



## Touchpoint Plus Wireless

Revision History

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1	Initial Release	HAA190023	Apr 2019
2	Second Release for Portable Products	HAA190054	Sep 2019

## 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 Wireless 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 3<sup>rd</sup>-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 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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# 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. 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:


## 1.1 Regulatory Approval Markings

 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.

## 1.2 Additional Product Markings

 Products bearing this mark must not be disposed of in domestic waste. They must always be taken to a specialist Waste Electrical and Electronic Equipment (WEEE) disposal or recycling facility. A box under the mark may show the type of hazardous material in the product, e.g. the letters Pb would show that the item contains Lead.

 Products bearing this mark are recyclable and should not be disposed of as normal landfill waste.

## 1.3 TPPLW Mandatory Warnings

### **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

### 1.4 TPPLW General Warnings

#### 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 Wireless system or its components outside of their rated operating specification.
- 4) Touchpoint Plus Wireless 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  $\pm 10\%$  of nominal.
- 7) All versions of Enclosure apparatus are electrical Class 1, and must be connected to Protective Earth (Ground).
- 8) The Touchpoint Plus Wireless 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 Wireless 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 Wireless 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.
- 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

## Important Safety Information

### 1.5 TPPLW General Cautions

- 1) Touchpoint Plus Wireless 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 Wireless. Do not use solvents or abrasives as they will damage the User Interface.
- 4) Once commissioned, Touchpoint Plus Wireless is intended for continuous operation.
- 5) Undo the security screws before pulling the locking handle. Failing to do so may irreparably damage the enclosure.

#### 1.5.1 Intended Readers

This Manual should be read by everyone who operates or monitors the Touchpoint Plus Wireless 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**

Personnel, who work on, or in the area of, the Touchpoint Plus Wireless Gas detection system must be made aware of the contents of Chapter 1 – Important Safety Information  
Before unpacking the system, read the documentation that accompanies it.

#### 1.5.2 Conventions Used

The following conventions are used in this manual:

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

`Menu>Configuration>Channel` highlights a sequence of commands (including button touches).

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

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

**SELV** refers to Safety Extra-Low-Voltage devices.

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

**Touch / Tap** refers to all direct interactions with the Touchscreen, whether by finger or stylus.

**'TPPLW'** refers to Touchpoint Plus Wireless.

## Important Safety Information

### 1.5.3 Associated Manuals

This TPPLW User Guide should be used in conjunction with ancillary component and field device user guides or documentation.

This TPPLW User Guide is available in the following languages:

- Chinese (Simplified) Pt. Nr. 3020M5042
- Dutch Pt. Nr. 3020M5043
- English (UK) Pt. Nr. 3020M5044 (this document)
- French (France) Pt. Nr. 3020M5046
- German Pt. Nr. 3020M5047
- Italian Pt. Nr. 3020M5048
- Japanese Pt. Nr. 3020M5049
- Korean Pt. Nr. 3020M5050
- Portuguese (Portugal) Pt. Nr. 3020M5052
- Russian Pt. Nr. 3020M5053
- Spanish (Spain) Pt. Nr. 3020M5055
- Swedish Pt. Nr. 3020M5056

The supplementary *TPPLW Modbus Installation and Setup Guide* (Pt. No. 3020M5027) is available in English, and is recommended for OEMs and Modbus specialists only.

The *TPPLW Technical Handbook* (Pt. No. 3020M5001) contains detailed information on Installation, Commissioning, Maintenance, Repairs, Replacements and Upgrades. It is aimed at Honeywell personnel, qualified technical personnel who are trained on TPPLW, Honeywell partners and OEMs, and it is available in English only.

**Note:** Refer to the manuals and instructions relevant to the gas sensors and detectors working with Touchpoint Plus Wireless.

## Chapter 2 Safety Hazards, Warnings and Cautions

### 2.1 Safety

Incorrect set-up, maintenance, operation or modification of the Touchpoint Plus Wireless 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.

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, and D or non-hazardous locations only.

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)

#### **WARNING**

Fire and Ignition hazards (Touchpoint Plus Wireless is **not** ATEX/IECEx Zone 1 certified, and cannot be used in flammable atmospheres, or where oxygen concentrations >25% v/v O<sub>2</sub>).

#### 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 Wireless 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 O<sub>2</sub>.

#### **WARNING – LITHIUM BATTERY HAZARDS**

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

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

Batteries (regardless of type) shall only be handled, fitted, removed or replaced in non-hazardous (safe) areas.

#### **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.

#### **Caution – Risk of Equipment Damage**

Touchpoint Plus houses static-sensitive components. Always isolate power and discharge circuits before touching internal components. Always take anti-static precautions.

#### **Caution – Risk of Injury or Damage**

Always follow a Safe System of Work when carrying out any work involving Safety Systems.

# 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.

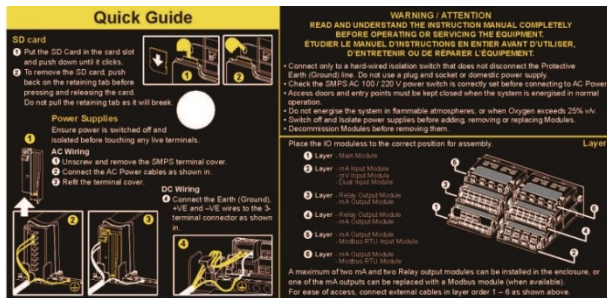


Figure 1. Quickstart Guide Label (Not to Scale)

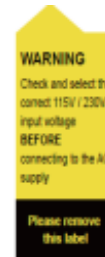


Figure 2. SMPS Voltage Warning Label (Removed During Installation)



Figure 3. Protective Earth (Ground) Point



Figure 4. Equipment Earth (Ground) Point

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

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

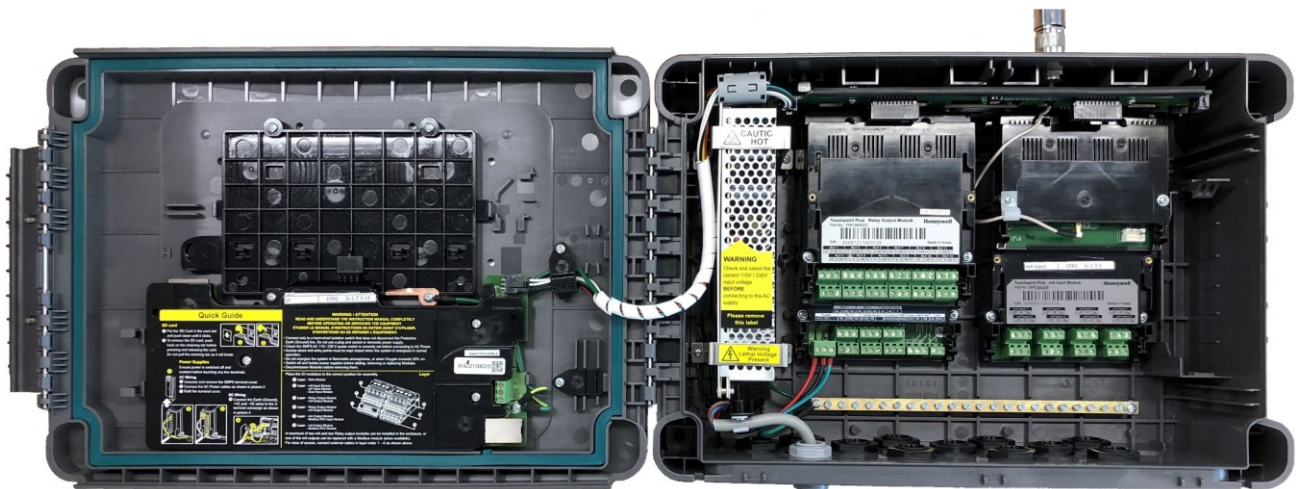


Figure 5. Internal Label Positions

# Safety Hazards, Warnings And Cautions

## 2.3 Electrical Hazards

Gas detection systems contain electrical supplies that are potentially dangerous and hence **suitable precautions must be taken to prevent the risk of electrocution**. This is especially important when untrained/unqualified persons are allowed to open the enclosure (e.g. to access/remove/refit the SD Card).

### 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 Wireless 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 1Megaohm, 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 Wireless 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 Wireless as backup power sources.

Replace the battery pack with Honeywell Analytics part no. TPPL0IBB (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.

Title	Standards	Certificates
Ingression protection	IP65	
Hazardous Locations (Non-Incendive)	Class 1, Division 2, Group A, B, C, D, Temp. Code T4 UL 121201, CAN/CSA C22.2 No. 213-17	UL File E480011
Electrical Safety	UL/IEC/EN 61010-1 CSA C22.2 No.61010-1-12/No.142, and UL 508	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
Low Voltage Directive	IEC/EN 61010-1 (3rd Edition)	
Wireless	FCC 15C, IC RSS-247 2.4 GHz and sub 1 GHz	
Performance	CSA 22.2 No. 152-M1984	UL File E480011

**Note:** FA324 is not available in Class 1 Division 2.

**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.

**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.

# Safety Hazards, Warnings And Cautions

## 2.5 Conditions of Use

This Touchpoint Plus Wireless 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

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.

## 2.6 Security Guide

Establishing an Ethernet connection to Touchpoint Plus Wireless may expose the system to vulnerabilities. Honeywell recommends against connecting Touchpoint Plus Wireless to untrusted computers or equipment without taking appropriate measures to ensure security.

## Chapter 3 System General Description



Figure 6. Touchpoint Plus Wireless Wall-Mounted Controller

The Touchpoint Plus Wireless is an entry level (or upgrade) touch-screen digital Controller for general industrial and commercial gas detection systems hybrid wireless gas detection systems. It has eight wired and 64 wireless input channels.

It can handle 4-20 milliamp analogue inputs and wireless gas detectors, 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 Wireless 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.

# System General Description

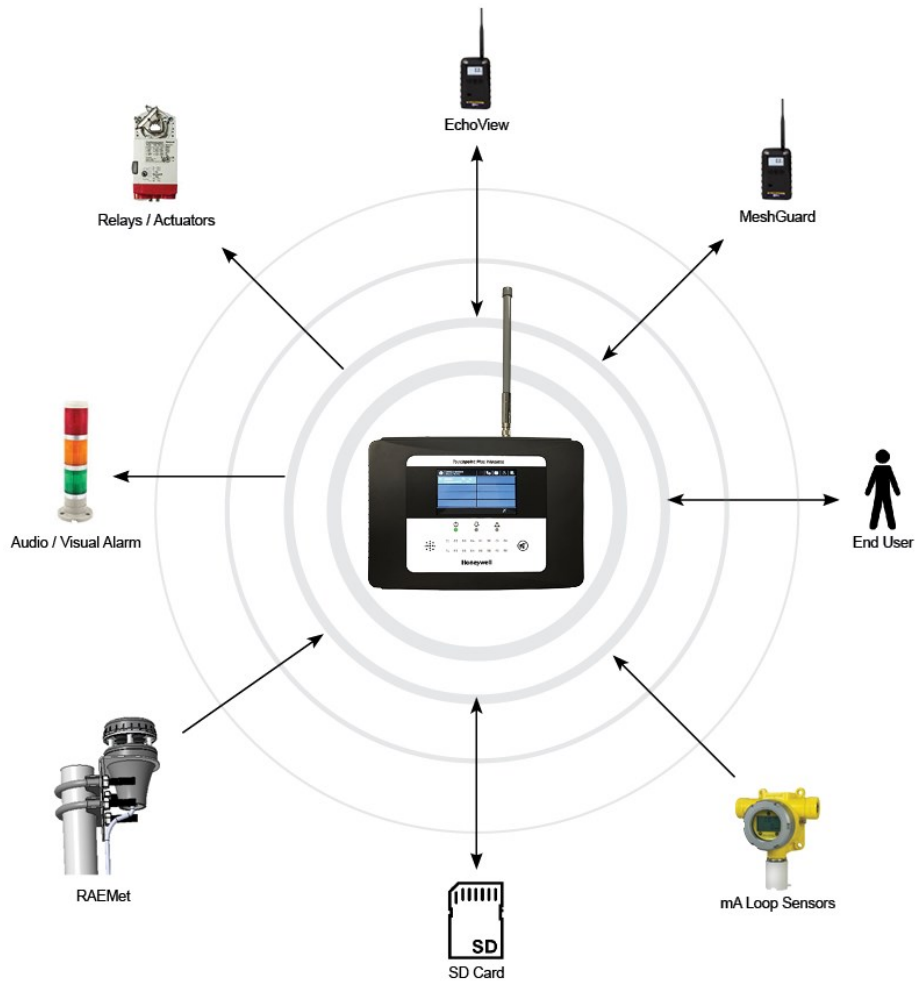


Figure 7. Typical Installation Options

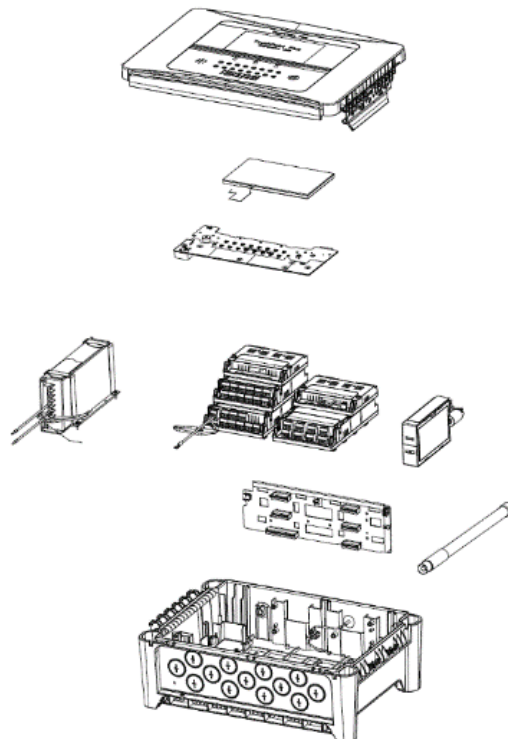


Figure 8. Controller Exploded View

# System General Description

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  $\overline{\overline{=}}$  (DC), Max 105W
- Up to 8 channels of Analogue Input (0–22mA)
- 2 or 3-wire signal inputs
- Up to 14 channels of user configurable relay controlled Output
- Alarm update on Acknowledge
- Automatic Self-Diagnostic with error codes
- Event recording
- SD Card

## 3.1 Equipment Specification

### 3.1.1 Power Requirements

The Touchpoint Plus Wireless 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  $\overline{\overline{=}}$ (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.

Nr.	Power Usage	Module Qty	Power	Total Power (Max) W	Remarks
				mA in	
1	UI Module	1	3.4	3.4	
2	Main Module	1	1.0	1.0	
3	mA Input Module	1	0.3	0.3	8 ch, Not including Field Device power
	mA Field Devices	-	40	40	Field Device power (8 ch* 5W)
	WIO module	1	1.2	1.2	
5	Relay Output Module	1	2.5	2.5	
6	Charging power for backup battery pack	1	6	6	
7	Audio/Visual Alarm	-	28.8	28.8	When alarm devices are connected
8	SMPS Power Loss	-	14.0	14.0	
<b>MAXIMUM CONSUMPTION</b>				<b>97</b>	

Table 1. System Power Calculations

## System General Description

<b>Input</b>	Voltage Range AC	AC 110/220 V manually switchable 300 VAC surge for 5 sec without damage
	AC Frequency Range	50 – 60 Hz ± 6%
<b>Output</b>	DC Voltage	24 V
	Rated Current	6.5 A
	Current Range	0 – 6.5 A
	Rated Power	156 W
<b>Protection</b>	Overload	110 – 150 % rated output power
	Over-Volt	27.6 – 32.4 VDC Hiccup mode, which recovers automatically when the fault is removed.

Table 2. Power Supply (SMPS RS-150-24) Electrical Ratings

### 3.1.2 Weights

	<b>TPPLW basic unit</b>	<b>Remark</b>
<b>System alone</b>	8.5 Kg (18.7 lbs)	
<b>System with packaging</b>	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

<b>External Dimension</b>	<b>Millimetres</b>	<b>Inches</b>
<b>Depth</b>	156	6.2
<b>Length</b>	426	16.9
<b>Width</b>	300	11.8

Table 4. System Dimensions

### 3.1.4 Ambient Operating Temperature

–10 °C to +55 °C (14 °F to 131 °F) Certified range

### 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 is sealed to IP65 when appropriate cable entry glands are used.

## System General Description

### 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 Input Module, one Relay Modules, protection fuses, and the control and user interface electronics.

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.

### 3.1.10 Touchpoint Plus Wireless Packaging

- Touchpoint Plus Wireless outer packaging is made from cardboard. Facilities for recycling are widely available.
- Touchpoint Plus Wireless 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.

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.

# System General Description

## 3.2 System Construction

This figure shows the basic building blocks of the Touchpoint Plus Wireless system.

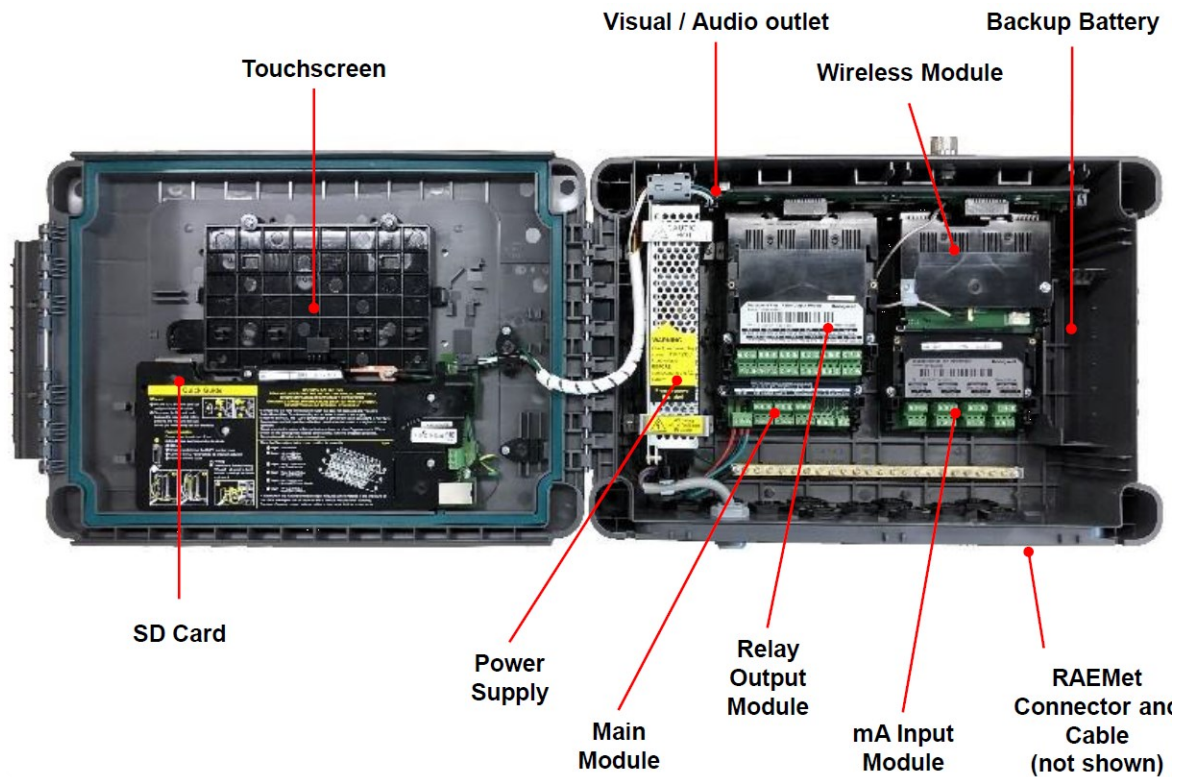


Figure 9. System Layout Before Installation

## Chapter 4 User Guide

### WARNING

Opening the enclosure may expose live electrical circuits. Touching exposed terminals or wires may cause death or serious injury. Always turn off and isolate the system before opening the door. Do not switch back on until the door is reclosed and secured. Do not operate TPPLW with the door insecure.

Take alternative site safety precautions while power is off.

### 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.

# User Guide

## 4.2 User Interface General

The TPPLW Touchscreen is the primary control and viewing method but there is also an optional Web Interface that currently allows remote viewing only (refer to Ch.4.18 Monitoring TPPLW via the Optional Web Interface for more details).



Figure 11. 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)
- R1 to R8 indicate active RAEPint in the system
- Accept (Silence) and Reset membrane button (Right side)
- Integral Alarm Buzzer (Left side)

\*The membrane button acknowledges and silences active alarms and resets latched alarms, depending on the situation and how long it is pressed. Refer to *Ch.4.9 Responding to Alarms* for further information.

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

## 4.3 Touchscreen

The Touchscreen is activated using a finger or a stylus (only), it has no swipe or pinch gestures. Do not use sharp or abrasive objects as they may cause irreparable damage. All interactions are single tap.

The Touchscreen has four access levels: View mode is available to all users while Configuration, Maintenance and System Test functions are password protected. (Refer to Ch.4.5 Menu Items and Access Levels for further information.)

There are only three passworded accounts: Administrator, Service and Operator, and their passwords must be carefully guarded.

Lost passwords can only be replaced by someone higher which, in the case of the Administrator, will be a Honeywell representative.

Password holders should be assigned to one access level only.

# User Guide

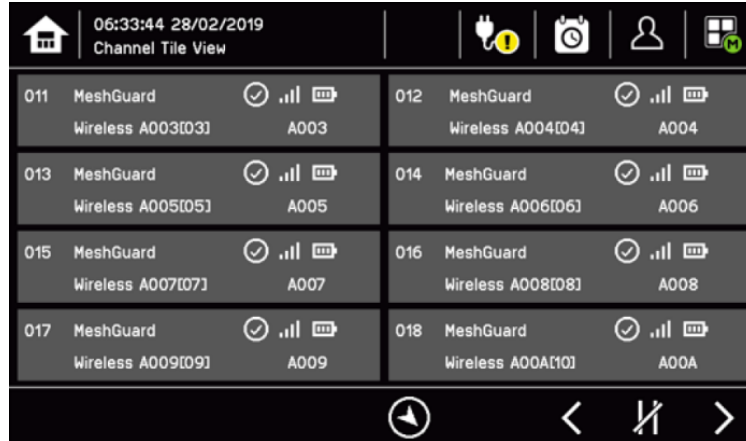
## 4.4 Switching On and Off

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 Ch.5 Electrical Power Connection and Interfacing. 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. ( $\geq 24$  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 Wireless will display the Input screen, indicating the current status of the system. The Channel tile view is shown below:



### Key to Icons:

	Toggle to select screen layout		Login Status(Admin)
	External main power is provided. Touch for status		Login Status(Service)
	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

# User Guide

## 4.5 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 Service, then Operator. Broadly speaking, the Administrator can do everything, the Service Engineer can edit channel configuration and do maintenance and calibration, and the Operator can view, acknowledge and reset events. (Viewing basic System Information and Status does not require a password.)

A user can log in by touching the log in icon, selecting an access level and then inputting a valid password.

**Note:** Default password is “TPPL”. Default Authentication timeout follows 15 minutes of inactivity. For security reasons do not leave the Touchscreen unattended while logged in.

There are two kinds of timeout in menu mode. One is ‘menu timeout’ and the other is ‘authentication time out’. With ‘menu timeout’, the display will change to a higher menu and then back to the Channel Status screen if there is no touch input for a pre-set time. The default menu timeout is 90 seconds, but this can be changed using menu options *Configuration>General>Timeout*. For security reasons ‘authentication timeout’ will log you out automatically when there is no Touchscreen activity during the set time. Changes may be lost and the user will have to log in again. Items with a clock symbol timeout after 15 minutes of inactivity.

**Key:** ● = Allowed, ○ = Denied, ⌚ = Fixed timeout.

↪ = sub-menu, ↪↪ = sub-sub-menu

Menu Item	Admin.	Service	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	●	●	●	●
↪ List View	●	●	●	●
↪ Tile View	●	●	●	●
↪ Summary View	●	●	●	●
Configuration	●	●	○	○
↪ Channel Settings	●	●	○	○
↪↪ mA Input Channel	●	●	○	○

# User Guide

Menu Item	Admin.	Service	Operator	Others
↔↔ mV Input Channel	●	●	○	○
↔↔ Relay Output	●	●	○	○
↔↔ Wireless Module	●	●	○	○
↔ HW Module Control Panel	●	●	○	○
↔ General	●	●	○	○
↔↔ Date / Time	●	●	○	○
↔↔ Language	●	●	○	○
↔↔ Service Contract	●	●	○	○
↔↔ Home Settings	●	●	○	○
↔↔ Timeout	●	●	○	○
↔↔ Display	●	●	○	○
↔↔ Outputs	●	●	○	○
↔ Log Interval and Threshold	●	●	○	○
↔↔ mA Input	●	●	○	○
↔↔ Wireless Input	●	●	○	○
↔ Security	●	●	○	○
↔↔ Password	●	●	○	○
↔↔ Remote Access (Buttons)	●	●	○	○
↔↔ Pre-shared Key	●	●	○	○
↔ Config Manager	●	●	○	○
↔↔ Import	●	●	○	○
↔↔ Export	●	●	○	○
↔ Network	●	●	○	○
↔↔ Ethernet	●	●	○	○
↔↔ Modbus RTU	●	●	○	○
↔↔ Modbus TCP/IP	●	●	○	○
↔↔ Mesh network	●	●	○	○
↔↔ Refresh network	●	●	○	○
<b>Maintenance</b>	●	●	●	○
↔ 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	●	●	○	○

# User Guide












Menu Item	Admin.	Service	Operator	Others
 Format	●	●	○	○
 Power Off	●	●	○	○
<b>System Test</b>	●	●	○	○
 Force Relay	●	●	○	○
 Dedicated Alarm contact	●	●	○	○
 LCD Test	●	●	○	○
 LED and Buzzer test	●	●	○	○
 Mesh network test	●	●	○	○

Table 5. User/Component Matrix

## 4.5.1 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.

## 4.6 SD Card Usage

The SD card is used to store the system event history. Touchpoint Plus Wireless logs all events and all changes to input readings. A notification will be given when the SD card has less than 50 Mb of space remaining. If the card is not replaced with an empty one, or if space is not freed up, a further notification will be given when it is full and data is being overwritten. The SD card icon also changes to yellow to indicate that there is a fault with data saving.

The Touchpoint Plus Wireless accepts standard size SD cards of 2 to 32 GB (FAT32). SD cards must be formatted on first insertion.

### 4.6.1 Checking the Capacity of the SD Card

There are three ways to check the SD Card size and remaining space:

- Touch Menu>Information>Additional Status.
- Touch the SD Card icon in the menu toolbar (no icon = no SD Card, yellow icon = needs checking).
- Touch the Power Supply icon in the menu toolbar.

<b>SD Card Usage</b>	
Available	10.7 GB
Total	16 GB

# User Guide

## 4.6.2 Inserting or Replacing SD Cards

SD Cards must be unlocked to allow read/write. They must be formatted by TPPLW only, and they should be used for TPPLW data only. Stored 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 previously transferred data files held on the PC. A reliable backup system should be used if data retention is important.

Transferred data may be imported into spreadsheets or DBs for ease of handling / printing, but you should check the number of spreadsheet lines available as some software may be limited to 65000 entries per sheet.

**Note:** Incorrectly removing or replacing an SD card may result in data loss or corruption.

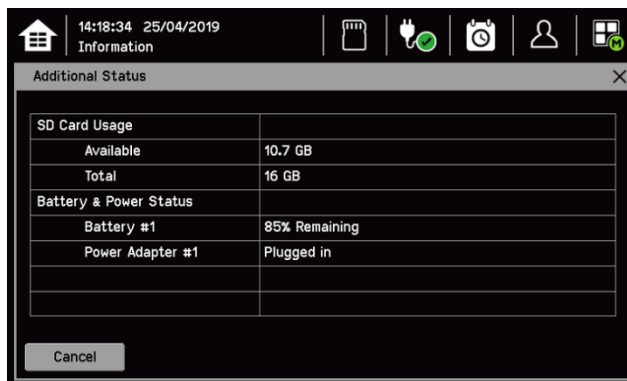
### WARNING

Opening the enclosure may expose live electrical circuits. Touching exposed terminals or wires may cause death or serious injury. Always turn off and isolate the system before opening the door. Do not switch back on until the door is reclosed and secured. Do not operate TPPLW with the door insecure.

Take alternative site safety precautions while power is off.

### To Insert or Replace an SD Card:

- 1) Log in as **Admin** or **Service**.
- 2) Touch **Menu>Maintenance>SD Card>Eject>**
- 3) Touch **Close>Menu>Maintenance>Power-off>Yes**
- 4) Switch off and **Isolate Power**.
- 5) Open the access door and locate the SD card slot (Refer to *Fig. 9*).
- 6) Insert or replace the card in the SD card slot.
- 7) Close the access door, restart the system and wait for it to stabilise.
- 8) Check the SD Card status by touching on either the SD Card or Power Icons:



- 9) If the SD Card is new, full or has a fault, log in as **Admin** or **Service**.
- 10) Touch **Menu>Maintenance>SD Card>Format>Yes**
- 11) Close the window and log out when finished.
- 12) Re-check the SD Card status by touching on either the SD Card or Power Icons again.

### Caution

Formatting the SD card will erase all existing data, and TPPLW has no selective delete or file recovery function.

**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 either be replaced or space freed up to avoid data loss.

# User Guide

## 4.7 Normal Operation (Safety Functions)

During normal operation:

- The Touchpoint Plus Wireless system will collect sensor data every 1 second.
- Input channel gas calculation is compared to alarm setpoints every 500 ms.
- Input channel gas calculation is checked for over/under range value every 500 ms.
- Cycle time of the Main Module is 1 second until data are sent to the output modules (UI, relay, mA)
- Any failure of the safety function i.e. due to major fault or power loss will activate the System Failure relay. System Failure relays are updated at the end of each 1 second cycle.
- 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.
- Be careful with the mA output and relay setting as user can configure the setting of mA output and relay operation. One of either RLY1 or RLY2 in main board shall be configured to system inhibit relay.
- TPPLW system response time is 3 seconds. However, the gas response time of TPPLW will be increased more of input sensor's time of response.
- TPPLW monitors the internal communication. In case of communication error detected, TPPLW will generate the communication fault in 5 seconds.

## 4.8 Operating Overview

Refer to (or print) *Ch.11 Glossary of Icons* for easy reference.

### 4.8.1 Touchscreen

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

All interactions are single tap (no gestures or swipes). Some actions open a new Window; depending on the window type, they can be closed by touching the **X** or [Cancel] button, or by touching the [Home / View] button.

### 4.8.2 User Interface Screen

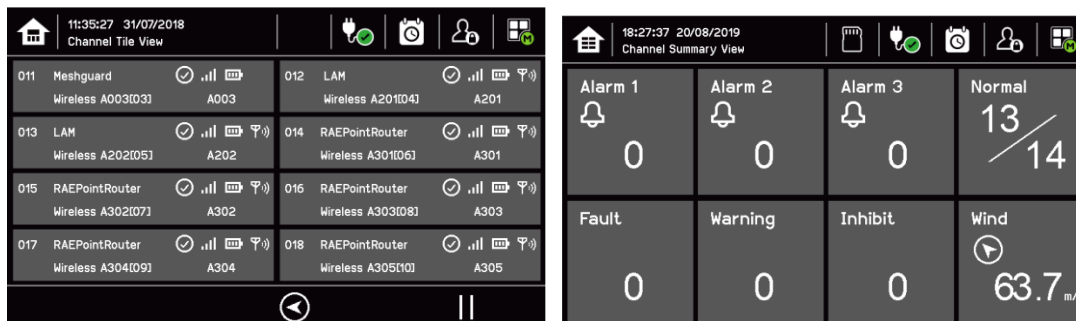
The User Interface shows the current status of the Touchpoint Plus Wireless system as follows:

- 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
- Online monitor fault icon(📶🔴) - Wireless nodes connection counts are less than user setting.

#### 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.



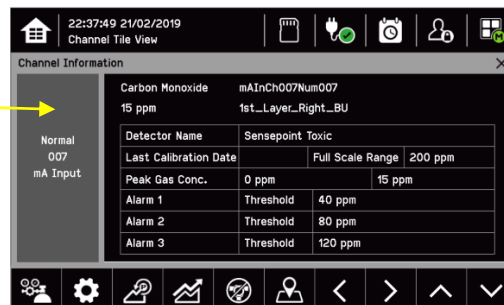
# User Guide

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:



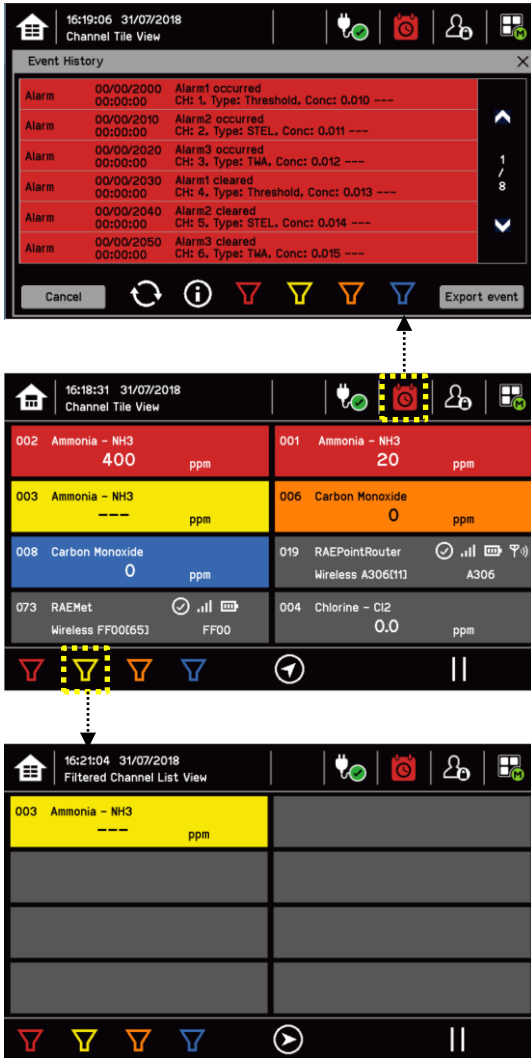
## Wireless Node Icons

	Wireless Node Online		Wireless RSSI
	Wireless Node Offline		Wireless Node Battery Level
	Wireless Node Router Mode		Modem ID

# User Guide

## 4.8.3 Navigation – Active Events and Filtering

You can change the list type by touching a filter from one of the Tile views:



### Key to Filters:

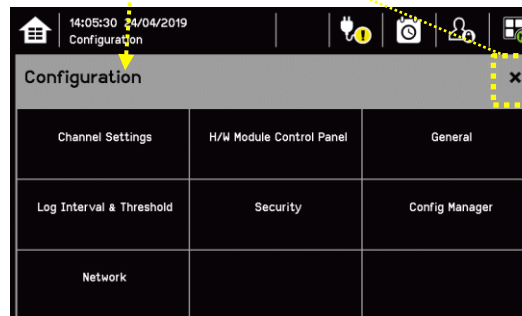
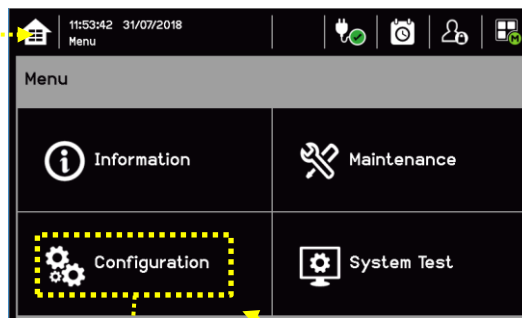
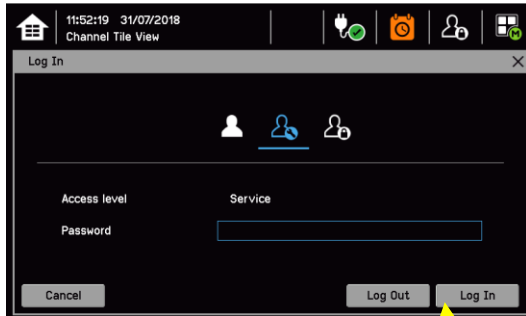


- Red: Alarm
- Yellow: Fault
- Orange: Inhibit
- Blue: Warning

# User Guide

## 4.8.4 Navigation – Menu

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



**Note:** Depending on menu timeout settings, the system will log out and return to Inputs/Outputs screen. The authentication (logout) timeout also depends on user configuration. The default authentication timeout is set to 15 minutes.

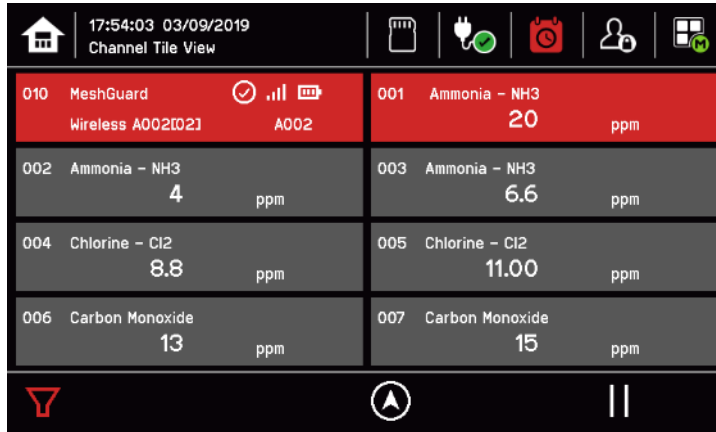
# User Guide

## 4.9 Responding to Alarms

### 4.9.1 View Active Alarms

Active alarms can be viewed:

- 1) 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.

### 4.9.2 Accept or Acknowledge an Active Alarm

**Always check that emergency evacuation and roll-call is completed before silencing the alarms.**

To acknowledge an alarm, log in and **press** the  button for >1 second, which will:

- silence the alarm
- stop the channels, LEDs and icons flashing
- acknowledge all active events except Faults

**Note:** Check for new alarms if the sounder restarts after you have acknowledged it.

**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.


# User Guide

## 4.9.3 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

A latched alarm can be reset in three ways:

- 1) By logging in and pressing the  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) By logging in and 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) By holding the **Remote reset switch** for >3 seconds. TPPLW has the option of adding a remote acknowledge / reset switch up to 500 m away from the Controller. The remote reset switch does not require a login so a key-lockable switch should be used to prevent unauthorised access.

**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.

In case of mV sensor's over-range alarm, user shall not reset the over-range alarm until it is verified that the flammable gas has cleared.

## 4.10 Event Information

### 4.10.1 Viewing Event Information


Detailed information about active events can be viewed in several ways:

- by touching the actual event to show detailed information about that channel.
- by touching one of the available filter icons on the bottom toolbar. The screen will then show a list of only the chosen type of active events, and each event can be touched to show detailed information about that channel.
- by touching the  icon to change the view layout (not all screens have filter icons).



### 4.10.2 Accepting / Acknowledging Active Events

**Note:** Accept and Acknowledge have the same meaning in this context, but neither action will reset latched events.


Active events can be acknowledged by logging in and pressing the  button for >1 second. This will acknowledge ALL active events and the flashing will stop.

# User Guide

## 4.10.3 Resetting Latched Events

**Note:** Password access is required.

Acknowledged latched events can be reset in three ways:

- 1) By logging in and pressing the  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) By logging in and selecting **Menu>Maintenance>Reset Alarms/Faults**. This will reset all latched events, provided that the input signal has returned to Normal / within tolerance.
- 3) By holding the **Remote reset switch** for >3 seconds. TPPLW has the option of adding a remote acknowledge / reset switch up to 500 m away from the Controller. The remote reset switch does not require a login so a key-lockable switch should be used to prevent unauthorised access.


**Note:** Alarm/Event reset will only work when the triggering event situation has cleared (e.g. gas alarm, fault situation etc.). In case of mV sensor's over-range alarm, user shall not reset the over-range alarm until it is verified that the flammable gas has cleared.

**Note:** The fault events are always latched except the communication fault.


## 4.11 Inhibiting Channels

**Note:** Service or higher access level is required.

### 4.11.1 To Inhibit Input Channels:

- 1) Log in as Administrator or Service
- 2) Touch a channel, then touch the inhibit icon:  and then touch **[Yes]**
- 3) Or use a **Remote Inhibit** input (key-locking) switch.
- 4) Or set input channel gas sensor to inhibit mode so that Touchpoint Plus will receive respective current.


### 4.11.2 To Clear Inhibits:

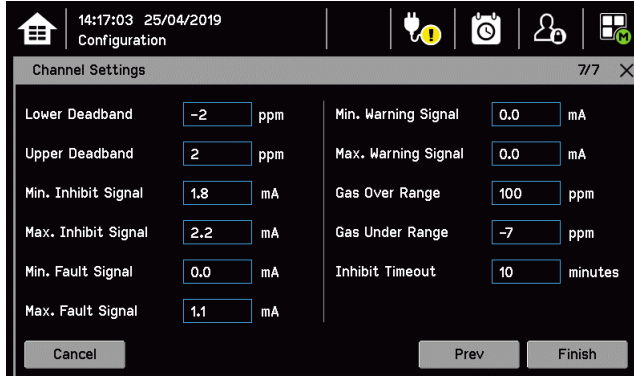
- 1) Log in as Administrator or Service
- 2) Touch an inhibited channel, then touch the inhibit icon:  and then touch **[Yes]**
- 3) Or use a **Remote Inhibit** input (key-unlocking) switch
- 4) Or Touchpoint Plus's channel in inhibit mode will automatically clear an inhibit when input channel gas sensor's inhibit is cleared

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

# User Guide

## 4.11.3 To Change Inhibit Timeouts

- 1) Log in as Administrator or Service
- 2) Touch a channel, then touch the Settings icon: 
- 3) Touch [Next] repeatedly until you reach page 7/7, as shown below:




- 4) Touch the chosen value, enter a new value, and touch [Finish]>[Finish]>[Apply]  
Refer to *Ch.11 Glossary of Icons* for further information.

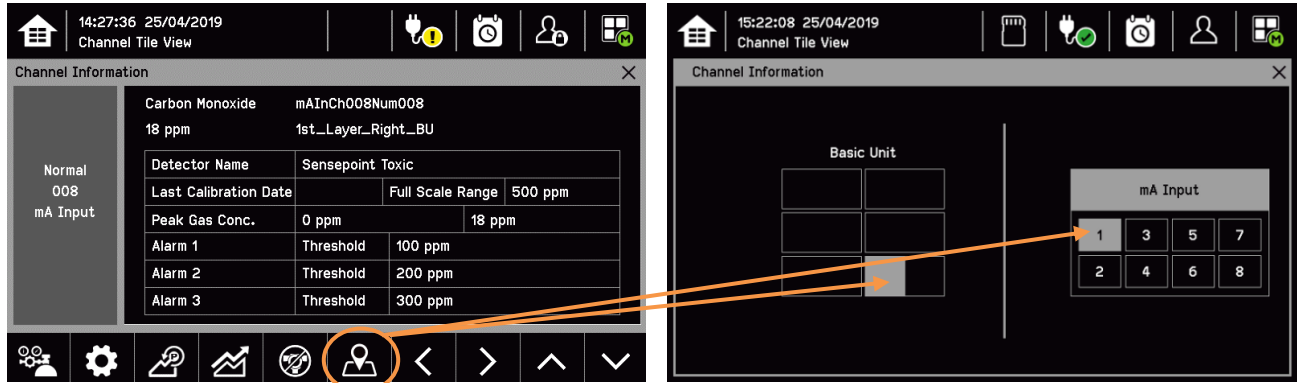
**Note:** Inhibit timeout setting is available in the Configuration menu. Inhibit timeout will not work for inhibits activated by the remote inhibit input or the signal of an input channel gas sensor.









# User Guide

## 4.12 Viewing Input Channels and Input Details

From the Input screen, toggle the  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, min/max peak gas concentration and current reading will be shown.
- 3) The list can be filtered by status – Alarm, Fault, Inhibit, Warning or All.
- 4) Touch a channel and the Channel detail (left below) screen will appear. Depending on access level, a number of options will be shown (refer to *Ch.11 Glossary of Icons* for icon names):



Function	Icon	Access Level	Comment
Channel Detail	—	Viewer	Shows detailed information about the channel including Custom ID, sensor and gas name, gas reading, configured alarms and alarm levels.
Calibration		Service	Option to calibrate the channel.
Channel Settings		Service	Change the input channel settings.
Peak reset		Service	Reset peak reading of the channel.
Trend / Plot		Viewer	Shows the Trend / Plot.
Inhibit		Service	Inhibits the channel. On an inhibited channel, this option is Clear Inhibit. See <i>Normal Operation, Inhibit</i> for more information.
Channel location		Viewer	Shows the physical position of the I/O Module and channel (see pictures above).
Trend Graph		Viewer	Shows the trend graph for the channel. See <i>Normal Operation, View Trend Graph</i> for more information.
		Viewer	Scroll Left, Right, Up, Down.

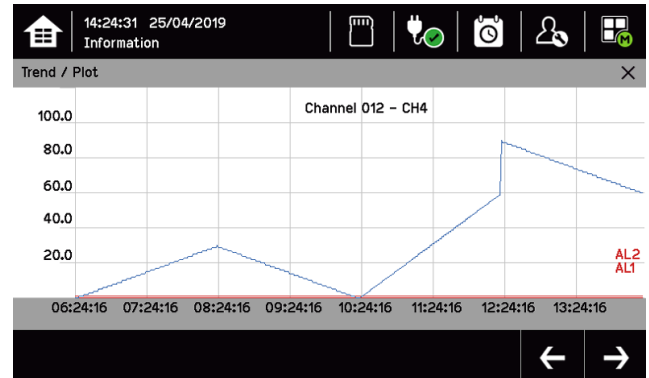
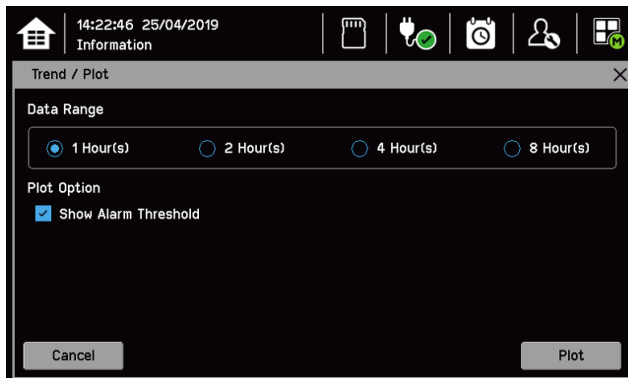
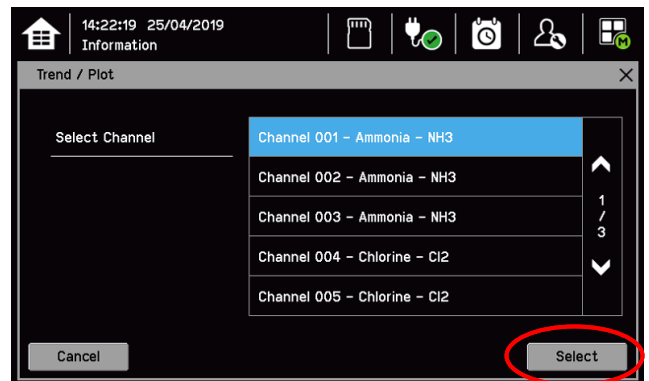
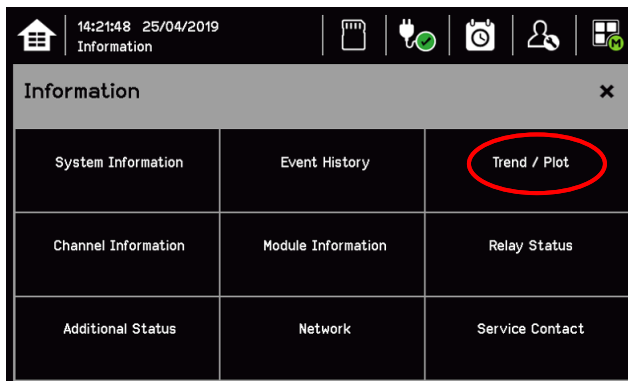
# User Guide

## 4.14 Viewing the Trend Graph

The Trend graph is drawn using one minute average readings so it is not suited to viewing short-term signal fluctuations.

To view the graph:

- 1) Touch the **Menu Icon**>**Information**>**Trend/Plot**.
- 2) Touch the required channel, and then touch **[Select]**.
- 3) Select the required **Data Range** (1/2/4/8 hours) and then touch **Plot**. (**Alarm Threshold** is shown by default.)
- 4) The trend graph will be displayed. Use the arrows to move backwards or forwards in time; use the **X** or **[Cancel]** to exit.



**Note:** The TPPLW Trend / Plot will retain up to the latest 8 hours of data but will be cleared after a power reset.

**Note:** TPPLW does not adjust automatically for daylight savings time but it will retain a backup of the earlier data if the system clock is backdated (e.g. when ending daylight savings time).

## User Guide

### 4.15 Viewing and Exporting Event History

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

#### 4.15.1 To View the Event History

Touch `Menu>Information>Event History`, then touch the `Filter` icon of choice or scroll through the list.

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

Event data is automatically saved to an installed SD card. The event history data can also be exported to the SD card on demand.

#### 4.15.2 To Export the Event History

First touch the SD Card icon to ensure that you have sufficient empty space on the SD card.

Touch `Menu>Information>Event History`. Select the event (use filters if there are too many shown) and touch `Export Event`.

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

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

### 4.16 Accessing the System Information and Service Contact Details

Touch `Menu>Information>System information` to view details about the Firmware, Software and serial numbers.

Touch `Menu>Information>Service Contact` or Refer to the back page for details of how to access technical support.

### 4.17 System State and System Failure Relays

The Main Module has three relays (30 VDC or 250 VAC, both 1.7 A):



- 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.

**Note:** One of either RLY1 or RLY2 in main board relay shall be configured to System Inhibit Relay.

## Chapter 5 Daily / Shift Checks

In most countries it is a legal requirement to keep itemised, time-stamped operations logs that must be made available to the authorities in the event of a serious accident or incident, and the TPPL digitised event record alone may not satisfy those requirements.

It is therefore recommended that each shift carries out a formal TPPLW handover to the next shift. As a minimum, you should check and record that:

- the enclosure door is correctly closed and secured to prevent tampering, electric shock or explosions.
- the Touchscreen is clean, unobstructed and undamaged.
- power and batteries are ok. To check, see and touch: 
- the appropriate Channel LEDs are green.
- there are no alarms, inhibits, faults or warnings, and that any recent events are fully briefed and understood.
- there is sufficient SD Card storage space for the entire shift (see *Note* below). To check, touch: 
- the Trend / Plot has restarted for the new shift. To confirm, touch (Menu>Information>Trend/Plot>Channel>Select>Plot) for each relevant channel.
- there are no maintenance items due that day, e.g. weekly checks or tests, calibrations or sensor replacements.
- both shift leaders have signed the handover-takeover checklist.

You should rectify any issues in accordance with this manual or take alternative precautions before allowing any hazardous work to proceed.

**Note:** You have to switch off and isolate power to change the SD card or batteries, so it is usually better done before shift start as you may have to make alternative safety arrangements while TPPLW is off-line. (There is a proposed modification to shield the live terminals and remove the need for powering off in the future.)

### WARNING

Opening the enclosure exposes potentially lethal live terminals. Always ensure that all TPPLW power is switched off, isolated and allowed to dissipate before opening the enclosure. This includes external mains voltages routed through TPPLW relays.

It is recommended that the enclosure is only opened by a qualified Service Technician and that it is kept closed and secured during normal operation.

### WARNING

The Touchpoint Plus system is not operational while power is off.

Ensure that alternative safety arrangements are in place, and ensure that Normal Operation is restored as soon as possible.

## Chapter 6 Maintenance and Scheduled Testing

This chapter describes how to perform common maintenance operations and system testing. The required frequency of inspection and maintenance will depend on local site conditions and will need to be established through experience. Refer to *IEC/EN 60079-29-2*, *EN45544-4* 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 Wireless system is isolated. Ensure that all current is isolated and dissipated before touching live terminals.

### 6.1 Routine Maintenance

#### CAUTION

Test outputs will be generated and relays will be activated during Cause and Effect (C&E) Testing. Ensure that relay activated output systems (i.e. emergency deluge / sirens etc.) are isolated before starting the Relay and mA Output tests.

Each sensor connected to Touchpoint Plus Wireless shall be regularly gas calibrated at the interval specified in sensor's user manual.

In order to maintain safety functions of Touchpoint Plus, mA output and relay output shall be routinely tested at max. yearly interval..

#### CAUTION

While an Operator could Force a channel, a Service password is required to isolate services, carry out tests, Clear Force, and restore the system to full operational status.

For these reasons Operators should carry out visual inspections and cleaning only, unless under the direct supervision of the Service engineer.

#### 6.1.1 Weekly Checks

- Visually inspect all cables and conduits for loose connections, security of attachment, and signs of damage.
- Wipe the TPPLW Controller with a soft damp cloth or use PC Screen cleaner.
- Check for dust contamination.
- Periodically exercise the outputs (Refer to the following chapters) to confirm their functionality (see the Caution above).
- Audio/Visual Alarms shall be checked weekly basis (refer to Ch.6.2.2 Exercising the Audio/Visual Alarms).

#### CAUTION

Do not use solvent or abrasives to clean any part of the Touchpoint Plus Wireless System. Use only soft, lightly dampened cloths or proprietary screen cleaners.

# Maintenance and Scheduled Testing

## 6.2 Routine Testing

### CAUTION

When any of the test modes is active, the System Failure relay will activate to indicate that the safety function of the system is not operating.

### 6.2.1 Exercising the Relays

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

- 1) Login as Service or higher level
- 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

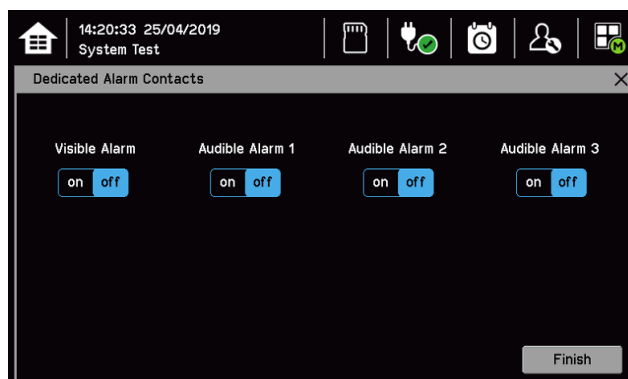
### CAUTION

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

### 6.2.2 Exercising Audio/Visual Alarm

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

- 1) Login as Service or higher level
- 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



- 5) Check the alarm outputs are visible / audible and turn them off when satisfied.
- 6) Touch **Finish** when the tests are completed and all selections will automatically turn off.

### Caution

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

## Maintenance and Scheduled Testing

### 6.2.3 Mesh Network Test

A Mesh network can be tested:

- 1) Login as Service or higher level
- 2) Select the `Menu > System test > Mesh Network`

### 6.3 Periodic Scheduled Testing

Periodic Scheduled Testing should only be carried out by a Honeywell authorised technician or a qualified person trained in accordance with the TPPLW Technical Handbook. Apart from the safety considerations, Honeywell's field service technicians will be able to minimise downtime should a fault become apparent during testing.

## Chapter 7 Repairs, Replacements and Upgrades

With the exception of battery replacement, Repairs, Replacements and Upgrades should only be carried out by authorised Honeywell technicians or by qualified persons trained in accordance with the TPPLW Technical Handbook. Failure to follow this advice will invalidate your warranty and may lead to death, injury, or irreparable damage.

### 7.1 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.)

#### 7.1.1 Recommended Backup Battery Maintenance

Monthly a qualified electrical tradesperson should:

- Switch off and isolate TPPLW power supplies.
- Visually inspect TPPLW Battery and (as the enclosure is open) all internal cabling.
- Check for signs of damage, deterioration, leakage or loose connections.
- Check that the cooling vents have not become obstructed.

## Repairs, Replacements and Upgrades

### 7.1.2 How to Replace the Battery Pack

#### **DANGER**

Touchpoint Plus Wireless 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 Wireless 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 Wireless 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.
- 8) Switch power on and restore TPPL to normal operation.
- 9) Touch the power icon to check battery power levels.



Figure 12. 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.

## Chapter 8 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 12 Event Codes.

Contact Honeywell Analytics Technical Support if an error appears repeatedly, if it cannot be cleared, or if it is not listed in Chapter 12 Event Codes.

### 8.1 Calling for Technical Support

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 Wireless, 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.

## Chapter 9 Technical Specifications

### 9.1 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.

<b>Operating Temperature</b>	-10 °C to + 55 °C certified range
<b>Storage Temperature</b>	-25 °C to + 60 °C
<b>Operating Humidity (closed)</b>	10 to 90 %RH (non-condensing)

### 9.2 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)
Communication Outputs	1) 10/100 Mbps Ethernet Interface with standard RJ-45 connector 2) RS-485 Modbus connections supporting 115.2 kbps max.
Output Relays	Two configurable and one fixed System State Relays: 1.7 A @ 250 VAC, 1.7 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
Module Power Consumption	4.4 W for User interface module and Main Module (Max 33.2W @ Audio/Visual Alarm device connected)

### 9.3 Power Supplies

#### 9.3.1 External Supplies

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

## Technical Specifications

### 9.3.2 Backup Battery

<b>Description</b>	22.2 V Lithium - ion Battery, 2600mAh
<b>Dimensions/Weight</b>	124.8 x 78.9 x 29.2 mm, 425g
<b>Operating Temperature</b>	0 – 50 °C
<b>Operating Humidity</b>	10 to 90% RH (non-condensing)
<b>Storage Life Limitations</b>	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)
<b>Storage Lifetime without re-charge</b>	1 year
<b>Input Current (charging) (---)</b>	DC 24 – 32 V @ 0.25 mA max.
<b>Output Voltage (when supplying) (---)</b>	17.4 – 25.2 VDC
<b>Maximum Input Current</b>	250 mA

### 9.4 Wall Mount Enclosure

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

### 9.5 I/O Modules

#### 9.5.1 mA Input Module

<b>Description</b>	8-channel Analogue Input Module for 2-wire or 3-wire 4 – 20 mA detector signals
<b>Sensor Configuration</b>	2-wire or 3-wire current source
<b>Signal Measurement Range</b>	0 – 24 mA
<b>Sense Resistance</b>	66 Ω
<b>Module Power Consumption</b>	Max 0.4 W (Excludes power to mA detector)
<b>Field Device Power Supply Vmax (---)</b>	Supply voltage Vs (18 – 32 VDC) –*1.8 VDC (max) *Voltage drop in Touchpoint Plus Wireless
<b>Field Device Power Supply Power max (single channel)</b>	20 W
<b>Field Device Power Supply Power max (eight channels)</b>	40 W
<b>Maximum cable length for mA Input loop (Rloop)</b>	$R_{loop} = (V_{controller} - 1.8 \text{ VDC} - V_{detector \text{ min}}) / I_{detector}$ Maximum Cable run length = $R_{loop} / (\Omega \text{ per metre})$  Example: $V_{controller} = 24 \text{ VDC}$ , TPP Voltage drop = 1.8 VDC, $V_{detector} = 18 \text{ VDC}$ (18 to 32 VDC), $I_{detector} =$ From detector specification.

## Technical Specifications

### 9.5.2 Relay Output Module

<b>Description</b>	12-channel Relay Output Module incorporating 12 single pole change over (SPDT) relays
<b>Power Consumption Maximum</b>	2.5 W (with all relays energised)
<b>Relay Contacts (~ / ⋯)</b>	1.7 A @ 250 VAC / 17A @ 30 VDC,
<b>Relay Operation</b>	Individually configurable for – normally energised / de-energised operation

### 9.5.3 Wireless Module

<b>Description</b>	64 wireless node connection without RAEMet
<b>Power Consumption Maximum</b>	1.2 W (with RAEMet)
<b>Wireless</b>	2.4 GHz or sub 1 GHz IEEE 802.15.4/ mesh radio

## Chapter 10 Certifications

### 10.1 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 Wireless 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.

### 10.2 National and International Certificates of Compliance

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

Title	Standards	Certificates
Ingression protection	IP65	
Hazardous Locations (Non-Incendive)	Class 1, Division 2, Group A, B, C, D, Temp. Code T4 UL 121201, CAN/CSA C22.2 No. 213-17	UL File E480011
Electrical Safety	UL/IEC/EN 61010-1 CSA C22.2 No.61010-1-12/No.142, and UL 508	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
Low Voltage Directive	IEC/EN 61010-1 (3rd Edition)	
Wireless	FCC 15C, IC RSS-247 2.4 GHz and sub 1 GHz	
Performance	CSA 22.2 No. 152-M1984	UL File E480011

**WARNING**

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

FA324 is not available in Class 1 Division 2.

**AVERTISSEMENT**


























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

FA324 n'est pas disponible en classe 1 division 2.



































## Chapter 11 Glossary of Icons

#	Icon	Description	#	Icon	Description
1		Tile View	16		Login Administrator
2		Summary View	17		Menu, System OK
3		History Information	18		AC Power
4		History Alarm	19		Battery Power
5		History Fault	20		SD Card inserted
6		History Inhibit	21		SD Card fault
7		History Warning	22		Zoom In
8		History Default	23		Zoom Out Scroll
9		Login None	24		Calibration
10		Login not Selected	25		Configuration
11		Login Operator	26		Peak Reset
12		Login Operator Select	27		Trend
13		Login Maintainer	28		Inhibit
14		Login_Maintainer_select	29		Location
15		Login Maintainer	30		Filter_Information














## Glossary of Icons

#	Icon	Description	#	Icon	Description
31		Icon empty	47		Pop Up for Alarm
32		Cancel	48		Pop Up for Error
33		Processing OK	49		Pop Up for Fault
34		Processing FAIL	50		Pop Up for Inhibit
35		Processing OK	51		Pop Up for Warning
36		Processing FAIL	52		Pop Up for Information
37		Item Select	53		System Setting Menu
38		Item Select	54		Configuration Menu
39		List Up	55		Maintenance Menu
40		List Down	56		Information Menu
41		Yellow Button-Up	57		Purge Animation
42		Yellow Button-Down	58		Purge Animation
43		Yellow Button-Up	59		Purge Animation
44		Yellow Button-Down	60		Base Line
45		Gray Button-Up	61		Gas Calibration
46		Gray Button-Down	62		Factory Calibration

## Glossary of Icons

#	Icon	Description	#	Icon	Description
63		Factory Calibration	80		Wireless Node Online
64		Factory Calibration	81		Wireless Node Offline
65		Critically Low Battery	82		Wireless Node Router Mode
66		Critically Low Battery	83		Wireless Node Battery Level
67		Power Off View	84		Wireless RSSI
68		Language_English	85		Wireless Node Configuration
69		Language_Chinese	86		Wireless GPS Data
70		Language_French	87		Wireless Node Remove
71		Language_German	88		Wireless Detector Sensor - Low Alarm
72		Language_Dutch	89		Wireless Detector Sensor - High Alarm
73		Language_Spanish	90		Wireless Detector Sensor – Over Range
74		Language_Russian	91		Wireless Detector Sensor - STEL Alarm
75		Language_Portuguese	92		Wireless Detector Sensor - TWA Alarm
76		Language_Italian	93		Wireless Detector Sensor - LowLow Alarm
77		LCD Setting	94		Wireless Detector Sensor - HighHigh Alarm
78		Boot-up logo	95		Summary Alarm
79		Online monitor fault	96		Filter for Event

## Glossary of Icons

#	Icon	Description	#	Icon	Description
97		Left screwing view			
98		Right screwing view			
99		Left-Previous screen			
100		Right-Next screen			
101		Pause view screwing			
102		Wind direction 0 °			
103		Wind direction 45°			
104		Wind direction 90 °			
105		Wind direction 135 °			
106		Wind direction 180 °			
107		Wind direction 225 °			
108		Wind direction 270 °			
109		Wind direction 315 °			

## Chapter 12 Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Alarm	1	Alarm1 occurred	Main Board	Alarm1 occurred CH: xx, Type: xx, xxx[unit]	Alarm types: Threshold, STEL, TWA
Alarm	2	Alarm2 occurred	Main Board	Alarm2 occurred CH: xx, Type: xx, xxx[unit]	Alarm types: Threshold, STEL, TWA
Alarm	3	Alarm3 occurred	Main Board	Alarm3 occurred CH: xx, Type: xx, xxx[unit]	Alarm types: Threshold, STEL, TWA
Alarm	4	Alarm1 self-cleared	Main Board	Alarm1 cleared CH: xx, Type: xx, xxx[unit]	Alarm types: Threshold, STEL, TWA
Alarm	5	Alarm2 self-cleared	Main Board	Alarm2 cleared CH: xx, Type: xx, xxx[unit]	Alarm types: Threshold, STEL, TWA
Alarm	6	Alarm3 self-cleared	Main Board	Alarm3 cleared CH: xx, Type: xx, xxx[unit]	Alarm types: Threshold, STEL, TWA
Alarm	7	Reset all alarms by user	Main Board	Reset all alarms	
Alarm	8	Wireless Alarm 1 occurred	WIO Board	Alarm1 occurred UID : 0xNNNN [xx], Type: xx, xxx[unit]	Node id # Sensor index # Alarm type ( 0 : Low, 1 : High, 2: OverRange, 3: STEL, 4: TWA, 5: LowLow, 6:HighHigh, 7: Unknown )
Alarm	9	Wireless Alarm 2 occurred	WIO Board	Alarm2 occurred UID : 0xNNNN [xx], Type: xx, xxx[unit]	Node id # Sensor index # Alarm type ( 0 : Low, 1 : High, 2: OverRange, 3: STEL, 4: TWA, 5: LowLow, 6:HighHigh, 7: Unknown )
Alarm	10	Wireless Alarm 3 occurred	WIO Board	Alarm3 occurred UID : 0xNNNN [xx], Type: xx, xxx[unit]	Node id # Sensor index # Alarm type ( 0 : Low, 1 : High, 2: OverRange, 3: STEL, 4: TWA, 5: LowLow, 6:HighHigh, 7: Unknown )
Alarm	11	Wireless Alarm 1 cleared	WIO Board	Alarm1 cleared UID : 0xNNNN [xx], Type: xx, xxx[unit]	Node id # Sensor index # Alarm type ( 0 : Low, 1 : High, 2: OverRange, 3: STEL, 4: TWA, 5: LowLow, 6:HighHigh, 7: Unknown )
Alarm	12	Wireless Alarm 2 cleared	WIO Board	Alarm2 cleared UID : 0xNNNN [xx], Type: xx, xxx[unit]	Node id # Sensor index # Alarm type ( 0 : Low, 1 : High, 2: OverRange, 3: STEL, 4: TWA, 5: LowLow, 6:HighHigh, 7: Unknown )
Alarm	13	Wireless Alarm 3 cleared	WIO Board	Alarm3 cleared UID : 0xNNNN [xx], Type: xx, xxx[unit]	Node id # Sensor index # Alarm type ( 0 : Low, 1 : High, 2: OverRange, 3: STEL, 4:

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
					TWA, 5: LowLow, 6:HighHigh, 7: Unknown )
Alarm	14	MANDOWN alarm occurred	WIO Board	MANDOWN alarm occurred UID : 0xNNNN [xx], Type: xxx	Node id #, MANDOWN Alarm type ( 0 : Panic , 1 : Man down, 2: Super, 255: Unknown )
Alarm	15	MANDOWN alarm cleared	WIO Board	MANDOWN cleared UID : 0xNNNN [xx], Type: xxx	Node id #, MANDOWN Alarm type ( 0 : Panic , 1 : Man down, 2: Super, 255: Unknown )
Fault	1	Internal communication fault	All	Communication fault [B/D Type], [Fault Description]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output, 7:Modbus, 7:Extension power [Fault Description] 0: SPI , 1: I2C , 2: IO CAN , 3: Main CAN, 4: UI CAN, 4: Ext CAN, 6: UART failure, 7; M3 Modem
Fault	2	internal memory fault	IO board / Main board	Memory fault [B/D Type], [Fault Description]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output, 7:Modbus, 7:Extension power [Fault Description] 0: Internal RAM, 1: External RAM , 2: Code memory, 3: EEPROM, 4: Flash
Fault	3	Catalog memory corrupted	UI	Catalog memory fault	
Fault	4	Internal HW fault	IO board / Main board	Internal hardware fault [B/D Type]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Fault	5	Sensor circuit fault	IO board	Sensor circuit fault CH: xx, Code: xxx	Code 0: Gain setting error, 1: signal conditioning circuit error
Fault	6	Supplied voltage fault	IO board / Main board	Supplied voltage fault [B/D Type], Code: xxx	Code 0: Vapp low, 1: V5 low, 2: V3.3 low, 3: V12 low, 4: V9 low
Fault	7	Internal software failure	IO board / Main board	Internal software fault [B/D Type], Code: xxx	Code 0: BUFFER OVERFLOW, 1: instruction test failed 2: Sequence Checking failed
Fault	8	Modbus communication failure	IO board	Modbus Comm Fault CH: xx, Node: xx	

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Fault	9	Sensor fault (including signal range fault)	IO board	Sensor Fault CH: xx, [B/D Type], Code: xx	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output 0 : bead open/short 1 : line open/short 2 : detector short 3 : operating voltage fault 4: driver current fault
Fault	10	Analogue output mismatched	IO board	mA Output Error CH: xx	
Fault	11	Relay not controlled	IO board / Main board	Relay Output Error CH: xx	
Fault	12	Remote fault informed by detector (depending on fault signal range)	IO board	Detector In Fault CH: xx, [B/D Type]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Fault	13	Auxiliary battery fault	Main Board	Battery Fault [Enclosure]	[Enclosure] 0: master enclosure,
Fault	14	IO board not matched or present	Main Board	IO B/D Not Matched Slot: xx-x, Prev: xxx, Curr: xxx	Prev, Curr B/D type 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Fault	15	Cell is producing a negative reading (depending on gas under-range limit)	Main Board	Negative Reading CH: xx, Conc: xxxx [unit]	
Fault	16	Fault self-cleared	Main Board	Fault Cleared CH: xx, Code: xx	Code Code Number (1~22)
Fault	17	Reset all faults by a user	Main Board	Reset all faults	
Fault	18	Wireless node fault	WIO board	Wireless Node Fault UID: xxxx, Code : xxx, Raw : xxx	Code 0 : battery low, Raw (xx%) 1 : pump stall 2 : memory full 3 : Unit failure Raw Fault code '0' : battery level ( xx% )
Fault	19	Online detector monitoring fault		Online detector monitoring fault Online : xxx, Total : xxx	
Fault	20	Wireless node battery low	WIO Board	Battery is low UID: xxxx, xxx %	
Fault	21	Wireless Sensor fault	WIO Board	Wireless Sensor in Fault UID: xxxx[xx], Code: xx	Code 0 : General sensor fault 1 : Saturated sensor fault 2 : sensor calibration fail 3 : Lamp fault 4 : Sensor off 5: short circuit 6 : sensor broken 7 : hardware fault
Fault	22	Wireless Sensor Negative Reading	Main Board	Negative Reading UID: xxxx[xx], Conc: xxxx [unit]	

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Inhibit	1	Inhibited input channel by LUI	Main Board	Inhibited input channel CH: xx	
Inhibit	2	Cleared inhibit mode for input channel by LUI	Main Board	Cleared inhibit mode CH: xx	
Inhibit	3	Inhibited all input channels remotely	Main Board	Inhibited all channels remotely	
Inhibit	4	Cleared inhibit mode for all input channel remotely	Main Board	Cleared inhibit mode remotely CH: xx	
Inhibit	5	Detected inhibit input from detector	IO board	Detector In Inhibit CH: xx	
Warning	1	Battery low (not critical)	Main Board	Battery is low [Enclosure], xxx %	[Enclosure] 0: master enclosure
Warning	2	Battery is not being charged	Main Board	Battery not charged [Enclosure]	[Enclosure] 0: master enclosure
Warning	3	Critical low battery	Main Board	Battery is too low [Enclosure], xxx %	[Enclosure] 0: master enclosure
Warning	4	Over-range warning (depending on gas over-range limit)	Main Board	Over range CH: xx, Conc: xxxx [unit]	
Warning	5	Calibration is due soon	Main Board	Calibration is overdue CH: xx, Due: xxxx	Due Calibration interval - days passed after successful calibration
Warning	6	Time/date not set	UI Board	Date/Time not set [Date/Time]	
Warning	7	IP conflicts detected	UI Board	IP Conflicts xxx.xxx.xxx.xxx	
Warning	8	Remote warning informed by detector	IO board	Detector In warning CH: xx	
Warning	9	Language memory corrupted	UI Board	Language memory fault	
Warning	10	Log memory corrupted	UI Board	Log memory fault	
Warning	11	Warning self-cleared (non-latching)	Main Board	Warning Cleared CH: xx, Code: xx	Code A warning number (1~20)
Warning	12	Reset all warnings by a user	Main Board	Reset all warning	
Warning	13	SD Card Corrupted	UI Board	SD Card fault	
Warning	14	Too many unsuccessful login attempts	UI Board	10 times' login failed	
Warning	15	GPS Failure	WIO Board	GPS Failure UID : xxxx	
Warning	16	Wireless sensor Calibration is due soon	WIO Board	Calibration is overdue UID: xxxx[xx], Due: xxxx	
Warning	17	Wireless sensor Bump is due soon	WIO Board	Bump is overdue UID: xxxx[xx], Due: xxxx	
Warning	18	Wireless sensor Over-range warning	WIO Board	Over range UID: xxxx[xx], Conc: xxxx [unit]	
Warning	19	Wireless sensor Bump fail	WIO Board	Bump fail UID: xxxx[xx], Conc: xxxx [unit]	

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Warning	20	Wireless sensor warning	WIO Board	Wireless Sensor warning UID: xxxx[xx], Code: xx	
Info	1	Instrument power on	UI Board	Unit powered on	
Info	2	Switched into power-off mode	UI Board	Ready for power-off [Reason]	
Info	3	Instrument rebooted automatically	UI Board	Unit rebooted [Reason]	
Info	4	Instrument power changed from AC to DC	Main Board	Switched to Battery [Enclosure]	[Enclosure] 0: master enclosure
Info	5	Instrument power changed from DC to AC	Main Board	Switched to AC [Enclosure]	[Enclosure] 0: master enclosure
Info	6	Added IO board	UI Board	Added IO board [B/D Type], Slot: xx-x	[B/D type] 0:Main, 1:UI, 2:mA Input, 3: mV input, 4:Relay, 5:mA output
Info	7	Removed IO board	UI Board	Remove IO board [B/D Type], Slot:xx-x	[B/D type] 0:Main, 1:UI, 2:mA Input, 3: mV input, 4:Relay, 5:mA output
Info	8	Replaced IO board	UI Board	Replaced IO board [B/D Type], Slot: xx-x	[B/D type] 0:Main, 1:UI, 2:mA Input, 3: mV input, 4:Relay, 5:mA output
Info	9	Enabled IO channel	UI Board	Enabled channel CH: xx, [B/D Type]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3: mV input, 4:Relay, 5:mA output
Info	10	Disabled IO channel	UI Board	Disabled channel CH: xx, [B/D Type]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3: mV input, 4:Relay, 5:mA output
Info	11	Local Login	UI Board	Logged in unit [operator]	[operator] 0: Operator, 1: Maintainer, 2: Administrator
Info	12	Local Logout	UI Board	Logged out from unit [Role]	[Role] 0: Normal, 1:Time-out
Info	13	Local login failed	UI Board	Login failed [operator]	[operator] 0: Operator, 1: Maintainer, 2: Administrator
Info	14	Reserved			
Info	15	Reserved			
Info	16	Reserved			
Info	17	Calibration successful	Main Board	Calibration passed CH: xx, Type: xx, Conc: xxx[unit]	
Info	18	Calibration failed	Main Board	Calibration failed CH: xx, Type: xx, Conc: xxx[unit]	
Info	19	mA Input Configuration Changed	Main Board	Configured mA input channel CH: xx	
Info	20	Reserved			
Info	21	Reserved			

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Info	22	Relay Output Configuration Changed	Main Board	Configured relay output channel CH: xx	
Info	23	Reserved			
Info	24	Button Press – Acknowledge alarms and faults	Main Board	Pressed Ack button [button type]	[Button type] 0:On Board, 1:Remote
Info	25	Button Press – Reset alarms and faults	Main Board	Pressed Reset button [button type]	[Button type] 0:On Board, 1:Remote, 2: LUI
Info	26	Reset peak readings	UI Board	Reset Peak Reading CH: xxx (individual or All)	
Info	27	Exported system configuration	UI Board	Exported system Configuration	
Info	28	Imported system configuration	UI Board	Imported system Configuration	
Info	29	Changed system date/time settings via LUI	UI Board	Changed date/time YYYY:MM:DD hh:mm:ss	
Info	30	Changed system language	UI Board	Changed language [Language ID]	[Language ID] 0: English, 1: China, 2:French, 3:German, 4:Netherlands, 5:Spain, 6:Russian, 7:Portugal
Info	31	Changed network settings	UI Board	Changed network settings [Network Type]	[Network Type] 0: Ethernet, 1: RS485, 2: Mesh Network, 3. Modbus port
Info	32	Reserved			
Info	33	Touch screen calibration successful	UI Board	Passed touch calibration	-
Info	34	Touch screen calibration failed	UI Board	Failed in touch calibration	-
Info	35	Changed LCD backlight settings	UI Board	Changed LCD settings	-
Info	36	SD Card was inserted	UI Board	SD Card inserted	
	37	SD card was removed	UI Board	SD Card removed	Removal Type 0: gracefully, 1: abruptly
Info	38	Formatted SD card successfully	UI Board	SD Card formatted	
Info	39	SD card is not formatted / corrupted	UI Board	SD Card not formatted	
Info	40	SD card is almost full	UI Board	SD Card almost full	
Info	41	Changed password settings	UI Board	Changed password [operator]	
Info	42	Changed system Label	UI Board	Changed system label	
Info	43	mA Input calibration successful	UI Board	mA Input calibration passed Ch: xxx	
Info	44	mA Input calibration failed	UI Board	mA Input calibration failed CH: xx	

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Info	45	mA Output calibration successful	UI Board	mA output calibration passed CH: xx	
Info	46	mA Output calibration failed	UI Board	mA output calibration failed CH: xx	
Info	47	Reserved	-	-	
Info	48	Reserved	-	-	
Info	49	Reserved	-	-	
Info	50	Reserved	-	-	
Info	51	Reserved	-	-	
Info	52	Reserved	-	-	
Info	53	Reserved	-	-	
Info	54	Relay output forced	UI Board	Forced relay CH: xx	
Info	55	Relay output released	UI Board	Released Relay CH: xx	
Info	56	Analogue output forced	UI Board	Forced mA output CH: xx, xxx mA	
Info	57	Analogue output released	UI Board	Release mA output CH: xx	
Info	58	Started input channel test	UI Board	Started channel test	
Info	59	Ended input channel test	UI Board	Ended channel test	
Info	60	Started Relay Output Simulation	UI Board	Started Relay Sim. CH: xx	
Info	61	Ended Relay Output Simulation	UI Board	Ended Relay Sim. CH: xx	
Info	62	Updated Firmware	UI Board	FW Updated [B/D Type], Ver: x.x.x	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output, 7:Modbus, 7:Extension power
Info	63	Firmware Update failed	UI Board	FW Update Failed [B/D Type], Ver: x.x.x	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Info	64	Updated sensor catalogue	UI board	Catalog Updated Ver: xxxx	
Info	65	Failed in Catalog update	UI Board	Catalog Update failed Ver: xxxx	
Info	66	Reserved			
Info	67	Reserved			
Info	68	Updated language	UI Board	Font Updated Ver: xxxx	
Info	69	Failed in language update	UI Board	Font Update Failed Ver: xxxx	

## Event Codes

Type	Code	Long Description	Triggered	Display in Event History	Details
Info	70	Removed IO channel	UI Board	Removed channel CH: xx, [B/D Type]	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Info	71	Updated module data	UI Board	Updated module data [B/D type], Ver: xxxx	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Info	72	Failed in module data update	UI Board	Failed in module data update [B/D type], Ver: xxxx	[B/D type] 0:Main, 1:UI, 2:mA Input, 3 : mV input, 4:Relay, 5:mA output
Info	73	Connected wireless Node ( Detector / Relay / Router )	Main board	Added New wireless Node UID : xxx, [instrument Name]	Wireless Node's Online State
Info	74	Online Wireless Node	Main board	Online wireless Node UID : xxx, [instrument Name]	Offline -> Online
Info	75	Offline Wireless Node	Main board	Offline wireless Node UID : xxx, [instrument Name]	Wireless Node's Offline State
Info	76	Removed Wireless Node	Main board	Removed wireless Node UID : xxx, [instrument Name]	
Info	77	Enable WindSensor	Main board	Wind Sensor Enabled Ch: XX	
Info	78	Disable WindSensor	Main board	Wind Sensor Disabled Ch: XX	
Info	79	Changed Configuration wireless Node ( Detector / Relay / Router )	Main board	Changed config of wireless Node UID : xxx, [instrument Name]	
Info	80	Reserved	-	-	-
Info	81	Changed Pre-Shared Secure Key	Main board	Changed PSK	
Info	82	Receive Mesh Network Ping	Wireless IO board	Received MeshNet Ping UID : xxx, [instrument Name]	
Info	83	Mesh Network Full	Wireless IO board	MeshNet Buffer Full UID : xxx, [instrument Name]	
Info	84	Mesh Network Refresh	UI Board	Refresh Type: 0 : Offline Only, 1 : All nodes	
Info	85	Reset module	Main Board	Board type, Board position Board Type => 0:Main, 1:UI, 2:mA Input, 4:Relay, 5:mA output, 7:Modbus, 7:Extension power	
Info	86	Wireless Digital Input	Main Board	Unique ID #, code # ( 0 : Off, 1 : On )	

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