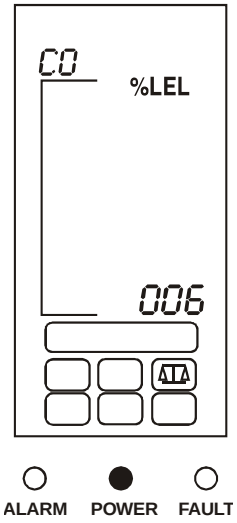
6 Select the *Calibration Menu* icon 

*Use the **Up/Down** buttons.*

7 Press the *OK* button.

*The top left of the display reads **C0** indicating the set zero menu mode. The display shows the current gas reading **real** zero value.*

Ensure the sensor is in clean air.



8 When the gas reading is stable, adjust the reading to zero.

*Use the **Up/Down** buttons.*

9 Press *OK*.

*The display shows a **10 second** countdown.*

*When the countdown finishes the display shows **GOOD** if set zero has succeeded. The display then changes to the set span menu mode indicated by **CS** in the top left of the display.*

*If set zero fails the display shows **FAIL** and returns to the start of the set zero mode.*

10 Fit a flow adapter to the gas detector sensor.

First remove any accessory fitted to the sensor, e.g. weather protection.

11 Apply calibration (*span*) gas to the detector.

*Adjust the gas flow rate to **0.3 l/min**.*

Note *Honeywell Analytics recommend the use of half full-scale gas for calibration purposes (contact a distributor for the supply of calibration gas).*

The controller now displays the actual gas measurement at the gas detector.

12 When the gas reading is stable adjust the reading to the actual concentration of the calibration gas applied to the sensor.

*Use the **Up/Down** buttons.*

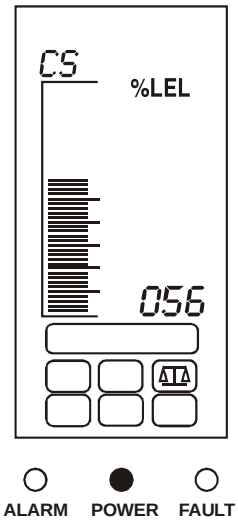
13 Press the *OK* button.

*The display shows a **10 second** countdown.*

*If the set span succeeds the display shows **GOOD**.*

*If the set span fails the display shows **FAIL** and returns to the beginning of the set span mode.*

After successfully setting the span the display returns to the menu selection mode.



14 Switch off the calibration test gas and remove the flow adapter from the detector.

15 Refit any accessory to the detector.

16 Return *Touchpoint 4* to normal operation.

*Press the **Cancel** button. Alternatively select a different menu option.*

2-Wire 4-20 mA Sink

This describes connection to gas detectors such as ***Sensepoint Toxic***.

1 Set up the gas detector.

*Refer to the **detector's user manual** for details describing how to set up the detector.*

2 Check that all power and electrical connections to the controller, and electrical connections to the gas detector are correct.

*For gas detector access see its user manual. For detector to controller wiring details see **page 21**.*

3 Follow *step 2* on *page 57*.

4 Check for a minimum voltage of *16 Vdc* at the gas detector.

*For detectors other than **Sensepoint Toxic/Oxygen** refer to their operating instructions.*

5 Check that the *Touchpoint 4* display shows the correct gas units and range for the detector in use.

*If not follow the procedure on **page 52** to change the gas units and range.*

6 Follow *step 5* on *page 58*, to *step 16* on *page 59*.

3-wire 4-20 mA Source

This covers connection to gas detectors such as ***Sensepoint Plus***/***Pro***.

1 **Set up the gas detector.**

*Refer to the **detector's user manual** for details describing how to set up the detector.*

2 **Check that all power and electrical connections to the controller, and electrical connections to the gas detector are correct.**

*For gas detector access see its user manual. For detector to controller wiring details see **page 20**.*

3 **Follow *step 2* on *page 57*.**

4 **For Sensepoint Plus/Pro check for a minimum voltage of *12 Vdc* at the gas detector.**

*For detectors other than **Sensepoint Plus/Pro** refer to their operating instructions.*

5 **Check that *Touchpoint 4*'s display shows the correct gas units and range for the detector in use.**

*If not follow the procedure on **page 52** to change the gas units and range.*

6 **Follow *step 5* on *page 58*, to *step 16* on *page 59*.**

Maintenance

WARNINGS

Touchpoint 4 is designed for installation and use in indoor safe area non-explosive atmospheres. Installation must be in accordance with the recognized standards of the appropriate authority in the country concerned.

Before carrying out any work ensure local regulations and site procedures are followed.

Access to the interior of the controller, when carrying out any work, must only be conducted by trained personnel. Switch off and isolate the power supply to the controller when access is required. Take any necessary precautions to prevent false alarms.

The detectors/sensors that the controller connects to may be used for gas detection in hazardous atmospheres. Refer to the individual detector/sensor instructions for their details.

This chapter details the following:

General Maintenance

Honeywell Analytics recommend that the controller's configuration and operation are checked annually using the two check sheets shown at the end of this section.

The ***System Configuration Sheet*** should be referenced during system checks and updated if any changes to the system configuration have been made as well as a calibration log.

The ***System Review Check Sheet*** contains a list of the minimum checks that should be made to ensure the proper and safe functioning of a system.

The gas detectors connected to the controller should be checked by following the procedures detailed in their user guides.

Troubleshooting

The following table details self-diagnostics/problem solving for ***Touchpoint 4***.

Configuration	Fault Condition	Symptom	Action
Power Supply Faults — subject to selected settings			
DC1 normal: Power LED (green) **ON** Battery icon **OFF**	AC supply failed (<85 Vac)	All LEDs & display off/not working. Fault relay de-energized	AC voltage ≥ 85 Vac
DC2 normal: Power LED (green) **ON** Battery icon **OFF**	DC supply failed (<19 Vdc)	Flashing **FAULT** LED (amber). ***F*** shown on display. Fault alarm relay activated Audible alarm Battery icon flashes Power LED **ON** (green)	DC voltage ≥ 19 Vdc
	AC supply failed	Flashing **FAULT** LED (amber). ***F*** shown on display. Fault alarm relay activated Audible alarm Battery icon flashes Power LED (green) **OFF**	AC voltage ≥ 85 Vac
DC3 normal: Power LED (green) **ON** Battery icon **ON**	DC supply failed (<19 Vdc)	All LEDs & display off/not working. Fault relay de-energized	DC voltage ≥ 19 Vdc

System Configuration Check Sheet

Controller location	*Installed by*	*Date*
	Configured by	*Date*
	Calibrated by	*Date*
	Contact tel no	

Power supply **..... AC volts ..... DC volts**

Channel	Type		SensePoint detector type						Other detector type
	mV input	mA input	Flam.	Toxic	Oxygen	STD	Plus	Pro	
1	☐	☐	☐	☐	☐	☐	☐	☐	.....
2	☐	☐	☐	☐	☐	☐	☐	☐	.....
3	☐	☐	☐	☐	☐	☐	☐	☐	..
									.....
4	☐	☐	☐	☐	☐	☐	☐	☐	.
									.....

Comments *(Detail ancillary equipment such as audible/visual alarm indicators, battery back up systems etc.)*

Common Configuration

Alarm 1		Alarm 2		Fault	RS485 address	Baud rate
E/D	L/NL	E/D	L/NL	E/D		

Channel Configuration

Channel	Gas	Range	Units	Alarm 1			Alarm 2			Fault
				Level*	E/D	L/NL	Level*	E/D	L/NL	E/D
1										
2										
3										
4										

**** For Oxygen state rising (R) or falling (F) E/D Energized or De-Energized L/NL Latching/Non-Latching***

Calibration Record

Channel	Actual zero reading	Zero re-cal? Y/N?	New zero reading	Actual span reading	Span re-cal? Y/N?	Span gas conc.	New span reading	Next cal. due	Carried out by	Date

Comments

System Review Check Sheet/Record

Company Name *Contact Name* *Address* *Tel* *Mobile* *Fax* *Email*	*Application Details* *(Brief application and system overview including ancillary devices)*

Customer reported problems/specific requests

Checklist

Control System	*Y*	*N*	*Comments*
Is control system mounted in a suitable place? *Daily viewing, access for maintenance?*			
Is protection suitable for location? *Indoor/outdoor, enclosure IP /NEMA rating?*			
Are there any visual signs of damage? *Physical damage?*			
Is suitable cable/wire used for all connections? *Screened, SWA, CSA, or AWG?*			
Have all cables/wire been terminated correctly? *Use of crimps, terminals tightened?*			
Have all earth/ground connections been made? *Earth loops?*			
Are all the display indicators working properly? *LCDs, LEDs?*			
Detectors	*Y*	*N*	*Comments*
Are the detectors located in a suitable place? *Lighter/heavier than air gas? Breathing zone? Ventilation?*			
Are the detectors correct for the application? *Gas? Range? Type?*			
Are recommended accessories fitted? *Weather protection, collecting cone, filters?*			
Are the detectors/filters clean? *Not been painted, filters clean?*			
Are the detectors securely mounted? *Bracket, wall mount, pipe mount?*			
Are all glands/conduit secure? *Securely tightened, seals not perished?*			
Have all cables/wires been terminated correctly? *Use of crimps, terminals tightened?*			
Are junction boxes/enclosures closed properly? *Junction boxes, transmitter enclosures?*			
Ancillary Devices	*Y*	*N*	*Comments*
Are connections to ancillary devices correct? *Audio/Visual alarms? Signs? Valves? DCS? SCADA?*			

Are the devices suitable for the relay ratings? ***Correct switching power rating or driving other relays?***			
Other General Comments			
Checks carried out by	***Date***	***Next check***	

Parts

This chapter lists part numbers for complete controllers, spare items and accessories.

Touchpoint 4 Controllers

Description	Part No.
4-Channel	
4 x mA input, 0 x mV input	TPWM4440
3 x mA input, 1 x mV input	TPWM4431
2 x mA input, 2 x mV input	TPWM4422
1 x mA input, 3 x mV input	TPWM4413
0 x mA input, 4 x mV input	TPWM4404
3-Channel	
3 x mA input, 0 x mV input	TPWM4330
2 x mA input, 1 x mV input	TPWM4321
1 x mA input, 2 x mV input	TPWM4312
0 x mA input, 3 x mV input	TPWM4303
2-Channel	
2 x mA input, 0 x mV input	TPWM4220
1 x mA input, 1 x mV input	TPWM4211
0 x mA input, 2 x mV input	TPWM4202
1-Channel System	
1 x mA input, 0 x mV input	TPWM4110
0 x mA input, 1 x mV input	TPWM4101

Accessories

Description	Part No.
mA expansion kit (includes mA input module, display module, IDC lead, interconnect cable and fixings)	TP4MAEK
mV expansion kit (includes mV input module, display module, IDC lead, interconnect cable and fixings)	TP4MVEK

Spares

Description	Part No.
Instruction manual	TP4MAN
Wall mounting bracket	TP4WMB
Replacement input module for common module	TP4CMIM
Replacement display module for common module	TP4CMDM
Replacement mV input module	TP4MVIM
Replacement mA input module	TP4MAIM
Replacement mV display module	TP4MVDM
Replacement mA display module	TP4MADM
IDC lead (display to input module)	TP4IDC
Interconnect cable (input module to input module)	TP4INT
Terminal screw and 'U' clamp (bag of 20)	SPPPMTS

Caution ***Other 3rd party non-approved equipment may be used, but only at the users own risk.***

A range of approved 3rd party supplied equipment is available that has been tested to ensure their operation with the Zareba range of products. Contact a Honeywell Analytics distributor for details about the range.

Specifications

General

Use	Wall mounted 1 to 4 channel control panel for the local annunciation of gas hazards as detected by the Zareba Sensepoint range of gas detectors. Suitable for use as an indoor stand-alone, self-contained installation or as part of a larger distributed control system
User Interface	
Operation	Single Test/Accept/Reset push button for normal operational use. Three further hidden push buttons per module for configuration via intuitive menu system
Backlit display	System and channel status including, measuring range, units of measure, digital gas reading, bar graph display 0-100% full scale, system status indicators including alarm set point, alarm activated and power health
Other indicators	Ultra-bright LEDs: alarm (red), power (green), fault (amber)
Audible alarm	85 dBA at 1m / 90 dBA at 1 foot, user hush facility, re-activated on new event
Terminations	Accessed via hinged front cover (latch to hold open as required). All cable/conduit entry via pre-formed knockouts at bottom of controller. Screw terminals suitable for 0.5 mm^2 (20 AWG) to 2.5 mm^2 (14 AWG). Crimped connection recommended.Do not over tighten the terminals. The recommended maximum toque for the terminal block is 12 lb in.

Environmental

IP rating	Indoor use, IP 44 in accordance with EN60529:1992
Weight	6 Kg/13.2 lb (approx.)
Operating Temp Range	-10^{o}C to +40^{o}C / 14^{o}F to 104^{o}F
Operating Humidity Range	10 to 90% RH (non condensing)
Operating Pressure Range	90-110 kPa
Storage	-40^{o}C to +80^{o}C / -40^{o}F to +176^{o}F, 20 to 80% RH (non condensing)

Common Module

Supply	85-265 Vac, 50/60 Hz, auto-sensing 19-30 Vdc, maximum power 160Wac and/or 63Wdc		
Communications	RS485, user configurable address and baud rate (1200, 2400, 4800, 9600, 19200)		
Other	Remote accept/reset push button, normally open, momentary close to activate		
Relays	Common Alarm 1 (A1)	Common Alarm 2 (A2)	System Fault (F)
Rating	SPCO / 3 A, 240 Vac (non inductive load)		
Default Setting	Latching Normally de-energized Energize on any A1 alarm	Latching Normally de-energized Energize on any A2 alarm	Latching Normally energized De-energize on any fault/power loss
User Configurable Options	Latching/non-latching, Energized/de-energized		

Channel Module

Number of Inputs	Up to four channel modules may be fitted to any system. mV and mA types available		
Input modules to match the following types of connected detector			
Detector Type	3-wire mV bridge	2 wire, 4-20 mA, loop powered	3-wire, 4-20 mA, source output
Example	Sensepoint Flammable	Sensepoint Toxic and Oxygen	Sensepoint Plus or Sensepoint Pro
Detector Supply	mV Bridge Input Module Constant current supply: 200 mA Self regulating supply voltage subject to cable resistance Max. loop resistance: 18 Ohms	mA Input Module Maximum detector current supply: 500 mA, Minimum guaranteed supply voltage from the controller: 19 Vdc Input impedance: 100 Ohms	

Relays	Alarm 1 (A1)	Alarm 2 (A2)
Rating	SPCO / 3A, 240VAC (non inductive load)	
Default setting	Latching	
	De-energized	
	Energize on alarm	
	Factory setting 20% FS	Factory setting 40% FS
User configurable options	Latching/non-latching	
	Energized/de-energized	
	Rising/falling (oxygen only)	
	Trip point 10-90% FS	
Other	Isolated 4-20mA output proportional 0-100%FSD	

Warranty

All products are designed and manufactured to the latest internationally recognized standards by Honeywell Analytics under a Quality Management system that is certified to ISO 9001. As such Honeywell Analytics warrants its products against defective parts and workmanship and will repair or (at its option) replace any instruments which are or may become defective under proper use within 12 months from date of commissioning by an approved Honeywell Analytics representative or 18 months from date of shipment from Honeywell Analytics, whichever is the sooner. This warranty does not cover disposable batteries or damage caused by accident, abuse, abnormal operating conditions or poisoning of sensor.

Defective goods must be returned to Honeywell Analytics premises accompanied by a detailed description of any issue. Where return of goods is not practicable Honeywell Analytics reserves the right to charge for any site attendance where any fault is not found with the equipment. Honeywell Analytics shall not be liable for any loss or damage whatsoever or howsoever occasioned which may be a direct or indirect result of the use or operation of the Contract Goods by the Buyer or any Party.

This warranty covers instrument and parts sold to the Buyer only by authorized distributors, dealers and representatives as appointed by Honeywell Analytics. The warranties set out in this clause are not pro rata, i.e. the initial warranty period is not extended by virtue of any works carried out there under.

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