

Technical Handbook

Honeywell



Touchpoint Plus Wireless

Revision History

Revision	Comment	Date
1.0.0.0	initial draft	25/07/2018

Disclaimer

In no event shall Honeywell be liable for any damages or injury of any nature or kind, no matter how caused, that arise from the use of the equipment referred to in this manual.

Strict compliance with the safety procedures set out and referred to in this manual, and extreme care in the use of the equipment, are essential to avoid or minimise the chance of personal injury or damage to the equipment.

The information, figures, illustrations, tables, specifications, and schematics contained in this manual are believed to be correct and accurate as at the date of publication or revision. However, no representation or warranty with respect to such correctness or accuracy is given or implied and Honeywell will not, under any circumstances, be liable to any person or corporation for any loss or damages incurred in connection with the use of this manual.

The information, figures, illustrations, tables, specifications, and schematics contained in this manual are subject to change without notice.

Unauthorised modifications to the gas detection system or its installation are not permitted, as these may give rise to unacceptable health and safety hazards.

Any software forming part of this equipment should be used only for the purposes for which Honeywell supplied it. The user shall undertake no changes, modifications, conversions, translations into another computer language, or copies (except for a necessary backup copy).

In no event shall Honeywell be liable for any equipment malfunction or damages whatsoever, including (without limitation) incidental, direct, indirect, special, and consequential damages, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss, resulting from any violation of the above prohibitions.

Warranty

Honeywell Analytics warrants the Touchpoint Plus system against defective parts and workmanship, and will repair or (at its discretion) replace any components that are or may become defective under proper usage within 12 months from the date of commissioning by a Honeywell Analytics approved representative* or 18 months from shipment from Honeywell Analytics, whichever is sooner.

This warranty does not cover consumable, batteries, fuses, normal wear and tear, or damage caused by accident, abuse, improper installation, unauthorized use, modification or repair, ambient environment, poisons, contaminants or abnormal operating conditions.

This warranty does not apply to sensors or components that are covered under separate warranties, or to any 3rd-party cables and components

Any claim under the Honeywell Analytics Product Warranty must be made within the warranty period and as soon as reasonably practicable after a defect is discovered. Please contact your local Honeywell Analytics Service representative to register your claim.

This is a summary. For full warranty terms please refer to the Honeywell Analytics' *General Statement of Limited Product Warranty*, which is available on request.

* A Honeywell Analytics approved representative is a qualified person trained or employed by Honeywell Analytics, or a qualified person trained in accordance with this manual.

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Touchpoint is a registered trademark of **Honeywell Analytics**.

Find out more at www.honeywellanalytics.com

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Important Safety Information

Chapter 1 – Important Safety Information

The Equipment referred to in this manual contains components and assemblies that are each certified for use in a variety of differing environments, and it is the site owner's responsibility to confirm the suitability of the equipment prior to its installation and use.

The Equipment assemblies referred to in this manual are collectively certified for use in a flammable gas detection system only. Any other use is not currently certified and is not authorised by the manufacturer.

Please check the product rating plate and look for the following marks to ensure that the supplied equipment is suitable for its intended location and purpose:

 Products bearing the CE mark conform to all applicable European Directives as stated on the Honeywell product specific EC Declaration of Conformity.

 Products bearing the UL mark conform to the requirements for Ordinary Locations. The letters C and US mean that the product is certified for use in Canada and the United States of America.

WARNING

FOR SAFETY REASONS THIS EQUIPMENT MUST BE OPERATED BY QUALIFIED PERSONNEL ONLY. READ AND UNDERSTAND THE INSTRUCTION MANUAL COMPLETELY BEFORE OPERATING OR SERVICING THE EQUIPMENT.

ATTENTION

POUR DES RAISONS DE SÉCURITÉ, CET ÉQUIPEMENT DOIT ÊTRE UTILISÉ, ENTRETENU ET RÉPARÉ UNIQUEMENT PAR UN PERSONNEL QUALIFIÉ. ÉTUDIER LE MANUEL D'INSTRUCTIONS EN ENTIER AVANT D'UTILISER, D'ENTREtenir OU DE RÉPARER L'ÉQUIPEMENT.

Important Safety Information

WARNINGS

- 1) The equipment specified in this manual is only to be installed by the Manufacturer's trained personnel, or by competent persons trained in accordance with the Manufacturer's installation instructions.
- 2) Installation must be in accordance with the recognized standards of the appropriate authority in the country concerned. Refer to local, national and company regulations.
- 3) Do not operate the Touchpoint Plus system or its components outside of their rated operating specification.
- 4) Touchpoint Plus must not be operated in Oxygen enriched atmospheres, i.e. greater than 25% v/v Oxygen.
- 5) All equipment containing a User Interface must be suitably protected from direct sunlight and rain.
- 6) Power Supply Fluctuations are not to exceed DC 18 – 32 V SELV Supply or ±10 % of nominal.
- 7) All versions of Enclosure apparatus are electrical Class 1, and must be connected to Protective Earth (Ground).
- 8) The Touchpoint Plus installation must include a means of isolating or disconnecting the input voltage supply. The isolation or disconnection device must be conveniently located close to the system and be clearly labelled. For an AC mains voltage supply, the isolation or disconnection device must disconnect both the line and neutral poles, but maintain earth (ground) continuity.
- 9) The Touchpoint Plus input voltage supply must include over-current protection.
- 10) All cabling must be appropriately rated and approved in accordance with local, national and company regulations, and suitable for the installation. Additionally, cabling must satisfy requirements defined in the manuals of connected field devices, in particular if the field device is certified for use in a hazardous location.
- 11) All signal cables and interconnections must be shielded and the shields terminated only at the unified earth (ground) bus bar situated inside the enclosure
- 12) All conduits and cable armour shall be bonded to protective earth (ground), and care must be taken to avoid ground loops and to avoid contact with cable shielding.
- 13) Cable entry glands, blanking plugs, reducers, adaptors and breather devices must be suitably approved and must not reduce the IP rating or protection levels. Items should not be used if there is a high risk of mechanical damage to the equipment or enclosure.
- 14) Access doors and entry points must be kept closed when the system is energised in normal operation.
- 15) Enclosure locking handle security screws must be fully tightened during normal operation.
- 16) All equipment in this manual is rated to +2000 m (6562 ft) altitude maximum.
- 17) For safety reasons this equipment must be operated by qualified personnel only. Read and understand the Instruction Manual completely before operating or servicing the equipment.
- 18) Touchpoint Plus systems may contain hazardous live terminals. Appropriate precautions should be taken during operation, installation, and maintenance and servicing. Specifically, operators must have appropriate training and experience to be aware of the hazards to which they may be exposed, and of measures to minimise risk to themselves or other people.
- 19) The protection provided by the equipment may be impaired if the equipment is used in a manner not specified or authorised by the manufacturer.

Important Safety Information

WARNINGS

- 20) Be aware that extended exposure of a detector element to certain concentrations of combustible gases and air can introduce stress to the element that may seriously affect its performance, and therefore recalibration should be carried out or the sensor replaced, or both, after an alarm due to an indication of a high concentration.
- 21) When used in a Gas Detection summing up role, the gas reading may be higher than the actual concentration at any one detector head location, or it may be the actual concentration at one specific detector head.

1.1 Cautions

- 1) Touchpoint Plus SMPS and Input / Output Modules have no user serviceable parts. In the unlikely event of a failure, the item must be replaced using only manufacturer supplied parts.
- 2) Do not use sharp objects to operate the touchscreen as this could irreparably damage the User Interface and adversely affect its IP rating.
- 3) Use only soft, damp cloths or screen wipes to clean the Touchpoint Plus. Do not use solvents or abrasives as they will damage the User Interface.
- 4) Once commissioned, Touchpoint Plus is intended for continuous operation.
- 5) Undo the security screws before pulling the locking handle. Failing to do so may irreparably damage the enclosure.

1.1.1 Intended Readers

This Manual should be read by everyone who operates or monitors the Touchpoint Plus gas detection system. Only personnel who have been fully trained by Honeywell are authorised to Install, Set-up, Service, and Test, Repair, or Recondition Honeywell gas detection systems.

Important

Chapter 1 Read how to use Touchpoint Plus Gas detection system and review the contents of Chapter 9 Safety – Safety.

Important Safety Information

1.1.2 Conventions Used

The following conventions are used in this manual:

'Start up' refers to the action of switching on the system ready for use.

'Restart' refers to cycling the power off and then on again.

'Boot up' refers to the action of starting the software from cold.

'Reboot' refers to shutting down and restarting the software without interrupting the power supply.

'TPPL' refers to Touchpoint Plus

1.1.3 Associated Manuals

This manual should be used in conjunction with any manuals provided with ancillary components and sensors.

This manual is available in 14 user languages:

- Chinese (Simplified)
- Dutch
- English
- French (Canada)
- French (France)
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazil)
- Portuguese (Portugal)
- Russian
- Spanish (Mexico)
- Spanish (Spain)

Safety Hazards, Warnings And Cautions

Chapter 2 – Safety Hazards, Warnings and Cautions

2.1 Safety

Incorrect set-up, maintenance, operation or modification of the Touchpoint Plus gas detection system *or its installation* may constitute a serious hazard to the health and safety of personnel and their environment. It is therefore imperative that the contents of this chapter are thoroughly understood by everyone who has access to the gas detection system or its associated equipment.

When properly installed, this gas detection system enclosure is rated as IP65.

It may be installed in a Pollution Degree 2 (i.e. laboratory, office or control room) or Pollution Degree 3 (i.e. unheated boiler room) environment as defined by IEC/UL/EN 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use.

In all cases, several hazards may be present when operating or servicing the equipment and extreme caution must be exercised at all times. The hazards that may be encountered include:

- Class 1 electrical hazards (AC 110/220 V, DC 18–32 V)
- Mechanical hazards (Heavy components, swinging access doors)
- Environmental hazards (toxic atmospheres)
- Fire and Ignition hazards (Touchpoint Plus is **not** ATEX/IECEx Zone 1 certified, and cannot be used in flammable atmospheres, or where oxygen concentrations >25% v/v O₂)

2.1.1 Warnings and Cautions

Safety of this equipment is reinforced by the use of safety labels that are fixed to the equipment in a visible manner. The type of safety labels used and their location is detailed in this chapter. The degree of seriousness of the hazard is indicated in this manual by the use of the following signal words accompanied by a suitable hazard symbol:

Danger

Indicates an imminent hazard that, if not avoided, is **extremely likely to result** in death or serious injury.

Warning

Indicates a potentially hazardous situation that, if not avoided, **could result** in death or serious injury.

Caution

Indicates a potentially hazardous situation that, if not avoided, **may result** in minor or moderate injury. It is also used to alert the user against unsafe working practices and potential damage to equipment.

Safety Hazards, Warnings And Cautions

2.1.2 Safety Hazards

The following specific hazards are associated with the installation and use of this equipment:



Danger – Ignition Hazard

Touchpoint Plus is **Not ATEX/IECEx certified**, and it may only be installed in safe areas where there are no flammable atmospheres, and no oxygen concentrations >25% v/v O₂.



Warning – Lethal Voltage Present

All power supplies must be hard wired and must include a circuit breaker (RCD / RCCB) and, close by and unobstructed, a means of manually isolating and locking-out the power supply without breaking the protective earth (ground) connection.

Removable plug/socket connection is not permitted under any circumstance.



Warning – Lethal Voltage Present

Lethal current may be present in this equipment when electrical power is applied. There is a danger of death or injury from electrical shock. Isolate power before opening electrical access panels. Ensure residual current is fully discharged before touching live terminals.



Warning – Lethal Voltage Present

Lethal current may be generated both internally and externally to the system. All installations, including enclosure, external units, must be grounded to protective earth, and must be capable of staying earthed (grounded) when the power supply is interrupted.

The Protective Earth (Ground) symbol is shown to the left, and always has a green background. Do not confuse it with the chassis earth symbols shown below it.



Warning – Toxic Waste and Harmful By-Products

The Touchpoint Plus system and/or its sensors may become contaminated by the ambient environment in which it or they are used. It is the Customer's sole responsibility to ensure that all appropriate safety precautions are taken before handling any components or transferring them to any other party.

Safety Hazards, Warnings And Cautions

2.1.2 Safety Hazards (Cont.)

The following general hazards are associated with the use of this equipment:



Warning – Fire or Explosion Hazard

Battery may explode if mistreated. Do not disassemble or dispose of in fire.



Warning – DO NOT USE WATER

DO NOT USE WATER if a lithium battery overheats or burns, as this may make the fire worse and may cause an explosion.

Evacuate the area and call Emergency Services.



Caution – Health and Environmental Hazards

This equipment contains a number of potentially toxic substances that may pose a health or environmental hazard if exposed to very high temperatures, VOCs or corrosives, or if improperly handled or carelessly disposed of.



Caution – Risk of Injury and Damage

Each Touchpoint Plus enclosure is heavy and weighs considerably more when packed. Ensure that a Manual Handling Risk Assessment is carried out before moving or installing the system, and ensure that the enclosure is fitted securely to a suitable surface.



Caution – Risk of Eye Injury

Touchpoint Plus uses high energy AC and DC currents that may cause arcing and sparks if shorted out. Always wear eye protection when the enclosure is open.



Caution – Risk of Hearing Damage

Touchpoint Plus can be used to control loud alarms and sirens. Always wear hearing protection when working in the vicinity of loud noises.

Safety Hazards, Warnings And Cautions

2.2 Location and Description of Warning Labels

2.2.1 Safety Warning Labels

In accordance with the requirements of the European Standard EN 60825–1, appropriate warning labels are mounted in specified locations on the equipment. This is to indicate conditions under which the user could be subjected to electrical hazards.

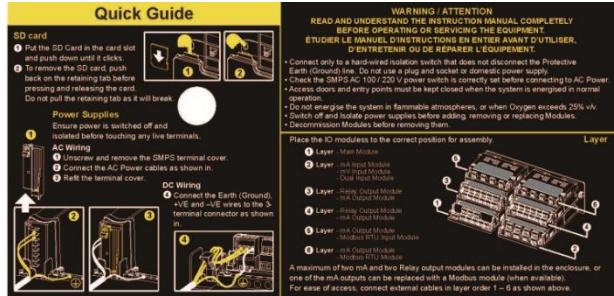


Figure 1. Quickstart Guide Label
(Not to Scale)

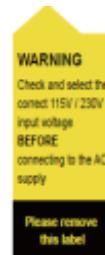


Figure 2. SMPS Voltage Warning Label
(Removed During Installation)



Figure 3. Protective Earth (Ground) Point

This Protective Earth (Ground) location point label is used inside the system and is not normally visible to the operator.



Figure 4. Equipment Earth (Ground) Point

This Equipment Earth (Ground) location point label is used inside the system and is not normally visible to the operator.

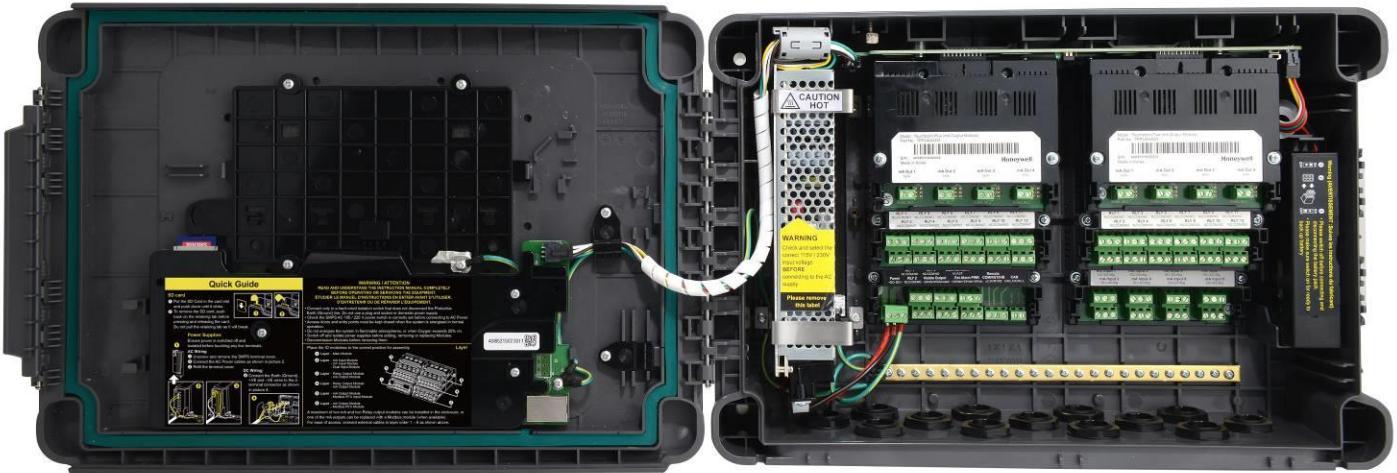


Figure 5. Internal Label Positions

Safety Hazards, Warnings And Cautions

2.3 Electrical Hazards

Gas detection systems contain electrical supplies that are potentially dangerous and hence precautions must be taken to prevent the risk of electrocution.

2.3.1 General Precautions

- Read the relevant manual before beginning any operating or service procedures.
- Only personnel trained and certified by Honeywell are authorised to service, fit or remove internal parts.
- Only the minimum number of trained personnel, consistent with safety, should have access to the area while work is being carried out. If necessary, erect warning signs and barriers.
- Follow accepted working procedures and codes of practice as well as the electrical safety code for the site where the equipment is installed.
- Never operate the equipment under normal conditions with access panels removed or shorting links fitted.
- Do not 'Live Test' without a Safe System of Work (SSoW).
- Always keep the area around the equipment dry and free of obstructions.
- Switch off and Isolate the equipment if water ingress is suspected or confirmed.
- Never operate the equipment if any Mains power cable is frayed or damaged.
- Never wear wristwatches, rings, bracelets, or other jewellery when working around electrical circuits or moving parts.
- Take anti-static precautions when working on electronic circuits.
- Never work on electrical equipment alone.

2.3.2 Component Testing and Replacement

Before carrying out any electrical testing or component replacement:

- Read this Manual to become familiar with the location of high voltage components.
- Isolate the system at the main circuit breaker, lock it in the 'Off' position, and attach a notice indicating that maintenance work is in progress.
- Always wait for 5 minutes after isolating the equipment to ensure that stored energy has dissipated.
- Never assume the polarity of cabling or replacement components. Refer to electrical schematics or contact Honeywell for confirmation.
- Use only Honeywell approved replacement parts.



Warning – Unauthorised Personnel

Only Honeywell trained and certified maintenance technicians are authorised to carry out component testing and replacement. Unauthorised work may result in a potentially dangerous situation and will invalidate the manufacturer's warranty.



Anti-Static Precautions

Antistatic Precautions are required to prevent severe damage to electronic components.

Safety Hazards, Warnings And Cautions

2.3.3 Antistatic Precautions

As with all modern electronic circuits, the Printed Circuit Boards (PCBs) in Touchpoint Plus systems utilise some static-sensitive components that can be severely damaged if subjected to static discharge. Static can be generated on the human body by friction or movement and is discharged through the first contacted route to earth. It can also jump gaps between items of differing electrical potential.

Static damage is not always immediately apparent and can cause component failure at any time after the static discharge has occurred. It is, therefore, very important that everyone takes the following precautions when handling PCBs:

- An industry approved antistatic wrist strap, containing a resistive component greater than 1Megohm, must be worn and connected to an effective earth (ground) point. The continuity between the strap and earth (ground) must be checked regularly.
- PCBs must only be handled by their non-conductive edges. Do not allow any components, conductive tracks or contacts to come into proximity with the body, clothing, machinery, power source or any material other than a static-dissipative mat.
- With the exception of assemblies containing batteries, anti-static packaging must be used for transporting PCBs and Integrated Circuits (ICs). All Touchpoint Plus electronic components are shipped in appropriate packaging that can be re-used when returning items for test or repair.
- Avoid wearing clothing manufactured from, or containing a high proportion of, man-made fibres. These can build up a high static potential that may not be discharged through the body or wrist strap.

An effective earth (ground) point is the protective earth (ground) bus bar inside the enclosure. This can be used to connect a suitable anti-static wrist strap provided that the Gas detection system is connected to protective earth (ground) via the mains power supply cable.



Important

If installed correctly, the equipment earth (ground) point is connected directly to mains earth (ground) via protective earth and the mains power supply cable. It is not dependent on the position of the Isolator switch or circuit breaker.

2.3.4 Good Practice

After switching off the system, it is good practice to wait at least 15 seconds before switching it on again. This allows the circuits and RAM to discharge adequately before being powered-up again. Failing to do so may cause data corruption.

2.3.5 Lithium Battery Hazard

Lithium batteries are fitted to Touchpoint Plus as backup power sources.

Replace the battery pack with Honeywell Analytics part no. TPPLOIBB(order number:**TPPLSIBB**) and the PCB coin battery with type **CR2032** only.

Use of other batteries may present a risk of fire or explosion.



Lithium Battery Toxic and Fire Hazards

Lithium batteries may cause severe injury or death if ingested, and may catch fire or explode if mishandled, recharged, burned or disposed of incorrectly.

Always handle lithium batteries with care, keep them out of the reach of children, and dispose of them carefully in accordance with local regulations.

Safety Hazards, Warnings And Cautions

2.4 Product Compliance

This product complies with the following standards and directives.

Other safety directives may apply to the complete system installation if an OEM's product is integrated into other equipment or machinery.

Safety	Compliance to
Electrical Safety	CSA C22.2 No.61010-1 and No.142 UL 61010-1 3 rd Edition and UL 508 IEC/EN 61010-1 3 rd Edition ANSI/ISA 12.12.01-2015 CAN/CSA C22.2 No. 213-16
EMC/RFI	EN 50270
Low Voltage Directive	IEC/EN 61010-1 (3 rd Edition)

Note: The Equipment referred to in this manual contains components and assemblies that are each certified for use in a variety of differing environments, and it is the site owner's responsibility to confirm the suitability of the equipment prior to its installation and use.

Please check the product rating plate and look for the following marks to ensure that the supplied equipment is suitable for its intended location and purpose:



Products bearing the CE mark conform to all applicable European Directives as stated on the Honeywell product specific EC Declaration of Conformity.



Products bearing the UL mark conform to the requirements for Ordinary Locations. The letters C and US mean that the product is certified for use in Canada and the United States of America.



Important

Read and understand the instruction manual before operating or servicing the equipment.

2.5 Conditions of Use

This Touchpoint Plus equipment should only be operated under the following circumstances:

- By properly trained personnel.
- Under approved conditions.
- With due authorisation.
- Using approved maintenance and servicing procedures.

2.5.1 Training of Personnel

Honeywell and / or its distributors can provide training for operators and maintenance personnel. Personnel who have been trained in operation and maintenance shall be limited to carrying out only those procedures and tasks taught during the training course. Honeywell certified maintenance technicians must carry out all other tasks.

Honeywell can also provide additional or advanced training. Retraining is recommended periodically and whenever equipment is upgraded.

2.5.2 Conditions Satisfying Local, National and International Safety Regulations

Safety Hazards, Warnings And Cautions

Approved conditions must satisfy the requirements of applicable national and international safety standards and statutory requirements relating to electrical, EMC, and health hazards. In addition, they must satisfy the requirements of the Site Safety Officer and the local safety regulations.

2.5.3 Due Authorisation

Before any production, maintenance, or servicing procedure is carried out; written authorisation must be obtained from one of the following personnel to confirm that the proposed task satisfies the necessary safety conditions:

- A competent authorised person having a professional qualification in an appropriate technical discipline.
- The Factory, Technical or Engineering Manager responsible for the working area.
- The Site Safety Officer or an authorised Honeywell representative or approved distributor.

2.5.4 Approved Maintenance and Servicing Procedures

Approved Maintenance and Servicing Procedures are those stipulated in this manual or as authorised separately by Honeywell.

It may be necessary to establish a temporary Locally Controlled Area (LCA) to restrict access during maintenance, testing or service of this equipment.

System General Description

Chapter 3 – System General Description



Figure 6. Touchpoint Plus Wall-Mounted Controller

The Touchpoint Plus is an entry level (or upgrade) touch-screen digital Controller for general industrial and commercial gas detection systems. It has eight input channels, with a further eight channels available through an expansion unit*.

It can handle a wide range of milliamp, millivolt, and catalytic sensors through analogue inputs, and it can control various outputs such as audible and visible signals and solenoid valves.

The cabinets are constructed from high-impact plastic and have fully-sealed, easy opening access. They are supplied with a wall mounting or can be directly mounted to any solid vertical surface or rack. Cable entry is via entry glands on the lower side.

Touchpoint Plus is rated IP65, which means that it is dustproof and can be subjected to low-pressure water without significant ingress. This makes it particularly suited to offices, control rooms and unheated boiler rooms.

*Currently Touchpoint Plus is only available as a stand-alone Gas Detection System, but please contact Honeywell Analytics for details about future upgrades. (The expansion unit is currently planned for release in end of 2015.)

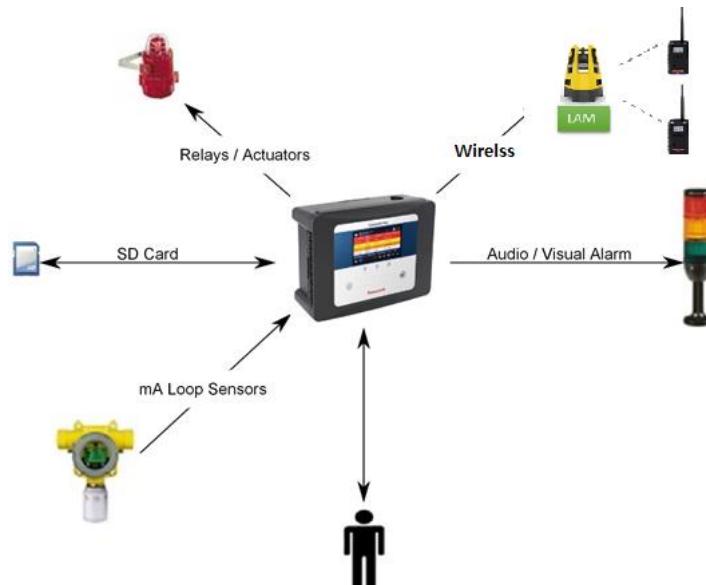


Figure 7. Typical Installation Options

System General Description

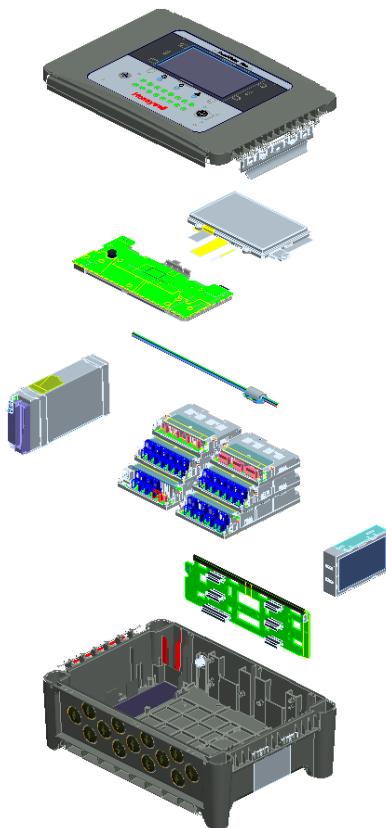


Figure 8. TPPL Controller Exploded View

Both the Touchpoint Plus and its optional expansion unit have the option for AC, DC and battery backup power supplies.

Other features:

- Colour LCD Touch Screen with multi-language GUI and menus
- Password protection
- Flexible Mains Power Input: 50 – 60 Hz 110/220V ~ (AC), 18 – 32V === (DC), Max 105W
- Up to 8 channels of Analogue Input (0–22mA)
- 2 or 3-wire signal inputs
- Up to 12 channels of user configurable relay controlled Output
- Alarm update on Acknowledge
- Automatic Self-Diagnostic with error codes
- Event recording
- SD Card

System General Description

3.1 Equipment Specification

3.1.1 Power Requirements

The Touchpoint Plus system is designed to operate on a single phase, 50 to 60 Hz, 110/220 V~(AC) supply with a typical power consumption of less than 105 W.

Alternatively it can be connected to a 18–32V == (DC) supply with a typical power consumption less than 105W

The system can contain an optional backup battery to guard against short-term power disruption.

Input	Voltage Range AC	AC 110/220 V manually switchable 300 VAC surge for 5 sec without damage
	AC Frequency Range	50 – 60 Hz ± 6%
	AC Current Draw (typ.)	3 A @ 115 VAC, 2A @ 230 VAC
	Cold-start Current (typ.)	40 A @ 230 VAC
	Leakage Current	<2 mA @ 240 VAC
Output	DC Voltage	24 V
	Rated Current	6.5 A
	Current Range	0 – 6.5 A
	Rated Power	156 W
Protection	Overload	110 – 150 % rated output power
	Over-Volt	27.6 – 32.4 VDC Hiccup mode, which recovers automatically when the fault is removed.

Table 1. Power Supply (SMPS RS-150-24) Electrical Ratings

No	Modules	mA @ 24 VDC	Qty	Power (W)	Remarks
1	UI Module	0.17	1	4.06	Max
2	Main Module	0.16	1	3.84	Max
3	mA Input Module	0.05	1	1.14	Eight channel module. (not including detector power)
4	mA Field Device Power	5	8	40	
5	WIO Module				
6	Relay Output Module	0.12	2	5.77	Max
7	Charging power for backup battery pack	0.38	1	9.12	Max
8	Audio/Visual Alarm	0.3	4	28.80	
MAX TOTAL				97.4	

Table 2. System Power Calculations

System General Description

3.1.2 Weights

	TPPL basic unit	Remark
System alone	8.5 Kg (18.7 lbs)	
System with packaging	9 Kg (20 lbs)	

Table 3. System Weights

Note: One input module, one relays, one WIO module, AC power and backup battery based for basic

3.1.3 Dimensions

External Dimension	Millimetres	Inches
Depth	156	6.2
Length	426	16.9
Width	300	11.8

Table 4. System Dimensions

3.1.4 Ambient Operating Temperature

–10 °C to +55 °C (14 °F to 131 °F)

3.1.5 Overall Ambient Operating Humidity

5 % to 95 %RH, non-condensing

3.1.6 Storage Conditions (Without batteries)

–25 °C to +60 °C (-13 °F to 140 °F), @ 5 % to 95 %RH, non-condensing

3.1.7 Storage Conditions (With batteries)

1 year:	–20 °C to +25 °C (-4 °F to +077 °F)
3 months:	–20 °C to +45 °C (-4 °F to +113 °F)
1 month:	–20 °C to +60 °C (-4 °F to +140 °F)

3.1.8 IP Rating

The system and expansion unit are sealed to IP65 when appropriate cable entry glands are used.

3.1.9 Construction

The system cabinets are constructed from PC ABS plastic with a secured quick release front access door panel.

The Controller door panel holds a touch sensitive colour LCD with a membrane cover over additional buttons, LEDs and an audible warning horn.

Inside the Controller cabinet is a Switched-Mode Power Supply (SMPS) providing a nominal DC 24 V output, an optional Lithium-ion backup battery, a Main Module, a mA/mV Input Module, one Relay Modules, protection fuses, and the control and user interface electronics.

The optional expansion unit (available end of 2015) holds the same modules and optional backup battery, but has no controller or user interface.

Both cabinets contain a common Earth (ground) rail that must be bonded to Protective Earth (Ground) through an isolation switch that does not disconnect the Earth line.

System General Description

3.1.10 Touchpoint Plus Packaging

- Touchpoint Plus outer packaging is made from cardboard. Facilities for recycling are widely available.
- Touchpoint Plus inner packaging is made from Stratocell®, Low-Density Polyethylene (LDPE) foam. The foam can be recycled into new Stratocell® where such recycling facilities exist.

3.1.11 Packaging Components for Return to Manufacturer

Honeywell is unable to accept any consignment that does not conform to the European Classification, Labelling and Packaging (CLP) Regulations (EC) 1272/2008.

Please consult your distributor, supplier, or the manufacturer if you require further advice.

3.1.12 Disposal (WEEE Directive)



The system contains Lithium batteries and a number of homogenous hazardous materials. These should be disposed of carefully in accordance with the WEEE Directive and local laws and guidelines. Under no circumstances can they be disposed of as domestic waste.

3.2 System Construction

This figure shows the basic building blocks of the Touchpoint Plus system. The optional Expansion Unit will not have any of the items seen on the left hand (door) panel.

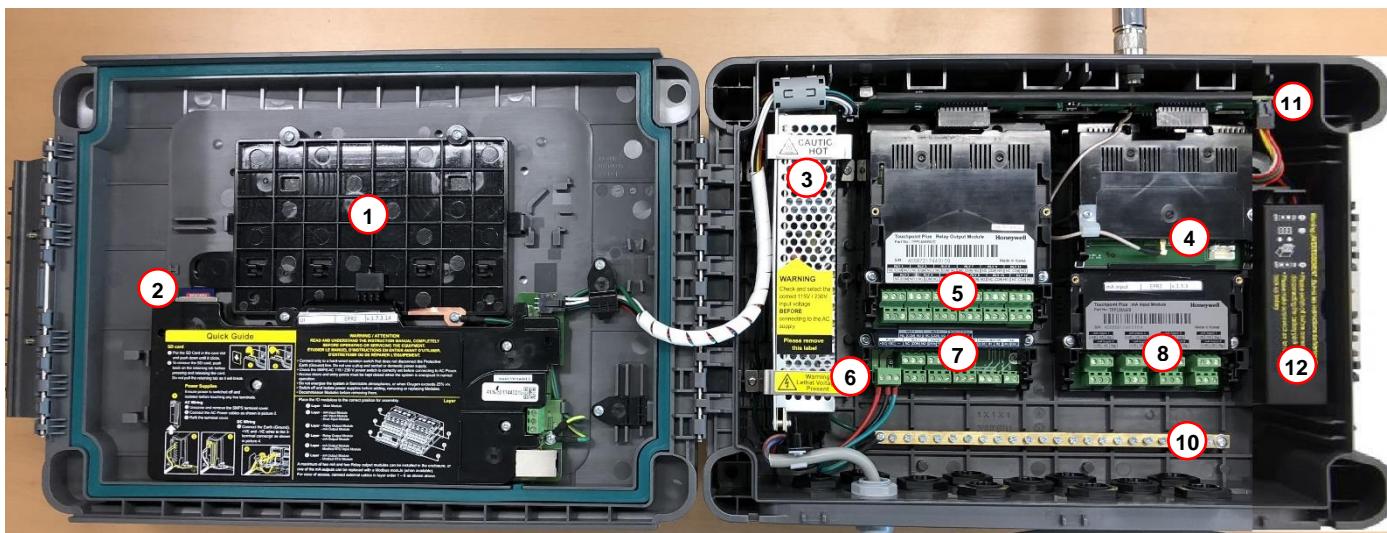


Figure 9. System Layout Before Installation

1	Touchscreen	7	Main Module
2	SD Card	8	mA Input Module
3	SMPS	9	NA
4	WIO Module	10	Earth (Ground) Bus Bar
5	Relay Output Module	11	Battery On / Off Switch
6	Power Terminal	12	Backup Battery

System Mechanical Installation

Chapter 4 – System Mechanical Installation

The system can be directly wall-mounted, mounted on an optional mounting fixture. Whichever method is chosen, the mounting must be sound, secure, and capable of supporting the weight of the enclosure plus the weight of any cables and glands.

When choosing a location, it must be easily visible and accessible, with room to mount an external power isolator. There must also be room to fully open the access door, which opens to the left, and room to easily access the door locking handle and its securing screws, which are situated on the right. If using the expansion unit (available end of 2015), there must be room to mount both boxes side-by-side with space between them to access the locking handle and its securing screws.

The units should be mounted so that the screen can be easily accessed and seen, but they should not obstruct accesses, walkways or exits.

Although the units are IP65 when installed correctly, they should be mounted away from heat sources, out of direct sunshine, and should be protected from rain, severe weather, steam or excess humidity and condensation.

These units have only passive cooling, so an adequate airflow must be maintained to prevent overheating.

Assembly	IP	NEMA	Pollution Degree	Remarks
Wall mounted cabinet	65	4X	2	When properly installed using the appropriate cable entry glands



Caution

It is the Customer's responsibility to ensure that the equipment is correctly installed, and that cable entry glands or blanks of the appropriate IP rating are correctly used.

Failure to do so will invalidate the quoted IP / NEMA / Pollution ratings and may invalidate the warranty.



Caution

The units as supplied have two hex-socket securing screws in the access door handle, and these have to be undone prior to opening the handle. Failing to do so could cause irreparable damage to the housing.

The handle must be correctly locked and the screws must be correctly tightened when the unit is in operation.
Failing to fully secure the enclosure is unsafe and will invalidate product certification.

System Mechanical Installation

4.1 How to Open and Close the Enclosure

- 1) Ensure that it is safe to open the enclosure and, if necessary switch off and isolate electrical power.
- 2) Unscrew the two 3mm Hex socket security screws (1) until they become loose (2).
- 3) With a gloved hand only, pull the handle until it comes free (3). Do not apply undue force.
- 4) Open the enclosure door fully.



Figure 10. Undoing the Security Screws and Opening the Enclosure

- 5) Closure is the reverse of this procedure, but care must be taken not to exert undue force, and **do not** press on the membrane or touch screen areas.

Note: The door recess has an environmental seal that requires some pressure to close the door correctly. The enclosure handle is the primary method of applying this pressure but you can assist it by pressing on the door edge directly above the handle as you press on the handle itself.

System Mechanical Installation

4.2 Wall Mounting Requirements

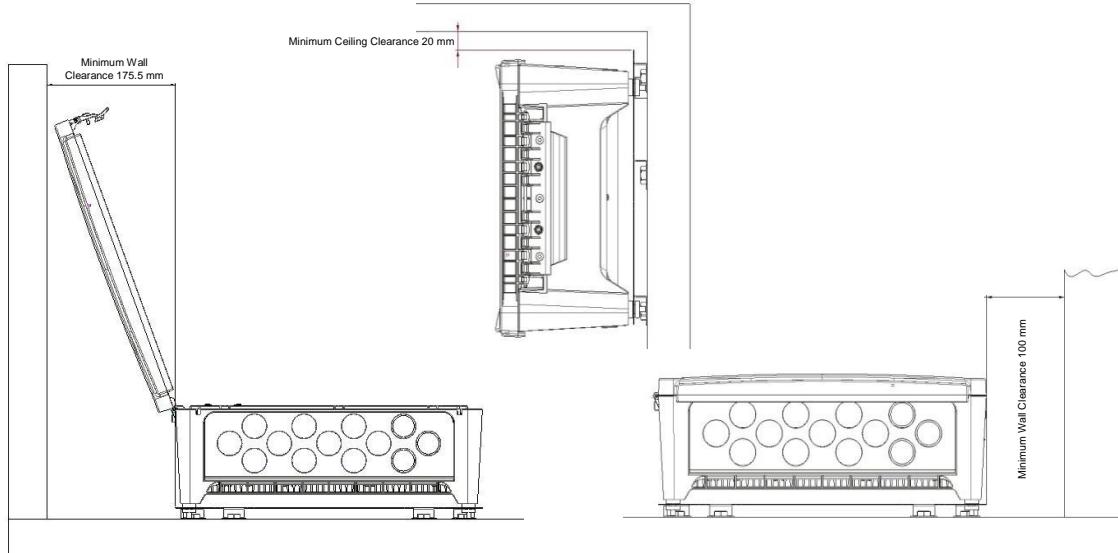


Figure 11. Installation Clearance Measurements

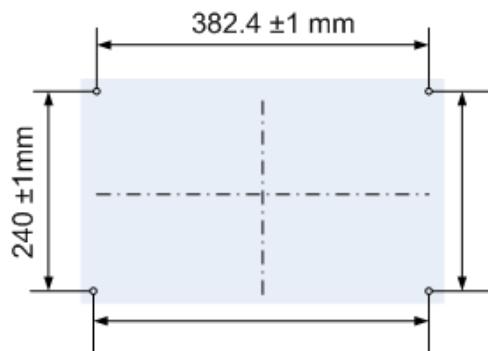


Figure 12. Wall Mounting Points

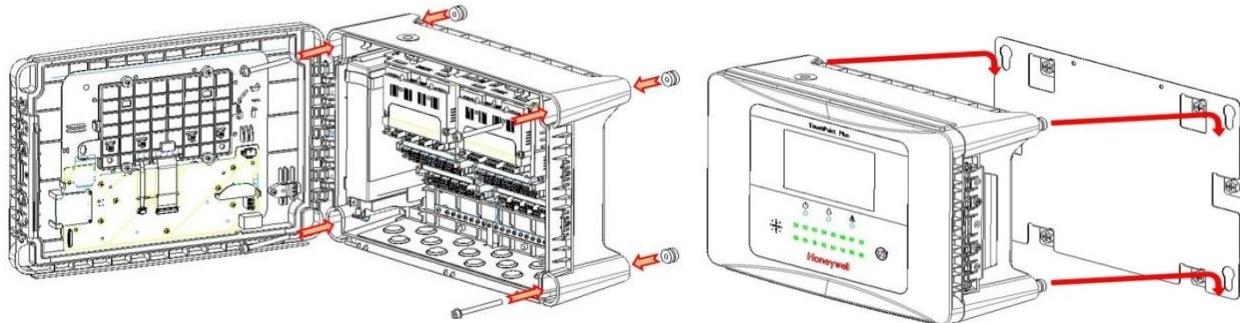


Figure 13. Wall Mounting Plate Option

You can use the wall mounting plate as a template and location guide, and you should ensure that the mounting bolts are adjusted to fit the plate bayonet holes before fixing the plate to the wall.

System Mechanical Installation

4.2.1 Wall Mount Fixings

You will require the following locally sourced items to install the Touchpoint Plus:

Tool to undo the enclosure access handle security screws:

- 3 mm Hex key

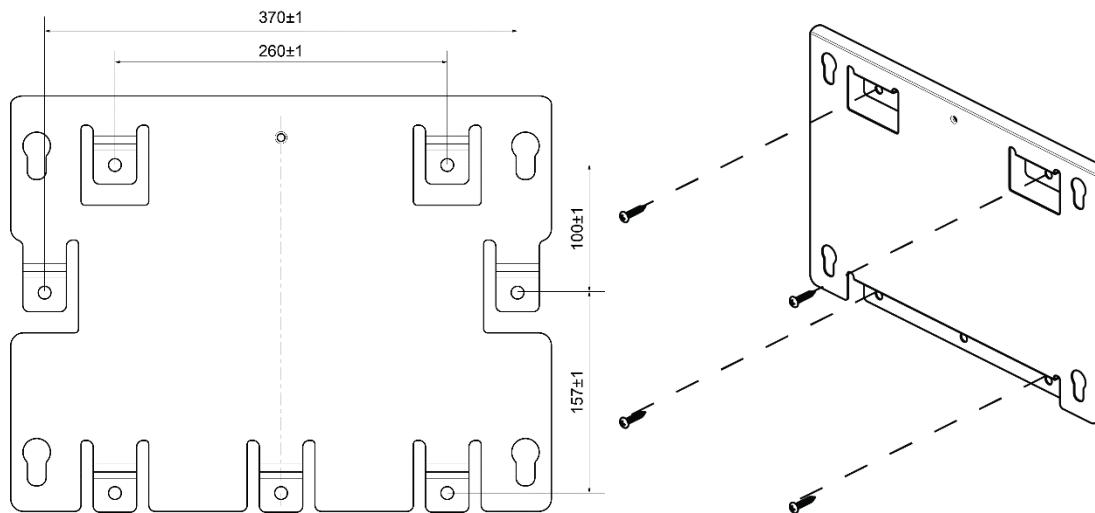
Suggested Fixings to screw the enclosure to the wall only:

- Screw Max. Dia: 6.4 mm (#14) dome or cheese head screw
- Screw Min. Length: 76 mm (3 in.) – Normal fix
- Washer Max. Dia: 14.3 mm (0.56 in.)

Note: The sizes above are given to allow for clearance in the TPPL Enclosure. The actual length and type of fixing should be determined by the surface material and the type of anchor required.

Suggested Fixings for using the Mounting Plate:

For the plate, choose fixings appropriate to the surface and the weight of the enclosure plus cables. You will also need to use suitable bolts, washers and lock nuts (see diagram below).



System Mechanical Installation

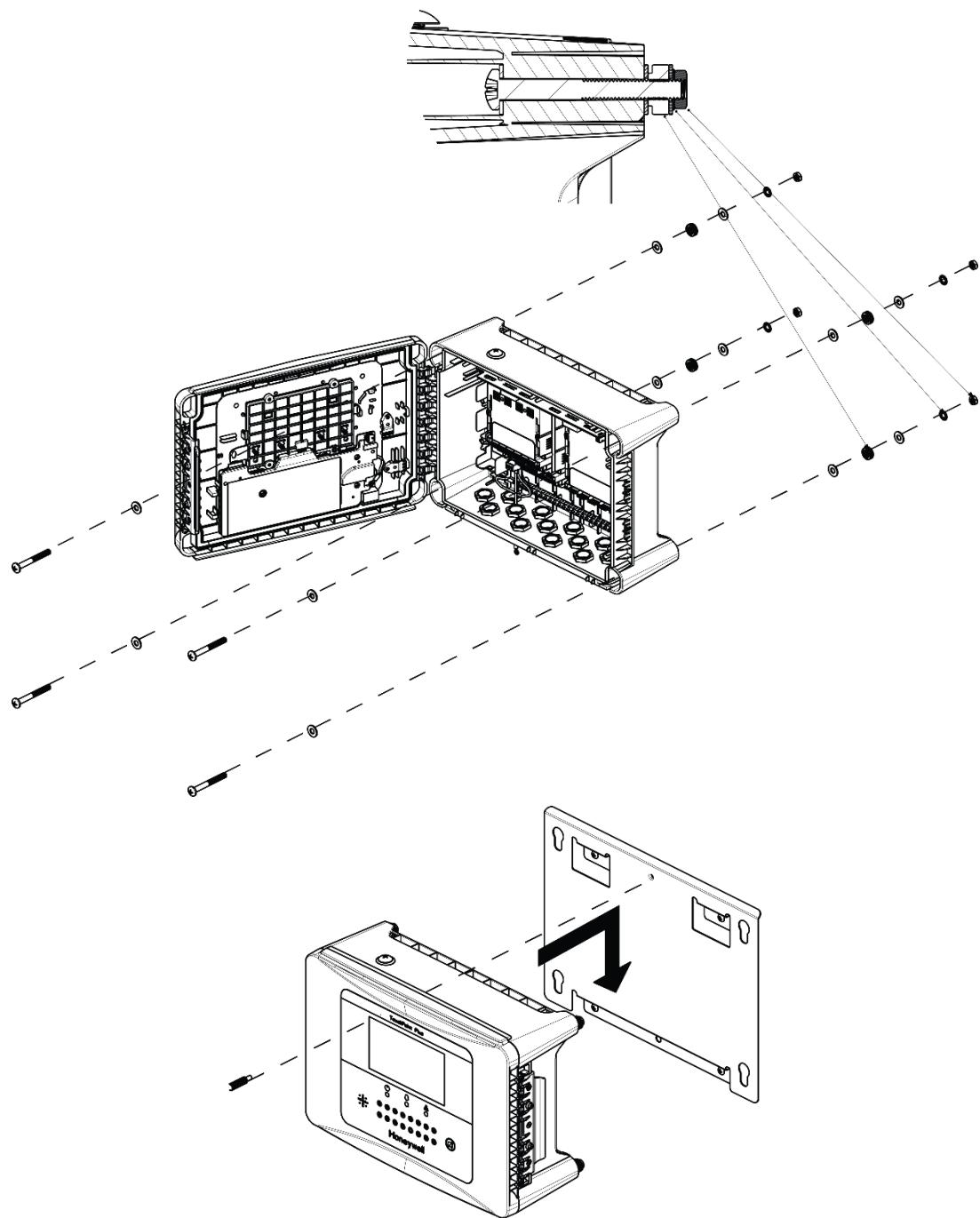


Figure 14. Fixing Orientation When Using the Optional Mounting Plate

Note:

You should ensure that washers between the TPPL enclosure and the wall or mounting plate are sufficiently large to spread the load evenly.

- For metal conduit, use a metal ground plate (i.e. PN: TPPLOMGND).
- For external visual/audio outlet, ensure IP65 is maintained (i.e. PN: M-700123).
- For cable gland, use type PG16 and tighten to 44.2 lb-in torque.

Electrical Power And Interfacing

Chapter 5 – Electrical Power Connection and Interfacing



Warning – Electrical Shock Hazard

All power supplies must be hard wired and must include a circuit breaker (RCD / RCCB), and (close by and unobstructed) a means of manually isolating and locking out the power supply without breaking the protective earth (ground) connection.

Removable plug and socket connection is not permitted under any circumstance.



Warning – Electrical Shock Hazard

Lethal current may be present in this equipment when electrical power is applied. There is a danger of death or injury from electrical shock. Isolate power before opening electrical access panels. Ensure residual current is fully discharged before touching live terminals.



Warning – Electrical Shock Hazard

Lethal current may be generated both internally and externally to the system. All installations, including remote units and cables, must be connected to protective earth, and must be capable of remaining so when the power supply is interrupted.

Protective earth is shown by the green symbol on the left.



Warning

Honeywell can accept no responsibility for any damage or injury caused by incorrect or faulty wiring.

5.1 Power Connection

The TPPL systems are factory set to operate at a manually switchable voltage of AC 110/220 V on single phase, 50 to 60 Hz supplies. They can also be connected to DC 18 – 32 V SELV without backup battery or DC 24 – 32 V SELV if using the backup battery option.

All systems have a typical peak power consumption of less than 105 W, and must be directly connected to supplies via a Main Isolator Switch that leaves protective earth (ground) permanently connected. The circuit should incorporate a Residual Current Device or Residual Current Circuit Breaker (RCD or RCCB).

TPPL systems are not certified for connection to domestic power supplies.



Warning

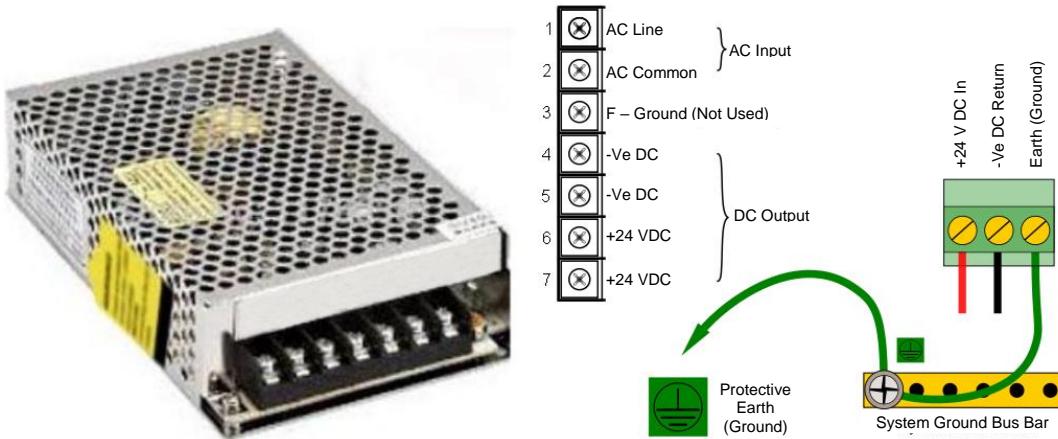
The system is normally supplied with the voltage pre-set to the customer's specification. If the supplied voltage is incorrect, it must be altered prior to connecting to the mains power supply.

It's customer's responsibility to provide appropriate power supply to detectors and controller.

Electrical Power And Interfacing

5.1.1 AC Power Supply

To confirm or alter the pre-set operating voltage, open the system front cover, locate the SMPS transformer on the left side and, if required, change the voltage selector using a screwdriver at the point shown by the yellow and black label below:



Note: Mains Earth (Ground) must only be connected to the protective earth (ground) rail, and not to the SMPS.

Regional power cable wires are coloured in accordance with the following code:

Wire	Europe	USA	CAN	India/Pakistan
Protective Earth (Ground)	Green + Yellow	Green	Green	Green
Isolated Earth (Ground)	—	Green + Yellow	Green	—
Neutral	Blue	White	White	Black
Line	Brown	Blue, Red, or Black	Red or Black	Red, Yellow, or Blue

Table 5. Regional Power Cable Colours

Before making any electrical connections or changes ensure that:

- the mains supply isolator switch is in the **Off** position
- the system is set up to operate at the correct voltage

Refer to **Chapter 3.1.1** for further information on system electrical specifications and power requirements.

Note 1: Input voltage of less than DC 23.5 V will fail to charge the backup battery, and it will cause battery unchargeable warning. **Note 2:** Field detectors may need their own power supplies if they exceed 15 W per channel to a combined total of 40 W. Refer to the 5.2.6 mA Input Module Connections.

Electrical Power And Interfacing

5.1.2 DC Power Supply

It is possible to power the Touchpoint Plus controller directly from a DC 18 – 32 V supply without using AC supplies at all. However, batteries alone may quickly drop below the minimum DC 18 V requirement when under load.

Note: The system must still be connected to protective earth (ground) when using an external DC supply.

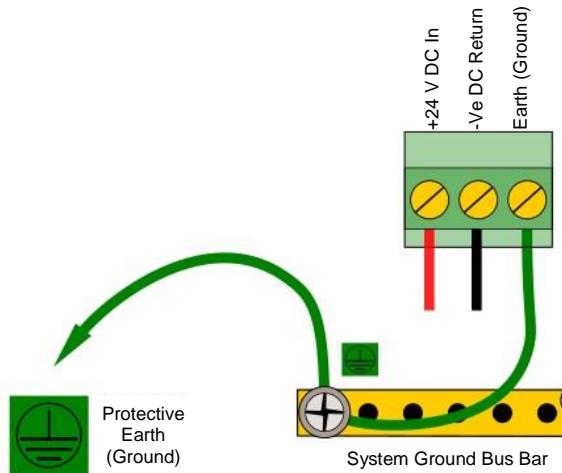


Figure 16. Connections for DC 24 V Supply

5.1.3 Backup Battery Pack

The Touchpoint Plus can have an optional rechargeable 24 volt Lithium-Ion Battery Pack. This would normally be charged by the SMPS, but can be charged by a separate DC 23.5 – 32 V supply.

Note: The backup battery requires minimum 24 V input to fully charge, and it has a non-replaceable 15 A over-current protection fuse so do not exceed 32 V, 5 A charging input.



Danger

In the event of Lithium batteries overheating:

DO NOT USE WATER as this can cause them to burn violently or they may explode.



Important

The battery should be charged at **DC 24 – 32 V**. The backup battery will not be fully charged and the backup time will be reduced if the charging supply is <24 V.

Electrical Power And Interfacing

5.2 Cabling Requirements



Warning

All cabling shall be appropriately rated and approved in accordance with national and local regulations. Additionally, cabling must satisfy the requirements defined in the manuals of connected field devices, particularly if the field device is certified for use in a hazardous location.

Signal cables should be shielded to avoid spurious signals, and shall be bonded to protective earth (Ground). Care must be taken to avoid Ground feedback loops.

5.2.1 AC Mains Voltage Power Cables

Use a properly rated AC power (mains) cable, certified and installed in accordance with local and national regulations. The Touchpoint Plus terminals will accept only copper wire sizes in the range 0.4 – 4 mm² (solid core), 0.4 – 3 mm² (stranded core), or 22 – 12 AWG (> 80 °C). The mains terminals should be torqued to 11.9 lb-in. (modules are 4.4 lb-in.).

5.2.2 DC Power Cables

Use a properly rated DC power (mains) cable, certified and installed in accordance with local and national regulations. The Touchpoint Plus terminals will accept only copper wire sizes in the range 0.9 – 3.3 mm² (solid core), 0.9 – 3.3 mm² (stranded core), or 18 – 12 AWG (> 80 °C). The mains terminals should be torqued to 4.4 lb-in.

5.2.3 Field Device Cables

Field Device cabling (sensors, lights, solenoids, etc.) should be appropriate to the zone classification, and in accordance with the device manufacturer's recommendations. Refer to local and national regulations where appropriate, and to the device user manual.

All sensor field cables must be screened and earthed (grounded) in order to:

- ensure correct operation of the system
- avoid spurious signals
- provide lightning protection
- Meet European Standards for RFI and EMC.

The I/O modules will accept only copper wire sizes to a maximum of 2 mm² or 14 – 30 AWG, with the terminals torqued to 4.4 lb-in.

Ensure that the maximum loop resistance is not exceeded, as specified by the device manufacturer.

Ensure that the correct power level is present at the field device, as specified by the device manufacturer, and does not exceed the TPPL supply limit of 15W per channel individually or 40 / 68 W in total. (See the notes under **5.2.5 Main Module Connections** for more details about power consumption and availability.)

I.e. if a device's supply requirement is 24 VDC 0.5 A, then the power requirement is $24 \text{ V} \times 0.5 \text{ A} = 12 \text{ W}$. If you use 240m of AWG 22 cable ($R = 0.05 \Omega/\text{m}$), the power line dissipation is $0.05 \Omega/\text{m} \times 240\text{m} \times 0.5^2 \text{ A} (R \times I^2) = 3 \text{ W}$. Therefore the total power requirement is 15 W (12 + 3).

You should also test the cable resistance in situ as its Ω/m will increase in line with T_{amb} .

Electrical Power And Interfacing

5.2.4 Main Module Connections

Input / Output	Field device	Label	Terminal
Power	24 VDC	+DC	1
	GND	-DC	2
	Earth	-	3
Channel Relay 001 (Alarm, Fault, Warning Or Inhibit)	—	NC	4
	—	COM	5
	—	NO	6
Channel Relay 002 (Alarm, Fault, Warning Or Inhibit)	—	NC	7
	—	COM	8
	—	NO	9
System Relay 003 (System Failure)	—	NC	10
	—	COM	11
	—	NO	12
Dedicated Alarms (Max 300 mA per channel)	Visible	+24 VDC	13
		VIS	14
		Unused	15
	Audible 1	A1	16
	Audible 2	A2	17
	Audible 3	F	18
External Alarm Power	—	+24 VDC	19
	—	+24 VDC	20
	—	+24 VDC	21
Remote Inputs (Note 4)	Common	3.3 V	22
	Reset	R1	23
	Inhibit	R2	24
Reserved	CAN_High	CAN_H	25
	CAN_Low	CAN_L	26

Table 6. Main Module Connections

Note 1: +24 VDC Nominal = Controller Input (18 to 32 VDC) – 1.8 VDC (the max voltage drop in the TPPL)

Note 2: Alarm Terminals 13, 19, 20, and 21 can supply +24 VDC at ≤ 28 W combined but this 28 W can instead be used to increase the power available to field sensors if external audible and visible alarms are not connected.

i.e. the 8 sensor channels would normally have ≤ 40 W of combined available power, but this can be increased to 68.8 W if terminals 13 – 21 are unused.

Note 3: Supply sensors with external power if more than 40 / 68 W total power is required. (If there is no power consumption at terminal 13 to 21, total 68W can be used to power field detector)

Note 4: R_{loop} resistance for remotes reset/inhibit is 18 ohm. i.e. Using 1 mm² shielded cable can be used for 500 m.

Electrical Power And Interfacing

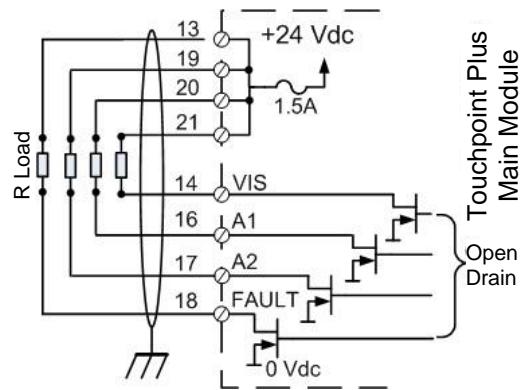


Figure 17. Dedicated Alarm Circuit Connections

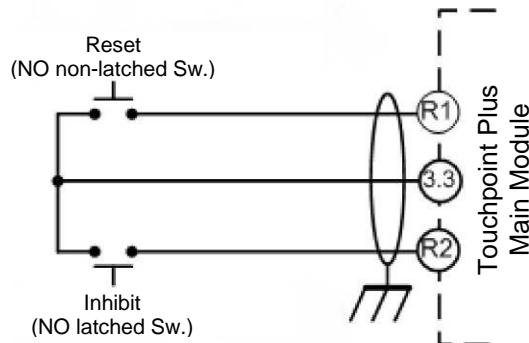


Figure 18. Optional Remote Reset and Inhibit Switch Connections



Important

Remote inhibit and reset switches need protection to prevent unauthorized usage because it has engineer level access. It is user responsibility

Electrical Power And Interfacing

5.2.5 mA Input Module Connections

Note: mA input channels are limited to 15 W per channel to a combined total of 40 W (68 W if Main Module Terminals 13 to 21 are not used). Sensors requiring more than 15 W (i.e. IR-F9 (Max 28W) must have their own power supplies.

mA Input Channel	Field device	Label	Terminal
1	+24 VDC	+DC	1
	0 VDC	-DC	2
	4 – 20 mA signal	Sig	3
2	+24 VDC	+DC	4
	0 VDC	-DC	5
	4 – 20 mA signal	Sig	6
3	+24 VDC	+DC	7
	0 VDC	-DC	8
	4 – 20 mA signal	Sig	9
4	+24 VDC	+DC	10
	0 VDC	-DC	11
	4 – 20 mA signal	Sig	12
5	+24 VDC	+DC	13
	0 VDC	-DC	14
	4 – 20 mA signal	Sig	15
6	+24 VDC	+DC	16
	0 VDC	-DC	17
	4 – 20 mA signal	Sig	18
7	+24 VDC	+DC	19
	0 VDC	-DC	20
	4 – 20 mA signal	Sig	21
8	+24 VDC	+DC	22
	0 VDC	-DC	23
	4 – 20 mA signal	Sig	24

Table 7. mA Input Module Connections

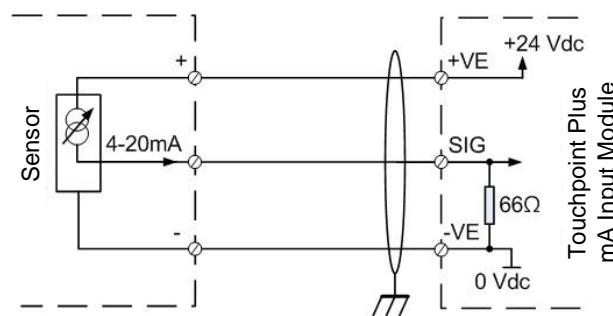


Figure 19. Three Wire Device Powered by a mA Input Module

Electrical Power And Interfacing

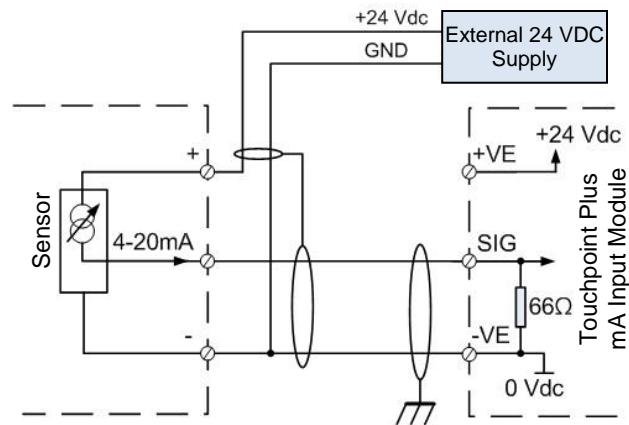


Figure 20. Three Wire Device Powered by an External Source

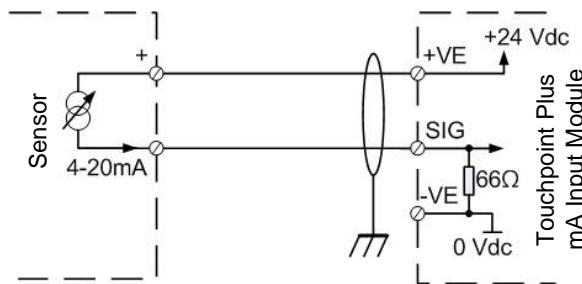


Figure 21. Two Wire Device Powered by a mA Input Module

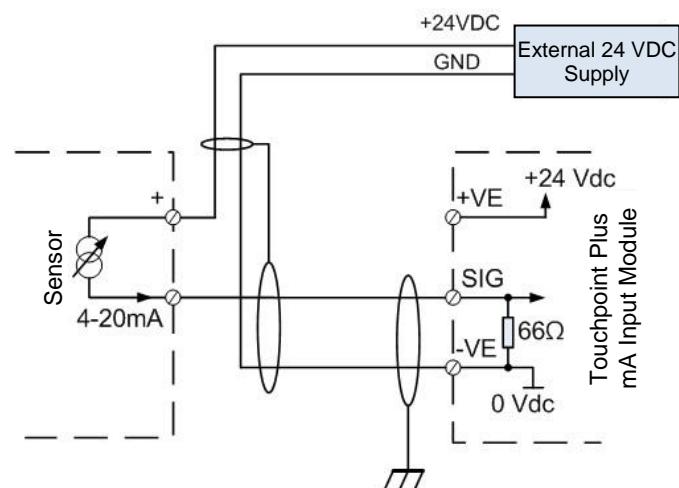


Figure 22. Two Wire Device Powered by an External Source

Electrical Power And Interfacing

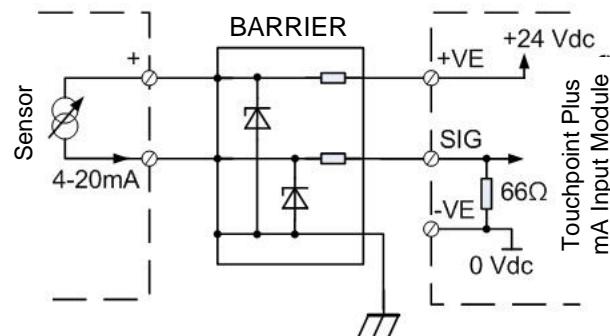


Figure 23. Two Wire Device Barrier Device Powered by a mA Input Module

Note: For intrinsically safe (I.S.) field devices, please refer to the device manufacturer's instructions for details of suitably approved I.S. barriers and interconnections.

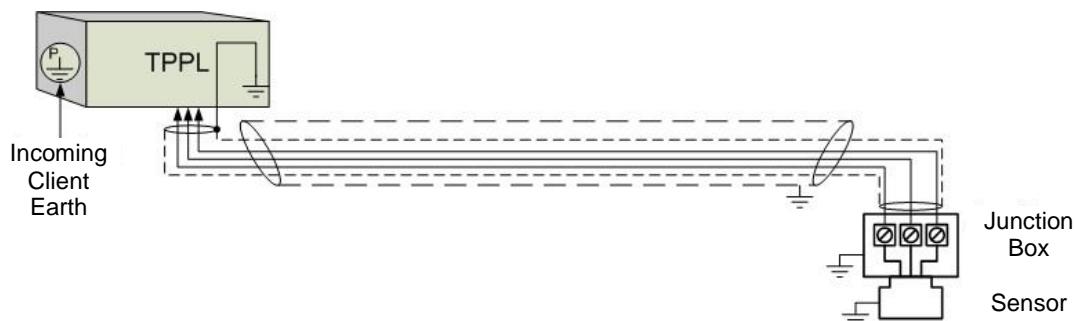


Figure 24. Grounding for Screened Cable with Armour and with Metal Junction Box and Sensor

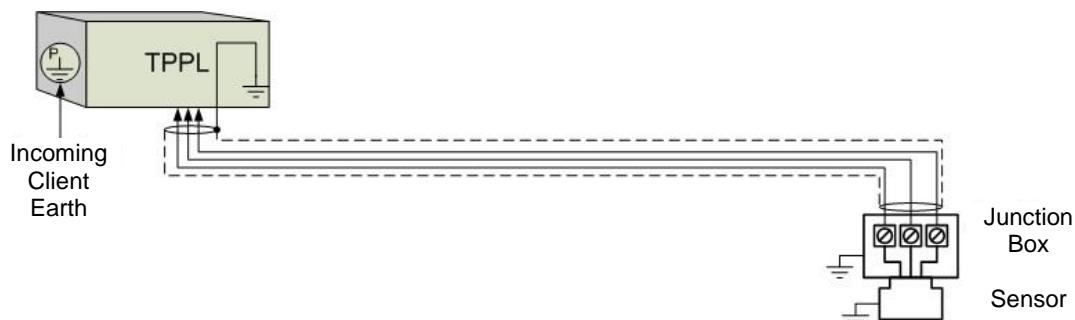


Figure 25. Grounding for Screened Cable, No Armour, with Metal Junction Box and Sensor

Electrical Power And Interfacing

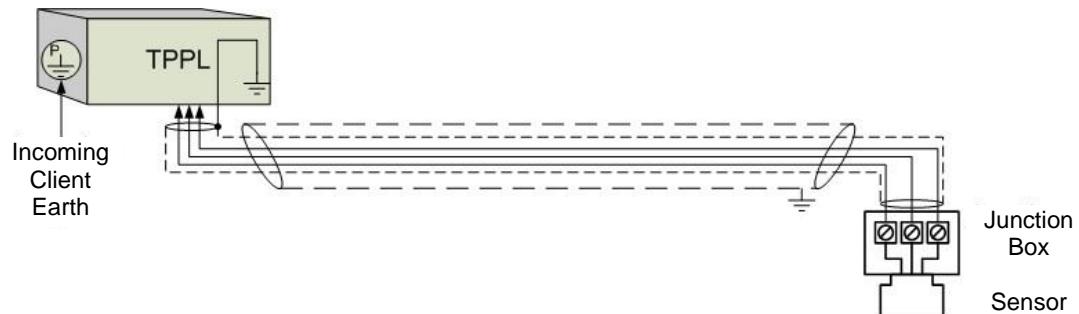


Figure 26. Grounding for Screened and Armoured Cable with Plastic Junction Box and Sensor



Figure 27. Grounding for Screened Cable with Plastic Junction Box and Sensor

Electrical Power And Interfacing

5.2.7 Wireless Module Connections

Input/Outputs	Label	Terminal Identification
Antenna	ANT	1
RAEmet	WIND	2

Electrical Power And Interfacing

5.2.8 Relay Output Module Connections

Relay Outputs	Label	Terminal Identification
RLY 1	NC	1
	COM	2
	NO	3
RLY 2	NC	4
	COM	5
	NO	6
RLY 3	NC	7
	COM	8
	NO	9
RLY 4	NC	10
	COM	11
	NO	12
RLY 5	NC	13
	COM	14
	NO	15
RLY 6	NC	16
	COM	17
	NO	18
RLY 7	NC	19
	COM	20
	NO	21
RLY 8	NC	22
	COM	23
	NO	24
RLY 9	NC	25
	COM	26
	NO	27
RLY 10	NC	28
	COM	29
	NO	30
RLY 11	NC	31
	COM	32
	NO	33
RLY 12	NC	34
	COM	35
	NO	36

Table 8. Relay Output Module Connections

Electrical Power And Interfacing

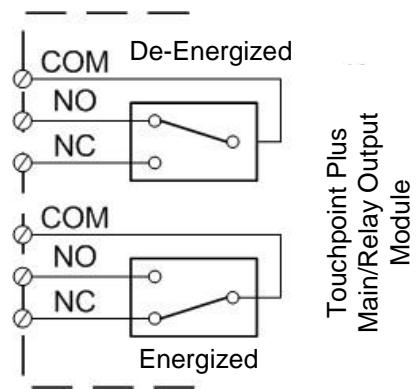


Figure 28. Relay States

Operating Instructions

Chapter 6 – Touchpoint Plus Operating Instructions

6.1 User Interface General



Figure 29. Touchpoint Plus Wireless Controller User Interface

The User Interface panel (shown above) has:

- A colour touchscreen for normal system operation, maintenance and configuration
- Power, Alarm / Fault and Inhibit state LEDs
- Active Channel (01 to 08) status indicators (Ch. 07 is not [commissioned](#)-in this example)
- Accept (Silence) and Reset membrane button (Right side)
- Integral Alarm Buzzer (Left side)

Further System Interfaces consist of:

- Remote inhibit and remote reset terminals on the Main module
- One fixed relay and two configurable relays on Main Module for system Failure, Alarm and inhibit
- Three dedicated alarm outputs for visual and audio alarms on Main module
- [An optional SD card](#)

The interface software has two distinct modes of operation – Configuration Mode and Visualisation Mode, and access to certain functions is restricted by the use of password protected access levels. There are four hierarchical access levels: View mode is available to all users while Operator, Engineer and Administrator modes are password protected. Password holders can be assigned one access level only.

Caution

Direct sunlight, solvents, abrasives and sharp edged or metal tools may cause irreparable damage to the LCD panel and membrane.

Use only damp cloths or computer screen wipes to clean it.



Operating Instructions

6.2 Menu Items and Access Levels

The table below details the menu items and access levels for the User Interface. The password hierarchy is Administrator, then Engineer, then Operator. Broadly speaking, the Administrator can commission modules and configure channels, the Engineer can edit channel configuration and do calibration, and the Operator can interact with the system during normal day-to-day operation such as acknowledging and resetting events.

A user can log in by selecting an access level and then inputting a password that is valid for that access level.

Note: LCD backlight timeout : 30 seconds, Menu timeout: 90 seconds, Authentication timeout:15 minutes.
Items shown with a clock symbol timeout after 15 minutes of inactivity.

Key: ● = Allowed, ○ = Denied, ⊕ = Fixed timeout.

↳ = sub-menu, ↳↳ = sub-sub-menu

Menu Item	Admin	Engineer	Operator	Others
Login ⊕	●	●	●	○
Menu Home	●	●	●	●
Information	●	●	●	●
↳ System Info	●	●	●	●
↳↳ Summary Info	●	●	●	●
↳↳ Software Info	●	●	●	●
↳↳ Parameter Info	●	●	●	●
↳ Event History	●	●	●	●
↳↳ Filter View	●	●	●	●
↳↳ Export History	●	●	●	●
↳ Trend/Plot	●	●	●	●
↳ Channel Info	●	●	●	●
↳ Module Info	●	●	●	●
↳ Relay Status	●	●	●	●
↳ Additional Status	●	●	●	●
↳ Network	●	●	●	●
↳ Service Contract	●	●	●	●
Event History	●	●	●	●
Channel View Home	●	●	●	●
↳ Tile View	●	●	●	●
↳ Summary View	●	●	●	●
Configuration	●	●	○	○
↳ Channel Settings	●	●	○	○
↳↳ mA Input Channel	●	●	○	○
↳↳ WIO Channel	●	●	○	○
↳↳ Relay Channel	●	●	○	○
↳ Module Control Panel	●	●	○	○
↳ General	●	●	○	○
↳↳ Date / Time	●	●	○	○
↳↳ Language	●	●	○	○
↳↳ Service Contract	●	●	○	○

Operating Instructions

Menu Item	Admin	Engineer	Operator	Others
↳ Home Settings	●	●	○	○
↳ Timeout Setting	●	●	○	○
↳ Log Interval and Threshold	●	●	○	○
↳ Security	●	●	○	○
↳ Password	●	●	○	○
↳ Remote Access (Buttons)	●	●	○	○
↳ Config Manager	●	●	○	○
↳ Import	●	●	○	○
↳ Export	●	●	○	○
↳ Network	●	●	○	○
Maintenance	●	●	●	○
↳ Reset Alarms / Faults	●	●	●	○
↳ Reset All Peaks	●	●	●	○
↳ Gas Calibration ⚡	●	●	○	○
↳ Service Mode ⚡	●	○	○	○
↳ Electronic Adjustment ⚡	●	○	○	○
↳ Reset to Defaults ⚡	●	○	○	○
↳ Update System ⚡	●	○	○	○
↳ Software ⚡	●	○	○	○
↳ Language ⚡	●	○	○	○
↳ Sensor Catalogue ⚡	●	○	○	○
↳ Module Data ⚡	●	○	○	○
↳ SD Card	●	●	○	○
↳ Eject	●	●	○	○
↳ Format	●	●	○	○
↳ Power Off ⚡	●	●	○	○
System Test	●	●	○	○
↳ Force Relay ⚡	●	●	○	○
↳ Dedicated Alarm Contacts ⚡	●	●	○	○
↳ LCD Test ⚡	●	●	○	○
↳ LED & Buzzer Test ⚡	●	●	○	○
↳ Mesh network ⚡	●	●	○	○

Table 9. User Matrix

6.3 Touchscreen (Colour Resistive)

The touchscreen is activated using a finger or a stylus (only). Do not use sharp or abrasive objects as they may cause irreparable damage.

All interactions are single tap.

6.4 SD Card

Operating Instructions

The Touchpoint Plus accepts standard SD cards of 2 to 32 GB (FAT32).

The SD card is used to store the system event history. Touchpoint Plus logs all events and all changes to input readings. A notification will be given when the SD card is less than 50Mbytes space. If the card is not replaced or not freed up, a further notification will be given when it is full, and when data is being overwritten.

Note: The SD Card must remain inserted during normal system operation as the on-board flash memory is limited to a few minutes of events. When the card is full it should be replaced or freed up almost immediately to avoid data loss.

Note: The SD Cards must be empty and setup by TPPL following first installation, and they should be used for TPPL data only. Data can be transferred or copied to a PC via a Card Reader and the card reused, but care must be taken not to overwrite previous data files, and a reliable backup system should be used.

Note: The SD card have to set unlocked for data logging

Note: It is suggested SD card format before using a SD card by TPPL. Menu>Maintenance>SD Card>Format

Operating Instructions

6.4 Normal Operation (Safety Functions)

During normal operation:

- The Touchpoint Plus system will collect sensor data every 250 ms from its Input / Output modules
- The Cause and Effect matrix will be evaluated every 250 ms, and commands sent accordingly to the appropriate output channels. System response time is ≤ 1 s
- Any change in status of an I/O channel will be reported to the User Interface and logged in the event history
- Events (Alarms, Faults, Inhibits, etc.) will be reported to the User Interface and logged in the event history
- Any fault within the system will activate the System Fault relay
- Any failure of the safety function i.e. due to major fault or power loss will activate the System Failure relay

6.5 Overview – Touchscreen Interface

See Ch.12 Glossary of Icons for details about individual icons.

6.5.1 User Interface Screen

The User Interface shows the current status of the Touchpoint Plus system as follows:

- Channel Summary – Display shows total counts for alarm 1, alarm 2, alarm 3, fault, warning and inhibits
- Channel Tile – Display shows up to eight inputs and events

Key to examples below:

- Channel marking in red – one or more input channels are in **Alarm**
- Channel marking in yellow – one or more channels are in **Fault**
- Channel marking in orange – one or more channels are in **Inhibit**
- Channel marking in blue – one or more channels are in **Warning**

Tip: You can use the colour-matched filter icons to list a series of specific event types.

Channel Tile View		Channel Summary View	
011 Meshguard Wireless A003(03) A003	012 LAM Wireless A201(04) A201	Alarm 1 0	Alarm 2 0
013 LAM Wireless A202(05) A202	014 RAEPointRouter Wireless A301(06) A301	Alarm 3 0	Normal 20
015 RAEPointRouter Wireless A302(07) A302	016 RAEPointRouter Wireless A303(08) A303	Fault 0	Wind 100 .m/s
017 RAEPointRouter Wireless A304(09) A304	018 RAEPointRouter Wireless A305(10) A305	Warning 0	Inhibit 0

Operating Instructions

6.5.2 Navigation – Inputs and Outputs Screens

The icons in the navigation toolbar are used to navigate through the User Interface options.

Channel Input screen:

	Tile View
	Summary View

Channel detail screen:

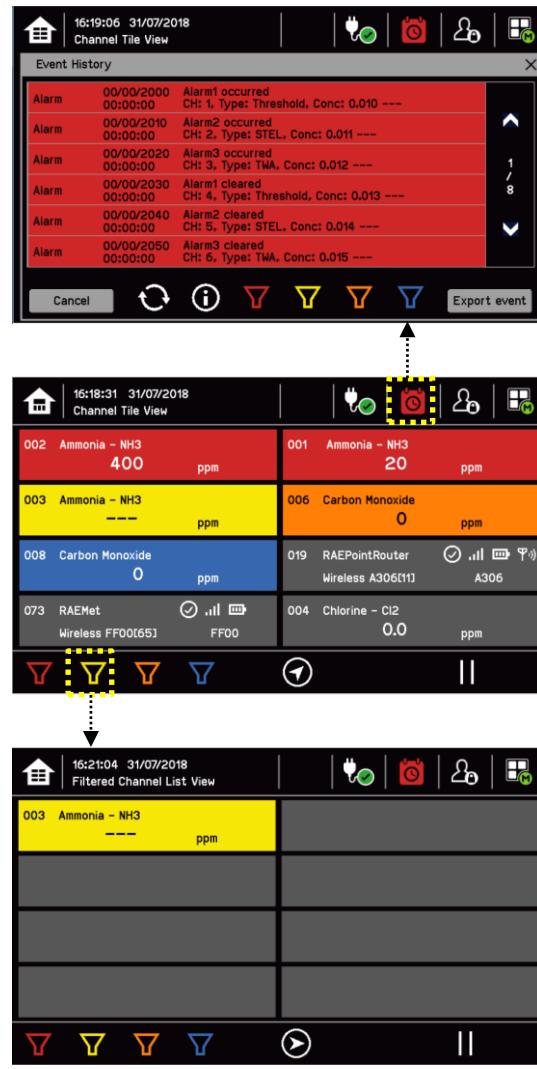
The screenshot illustrates the navigation between different user interface screens:

- Channel Summary View:** Shows a grid of status indicators for four channels (Alarm 1, Alarm 2, Alarm 3, Normal) and four sensors (Fault, Warning, Inhibit, Wind). The Wind sensor shows a value of 100 m/s.
- Channel Tile View:** Shows a list of eight channels (001 to 008) with their respective detector names and current values. The Ammonia - NH3 channel (003) is highlighted with a yellow box. A yellow arrow points from this channel to the **Channel Information** dialog.
- Channel Information Dialog:** Provides detailed configuration for the Ammonia - NH3 detector (Normal 003 mA Input). It includes fields for Detector Name (Sensepoint Toxic), Last Calibration Date, Full Scale Range (50.0 ppm), Peak Gas Conc., and Alarm thresholds (10.0 ppm, 20.0 ppm, 30.0 ppm).

Operating Instructions

6.5.3 Navigation – Active Events and Filtering

You can change the list type by using Filters from one of the Tile views:



Key to Filters:

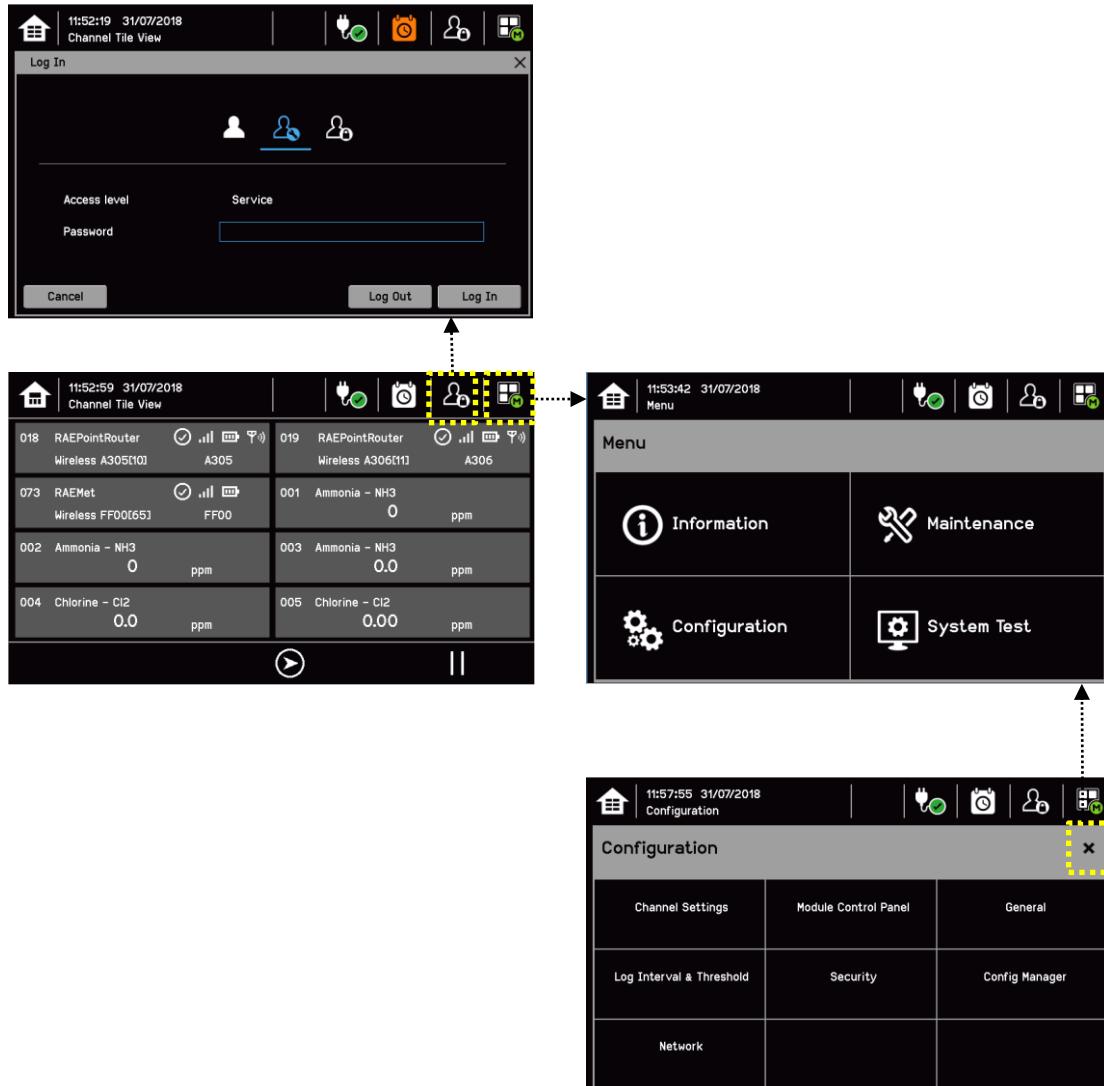


- Red: Alarm
- Yellow: Fault
- Orange: Inhibit
- Blue: Warning

Operating Instructions

6.5.4 Navigation – Menu

User must have the appropriate access level password to enter Maintenance, Configuration and System test options.



Note: The system will log out and back to Inputs/Outputs screen depends on the menu timeout.

And also authentication (Logout) timeout depends on user configuration. The default authentication timeout is 15 minutes.

6.5.5 Navigation – Active Access Level Icons

You must enter a valid password to login.

		No one is logged in
		Operator is logged in
		Service engineer is logged in
		Administrator is logged in

Note: The system will log out after 15 minutes of inactivity. User can adjust the timeout interval

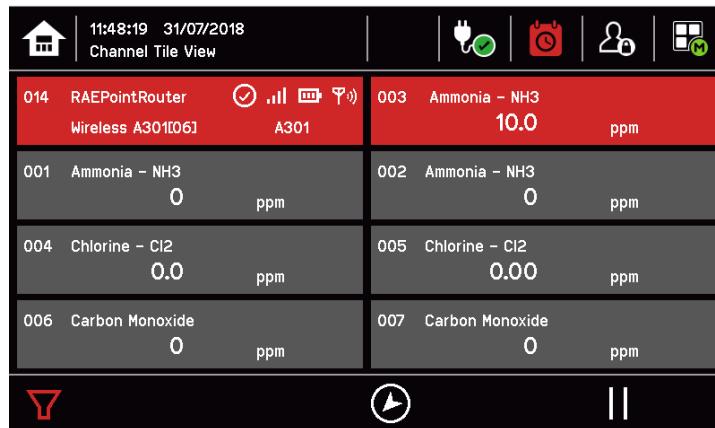
Operating Instructions

6.6 Alarms

6.6.1 View active alarms

Active alarms can be viewed:

- From the Input screen, select the red filter icon:



The screen will display a list of the input channels with active Alarms, starting with the most recent event. Unacknowledged alarms will flash, acknowledged ones will be stay on. Touch the Accept button to acknowledge the alarms.

Note: the display will show the channel ID, location tag. If more than one alarm level has been triggered on the same channel, a high priority alarm levels will be shown.

6.6.2 Acknowledge an active alarm

Note: Operator or higher level access is required.

Note: Accept and Acknowledge have the same meaning in this context.

An active Alarm can be acknowledged by touching the **Accept** button for >1 second. This will acknowledge ALL active events and the channel LED and icon will stop flashing.

When an alarm is acknowledged the buzzer will be silenced and the alarm will stop flashing.

Note: If a Relay Output channel has the Alarm Update function enabled, the alarm will be ignored for the Cause and Effect matrix once it is acknowledged.

Operating Instructions

6.6.3 Reset a latched alarm

A latched alarm is one that cannot automatically reset itself when the triggering event has cleared.

Note: Operator or higher access level is required (optional, see Commissioning, Buzzer Activation and Button Password Protection).

A latched alarm can be reset in three ways by:

- 1) Touching the **Reset** button for >3 seconds. This will reset ALL latched alarms, faults and warnings, provided that the triggering event has cleared. It will also reset any latched relay outputs.
- 2) Selecting Menu>Maintenance>Reset alarms/Faults. This will reset all latched events for the channel, provided that the input signal has returned to Normal status.
- 3) Holding the Remote reset switch for >3 seconds. TPPL has the option of adding a remote acknowledge / reset switch up to 500 m away from the Controller, but care should be taken to prevent unauthorised people accessing the switch.



Warning

A gas detector may indicate that the gas concentration in its vicinity has dropped to a safe level, but this does not mean that a dangerous atmosphere doesn't persist elsewhere in that area. Do not reset the alarms until the area has been confirmed to be safe or has been adequately ventilated.

6.7 Faults and Warnings

6.7.1 View Faults and Warnings

Detailed information about active Faults and Warnings can be viewed:

- 1) From the Input and output screen, select either the Fault (yellow filter) icon, or the Warning (blue filter) icon. The screen will show a filtered list of only the active Faults or Warnings.

Channel Tile View					
014 RAEPointRouter Wireless A301ID61	008 Carbon Monoxide 0 ppm				
002 Ammonia - NH3 0 ppm	003 Ammonia - NH3 0.0 ppm				
004 Chlorine - Cl2 0.0 ppm	005 Chlorine - Cl2 0.00 ppm				
006 Carbon Monoxide 0 ppm	007 Carbon Monoxide 0 ppm				

Operating Instructions

6.7.2 Acknowledging an Active Fault or Warning

Note: Operator or higher level access is required

Note: Accept and Acknowledge have the same meaning in this context.

An active fault or warning can be acknowledged by touching the **Accept** button for >1 second. This will acknowledge ALL active events and the channel LED and icon will stop flashing.

6.7.3 Reset a Latched Fault or Warning

Note: Operator or higher access level is required.

A latched fault or warning can be reset in three ways by:

- 1) Touching the Reset button for >3 seconds. This will reset ALL latched alarms, faults and warnings, provided that the event has cleared. It will also reset any latched relay outputs.
- 2) Selecting Menu>Maintenance>Reset alarms/faults. This will reset all latched events for the channel, provided that the input signal has returned to Normal / within tolerance.
- 3) Remote reset input.

6.8 Inhibit

Note: Engineer or higher access level is required.

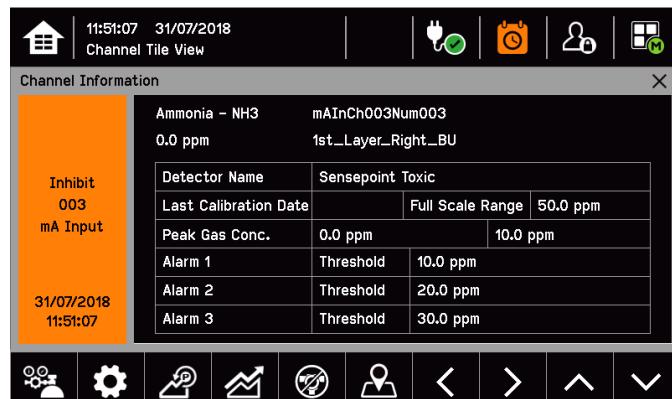
Input channels can be inhibited by:

- 1) Selecting a channel and then touching the inhibit icon:
- 2) Remote inhibit input (locking switch)

To clear inhibits, select the required channel and then select **Clear Inhibit**.

Note: An auto-inhibit cannot be cleared manually. Auto-inhibits may occur during calibration or warm-up, when a transmitter is signaling Inhibit, or when an Inhibit delay time is running.

Note: Inhibit timeouts can be set by configuring the channel, as shown below:

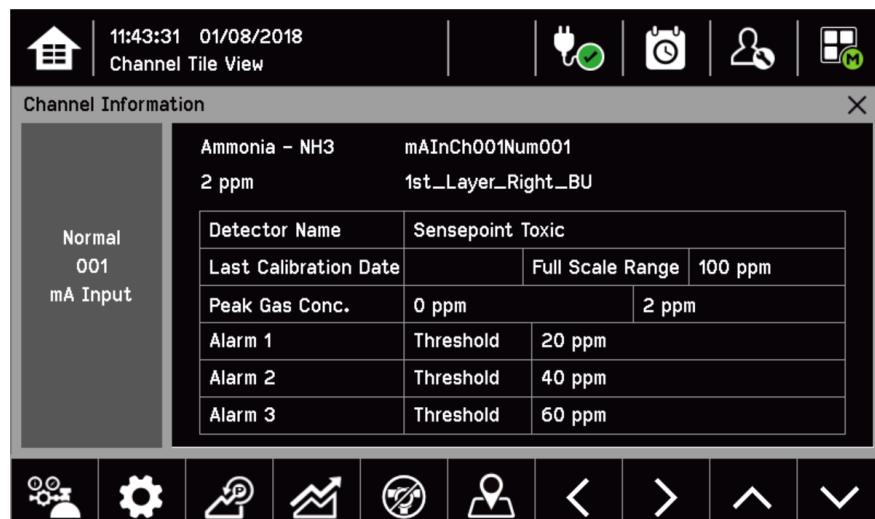


Operating Instructions

6.9 Viewing Input Channels and Input Details

From the Input screen, toggle the Home icon  between Channel Tile>Channel Summary>Channel Output.

- 1) From the Input screen, select Channel List or Channel Tile.
- 2) A list of all input channels is shown in order of channel ID. The channel ID, gas name, status minimum/maximum peak concentration and current reading will be shown.
- 3) The list can be filtered by status – Alarm, Fault, Inhibit, Warning or All.
- 4) Select a channel and Channel detail screen will show up as shown below. Depending on access level, a number of options will be shown.



Function	Access Level	Comment
Calibration	Engineer	Option to calibrate the channel
Channel configuration	Engineer	Change the input channel configurations
Peak reset	Engineer	Reset peak reading of the channel
Inhibit	Engineer	Inhibits the channel. On an inhibited channel, this option is Clear Inhibit. See Normal Operation, Inhibit for more information.
Trend Graph	Viewer	Shows the trend graph for the channel. See Normal Operation, View Trend Graph for more information
Channel location	Viewer	Show physical position of IO Module and channel.
Input Details	Viewer	Shows detailed information about the channel including Custom ID, sensor and gas name, gas reading, configured alarms and alarm levels

Operating Instructions



Function	Access Level	Comment
Channel configuration	Engineer	Change the input channel configurations
GPS location	Engineer	Show GPS data for an input (LAM only)
Node detail	Engineer	Detector type, PAN ID, SN, Battery level, SW version, RSSI, data interval, GPS state and gas readings

Operating Instructions

6.10 Viewing the Trend Graph

Trend graph is drawn using one minute average reading so it is not suitable to view the short-term signal fluctuations.

To view the graph:

- 1) Select the Menu>Information>Trend/Plot.
- 2) Select the required channel, and then select Data range.
- 3) The trend graph will be displayed.

Note: Touchpoint Plus does not adjust automatically for daylight savings time so Touchpoint Plus will retain a backup of the earlier data if the clock is backdated (i.e. when ending daylight savings time).

Note: Touchpoint Plus will retain latest 8 hr data and will be cleared after power reset for trend graph

Operating Instructions

6.11 Viewing Event History and Export

The event history for the complete system can be viewed in date order (latest first). The history can be filtered by Alarm, Fault, Inhibit, Warning.

To view the event history: select Menu>Information>Event History. Or touch Event icon.

Note: Touchpoint Plus does not adjust automatically for daylight savings time so Touchpoint Plus will retain a backup of the earlier data if the clock is backdated (i.e. when ending daylight savings time).

Active event data is saved to the SD card automatically if one is installed. The event history data can also be exported to the SD card on demand.

To export the event history: select Menu>Information>Event History>Export Event.

Note: Make sure a SD card with sufficient empty space is installed before Exporting. See Checking the Capacity of the SD Card below for more information.

Note: Microsoft Excel 2003 is limited to a maximum of 65,526 entries. If the report is larger than this a message 'file not loaded completely' may be generated by Microsoft Excel 2003.. Microsoft Excel 2010 has a much larger capacity which should be sufficient for all Touchpoint Plus generated reports.

Note: Touchpoint Plus does not adjust automatically for daylight savings time so Touchpoint Plus will retain a backup of the earlier data if the clock is backdated (i.e. when ending daylight savings time).

6.12 Checking the Capacity of the SD Card

Select Menu>Information>Additional Status. This will show the size and remaining space on the inserted SD Card. Please see the Maintenance chapter for details of how to replace the card.

The Touchpoint Plus accepts standard SD cards of 2 to 32 GB (FAT32).

6.13 Accessing the System Information and Service Contact Details

Select **Menu>Information>System information>About** to view details about the Firmware, Software and serial numbers.

Select **Menu>Information>Service Contact** for details of how to access technical support.

6.14 System State Relays

The Main Module has three System State relays, rated at 30 VDC, 3 A or 250 VAC, 3 A, that activate under the following conditions:

- One or both System-State relays can activate if there is any active alarm, fault, warning or inhibit in the system (if configured)
- The System-Failure relay can activate if the safety function of the system is not operating, for example due to a major fault or power loss

Commissioning

Chapter 7 – Commissioning

7.1 Introduction

This chapter explains several tasks that may be required during commissioning.

First time switch-on and Commissioning should only be carried out by a Honeywell engineer or someone with System Administrator privileges who has been trained in accordance with this manual.

During First Time Switch On, it will be necessary to confirm or set the Date, Time and Language, to set new passwords and delete the default password.

If the system was ordered from Honeywell Analytics, complete the section '[Commission Input / Output Modules](#)' and '[Channel Configuration for input channels](#)' before proceeding with '[Channel Configuration for the Relay Output channels](#)'.

7.2 First Time Switch On

Before switching power on, ensure that a qualified person has checked that the wiring is safe and conforms to local regulations, and that all electrical connections are in accordance with Section 4. Also check that the battery switches are 'On'. (If a backup battery is fitted)

Switch on the battery switch (if fitted) and apply power. You can use a multi-meter to check that the DC supply to the DC Connector block is between 18 and 32 VDC. (≥24 VDC when a battery is installed.)

The system start up sequence may last for up to 5 minutes depending on the number of channels in use.

When start up is completed, Touchpoint Plus will display the Input screen, indicating the current status of the system. The Channel list view with Inhibits is shown below:



Key to Icons:

	Toggle to select screen layout		Login Status(Admin)
	External main power is provided. Touch for status		Login Status(Engineer)
	External power is not connected. Touch for status		Login Status(Operator)
	Event History (Inhibit shown)		SD card is detected
	Login Status (Viewer)		Menu
	Toggle auto-scroll on and off		Filter Display (Inhibits shown)
	Online monitoring		Wind direction

Commissioning

7.3 Date, Time and Language Settings

Note: You should replace the coin battery if date and time are not retained after power-cycle

Note: Please check regularly that the date and time of the TPPL are correct, adjust the date and time if needed.

7.3.1 How to Set or Change Date, Time and Language Settings:

- 1) Login with the Service engineer level and default password is 'TPPL' for all access level
- 2) Touch the Login icon in the navigation bar and a login will appear for the access level and Password.
- 3) From the navigation bar select Menu>Configuration>General>Date/Time.
- 4) Set the date, time and display format as required.
- 5) Touch Finish.

Note: Touchpoint Plus does not adjust automatically for daylight savings time so Touchpoint Plus will retain a backup of the earlier data if the clock is backdated (i.e. when ending daylight savings time).

7.4 Program Passwords

Note: Administrator level access is required to create an Administrator level password. Engineer level access can create or amend lower levels of password.

Note: Passwords are case sensitive

The following rules apply to user passwords:

- Three password protected levels and one non-password level are available.
- The password must be minimum 8 characters long
- The password must contain a mix of letters, numbers and symbols.
- The password must contain a lower and an upper characters

- 1) Login with a valid engineer or administrator level.
- 2) Select Menu icon>Configuration>Security>Password.
- 3) Select an access level icon and input currently logged user's password, new password and confirm password.
- 4) Touch Change.

Note: Please get help from your service contact if you forget a password. The details should have been entered in the Touchpoint Plus software during commissioning.



Caution

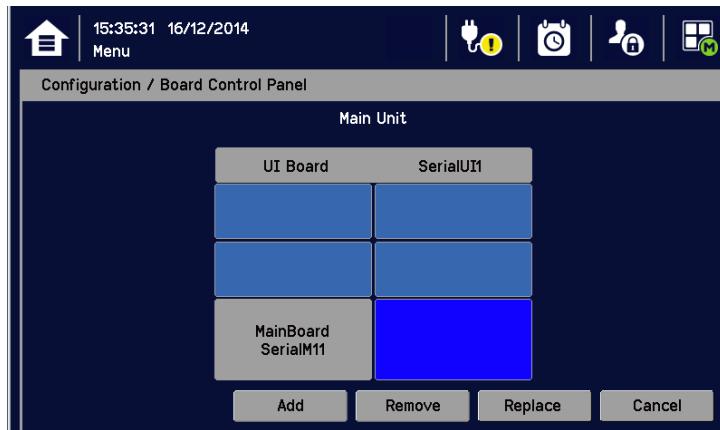
Please change the password once you receive TPPL
Careless password management can cause unauthorized access to the system which can cause
security problem and this is user's responsibility
If you forget your password please contact Honeywell Analytics service

Commissioning

7.5 Commission Input / Output Modules

Note: Engineer or higher level access is required

- 1) Login as an engineer or higher
- 2) Select Menu> Configuration>Module Control panel
- 3) Select an IO module (a blue block) and touch 'Add'. Select one of the listed I/O Module types.
- 4) Repeat for other installed IO Module.



Note: Sky blue blocks show newly installed (i.e. uncommissioned) or decommissioned modules.

Note: To remove a module, Select the Module on the screen and then touch 'Remove'. To replace it with new same type of IO Module, touch 'Replace'.

Commissioning

7.6 Channel Configuration

Note: Engineer or higher level access is required

Note: There is no calibration reminder in TPPL. A user can disable the calibration relevant warning by setting the calibration interval to zero.

7.6.1 Introduction

Individual channel can be configured in two ways – either from the built in sensor catalogue (for Analogue Input modules only), or by completing a full custom configuration.

When using the sensor catalogue, channel number and tag must be manually entered and then the rest of the configuration is populated automatically when detector name and sensor type are selected from the pre-defined list.

Note: You can always use the sensor catalogue as a starting point and then amend it afterwards (see section 'Ch.7.6.3 Editing a Configured Channel' and 'Ch. 14 Configurable Parameter Reference Guide').

To change any parameter, enter the new value and touch Apply to send it to the system. The system will then return the value, which will be displayed on the screen, and the user must touch Update for the settings to take effect. This requires the user to verify that the correct value has reached the system.

New values can be entered in various ways:

- Free text (i.e. channel tag)
- Numeric keypad
- Check / uncheck a box (i.e. to toggle an alarm between latching and non-latching)
- Select an option by checking a radio button
- Select from a list of available options (i.e. channel number)

The configuration is designed to be simple to follow on the screen. However you can refer to Ch.15 Configurable Parameter Reference Guide to find detailed definitions of all the parameters, default settings and available ranges.

Commissioning

7.6.2 Configuring a Channel

Note: You will need to have the required configuration information available before starting this procedure or you risk the system timing you out and decommissioning the uncompleted channel and losing all your unsaved changes.

To configure an individual channel:

- 1) Login as an engineer or higher access level
- 2) Select Menu>Configuration>Channel settings.
- 3) Select the required Module type.
- 4) Select a required channel and touch 'Select'.
- 5) Select Enable for a required channel
- 6) Select Channel Number and Enter Channel Tag
- 7) Select a detector name and a sensor type to import all relevant configuration parameters from the Sensor Catalog.
- 8) Edit the channel parameters
- 9) Touch Finish if modification of channel settings is complete
- 10) Check whether the channel settings are valid before making it take effect
- 11) Touch Apply

Caution – Alarm Inhibit

An I/O Module will be set into Configuration State if configuration update is attempted for any of its channels (i.e. Commission Channel or Edit Configuration).

Configuration State means that all commissioned channels on the I/O Module are set into Inhibit state – i.e. the input channels **will not trigger any alarms** and output channels **will not execute any actions**.

You should consider alternative safety measures when performing these procedures.



7.6.3 Editing a Configured Channel

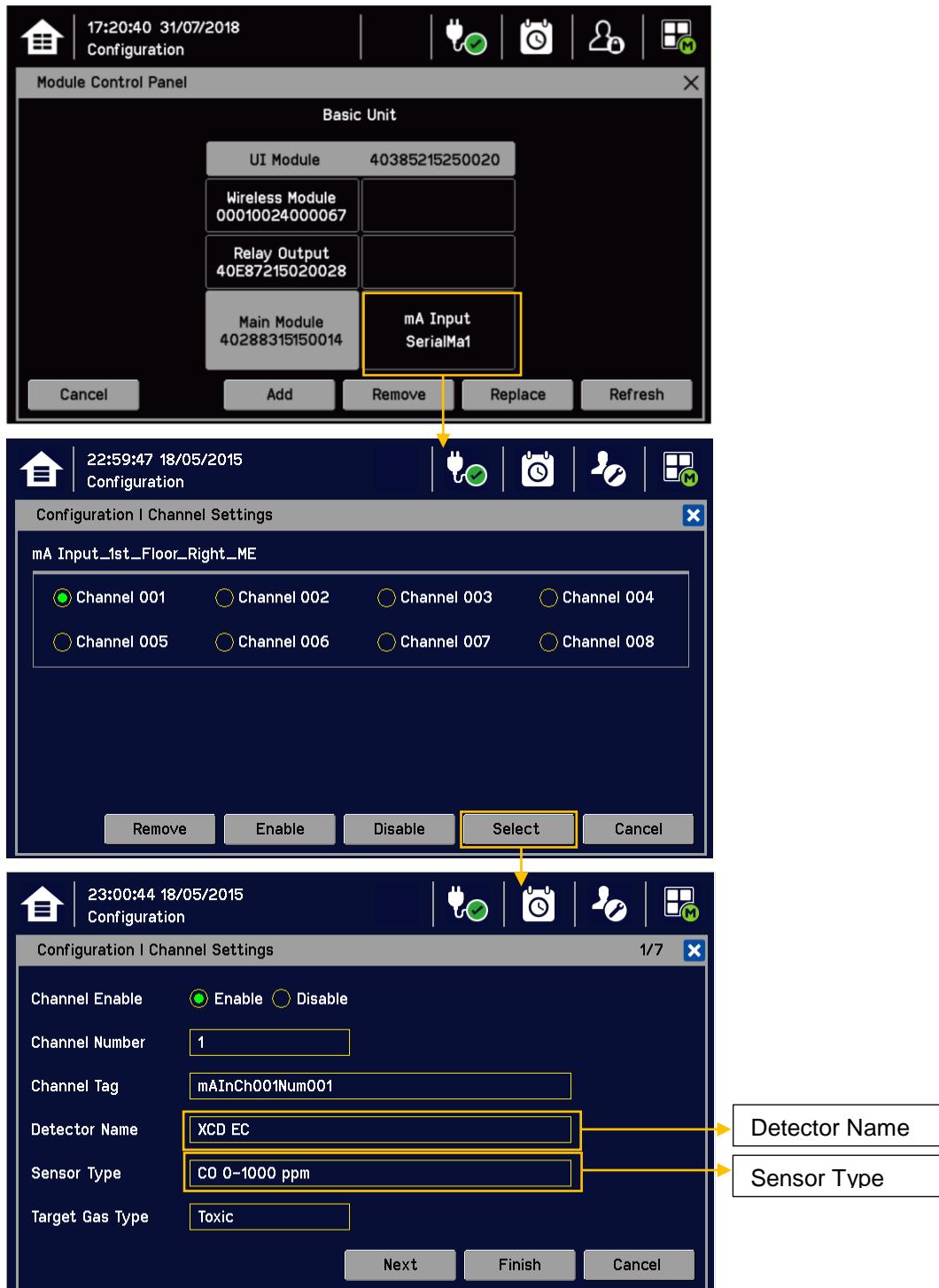
Note: There were two kinds of timeout in menu mode. One is menu timeout and the other is authentication time out. If there is no touch input, then it will move to upper menu and then finally back to Channel Status screen. The menu timeout can be configured in Configuration>General>Timeout. The default menu timeout is 90 seconds. The authentication timeout is to force the user to log out automatically when there is no activity for the configured duration. If the user logged out automatically due to authentication timeout, a user will be asked to log in again.

To edit an already configured channel:

- 1) Login as an engineer or higher access level
- 2) Select the Menu>Configuration>Channel settings and then select an IO module.
- 3) Select the required channel.
- 4) Select the screen that you want to edit (refer to previous sections of this manual).
- 5) Enter the required values in the field New Value and touch 'Finish'.
- 6) Review all parameters are valid and touch 'Apply'.

Commissioning

- 7) The system will return the new value; touch ‘Update’ to confirm.



Note: Please refer Chapter 14 for the available detector list

There are the Touchpoint Plus sensor catalog has selectable gases and “User gas” for not listed gas type
Please refer to the Chapter 8.6 for updating sensor catalog data.

Commissioning

Note: There are the Touchpoint Plus sensor catalog has selectable gases and Gasgroup 1~ GasGroup8 for not listed flammable gases

Warning: When selecting a new target gas for units the sensor must be recalibrated

Warning: Do not use the TPPL Universal Transmitter in oxygen-enriched atmospheres. Concentrations displayed will be adversely affected by oxygen depletion.

7.6.4 Configuring Relay output channels

Note: You need to complete Configuring input channels

Note: You need to complete Network setting for wireless nodes

To configure an individual channel:

- 1) Login as an engineer or higher level
- 2) Select Menu>Configuration>Channel settings.
- 3) Select the required a Relay Output Module
- 4) Select a required channel and touch 'Select'.
- 5) Set Enable a channel
- 6) Click 'Assign type' and select an assign type among 'Sensor', 'Monitor' or 'Wind sensor'
- 7) Set others and touch 'Finish'
- 8) Check all settings are correct what you set and select 'Apply'
- 9) Check all settings are correct what you set finally and select 'Update'
- 10) Repeat 5~9 for all Relay channels

Commissioning



Commissioning

7.6.5 Configuring Wireless channels

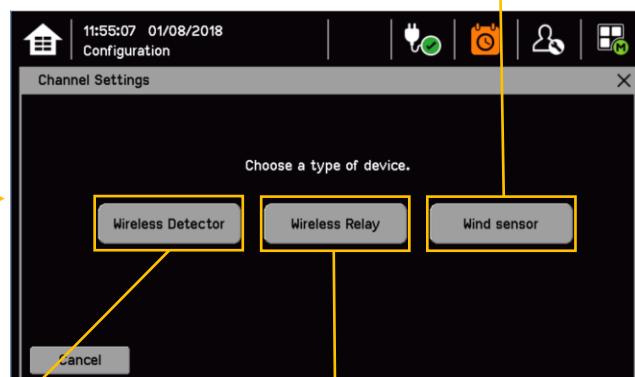
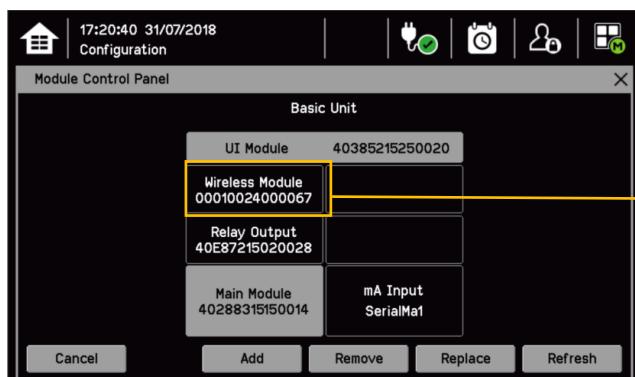
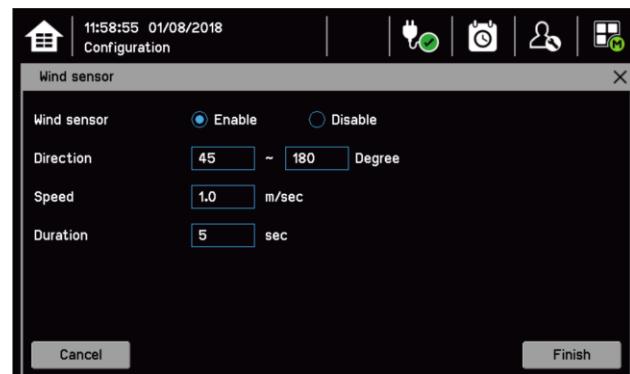
Note: You need to complete Configuring relay channels

Note: You need to complete Network setting for wireless nodes

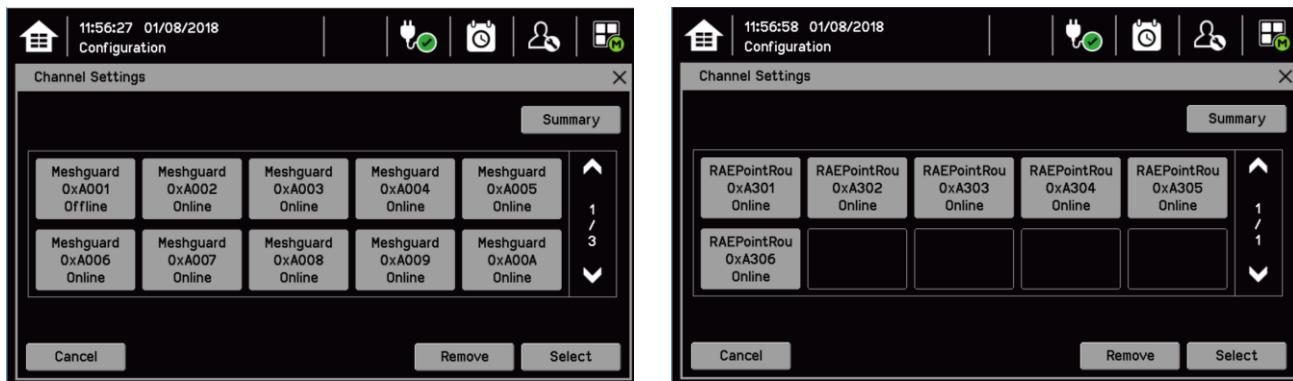
To configure a relay to mirror to wireless node relay

- 1) Login as an engineer or higher level
- 2) Select Menu>Configuration>Channel settings.
- 3) Select the required a Wireless Module
- 4) Select the 'Wireless Relay' as a type of device.
- 5) Select a RAEpoint and touch 'Select'.
- 6) Select a relay of the RAEpoint and link a relay of Relay Module.

To configure a Wind senor enable



Commissioning



7.7 Data Logging

Set the Data Logging interval and threshold during configuration. A 0.0 %FSD threshold means that the TPPL will log the gas concentration at the specified intervals without checking in gas concentration. In contrast, a non-zero %FSD threshold setting will ignore fluctuations in low ambient gas concentrations and only check for rises in gas above the threshold (i.e. safe) setting.

Leave the setting at 0.0 seconds if you don't want to log gas concentration at the configured log interval. However, if you do want to monitor changes, you should start with a low threshold setting and slowly increase it by trial and error if you get too many unnecessary warnings.

Note: A low gas concentration %FSD reading at one sensor only applies to the area immediately surrounding that sensor, and may not indicate dangerous concentrations elsewhere in the room. Always consider using multiple sensors at differing heights and locations, be aware that sudden draughts can cause sharp rises in %FSD, and always take other safety measures (i.e. wearing Honeywell personal gas alarms) before entering or working in the monitored location.

To set or change Data Logging:

- 1) Log in as an Administrator or Engineer
- 2) Select Menu>Configuration>Log Interval & Threshold
- 3) Select a box and enter the details using the touchpad
- 4) Select Finish
- 5) Make other changes or Log Out

7.8 Touch Panel Configuration

To access the panel configuration:

- 1) Login as an Engineer or higher access level
- 2) Select the Menu>Configuration>Display.
- 3) Select LCD Backlight Timeout and Brightness settings, or Start to calibrate the Touch Panel (see below)
- 4) Select Finish to return to the Configuration menu

Access Level: Service engineer

Parameter Name	Default Setting	Value Range	Comment
Backlight time out	30 seconds	30 seconds to 10 minutes or Always On	This is the time that the backlight will remain on after the touchscreen is idle. If a new event occurs, the backlight will come on and will remain on as long as the event remains unacknowledged.

Commissioning

7.8.1 How to Calibrate the Touch Panel

Calibrate the touch panel if the screen is not responding as expected.

To calibrate the screen:

- 1) Login as an Engineer or higher access level
- 2) Select the Menu>configuration>Display
- 3) Touch 'Start' next to Touch Panel Calibration
- 4) Follow the instructions on screen.
- 5) Select Finish to return to the Configuration menu

7.9 Service Contact Settings

To set the Service contact:

- 1) Login as an Engineer or higher access level
- 2) Select the Menu>Configuration>General>Service Contact.
- 3) Update the settings with your local service support contact details.
- 4) Select Finish to return to the Configuration menu

7.10 Back up Configuration

Note: Engineer or higher access level is required for this procedure.

It is recommended you back up the Touchpoint Plus configuration once commissioning is completed.

To back up the configuration:

- 1) **If it is safe to do**, unscrew the handle security screws and open the enclosure door.
- 2) Ensure that an empty 2 to 32 GB (FAT32) standard SD Card with sufficient free space is inserted in the User interface module.
- 3) Login as an Engineer or higher
- 4) Select the Menu>Configuration>Config Manager>Export.
- 5) Enter file name for the backed-up configuration and Touch Finish.
- 6) Touch Export if the file name is valid. The backup may take several minutes, and progress is shown on screen.
- 7) When backup is completed, remove the card and immediately fit a spare card to record event data.
- 8) Close the enclosure door and tighten the two handle security screws.
- 9) Return the system to normal operation.
- 10) Transfer the backup data to a dated folder on a PC or digital device for safekeeping. The Configuration backup file is stored on the SD Card in '\\CFG\TPP_CFG.bin'
- 11) You can reuse the SD card once the data has been transferred to a PC or other device and deleted from the card.
- 12) Restoring a configuration is the reverse process, i.e. Import instead of Export, but it can only be done by an Administrator.

Commissioning

Note: The module configurations in the system should be same with ones when the configuration was exported. In other words module installation status and commissioning status should be same. If not the system will not import the previously exported configuration.

Commissioning

7.11 Calibrate mA input channel loops



Warning

Where the sensor / transmitter has the facility, the mA loop should always be calibrated at the Touchpoint Plus controller by forcing signal levels at the sensor / transmitter. Any gas calibration required must be carried out at the field device according to the manufacturer's instructions.

The Touchpoint Plus controller calibration should not be used to adjust for deficiencies in the sensor / transmitter gas calibration. Failure to observe this can result in significant accuracy errors.

Only trained technicians are authorized to carry out calibration

Caution: Ensure that any relay activation (drenchers, repeater alarms, etc.) is inhibited before starting this test.

Note: Engineer or higher level access is required.

If the sensor is an Oxygen sensor that is not being used with a transmitter that has a force mA function, the span gas should normally be air at 20.9% v/v Oxygen.

The Touchpoint Plus controller calibration should not be used to correct deficiencies in the sensor calibration; instead carry out a gas calibration at the sensor according to the manufacturer's instructions.

To calibrate the mA loop of an input channel, please follow the procedure below in combination with the relevant instructions in the sensor manual.

- 1) Login as an Engineer.
- 2) Select the Menu>Maintenance>Gas Calibration. Select the channel to be calibrated.
- 3) Select 'Start' for Zero Calibration.
- 4) Apply zero gas to the sensor / field device so that it can generate 4mA signal.
- 5) View the reading until it is stable, and then touch 'Apply'.
- 6) Select 'Next' to move to the Span Calibration screen.
- 7) Enter the target span gas concentration and touch 'Apply'.
- 8) Select 'Start' for Span Calibration.
- 9) View the reading until it is stable, and then touch 'Apply'.

Maintenance

Chapter 8 – Maintenance

This chapter describes how to perform common maintenance operations and upgrades. The required frequency of inspection and maintenance will depend on local site conditions and will need to be established through experience. Please refer to IEC/EN 60079-29-2 or other local or national regulations for guidance on establishing an appropriate maintenance routine.



Warning

Read Chapter 2 Safety before carrying out any work on the system.



Warning

If the relays are switching mains voltages, hazardous live terminals may be present within the Relay Output Module even if the Touchpoint Plus system is isolated.
Ensure that all current is isolated and dissipated before touching live terminals.

8.1 Routine Maintenance



Caution

Test outputs will be generated and relays will be activated during the Cause and Effect Test.
Ensure that relay activated output systems (i.e. emergency deluge / sirens etc.) are isolated before starting the test.



Caution

While an Operator could Force a channel, an Engineer is required to isolate services, carry out tests, Clear Force, and restore the system to full operational status.
For these reasons Operators are advised to carry out visual inspections and cleaning only, unless under the direct supervision of the engineer.

8.1.1 Weekly Checks

- Visually inspect all cables and conduits.
- Check for loose connections, security of attachment, and signs of damage.
- Wipe the Touchpoint Plus Controller with a soft damp cloth or PC Screen cleaner.
- Check for dust contamination.
- Periodically exercise the relays to confirm functionality (see Caution above).



Caution

Do not use solvent or abrasives to clean any part of the Touchpoint Plus System.

Maintenance

8.1.2 Exercising the relays

Relay output channels can be tested by forcing the relays to an active state:

- 1) Login with a valid engineer or higher level password
- 2) Select the Menu>System test >Force Relay
- 3) Select the Relay module to be tested, and toggle it off and on for the specific Relay channel
- 4) Check the relay out contact using a voltage meter
- 5) Repeat steps 3 and 4 for all relay output channels



Caution

Ensure that the system is returned to normal operation once testing is complete.

8.1.3 Exercising Audio/visual alarm

Audio/visual alarm can be tested by forcing signal out:

- 1) Login with a valid engineer or higher level password
- 2) Select the Menu>System test >Dedicated Alarm Contacts
- 3) Toggle it off and on for each outputs
- 4) Check the voltage level using a voltage meter

Maintenance

8.2 Testing the Touchpoint Plus Wireless System

8.2.1 Introduction

The Touchpoint Plus system has two test modes available, which together enable a full test of the system. The test modes are:

- 1) Field Inputs Test – tests all input channel devices and alarm levels without affecting any outputs. Gas test, force mA, confirmation of correct device connection etc.
 - 1) Login with a valid engineer password.
 - 2) Set inhibit input channels
 - 3) Supply gases for the input channels
 - 4) System will display gas reading and inhibit state
 - 5) Pre-configured Inhibit output (relays channels will output inhibit state) will be triggered and all alarm outputs are inhibited
- 2) Cause and Effect Test – forces the Touchpoint Plus input channels to specific states to test that the correct output channels are activated.



Warning

The Touchpoint Plus system is not operational while in Test Mode, under test will be ignored.

Ensure that alternative safety arrangements are maintained during test, and ensure that Test Mode is exited as soon as testing is completed.



Caution

Test outputs conditions will be simulated and relays will be activated during the Cause and Effect Test.

Ensure that relay activated output systems (i.e. emergency deluge / sirens etc.) are isolated before starting the test.

Once a test mode is active, the system will remain in test mode until the test is exited. The only exception is in the case of a power cycle of the Touchpoint Plus system, when it will restart in normal mode.

All events generated while the system is in test mode will be logged in the event history. Therefore a record of the testing can be generated once it is complete (see Normal Operation, Generate Reports).



Caution

Ensure that the system is returned to normal operation once testing is complete.

Maintenance

8.3 How to replace a faulty I/O module

A faulty I/O module can be replaced with another of the same type, without needing to reprogram the configuration. Touchpoint Plus will automatically copy over the configuration to the new module.



Warning

If the relays are switching mains voltages, hazardous live terminals may be present within the Relay Output Module even if the Touchpoint Plus system is isolated.
Ensure that all current is isolated and dissipated before touching live terminals.



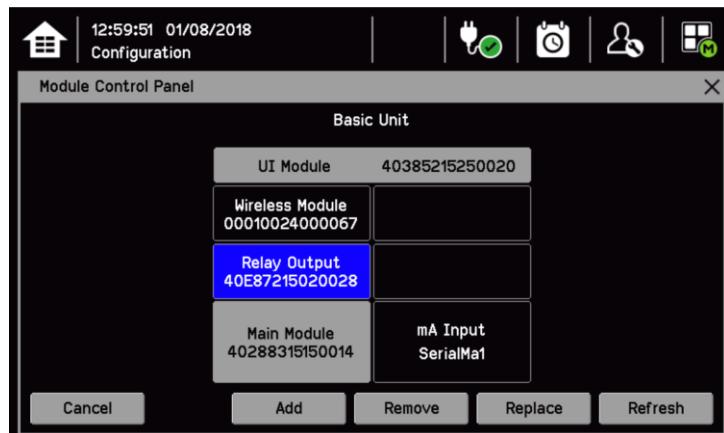
Anti-Static Precautions

Antistatic Precautions are required to prevent severe damage to electronic components.

Note: Engineer or higher level access is required

Note: The new module must be the same type with same number of inputs/outputs as the old module.

- 1) Switch off the Touchpoint Plus (Menu>Maintenance> Power off)
- 2) Isolate the power supplies and switch off the battery if there is a back-up battery installed
- 3) Disconnect the faulty module
- 4) Replace the module
- 5) Reconnect the module
- 6) Switch on the battery if there is a back-up battery installed and switch on the TouchPoint Plus
- 7) Login as an Administrator
- 8) Select Menu>Configuration>Module Control Panel
- 9) In the Board Control panel, select the empty blue block corresponding to the replaced module and touch 'Replace'



Note) IO Module color

Gray: The module cannot be added, removed or replaced because those modules are mandatory.

Yellow: Module was added previously but no module detected now (Removed)

Sky blue: Serial number or module type not matched (An IO Module is replaced)

Maintenance

Background color: Installed

8.4 How to add a new I/O Module

The Touchpoint Plus system can easily be expanded by adding new I/O modules.



Anti-Static Precautions

Antistatic Precautions are required to prevent severe damage to electronic components.

Note: Engineer or higher level access is required

Note: A module which has previously been configured in one system cannot be added to another system, unless it was correctly removed from the original system's configuration.

- 1) Switch off the Touchpoint Plus (Select Menu>Maintenance> Power off)
- 2) Isolate power supplies
- 3) Fit the new module of the required type to an empty slot, ensuring that that the module is the correct way up and with the label towards you
- 4) Electrically connect the new module
- 5) Switch on the Touchpoint Plus
- 6) Login as an administrator
- 7) Select the Menu>Configuration>Module Control Panel
- 8) Select an empty block corresponding to the new module and touch 'Add'
- 9) Commission each channel in turn

Note: See Ch.7 Commissioning for detailed instructions for further information.

8.5 How to Remove or Decommission an I/O Module



Warning

If the relays are switching mains voltages, hazardous live terminals may be present within the Relay Output Module even if the Touchpoint Plus system is isolated.



Anti-Static Precautions

Antistatic Precautions are required to prevent severe damage to electronic components.

Note: Engineer or higher level access is required.

- 1) Login as an administrator
- 2) Select Menu>Configuration>Module Control panel
- 3) Select the IO module block which is to be removed, and touch 'Remove'
- 4) Switch off the Touchpoint Plus (Menu>Maintenance>Power off)

Maintenance

- 5) Isolate the Touchpoint Plus power supplies
- 6) Electrically disconnect the module, and then remove it
- 7) Switch on the Touchpoint Plus

8.6 How to Update the Sensor Catalogue

Note: Administrator access level is required

From time to time, new versions of the sensor catalogue will be released containing updates and new products from Honeywell Analytics.

To update the sensor catalogue in the Touchpoint Plus:

- 1) Create a new folder 'CATALOG' on an SD card
- 2) Copy the new sensor catalogue file 'SD car:\CATALOG\TPP_CAT.bin' into that folder
- 3) Insert a 2 to 32 GB (FAT32) standard SD card in the UI module
- 4) Login as an administrator
- 5) From the System Status screen select Menu>Maintenance>Update system > SensorCatalog
- 6) Confirm the update
- 7) The sensor catalogue file will be updated

Note: The update may take several minutes

8.7 How to Backup / Restore configuration



Caution

You should always take a new back up of the Touchpoint Plus system configuration after changes are made and confirmed to be OK.

Engineer or higher level access is required to back up the configuration

Note: The Touchpoint Plus system remains available during this procedure.

- 1) If it is safe to do so, unscrew the handle security screws and open the enclosure door.
- 2) Ensure that an empty 2 to 32 GB (FAT32) standard SD Card is inserted in the User interface module.
- 3) Login as an Engineer.
- 4) Select the Menu>Configuration>Config Manager>Export.
- 5) Enter file name for the backed-up configuration and Touch Finish
- 6) Touch '**Export**' if the file name is valid to start the configuration backup process. The backup may take several minutes, and progress is shown on screen.
- 7) When backup is completed, remove the card and immediately fit a spare card to record event data.
- 8) Close the enclosure door and tighten the two handle security screws.
- 9) Return the system to normal operation.
- 10) Transfer the backup data to a dated folder on a PC or digital device for safekeeping. The Configuration backup file is stored on the SD Card in 'SD card:\CFG\[filename].bin'

Maintenance

- 11) You can reuse the SD card once the data has been transferred to a PC or other device and deleted from the card.

Note: You cannot import configuration files if the I/O module configuration has changed since the last backup.
To restore the configuration:

- 1) Insert the SD card with 'SD card:\CFG\TPP_CFG.bin' into the UI module SD Card slot
- 2) Login as an Administrator
- 3) Select the Menu>Configuration>Config Manager>Import. Select a file.
- 4) Once the action is confirmed, the configuration restoration process starts and a progress message is displayed. The process may take several minutes depending on the system size.

8.8 How to Update Firmware

A Firmware update is usually only carried out to cure a fault or to give a system upgrade. Firmware updates are usually optional and are not recommended if the system performs satisfactorily 'as is'.

Firmware and software updates should normally be carried out only by a Honeywell trained Engineer or an Engineer trained in accordance with this Technical Manual.



Caution

Alternative site safety arrangements should be made during this procedure as the Touchpoint Plus system is **not** available during firmware updates, and they may take several minutes to complete.



Caution

Before starting the firmware update, confirm that the new User Interface module firmware is compatible with both the installed IO Module firmware and the Main module (see below).

Failure to do so may cause unexpected complications.

8.8.1 How to Check System Compatibility

- 1) Select Menu> Information>System information.
- 2) **Note** the firmware versions already installed.
- 3) Consult the Touchpoint Plus users support for compatibility information.
- 4) Contact your local service representative for advice if the new firmware is not compatible with the existing Modules.

8.8.2 How to Update the Firmware

Caution: A power cycle of the Touchpoint Plus system is required during this procedure.

Note: Administrator access level is required.

To update the Firmware:

- 1) Download the required Firmware to a PC or other device with an SD Card reader.
- 2) The Firmware is contained in the file 'SD card:\FW*.bin'. Copy this file to a standard 2 to 32 GB (FAT32) standard SD card (do not put it in a folder).
- 3) Ensure it is safe to do so, then unscrew the enclosure handle securing screws and pull the handle to open the door.
- 4) Remove the installed SD Card. Limited event logging will carry on internally for a short while, but some data may be lost if the update takes too long.

Maintenance

- 5) Insert the SD card containing the update file into the UI module.
- 6) Login as an administrator.
- 7) Select the Menu>Maintenance>Update system > Software.
- 8) Select a Module browse the appropriate firmware file in the SD card. Check the listed current and update versions. And touch 'Update' to continue
- 9) When the updates are completed, the system will be rebooted automatically if reboot is required.
- 10) Remove the SD card and refit the event logging SD card.
- 11) Close the door and secure the access handle.
- 12) Check that the system status is OK and no faults, inhibits or errors are shown.

Maintenance

8.9 How to Change the SD Card

Note: The system can accept standard SD cards from 2 to 32 GB (FAT32), and will provide a notification when the card is less than 50Mbyte free space.

Caution: Do not leave the SD card out for too long or some event data may be lost.

To change the SD Card:

- 1) Ensure that it is safe to open the enclosure. Unscrew the two handle security screws and then pull the handle to open the enclosure door.
- 2) Select then Menu>Maintenance > SD Card> Eject.
- 3) When prompted, remove the SD Card and insert a replacement 2 to 32 GB (FAT32) card. Note the correct orientation in the picture below.
- 4) Confirm that the screen shows the SD Card as being correctly inserted and its usage is free space is sufficient
- 5) Close the access door and secure the locking handle.



Figure 30. SD Card Location

Maintenance

8.10 Back up Battery Maintenance



Danger

Replace the battery pack with Honeywell Analytics part no. **TPPLOIBB** (order number: **TPPLSIBB**), and the PCB coin battery with type **CR2032** only.

Use of other batteries may present a risk of fire or explosion.



Danger

Lithium batteries may cause severe injury or death if put in the mouth or swallowed.

Always keep them away from children and dispose of them as hazardous waste.



Caution

According to local laws and regulations the battery installed within your product should be disposed of separately from household waste. When the battery reaches its end of life, take it to a collection point designated by local authorities.

Note: The DC 24 V battery pack has an integral 15 A over-current protection fuse, and will accept a nominal input charge of **24 – 32 VDC**. (<24 VDC will not charge the battery to the level required for backup power.)

Maintenance

8.10.1 Recommended Scheduled Maintenance

- Visually inspect the Touchpoint Plus Battery and (as the enclosure is open) all cabling.
- Check for signs of damage, deterioration, or loose connections.
- Periodically check that the cooling vents have not become obstructed.

8.10.2 How to Replace the Battery Pack



Danger

Touchpoint Plus shall not be operated with the access door unsecured when in Normal mode.
Failing to secure it properly will risk fire or explosion and will invalidate Regulatory Approval.

The battery pack has circuitry that puts it into sleep mode to save power when it is not connected and running. Connecting it to a powered-up Touchpoint Plus causes the battery to change to active mode and it will function normally after a short booster charge.

To replace the battery pack:

- 1) Ensure that the atmosphere is below flammable levels.
- 2) Leave the Touchpoint Plus Controller powered on.
- 3) Unscrew the two locking handle security screws and open the enclosure.
- 4) Switch the backup battery On/Off switch to **Off** (Fig. 31) to isolate the battery.
- 5) Replace the battery pack with Honeywell Analytics part no. **TPPLOIBB (order number: TPPLSIBB)**
- 6) Switch the backup battery On/Off switch back to **On**.
- 7) Close the enclosure door and secure the handle with the two security screws.



Figure 31. Battery On/Off Switch and Battery Connector

Note: Ensure that the battery On/Off switch is in the **On** position before closing the access door or the backup battery will not work when it is most required.

Maintenance

8.11 Return to factory setting

Note: Admin level access is required

User can reset all TPPL user configuration if needed. It makes clear all user setting to factory setting

- 1) Log on Admin
- 2) Select the Maintenance>Service Mode>Reset to Default

Warning: All mA input channel gas calibrations, Relay output setting will be initialized.

Caution: Passwords are not changed by Reset to Default

Troubleshooting

Chapter 9 – Troubleshooting



Warning

Read **Chapter 2 Safety**
before carrying out any work on the gas detection systems.

Problems are signalled by an error code shown on the control panel display. The error is recorded in the event log and the screen can be cancelled once the fault is corrected.

The error messages are explained in Chapter 16: Fault Codes.

Contact Honeywell Analytics Technical Support if an error appears repeatedly, if it cannot be cleared, or if it is not listed in Chapter 16: Fault Codes.

9.1 Calling for Technical Support

Please contact Honeywell Analytics Technical Support if your problem cannot be resolved or if you need additional help. You can find our contact details on the rear cover of this manual.

To assist the Honeywell Helpdesk in giving you technical support, it would be helpful to have the following information ready:

- Your Company contact details and a contact name and department.
- The system model type, i.e. Touchpoint Plus, and its serial number. These can be found on the system identification label.
- The software version found under the **System Info** menu option key.
- Details of the difficulty that you are experiencing.
- Error message and code numbers that were shown on the display screen.

To assist with the fault diagnosis you may be asked to send a copy of your event log by email.

Technical Specifications

Chapter 10 – Technical Specifications

10.1 Environmental

Sealed enclosures are rated IP65, NEMA 4x, and can be installed indoors only in a Pollution Degree 2, 10 to 95 %RH Non-Condensing environment that affords total protection from rain, snow and direct sunlight.

Operating Temperature	-10 °C to + 55 °C
Storage Temperature	-25 °C to + 60 °C
Operating Humidity (closed)	10 to 90 %RH (non-condensing)

10.2 User Interface and Main Module

LCD Touch Screen Type	7' TFT Colour LCD with LED Backlight (resistive touch screen) 800 x 480 pixels (WVGA) Resolution Active area 155.08 mm (H) x 86.92 mm (V)
Front Display	Green Power LED
	Red Alarm LED
	Yellow Fault/inhibit LED
	Alarm Mute /Reset Push Button
	Alarm Buzzer (Sound Level: 70 dB at 1 m)
Output Relays	Two configurable and one fixed System State Relays: 5 A @ 250 VAC, 5 A @ 30 VDC (non-inductive load)
Dedicated Audio and Visual alarm	Four outputs to external devices Supply voltage Vs (18 – 32 VDC) –1.8* VDC (max), max 300 mA per channel *Voltage drop at ambient temperature
Remote Terminals	Optional remote acknowledge, reset and inhibit

Technical Specifications

10.3 I/O Modules

10.3.1 mA Input Module

Description	2,4 and 8-channel Analogue Input Module for 2-wire or 3-wire 4 – 20 mA detector signals
Sensor Configuration	2-wire or 3-wire current source
Signal Measurement Range	0 – 24 mA
Sense Resistance	66 Ω
Module Power Consumption	Max 0.4 W (Excludes power to mA detector)
Field Device Power Supply Vmax (—)	Supply voltage Vs (18 – 32 VDC) –*1.8 VDC (max) *Voltage drop in Touchpoint Plus at T ^a
Field Device Power Supply Power max (single channel)	15 W
Field Device Power Supply Power max (eight channels)	40 W
Maximum cable length for mA Input loop (Rloop)	Rloop = (Vcontroller – 1.8 VDC – Vdetector min) / Idetector Maximum Cable run length = Rloop / (Ω per metre) Example: Vcontroller = 24 VDC, TPP Voltage drop = 1.8 VDC, Vdetector = 18 VDC (18 to 32 VDC), Idetector = From detector specification.

10.3.2 Relay Output Module

Description	12-channel Relay Output Module incorporating 12 single pole change over (SPDT) relays
Power Consumption Maximum	2.6 W (with all relays energised)
Relay Contacts (~ / —)	5 A @ 250 VAC / 5 A @ 30 VDC,
Relay Operation	Individually configurable for – normally energised / de-energised operation

Technical Specifications

10.4 Power Supplies

10.4.1 External Supplies

SMPS Power Supply	156 W
AC Input Voltage Range (~)	AC 110/220 V ±10 % of nominal (manual switching)
DC Input Voltage Range (—)	DC 18 – 32 V SELV Supply
Input Frequency Range (~)	AC 50 – 60 Hz ± 6 %
Output Voltage (—)	DC 24 V
Dimension	199 x 98 x 38mm (L x W x H)

10.4.2 Backup Battery

Description	22.2 V Lithium - ion Battery, 2600mAh
Electrical Connection	6 X 3.7 VDC in series
Dimensions/Weight	124.8 x 78.9 x 29.2 mm, 425g
Operating Temperature	0 – 50 °C
Operating Humidity	10 to 90% RH (non-condensing)
Storage Life Limitations	1 Year: –20 °C to +25 °C (-4 °F to +077 °F) 3 months: –20 °C to +45 °C (-4 °F to +113 °F) 1 month: –20 °C to +60 °C (-4 °F to +140 °F)
Storage Lifetime without re-charge	1 year
Input Current (charging) (—)	DC 24 – 32 V @ 0.38 mA max.
Output Voltage (when supplying) (—)	17.4 – 25.2 VDC
Maximum Input Current	250 mA
Maximum Output Current	5 A
Current Limit Protection	FUSE 15 A (non-replaceable)

Technical Specifications

10.5 Enclosures

10.5.1 Wall Mount Enclosure

Material	PC ABS
Cable Gland Plug	PG16
Environmental Protection	IP65 (when fully closed and locked), NEMA 4x indoor
Operating Humidity	10 to 90 %RH (non-condensing)
Mounting Bracket – Dimension	W 423 x D 325 x H 16.5 mm, 1.5 kg (approx)
Weight	8.5kg
Dimension	426 mm x 300 mm x 156 mm (16.9 ins x 11.8 ins x 6.2 ins)

Replacement Parts and Optional Extras

Chapter 11 – Certifications

11.1 EC declaration of conformity

A full EC declaration of conformity is available on either original hardcopy or electronic file (Honeywell Analytics website). This document lists the European Standards with which Touchpoint Plus complies.

WARNING

Only the combustible gas detection portion of this instrument has been assessed for performance in accordance with the ATEX Directive.

AVERTISSEMENT

Seulement la partie détection de gaz explosif de cet équipement a fait l'objet de tests de performance métrologique suivant la directive ATEX.

WARNING

CSA performance is only valid when connected to Honeywell Model 705 Catalytic Gas Detectors or suitably approved 4 – 20 mA Gas Detectors.

AVERTISSEMENT

La performance en conformité avec la CSA est valide uniquement lorsque l'appareil est connecté aux détecteurs de gaz catalytiques Honeywell modèle 705 ou à des détecteurs de gaz 4 - 20 mA dûment approuvés.

11.2 National and International Certificates of Compliance

The Touchpoint Plus Process Control Equipment holds the following National and International Certificates and Certification Codes:

	Standards	Certificates
Ingression protection	IP65 and NEMA 4X	
Electrical Safety	UL/IEC/EN 61010-1, UL 508 and CSA C22.2 No.61010-1/No.142 ANSI/ISA 12.12.01-2015 CAN/CSA C22.2 No. 213-16	UL File E466771, E470577 and E480011
EMC/RFI	EMC Directive (EN 50270:2015)	
Battery Pack	UN 38.3 (IEC 62133), UL 2054, UL 60950-1 and CSA C22.2 No.60950-1-07	UL File MH60522



WARNING

Ambient temperature: Dependent on components fitted, check individual rating plates.

AVERTISSEMENT

Température ambiante : elle dépend des composants assemblés, vérifier individuellement les plages de température

Chapter 12 Replacement Parts and Optional Extras

The following replacement parts and optional extras are available to order, but Honeywell Analytics cannot accept responsibility for their incorrect fitment or use.

All Honeywell supplied replacement parts are covered by the standard Honeywell warranty service.

With the exception of SD Cards, the equipment listed below is only to be installed or replaced by the Manufacturer's trained personnel, or by competent persons trained in accordance with the Manufacturer's installation instructions.

Description	Part Number
SD Card (2 to 32 GB) FAT32 standard format	Local purchase
SD Card (8GB)	TPPLOSDC
Backup battery pack	TPPLSIBB
Input Module 8 Channel mA	TPWSMAAI8
Output Module 12 Channel Relay	TPWSMAROC
Main Module	TPWSMPM
SMPS (150 W,110 / 220 VAC)	TPPLSSAM
Back Plane PCB Assembly	TPPLSBPM
UI PCB	TPWSDPM
Touch Screen LCD	TPPLSLTSM
External Strobe	M-700123
Cable gland	TPPLOGLD
Metal grounding for cable gland	TPPLOMGND
Wall Mounting Bracket	TPPLOWMB

Glossary of Icons

Chapter 13 – Glossary of Icons

#	Icon	Description	#	Icon	Description
1		List View	18		Top View Power connected
2		Tile View	19		Top View Battery backup state
3		Summary View	20		Top View SD Card logging
4		Output View	21		Top View SD Card full
5		History Information	22		Scroll
6		Event History Alarm	23		Stop to Scroll
7		Event History Fault	24		Bottom Up
8		Event History Inhibit	25		Bottom Down
9		Event History Warning	26		Bottom Left
10		Event History Default	27		Bottom Right
11		Login – Viewer	28		Zoom In
12		Login – Operator	29		Zoom Out
13		Login – Web	30		Calibration
14		Login – Engineer	31		Configuration
15		Login – Administrator	32		Peak Reset
16		System OK	33		Trend

Glossary of Icons

#	Icon	Description	#	Icon	Description
17		System Fault	34		Inhibit
35		Alarm filter	51		Error Pop Up
36		Fault filter	52		Fault Pop Up
37		Inhibit filter	53		Inhibit Pop Up
38		Warning filter	54		Warning Pop Up
39		ESC	55		Information Pop Up
40		Filter Information	56		Summary View Alarm
41		Trend Graph	57		Summary View Normal
42		Filter Refresh	58		System Setting Menu
43		Cancel	59		Configuration Menu
44		Processing OK	60		Maintenance Menu
45		Processing FAIL	61		Information Menu
46		Item Select	62		Base Line Adjust
47		Item Select	63		Gas Calibration
48		List Up	64		Low Battery Warning
49		List Down	65		Critically Low Battery
50		Alarm Pop Up	66		Power Off View

Compatible Sensors

Chapter 14 – Compatible Sensors

Not available

Configurable Parameter Reference Guide

Chapter 15 – Configurable Parameter Reference Guide

Parameter Name	Parameter Description	Applies to	Read/Write	Default Value	Measurement units
Alarm 1 Enable	Alarm enable/disable. 0 = Disabled 1 = Enabled	All	RW	1	n/a
Alarm 1 Function	Type of alarm function. Default is threshold. 0=Threshold, 1=STEL, 2=TWA	All	RW	0	n/a
Alarm 1 Level	Alarm 1 threshold concentration	All	RW	20 %FSD	conc.
Alarm 1 Trigger	Alarm trigger option. 0 = Rising 1 = Falling	All	RW	1 for O ₂ , 0 for other gases	n/a
Alarm 2 Enable	Alarm enable/disable. 0 = Disabled 1 = Enabled	All	RW	1	n/a
Alarm 2 Function	Type of alarm function. Default is threshold. 0=Threshold, 1=STEL, 2=TWA	All	RW	0	n/a
Alarm 2 Level	Alarm 2 threshold concentration	All	RW	40 %FSD	conc.
Alarm 2 Trigger	Alarm trigger option. 0 = Rising 1 = Falling	All	RW	1 for O ₂ , 0 for other gases	n/a
Alarm 3 Enable	Alarm enable/disable. 0 = Disabled 1 = Enabled	All	RW	1	n/a
Alarm 3 Function	Type of alarm function. Default is threshold. 0=Threshold, 1=STEL, 2=TWA	All	RW	0	n/a
Alarm 3 Level	Alarm 3 threshold concentration	All	RW	60 %FSD	conc.
Alarm 3 Trigger	Alarm trigger option. 0 = Rising 1 = Falling	All	RW	0	n/a
Alarm Hysteresis	Alarm hysteresis is to avoid the alarm from frequent on/off when the gas reading is close to the alarm threshold. When clearing the gas alarm, the gas reading should go below gas alarm threshold hysteresis. The hysteresis is defined in % of Full range (Default 2%)	All	RW	2	%FSD
Alarm Latch	Alarm latch option. Alarm will be continued until manual user reset if latching is enabled. 0: Disabled, 1: Enabled	All	RW	1	n/a

Configurable Parameter Reference Guide

Parameter Name	Parameter Description	Applies to	Read/Write	Default Value	Measurement units
Cal Interval	Recommended calibration interval in days. Default is 6 months	All	RW	180	days
Default Range	Full scale range.	All	RW		conc.
Detector Index	Index of detector that is used internally	All	R	per detector	n/a
Detector Name	Detector name.	All	RW	per detector	n/a
Formula Gas Name	Formula for the target measuring gas	All	R	per target gas	n/a
Gas Digit	Index of decimal places for the gas relevant parameters	All	RW	per target gas	n/a
Gas Index	Pre-defined gas index. Internal parameter.	All	R	per target gas	n/a
Gas Name	Target gas name	All	RW	per target gas	n/a
Gas Over Range Limit	Over-range gas concentration limit. This parameter is used to generate over-range warning	All	RW	110 %FSD	conc.
Gas Type	Toxic (0), O2 (1), Flammable (2) Set automatically by Gas Name	All	RW	per target gas	n/a
Gas Under Range Limit	Negative reading limit	All	RW	-7 %FSD	conc.
Gas Unit	Measurement unit Strings: %, ppm, %LEL, %VOL, mA	All	R	per target gas	n/a
Gas Unit Index	Index of measurement unit	All	R	per target gas	n/a
Group	Type of sensor catalogue. mV input = 0, mA input = 1	All	R	per target gas	n/a
Inhibit Timeout	Inhibit timeout in minutes. 0 means permanent inhibit	All	RW	10	minutes
Item Name	Sensor catalogue name. Default name consists of <Detector Name> and <Sensor Name>	All	R	—	n/a
Lower Zero Dead Band	Lower deadband range. The gas concentration within the deadband limit will be suppressed to default base concentration. I.e. if the gas concentration is between the (default base concentration - lower deadband) and (default base concentration + upper deadband), then the reading will be the default base concentration.	All	RW	-2 %FSD	conc.

Configurable Parameter Reference Guide

Parameter Name	Parameter Description	Applies to	Read/Write	Default Value	Measurement units
Max Range	Maximum configurable measuring range	All	R		conc.
Min Range	Minimum configurable measuring range	All	R		conc.
Resolution	Index of display resolution for gas relevant parameters	All	RW	per target gas	n/a
Sensor Name	Sensor name consists of gas name, full scale range and measurement unit	All	R	per target gas	n/a
Signal Fault Max	Upper mA input signal range to detect the fault reported by the detector	mA sensor only	RW	1.1	mA
Signal Fault Min	Lower mA input signal range to detect the fault reported by the detector	mA sensor only	RW	0	mA
Signal Inhibit Max	Upper mA input signal range to detect whether detector is inhibited or not	mA sensor only	RW	2.2	mA
Signal Inhibit Min	Lower mA input signal range to detect whether detector is inhibited or not	mA sensor only	RW	1.8	mA
Signal Over Range Limit	Upper allowable limit for the input signal from the sensor/detector. If the signal is out of this limit, the I/O board will generate an input signal fault	All	RW	22 mA or 200 %FSD for mV	mA / mV
Signal Under Range Limit	Lower allowable limit for the input signal from the sensor/detector. If the signal is out of this limit, the I/O board will generate an input signal fault	All	RW	100 %FSD or 0 mA for mV	mA / mV
Signal Warning Max	Upper mA input signal range to detect remote warning from the detector	mA sensor only	RW	0	mA
Signal Warning Min	Lower mA input signal range to detect remote warning from the detector	mA sensor only	RW	0	mA
Span Calibration Conc.	Target span gas concentration. Normally it is 50 %FSD	All	RW	50 %FSD	conc.
STEL Interval	STEL period in minutes. The catalogue is using index instead.	mA sensor only	RW	15	minutes
TWA Interval	TWA period in hours. The catalogue is using index instead.	mA sensor only	RW	8	hours

Configurable Parameter Reference Guide

Parameter Name	Parameter Description	Applies to	Read/Write	Default Value	Measurement units
Upper Zero Dead Band	Upper deadband range. The gas concentration within the deadband limit will be suppressed to default base concentration. In other words if the gas concentration is between (default base concentration - lower deadband) and (default base concentration + upper deadband), then the reading will be default base concentration.	All	RW	2 %FSD	conc.
Zero Range	Zero gas concentration. It is normally zero	All	RW	0	conc.

Fault Codes

Chapter 16 – Fault Codes

Code	Display in Event History	Description
1	Communication fault [B/D Type], Pos: xx, Code: xxx	Internal communication fault
2	Memory fault [B/D Type], Pos: xx, Code: xxx	internal memory fault
3	Catalogue memory fault	Catalogue memory corrupted
4	Internal hardware fault [B/D Type], Pos: xx, Code: xxx	Internal hardware fault
5	Sensor circuit fault CH: xx, [B/D Type], Pos: xx, Code: xxx	Sensor circuit fault
6	Supplied voltage fault [B/D Type], Pos: xx, Code: xxx	Supplied voltage fault
7	Internal software fault [B/D Type], Pos: xx, Code: xxx	Internal software failure
8	—	Reserved
9	Sensor fault CH: xx, [B/D Type], Pos: xx, Code: xx	Sensor fault (including signal range fault)
10	mA Output Error CH: xx, [B/D Type], Pos: xx	Reserved
11	Relay Output Error CH: xx, [B/D Type], Pos: xx	Relay not controlled
12	Detector In Fault CH: xx, [B/D Type], Pos: xx	Remote fault notified by a detector (depending on fault signal range)
13	Battery Fault Pos: xx	Backup battery fault
14	IO B/D Not Matched [B/D Type], Pos: xx, Prev: xxx, Current: xxx	IO board not matched or present
15	Negative Reading CH: xx, [B/D Type], Pos: xx, Conc: xxxx	Cell is producing a negative reading (depending on gas under-range limit)
16	Fault Cleared CH: xx, [B/D Type], Pos: xx, Code: xx	Fault self-cleared
17	Reset all faults	Manually reset all faults

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Regulatory Compliance

This product complies with standards established by the following regulatory bodies:

- Federal Communications Commission (FCC)
- Industry Canada

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following

measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

IMPORTANT! Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Industry Canada

This device complies with Industry Canada licenceexempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC/ISED radio frequency (RF) Exposure Guidelines. It is desirable that it should be installed and operated keeping the radiator at least 20 cm or more away from person's body.

Canada, avis d'Industrie Canada (IC)

Cet appareil est conforme aux normes RSS exemptes de licence d'Industrie Canada. Son utilisation est soumise aux deux conditions.

suivantes : (1) cet appareil n'engendre pas d'interférences, et (2) cet appareil doit tolérer tout type d'interférences, notamment les interférences pouvant provoquer une utilisation non désirée de l'appareil.

Cet équipement est conforme aux limites établies par FCC/ Industrie Canada en matière d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

FCC Radiation Exposure Statement

The equipment complies with FCC Radiation exposure limits set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

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