



Touchpoint Plus

A whole new control experience



Touchpoint Plus

Touchpoint Plus brings a whole new control experience to your small system of gas detectors. **Touchpoint Plus** is an easily configurable, wall-mounted control system that supports up to 16 gas detection channels. Its modular approach enables you to take control and configure what you need for a wide range of applications.

Delivering Reliable Control

- Honeywell reliability from the most trusted experts in gas detection
- Built-in battery backup for constant uptime
- Robust, shockproof housing for a wide range of industrial environments

Flexible Capabilities

- Compatible with the full range of Honeywell gas detectors
- Powered audiovisual alarms simplify field installation
- Configuration includes easy grouping and voting alarm logic without specialist knowledge
- Next-generation compatibility
- Optional Modbus output for integration with a higher level system

Providing Ease and Efficiency

- Quick and easy installation, configuration, setup, and maintenance
- Easy diagnostics, data, and reporting
- Minimum training time
- Large color touchscreen LCD
- Multilingual functionality
- Green-yellow-red status at a glance



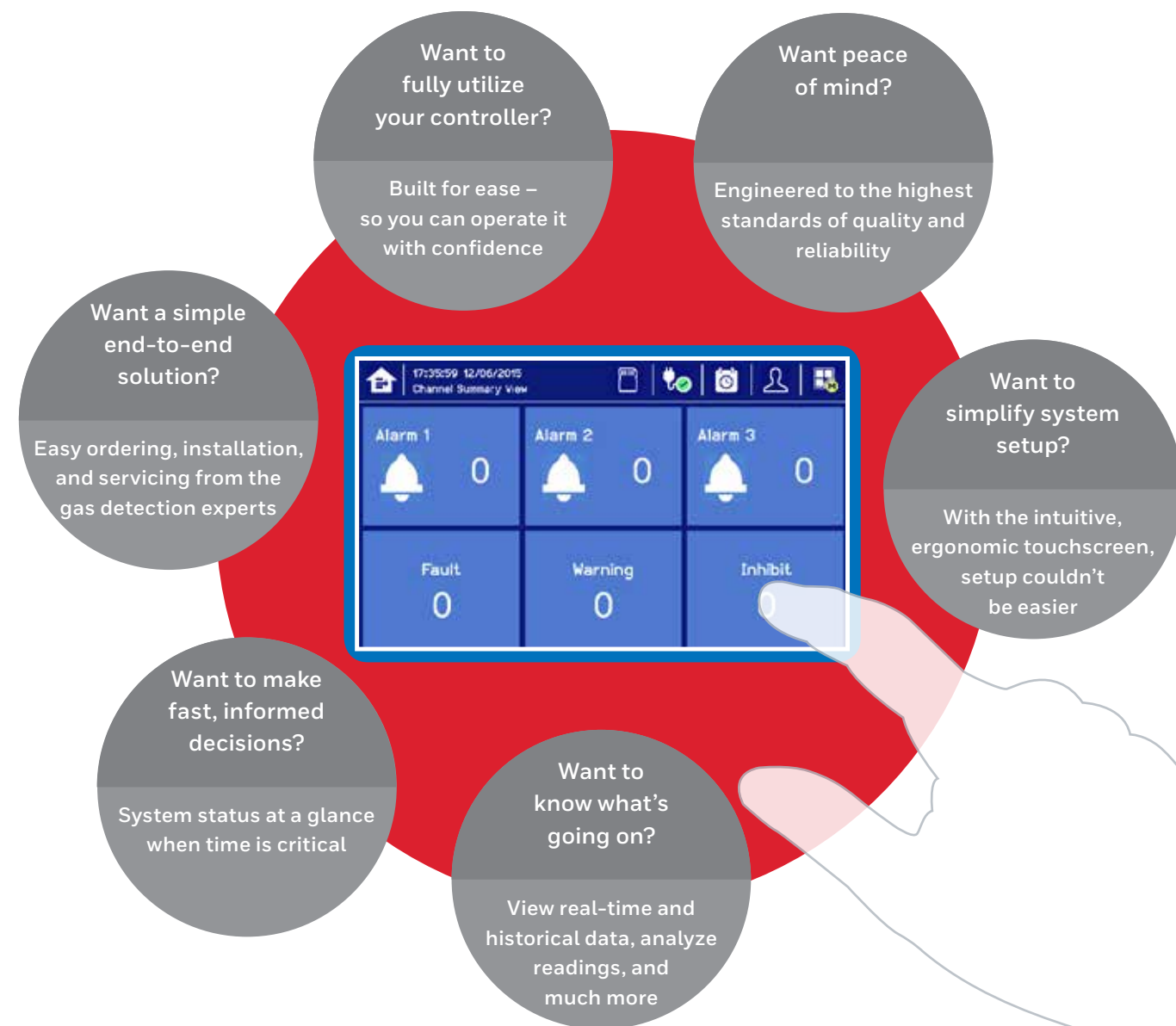
The signature feature of the Touchpoint line is a user-friendly touchscreen interface, which the **Touchpoint Plus** takes to a new level. With this unique interface, it's easier than ever to see the status of your system at a glance - maximizing the time you have to make the right decisions. The intuitive, multilingual interface simplifies operation and reduces training requirements. The full-color stoplight-style status indication provides clarity from a distance too.

Touchpoint Plus features a comprehensive set of outputs as standard, including common alarms and dedicated drives for remote audiovisual indicators. Its modularity enables you to customize your system to meet your specific application requirements. Selecting the right detector for use with your controller can deliver significant savings in startup costs and ongoing operations. Our global partner network and dedicated application specialists are able to help you make the right choices for your industry.

With everything at your fingertips, you can take ownership of your system and operate it with confidence, helping to ensure the safety of your people and the productivity of your site.

Unique User Experience

Taking the user experience to a whole new level



Large color touchscreen LCD with multilingual options

Built-in sounder

Clear common status indicators (green, yellow, red)

Mute/Reset



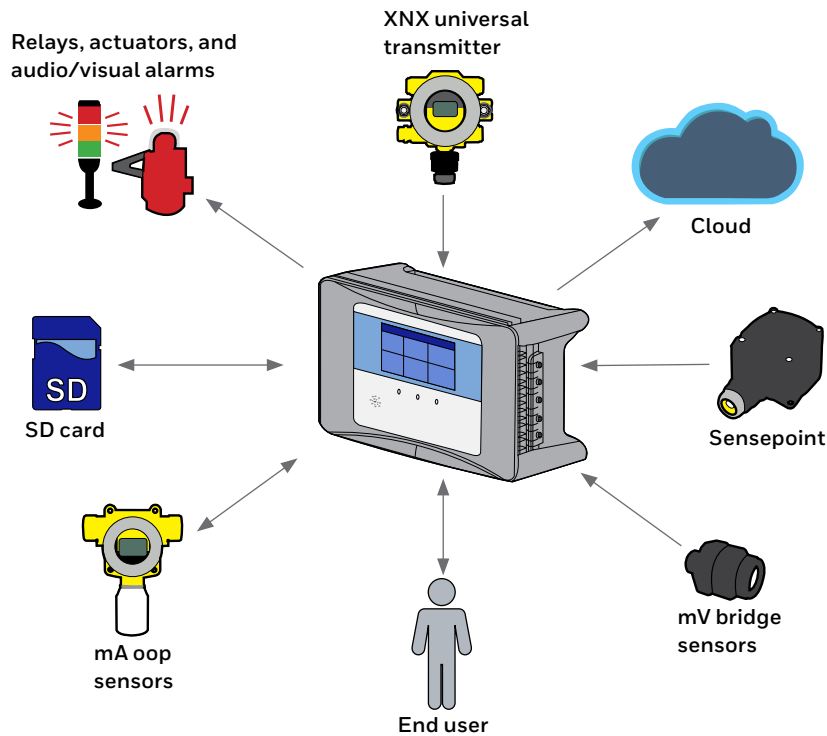
Individual channel status indicators (green, yellow, red)

One System Solution

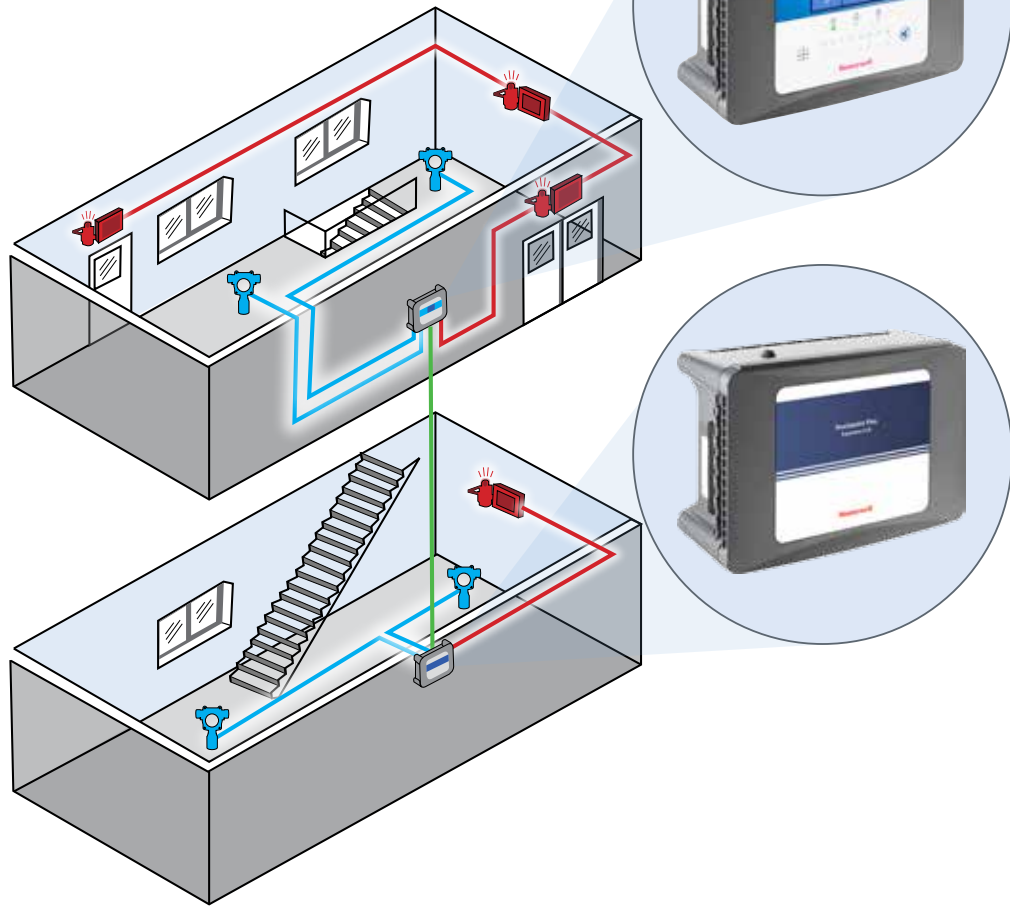
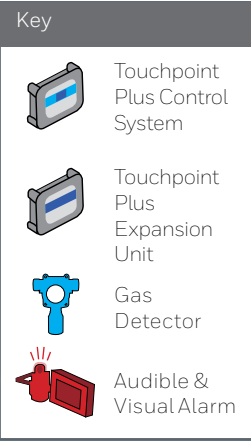
Honeywell Analytics' one system solution to meet your safety requirements

Touchpoint Plus provides a reliable safety solution for small-scale gas detection systems across a wide range of applications and industries. If you need to integrate your gas detection with a higher-level management system, the Modbus output option makes this straightforward.

As the heart of your gas detection system, Touchpoint Plus is designed to work with Honeywell's industry-leading gas detectors and drive actuators, and audible and visual alarms to provide a complete end-to-end solution that you can configure as your own.



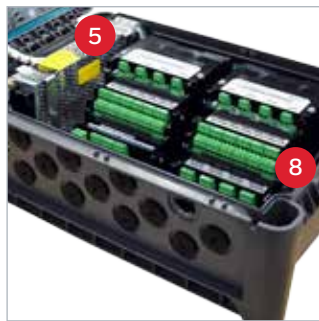
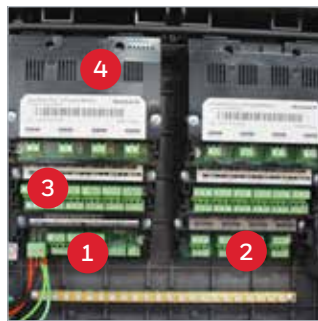
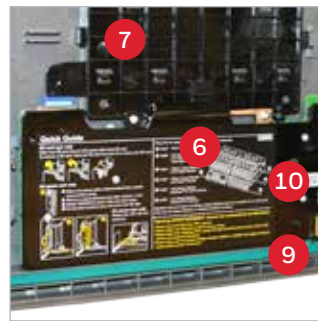
TYPICAL EXAMPLE OF A SMALL GAS DETECTION SYSTEM USING TOUCHPOINT PLUS



Designed for Speed and Reliability

Made of high-impact polymer plastic, Touchpoint Plus is versatile and durable. It is dustproof and waterproof, and has been tested to withstand the toughest operating environments, both indoors and out. So you can count on the Touchpoint Plus to stand up to the challenges of industrial environments, from mechanical rooms to chemical plants.

Touchpoint Plus is supplied with pre-drilled and sealed cable entries and a unique tiered internal arrangement providing ease of access to save installers time and money.



1. Main module
2. Input module
3. Relay output module
4. mA output module
5. Power supply
6. Display module
7. Touchscreen
8. Backup battery
9. Modbus TCP/Web
10. Modbus RTU

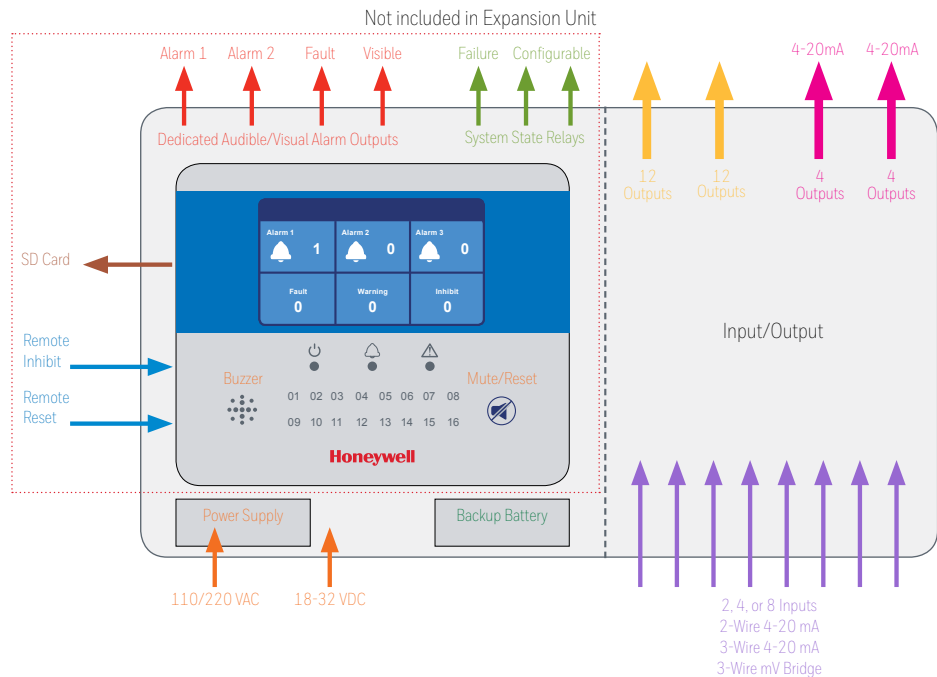
System Configuration Options

Provided As Standard

- Dedicated powered audiovisual alarm drives
- Common alarm outputs, one for fault and two configurable
- Datalogging to SD card
- Remote reset and inhibit inputs

Options

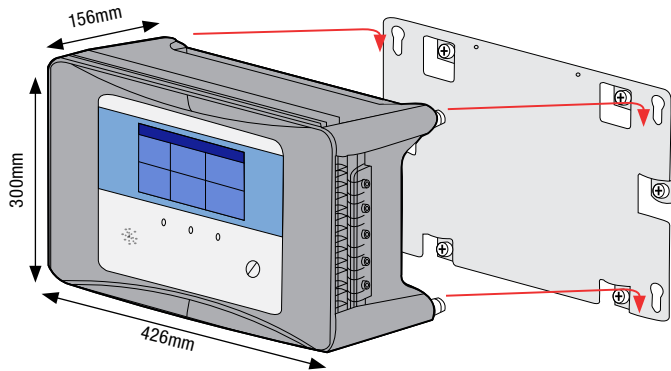
- Choice of AC or DC supply voltage
- Optional backup battery
- Choice of inputs: 2, 4, or 8 mA; 2, 4, or 8 mV; 2 mA and 2 mV; 4 mA and 4 mV
- Optional expansion unit for up to 16 inputs
- Choice of 12 or 24 relay outputs
- Choice of 4 or 8 mA outputs
- Optional RS485 Modbus RTU
- Optional TCP/IP Modbus/HTTP



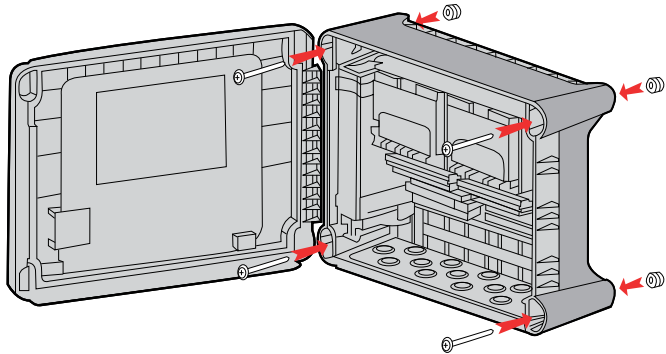
Installation

Quick and easy installation - designed to save you time and money

Touchpoint Plus can be directly wall-mounted, or, for an easier 1-man installation, simply use the optional mounting plate. Open the hinged front cover to find plenty of space for wiring and a unique tiered terminal arrangement for easy access. Cable entries are pre-drilled and sealed ready to use reducing installation time and cost further.



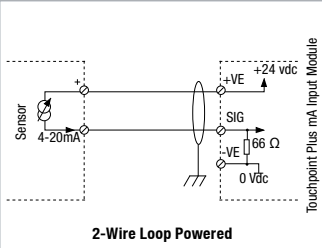
Optional Mounting Plate



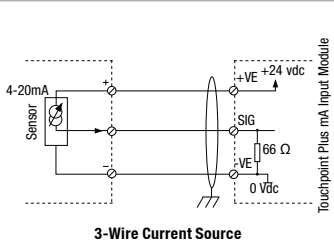
Touchpoint Plus is supplied with 13 pre-drilled and sealed cable entries for PG16/M20 glands.

Direct Surface Mounting

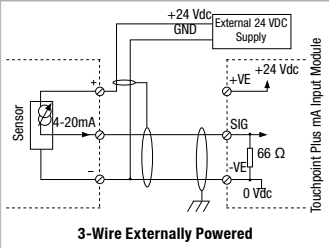
Sensor Connection - Compatible with a wide range of field devices



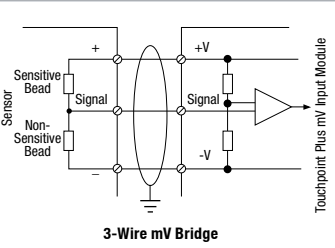
2-Wire Loop Powered



3-Wire Current Source



3-Wire Externally Powered



3-Wire mV Bridge

AVAILABLE GAS DETECTORS		
Sensepoint	Simple devices, intrusive configuration, power up to 8 devices directly from Touchpoint Plus	
Signalpoint		
705		
Searchpoint Optima Plus	Enhanced devices, non-intrusive local operation, in-field adjustment, power up to 8 devices directly from Touchpoint Plus	
Sensepoint XCD		
Series 3000 MkII/MKIII		
RAEGuard II PID		
IAQPoint2	High-integrity devices, specialized configuration, in-field adjustment, monitor up to 8 devices with external power as required	
XNX Universal Transmitter		
Searchline Excel		
E3Point, EC F9, IR F9		

Note: Other field devices available on request. Some devices are not available in all regions.

GENERAL SPECIFICATION	
Capacity	Up to 8 channels with base unit, up to 16 channels with expansion unit
Input Type	2- or 3-wire, mA, mV, max. 15 W per channel, max. 40 W total (with dedicated A/V drive)/68 W total (without dedicated A/V drive)
Size (Wall-Mounted Version)	426 mm x 300 mm x 156 mm (16.8" x 11.8" x 6.1")
Housing Material	Polycarbonate ABS
Weight	Max. 8.5 kg (18.7 lb), max. 17 kg (37.4 lb) with expansion unit
User Interface (UI) - Controller Only	
Display	7" color LCD touchscreen. Graphic User Interface
Visual Indicators	3 LEDs for master indicators. LED for each channel. Green: Normal; Yellow: Fault; Inhibit; Red: Alarm
Audible Alarm	≥ 70dB @ 1 m (3.28 ft)
Button	Common for reset/mute operation
Language	English, French, German, Italian, Dutch, Spanish, Portuguese, Russian, Chinese
Power Supply*	
AC Power	110/220 VAC, 50-60 Hz Manual switching
DC Power	18 to 32 VDC (+/-10%) Typical 24 VDC
Power Consumption	Max. 105 W (including detector and external devices), max. 210 W with expansion unit
Environmental	
Operating	-10 °C to +55 °C (14 °F to +131 °F) continuous, up to 95% RH (non-condensing), IP65, and NEMA 4X
Storage	Instrument -25 °C to +60 °C (-13 °F to +140 °F), up to 95% RH (non-condensing)
Available I/O Modules	
4-20mA Input	2- or 3-wire, 2/4/8 channel modules, 10/12/16 with expansion unit

GENERAL SPECIFICATION	
Available I/O Modules (continued)	
mV Input	Catalytic-type flammable gas detectors (Honeywell models). 2-/4-/8-channel modules, 10/12/16 with expansion unit
Dual Input	2-channel mA + 2-channel mV module or 4-channel mA + 4-channel mV module
Relay Output	12 or 24 relay outputs, NO/C/NC changeover, 1.7 A @ 30 VDC/250 VAC, user-configurable - energized/de-energized, latching/non-latching, time delay
4-20mA Output	4 or 8 isolated repeated mA outputs, 0-22 mA, 0-100% FSD = 4-20 mA
Common Inputs	Remote reset, remote inhibit
Common Outputs	4 powered A/V outputs for alarms and fault, 3 common alarm outputs
Approvals	
Electromagnetic Compatibility and Electrical Safety	EMC/RFI (EN 50270:2015) LVD (EN 61010-1:2010) CSA-C22.2 No. 61010-1-04 UL 61010-1 (3rd Edition) and 508
Performance**	Designed to meet: EN 50271:2010; EN 60079-29-1:2007; EN 45544-1 /-2/-3:2015; EN 50104:2010 C22.2 No. 152-M1984, ISA 12.13.01
Safety Integrity**	Designed to meet IEC/EN 61508:2010 and EN 50402:2005+A1:2008 SIL2 certification
Hazardous Location	Class I, Division 2, Group A, B, C, and D, or non-hazardous only
Others	
Backup Battery	22.2 V Lithium Ion Battery, 2600 mAh capacity (>30 minutes for typical system)
Datalogging	Configuration, logged events, and data
Communication	MODBUS TCP, WEB monitoring, and MODBUS RTU

* Basic and expansion units each require a power supply
** Contact Honeywell Analytics for availability
*** Not available in expansion unit

ORDERING INFORMATION

Product Name → TPPL

Power
A: AC
D: DC

Mounting Type
W: Wall Mount

Unit Type
B: Base Unit
E: Expansion Unit

Input Option
A2: 2ch mA Input
A4: 4ch mA Input
A8: 8ch mA Input
V2: 2ch mV Input
V4: 4ch mV Input
V8: 8ch mV Input
D4: 2ch mA + 2ch mV input
D8: 4ch mA + 4ch mV input

Output Option
4: 4ch mA Output
8: 8ch mA Output
N: No mA Output

Battery
B: Backup Battey
N: None

Communication***
R: MODBUS RTU
N: None

Relay Option
S: 12 Relays
D: 24 Relays
N: No Relays

Future Use

Communication***
N: None
R: MODBUS TCP+WEB(read)
T: MODBUS TCP
W: MODBUS TCP+WEB(read/write)**



Honeywell Gas Detection

Honeywell is able to provide gas detection solutions to meet the requirements of a wide range of applications and industries. Contact us in the following ways:

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Europe, Middle East, Africa

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Fax: +41 (0)44 943 4398
gasdetection@honeywell.com

Customer Service:

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Tel: +41 44 943 4380 (Alternative number)
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(Fixed Gas Detection)

Middle East Tel: +971 4 450 5852
(Portable Gas Detection)

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While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This publication is not intended to form the basis of a contract.

Honeywell



Touchpoint Plus

User Guide

Revision History

Revision	Comment	Date
Issue 1	First Issue	02/2016
Issue 2	Updated Ch.1.4 TPPL General Warnings; Ch.4.7.2 User Interface Screen; Ch.11.2 National and International Certificates of Compliance	11/2017
Issue 3	Updated Ch.11.2. National and International Certificates of Compliance	10/2018
Issue 4	Updated upon review by DEKRA	01/2019

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

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

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

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

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

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

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Touchpoint is a registered trademark of Honeywell Analytics (HA).

Find out more at www.honeywellanalytics.com

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Chapter 1. Important Information.....	1
1.1 Regulatory Approval Markings	1
1.2 Additional Product Markings.....	1
1.3 TPPL Mandatory Warning.....	1
1.4 TPPL General Warnings	2
1.5 TPPL General Cautions.....	3
1.6 How to Use this Manual.....	3
1.6.1 Intended Readers.....	3
1.6.2 Conventions Used.....	3
1.6.3 Associated Manuals.....	4
Chapter 2. Safety Hazards, Warnings and Cautions	5
2.1 Safety	5
2.1.1 Warnings and Cautions.....	5
2.1.2 Safety Hazards.....	6
2.2 Location and Description of Warning Labels	8
2.2.1 Safety Warning Labels.....	8
2.3 Electrical Hazards.....	9
2.3.1 General Safety Precautions.....	9
2.3.2 Component Testing and Replacement.....	9
2.3.3 Antistatic Precautions.....	10
2.3.4 Good Practice.....	10
2.3.5 Lithium Battery Hazard	10
2.3.6 Product Compliance.....	11
2.3.7 Conditions of Use.....	11
2.3.8 Training of Personnel.....	12
2.3.9 Conditions Satisfying Local, National and International Safety Regulations	12
2.3.10 Due Authorisation	12
2.3.11 Approved Maintenance and Servicing Procedures.....	12
Chapter 3. System General Description.....	13
3.1 How to Open and Close the Enclosure.....	15
3.2 Equipment Specification.....	16
3.2.1 Power Requirements (Controller Unit only).....	16
3.2.2 Weights.....	17
3.2.3 Dimensions.....	17
3.2.4 Ambient Operating Temperature.....	17
3.2.5 Overall Ambient Operating Humidity.....	17
3.2.6 Storage Conditions (Without batteries).....	17
3.2.7 Storage Conditions (With batteries).....	17
3.2.8 IP Rating.....	17
3.2.9 Construction	17
3.2.10 Touchpoint Plus Packaging.....	18
3.2.11 Packaging Components for Return to Manufacturer.....	18
3.2.12 Disposal (WEEE Directive).....	18
3.3 TPPL Construction.....	18
3.3.1 TPPL Basic Control Unit	18
3.3.2 TPPL Expansion Unit.....	19
3.3.3 TPPL DIP Switches	19
Chapter 4. Touchpoint Plus User Guide	21
4.1 User Interface General.....	21
4.2 Touchscreen	22
4.3 Switching On and Off	22
4.4 Menu Items and Access Levels.....	23
4.4.1 Navigation – Active Access Level Icons	25
4.5 SD Card Usage.....	25
4.5.1 Checking the Capacity of the SD Card	25
4.5.2 Inserting or Replacing SD Cards.....	26
4.6 Normal Operation (Safety Functions).....	27
4.7 Operating Overview.....	27

4.7.1 Touchscreen.....	27
4.7.2 User Interface Screen.....	27
4.7.3 Navigating the Channel Detail Screens.....	30
4.7.4 Navigation – Active Events and Filtering.....	31
4.7.5 Navigation – Menu.....	32
4.8 Responding to Alarms.....	33
4.8.1 View Active Alarms.....	33
4.8.2 Accept or Acknowledge an Active Alarm.....	33
4.8.3 Reset a Latched Alarm.....	34
4.9 Event Information.....	34
4.9.1 Viewing Event Information.....	34
4.9.2 Accepting / Acknowledging Active Events.....	34
4.9.3 Resetting Latched Events.....	35
4.10 Inhibiting Channels.....	35
4.10.1 To Inhibit Input Channels:.....	35
4.10.2 To Clear Inhibits:.....	35
4.10.3 To Change Inhibit Timeouts.....	36
4.11 Viewing Input Channels and Input Details.....	37
4.12 Viewing Output Channels.....	38
4.13 Viewing the Trend Graph.....	39
4.14 Viewing and Exporting Event History.....	40
4.14.1 To View the Event History.....	40
4.14.2 To Export the Event History.....	40
4.15 Accessing the System Information and Service Contact Details.....	40
4.16 System State and System Failure Relays.....	40
4.17 Monitoring TPPL via the Optional Web Interface.....	41
4.17.1 Web Interface Configuration.....	41
4.17.2 Web Interface Navigation.....	43
Chapter 5. Daily / Shift Checks.....	45
Chapter 6. Routine Maintenance and Scheduled Testing.....	47
6.1 Routine Maintenance.....	47
6.1.1 Weekly Checks.....	47
6.2 Routine Testing.....	48
6.2.1 Exercising the Audio/Visual Alarms.....	48
6.2.2 Exercising the Relays.....	49
6.2.3 Checking the mA Outputs.....	49
6.2.4 Calibrating mV Input Channels.....	50
6.3 Periodic Scheduled Testing.....	51
Chapter 7. Repairs, Replacements and Upgrades.....	53
7.1 Backup Battery Maintenance.....	53
7.1.1 Recommended Backup Battery Maintenance.....	53
7.1.2 How to Replace the Backup Battery.....	53
Chapter 8. Troubleshooting.....	55
8.1 Calling for Technical Support.....	55
Chapter 9. Fault Codes.....	56
Chapter 10. Technical Specifications.....	57
10.1 Environmental.....	57
10.2 User Interface and Main Module.....	57
10.3 External Power Supplies.....	57
10.4 Backup Battery.....	58
10.5 Wall Mount Enclosure.....	58
Chapter 11. Certifications.....	59
11.1 EC Declaration of Conformity.....	59
11.2 National and International Certificates of Compliance.....	60
Chapter 12. Icon Glossary.....	61

Chapter 13. List of Figures.....63

Chapter 14. List of Tables.....63

Chapter 1. Important 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 is not only certified for flammable gas detection only but also for detection of oxygen and toxic gases.

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

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 additionally 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 TPPL Mandatory Warning

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.

1.4 TPPL General Warnings

- 1) The equipment specified in this manual is only to be installed by the Manufacturer's trained personnel, or by competent persons trained in accordance with the Manufacturer's installation instructions.
- 2) Installation must be in accordance with the recognized standards of the appropriate authority in the country concerned. Refer to local, national and company regulations.
- 3) Do not operate the Touchpoint Plus system or its components outside of their rated operating specification.
- 4) Touchpoint Plus must not be operated in Oxygen enriched atmospheres, i.e. greater than 25% v/v Oxygen.
- 5) All equipment containing a User Interface must be suitably protected from direct sunlight and rain.
- 6) Power Supply Fluctuations are not to exceed DC 18 – 32 V SELV Supply or $\pm 10\%$ of nominal.
- 7) All versions of Enclosure apparatus are electrical Class 1, and must be connected to Protective Earth (Ground).
- 8) The Touchpoint Plus installation must include a means of isolating or disconnecting the input voltage supply. The isolation or disconnection device must be conveniently located close to the system and be clearly labelled. For an AC mains voltage supply, the isolation or disconnection device must disconnect both the line and neutral poles, but maintain earth (ground) continuity.
- 9) The Touchpoint Plus input voltage supply must include over-current protection.
- 10) All cabling must be appropriately rated and approved in accordance with local, national and company regulations, and suitable for the installation. Additionally, cabling must satisfy requirements defined in the manuals of connected field devices, in particular if the field device is certified for use in a hazardous location.
- 11) All signal cables and interconnections must be shielded and the shields terminated only at the unified earth (ground) bus bar situated inside the enclosure
- 12) All conduits and cable armour shall be bonded to protective earth (ground), and care must be taken to avoid ground loops and to avoid contact with cable shielding.
- 13) Cable entry glands, blanking plugs, reducers, adaptors and breather devices must be suitably approved and must not reduce the IP rating or protection levels. Items should not be used if there is a high risk of mechanical damage to the equipment or enclosure.
- 14) Access doors and entry points must be kept closed when the system is energised in normal operation.
- 15) The TPPL Enclosures must be securely closed and the locking handle security screws must be fully tightened during normal operation.
- 16) All equipment in this manual is rated to +2000 m (6562 ft) altitude maximum.
- 17) For safety reasons this equipment must be operated by qualified personnel only. Read and understand the Instruction Manual completely before operating or servicing the equipment.
- 18) Touchpoint Plus systems may contain hazardous live terminals. Appropriate precautions should be taken during operation, installation, and maintenance and servicing. Specifically, operators must have appropriate training and experience to be aware of the hazards to which they may be exposed, and of measures to minimise risk to themselves or other people.
- 19) The protection provided by TPPL may be impaired or lost if the equipment is installed or used in an incorrect, unspecified or unauthorised way.
- 20) Be aware that extended exposure of a detector element to certain concentrations of combustible gases and air can introduce stress to the element that may seriously affect its performance, and therefore recalibration should be carried out or the sensor replaced, or both, after an alarm due to an indication of a high concentration.
- 21) When used in a Gas Detection summing up role, the gas reading may be higher than the actual concentration at any one detector head location, or it may be the actual concentration at one specific detector head.
- 22) Exposure to some chemicals may degrade the sealing properties of materials used in the alarm relay.
- 23) Do not open TPPL enclosures or disconnect/reconnect equipment until power has been isolated and the area is made safe / non-hazardous. This includes replacing backup batteries.
- 24) Substitution of any components may impair suitability for Class I, Division 2.
- 25) High off-scale readings may indicate an explosive concentration

1.5 TPPL General Cautions

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

1.6 How to Use this Manual

1.6.1 Intended Readers

This Manual should be read by everyone who operates or monitors the Touchpoint Plus gas detection system.

Only personnel who have been fully trained by Honeywell are authorised to Install, Set-up, Service, and Test, Repair, or Recondition Honeywell gas detection systems.

IMPORTANT

Personnel, who work on, or in the area of, the Touchpoint Plus Gas detection system must be made aware of the contents of Chapter 2 – Safety Hazards, Warnings and Cautions.

Before unpacking the system, please read the documentation that accompanies it.

1.6.2 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).

mV Sensor refers to a mV Bridge Sensor.

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] highlights unique button touches.

Start up refers to the action of switching on the system.

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

TPPL refers to the Touchpoint Plus Gas Detection System.

1.6.3 Associated Manuals

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

This TPPL User Guide (MAN 0996) is available in the following languages:

- | | |
|-------------------------|-------------------|
| • Chinese (Simplified) | Pt. Nr. 3011M5042 |
| • Dutch | Pt. Nr. 3011M5043 |
| • English (UK) | Pt. Nr. 3011M5044 |
| • French (Canada) | Pt. Nr. 3011M5045 |
| • French (France) | Pt. Nr. 3011M5046 |
| • German | Pt. Nr. 3011M5047 |
| • Italian | Pt. Nr. 3011M5048 |
| • Japanese | Pt. Nr. 3011M5049 |
| • Korean | Pt. Nr. 3011M5050 |
| • Portuguese (Brazil) | Pt. Nr. 3011M5051 |
| • Portuguese (Portugal) | Pt. Nr. 3011M5052 |
| • Russian | Pt. Nr. 3011M5053 |
| • Spanish (Mexico) | Pt. Nr. 3011M5054 |
| • Spanish (Spain) | Pt. Nr. 3011M5055 |
| • Swedish | Pt. Nr. 3011M5056 |
| • USA (English) | Pt. Nr. 3011M5057 |

The supplementary *TPPL Modbus Installation and Setup Guide* (Pt. No. 3011M5027) is available in English, and is recommended for OEMs and Modbus specialists only.

The *TPPL Technical Handbook* (Pt. No. 3011M5001) contains detailed information on Installation, Commissioning, Maintenance, Repairs, Replacements and Upgrades. It is aimed at Honeywell personnel, qualified technical personnel who are trained on TPPL, 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.

Chapter 2. Safety Hazards, Warnings and Cautions

2.1 Safety

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

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

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

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

- Class 1 electrical hazards (AC 110/220 V, DC 18–32 V)
- Mechanical hazards (Heavy components, swinging access doors, locking handles etc.)
- Environmental hazards (toxic atmospheres)
- Fire and Ignition hazards

DANGER

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

Touchpoint Plus is suitable for use in Class I, Division 2, Groups A, B, C, and D, or non-hazardous locations

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 labels used and their location is detailed in *Ch.2.2.1 Safety Warning Labels*.

Other likely hazard occurrence and severity is indicated throughout this manual by the use of signal words accompanied by a hazard description and an internationally recognisable hazard symbol, as shown in the three example boxes below:

DANGER

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

WARNING

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

CAUTION

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.

2.1.2 Safety Hazards

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

DANGER – IGNITION HAZARD

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

Touchpoint Plus is suitable for use in Class I, Division 2, Groups A, B, C, and D or non-hazardous locations

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)

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 and after it is removed. There is a risk of death or injury from electrical shock when access doors are open.

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 enclosures and 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 it always has a green background. Do not confuse it with the chassis earth and equipment 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.

2.1.2 Safety Hazards (Cont.)

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

WARNING – FIRE OR EXPLOSION HAZARD

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

WARNING – DO NOT USE WATER

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

Evacuate the area immediately 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 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 enclosures are fitted securely to a suitable vertical surface. Do not place objects on the enclosures.

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 or high-pitched 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.

2.2 Location and Description of Warning Labels

2.2.1 Safety Warning Labels

In accordance with the requirements of 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.

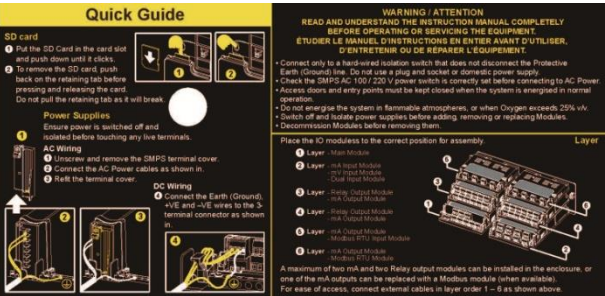


Figure 1. Quick Start Guide Label
(Not to Scale)

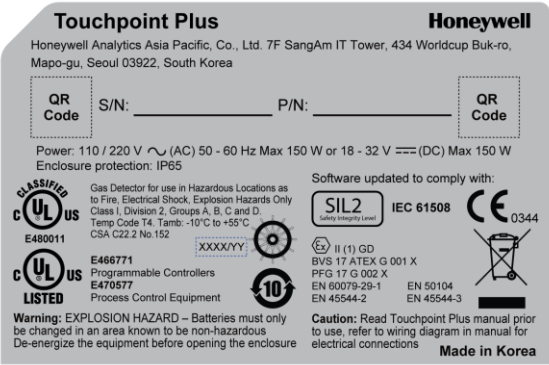


Figure 2. Rating Label
(External – Not Shown Below)



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.

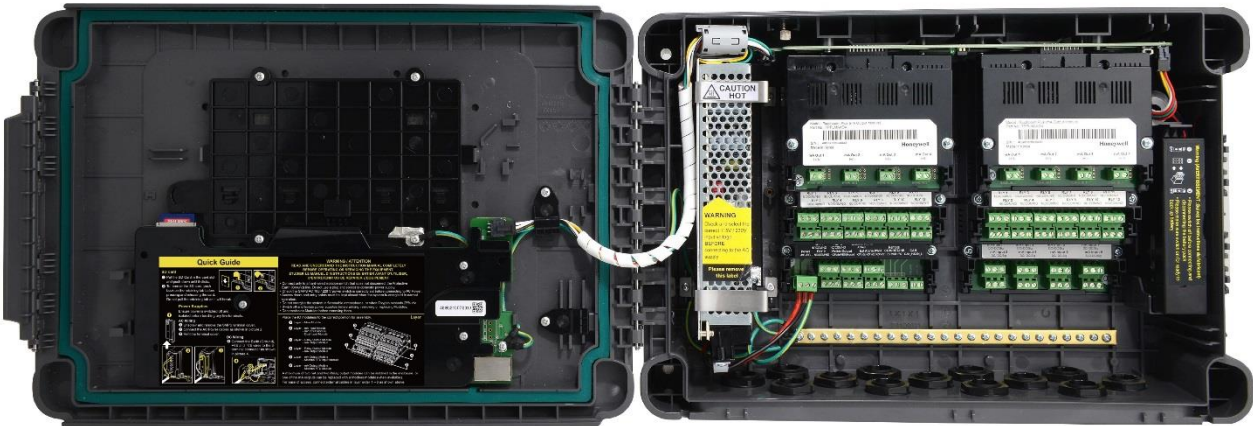


Figure 5. Internal Label Positions

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 Safety 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 doors open, 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.

2.3.3 Antistatic Precautions

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

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

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

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

IMPORTANT

If installed correctly, the equipment earth (ground) point is connected directly to mains earth (ground) via protective earth and the mains power supply cable, and the earth (ground) circuit cannot be broken by operating the Isolator switch or circuit breaker.

2.3.4 Good Practice

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

2.3.5 Lithium Battery Hazard

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

Replace the factory installed battery pack **TPPLOIBB** with Honeywell Analytics Asia Pacific replacement battery pack part no. **TPPLSIBB** and the PCB CMOS 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 swallowed, 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.

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

2.3.6 Product Compliance

This product complies with the following standards and directives.

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

Safety	Compliance
Hazardous Location (Non-Incendive)	Class 1, Division 2, Groups A,B,C,D, Temp. Code T4 ISA 12.12.01-2013 CSA C22.2 No. 213-M1987
Electrical Safety	CAN/CSA C22.2 No. 61010-1 and No.142 UL 61010-1 (3 rd Edition); UL508 IEC/EN 61010-1 (3 rd Edition)
EMC/RFI	EN 50270
Low Voltage Directive	IEC/EN 61010-1 (3 rd Edition)
Gas Performance*	ISA 12.13.01 and CSA C22.2 No. 152 EN 60079-29-1, EN 50104, EN 45544-1/2/3 and EN 50271

* ISA 12.13.01 and CSA C22.2 No.152 approvals are applicable only to mV sensors Model 705 and MPD or any suitably certified mA sensor.

* EN 60079-29-1 approval is only valid for operation with Sensepoint, Sensepoint HT, Sensepoint ppm and a certified 4-20 mA transmitter.

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

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



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



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

IMPORTANT

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

2.3.7 Conditions of Use

This Touchpoint Plus equipment shall only be operated:

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

2.3.8 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 the equipment / installation is changed or upgraded.

2.3.9 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.

2.3.10 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.

2.3.11 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 servicing of this equipment.

2.4 Security Guide

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

Chapter 3. System General Description



Figure 6. Touchpoint Plus Wall-Mounted Controller

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

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

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

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

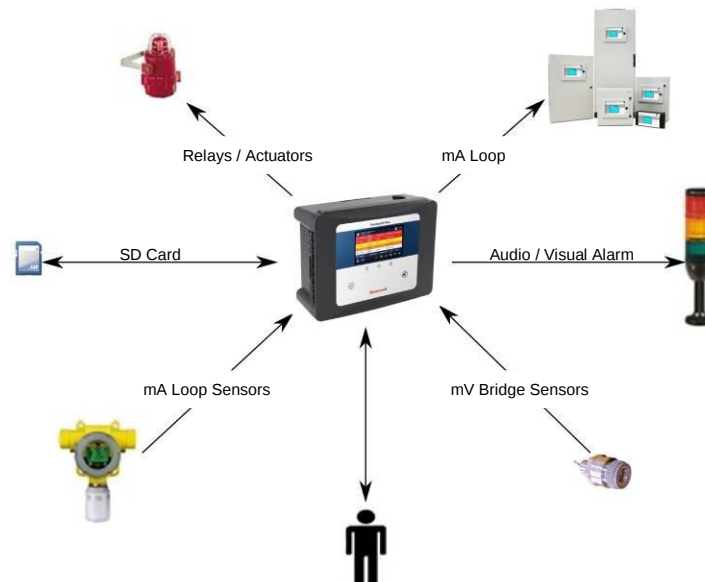


Figure 7. Typical Installation Options

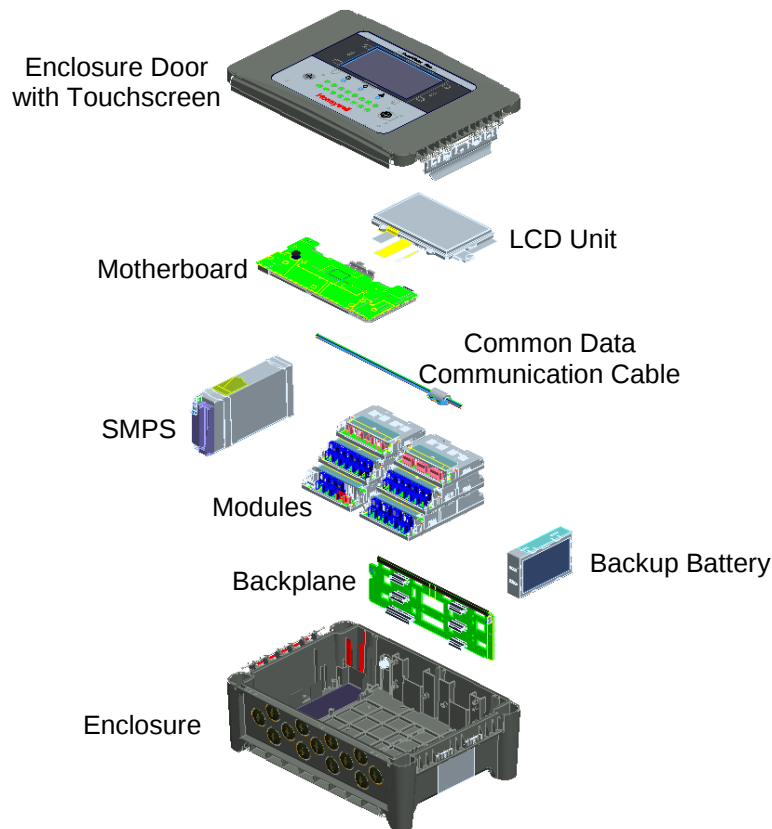


Figure 8. TPPL Controller Exploded View

Both the Touchpoint Plus and its optional expansion unit have the option for AC, DC and battery backup power supplies, but the optional Expansion Unit has no motherboard or display (LCD).

Features of the Controller unit

- Colour LCD Touch Screen with multi-language GUI and menus
- Password protection
- Flexible Mains Power Input: 50 – 60 Hz 110/220 V ~ (AC), 18 – 32 V $\overline{\text{DC}}$ (DC), Max 105 W for a single unit or 210W for combined Base and Expansion Units
- Up to 8 channels of Analogue Input (0–22 mA, Bridge mV for Cat bead)
- 2 or 3-wire signal inputs
- Up to 24 channels of user configurable relay controlled Output
- Up to 8 channels of configurable mA Output
- Alarm update on Acknowledge
- Automatic Self-Diagnostic with error codes
- Event recording
- SD Card

3.1 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 x 3 mm Hex socket security screws (1) until they become loose (2).
- 3) Pull the handle until it comes free (3). *Do not apply undue force.*
- 4) Open the enclosure door fully.



Figure 9. Undoing the Two 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 **you must 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 firmly on the door edge directly above the handle as you press on the handle itself.

CAUTION

TPPL enclosures must be fully closed and secured during normal operation.

3.2 Equipment Specification

3.2.1 Power Requirements (Controller Unit only)

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

Alternatively it can be connected to an 18–32 V $\overline{\text{DC}}$ (DC) supply with 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	mV in	Dual in	
1	UI Module	1	3.4	3.4	3.4	3.4	
2	Main Module	1	1.0	1.0	1.0	1.0	
3	mA Input Module	1	0.3	0.3			8 ch, not including Field Device power
	mA input Field Devices	-	40	40		20	Field Device power (8 ch* 5W) Field Device power (4 ch* 5W)
	mV Input Module	1	18.5		18.5		8 ch
	Dual Input Module	1	9.4			9.4	4 ch mA and 4 ch mV
4	mA Output Module	2	4.2	8.4	8.4	8.4	
5	Relay Output Module	2	2.5	5.0	5.0	5.0	
6	Charging power for backup battery pack	1	6	6	6	6	
7	Audio/Visual Alarm	-	28.8	28.8	28.8	28.8	When alarm devices are connected
8	SMPS Power Loss	-	14.0	14.0	14.0	14.0	
MAXIMUM CONSUMPTION				107	85	96	

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

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

Table 2. Maximum Power Consumption Calculations

3.2.2 Weights

Note: Based on one input module, two mA output modules, two output relays, SMPS and backup battery for the basic unit and expansion unit respectively.

	TPPL Basic Unit	TPPL Expansion Unit
System alone	8.5 Kg (18.7 lbs)	8 Kg (17.6 lbs)
System with packaging	9 Kg (20 lbs)	8.5 Kg (18.7 lbs)

Table 3. System Weights

3.2.3 Dimensions

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

Table 4. System Dimensions

3.2.4 Ambient Operating Temperature

–10 °C to +55 °C (14 °F to 131 °F)

3.2.5 Overall Ambient Operating Humidity

5 % to 95 %RH, non-condensing

3.2.6 Storage Conditions (Without batteries)

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

3.2.7 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)

3.2.8 IP Rating

The enclosures are sealed to IP65 when appropriate cable entry glands are used.

3.2.9 Construction

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

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

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

The optional expansion unit holds the same modules and optional backup battery, but has no controller or user interface.

Both enclosures 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.

3.2.10 Touchpoint Plus Packaging

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

3.2.11 Packaging Components for Return to Manufacturer

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

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

3.2.12 Disposal (WEEE Directive)



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

3.3 TPPL Construction

The TPPL system consists of a basic Control Unit and an optional Expansion Unit, as shown below.

3.3.1 TPPL Basic Control Unit

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

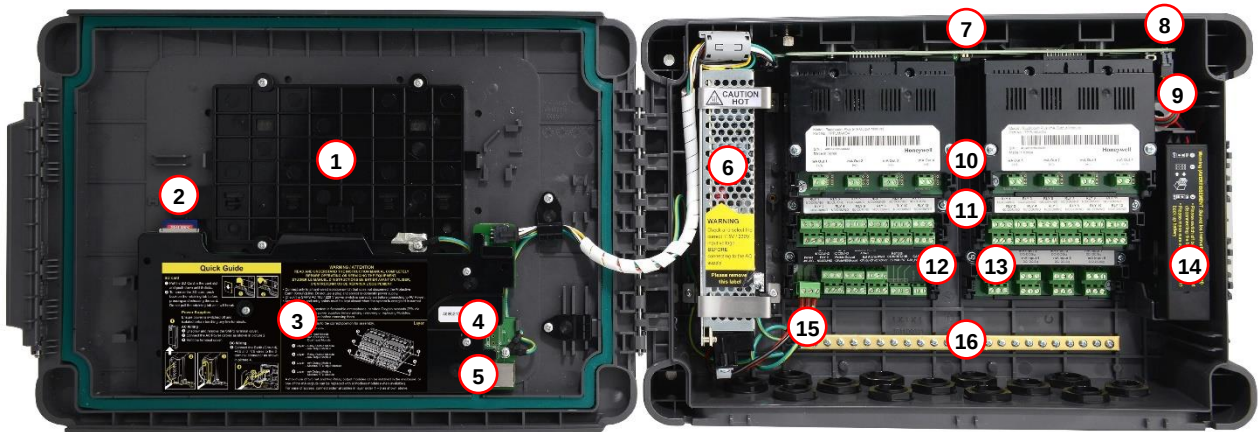


Figure 10.Controller Unit Layout Before Installation

1	Touchscreen PCB	9	Battery Connector
2	SD Card	10	mA Output Modules
3	Motherboard	11	Relay Output Modules
4	Modbus Terminals (option)	12	Main Module
5	Ethernet Connector	13	Input Module (mA/mV/Dual)
6	Switched Mode Power Supply	14	Backup Battery
7	DIP Switch (on backplane)*	15	Power Terminal
8	Battery On / Off Switch	16	Earth (Ground) Bus Bar

* The DIP Switch (7) is used to enable / disable the optional expansion box. See *Ch.3.3.3 TPPL DIP Switches* for further information.

3.3.2 TPPL Expansion Unit

This figure shows the building blocks of the Touchpoint Plus Expansion Unit.

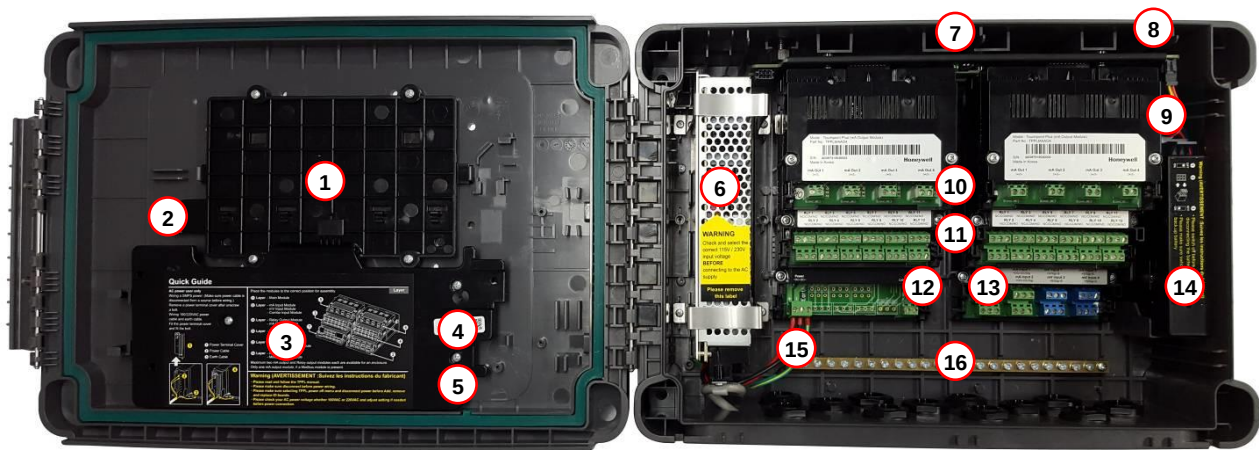


Figure 11.Expansion Unit Layout Before Installation

1	No Touchscreen	9	Battery Connector
2	No SD Card	10	mA Output Modules
3	No Motherboard	11	Relay Output Modules
4	No Modbus Terminals	12	Main Module (Power and CAN only)
5	No Ethernet Connector	13	Input Module (Dual shown)
6	Switched Mode Power Supply	14	Backup Battery
7	DIP Switch (on backplane)*	15	Power Terminal
8	Battery On / Off Switch	16	Earth (Ground) Bus Bar

3.3.3 TPPL DIP Switches

TPPL Backplanes have a DIP switch (item 7 in the figures above) that controls the interaction between the master (basic) and the optional expansion unit backplanes. Once set these DIP switches need not be altered.

Basic Unit Both On	Basic Unit with Expansion Unit 1 On, 2 Off	Expansion Unit 1 Off, 2 On

Figure 12.Backplane DIP Switch Settings

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Chapter 4. Touchpoint Plus 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 TPPL with the door insecure.

Take alternative site safety precautions while power is off.

The TPPL Touchscreen is the primary control and viewing method but there is also an optional Web Interface that currently allows remote viewing only (see *Ch.4.17 Monitoring TPPL via the Optional Web Interface* for more details).

4.1 User Interface General

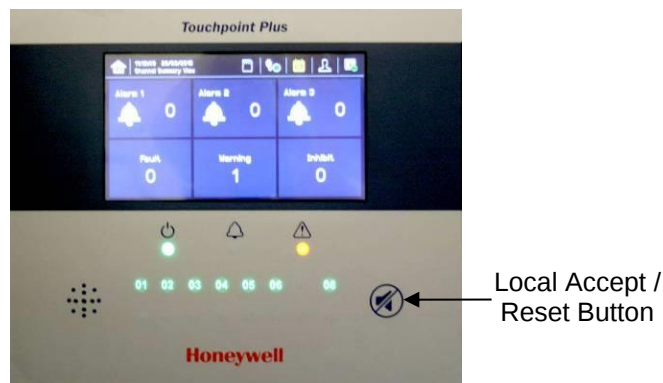


Figure 13.Touchpoint Plus Controller User Interface

The User Interface panel (shown above) has:

- A colour Touch screen 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)
- Active Expansion Channel (09 to 16) status indicators (not commissioned above)
- Accept* / Reset membrane button (arrowed above)
- 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. See *Ch.4.8 Responding to Alarms* for further information.

Further System Interfaces consist of:

- Remote inhibit and remote reset terminals in the Main module
- One fixed relay and two configurable relays in the Main Module for system Failure, Alarm and Inhibit
- Three dedicated alarm outputs for visual and audio alarms
- An SD Card slot for data logging and firmware/software updates
- An optional expansion unit with optional dual input module (mV & mA)
- Optional remote Web Interface networking via RS485 port
- Optional remote Modbus TCP/IP via hard-wired terminal

4.2 Touchscreen

The Touchscreen is touch only; it has no swipe or pinch gestures.

The Touchscreen has four access levels: View mode is available to all users while Configuration, Maintenance and System Test functions are password protected. (See *Ch.4.4 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.

4.3 Switching On and Off

Before switching power on, ensure that the system has been commissioned or that a qualified person has checked that the wiring is safe and conforms to local regulations. Also check that the battery isolator switches are 'On' and that an SD Card is fitted. Check that the optional expansion unit battery switches are on too.

Switch on power at the Isolator switch and wait for the system to initialise. (The system start up sequence may last for up to 5 minutes depending on the number of channels in use.)

Each sensor requires the warm-up time for stabilization. When Touchpoint Plus is turned-on, Touchpoint Plus starts the normal gas reading after sensor warm-up period. Refer to each sensor's user manual for the warm-up time.

TPPL will first display the auto-scrolling Input screen, indicating the current status of the system. The Channel List View is shown below. The screenshot shows installed sensors but it may be blank depending on your system status:



You can alter the screen views or gain further information by touching the icons shown below:

	Toggle to select screen layout		Admin Logged in
	SD Card Status Good		Service Logged in
	SD Card Status Fault		Operator Logged in
	External mains power is connected. Touch for status		No one Logged in
	External power is not connected. Touch for status		Toggle auto-scroll on and off
	Event History (changes colour to show fault, inhibit or alarm)		Scroll up when auto-scroll disabled
	Further Menu Options		Scroll down when auto-scroll disabled

Table 5. Home Screen Menu Icons

4.4 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 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	●	●	●	●
Event History	●	●	●	●
Channel View Home	●	●	●	●
↩ List View	●	●	●	●
↩ Tile View	●	●	●	●
↩ Summary View	●	●	●	●
↩ Output View	●	●	●	●
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 Contact	●	●	●	●
Configuration	●	●	○	○
↩ Channel Settings	●	●	○	○

Menu Item	Admin.	Service	Operator	Others
  mA Input Channel	●	●	○	○
  mV Input Channel	●	●	○	○
  mA Output Channel	●	●	○	○
  Relay Channel	●	●	○	○
 Module Control Panel	●	●	○	○
 General	●	●	○	○
  Date / Time	●	●	○	○
  Language	●	●	○	○
  Service Contract	●	●	○	○
  Home Settings	●	●	○	○
  Timeout Setting	●	●	○	○
 Log Interval and Threshold	●	●	○	○
 Display Screen	●	●	○	○
 Outputs	●	●	○	○
  Dedicated Alarm Contacts	●	●	○	○
  Buzzer Options	●	●	○	○
 Security	●	●	○	○
  Password	●	●	○	○
  Remote Access (Buttons)	●	●	○	○
 Config Manager	●	●	○	○
  Import	●	●	○	○
  Export	●	●	○	○
 Network	●	●	○	○
  Ethernet	●	●	○	○
  Modbus RTU	●	●	○	○
Maintenance	●	●	●	○
 Reset Alarms / Faults	●	●	●	○
 Reset All Peaks	●	●	●	○
 Gas Calibration 	●	●	○	○
 Adjust mV Baseline 	●	●	○	○
 Service Mode 	●	○	○	○
  Electronic Adjustment 	●	○	○	○
  Reset to Defaults 	●	○	○	○
 Update System 	●	○	○	○
  Software 	●	○	○	○
  Language 	●	○	○	○
  Sensor Catalogue 	●	○	○	○
  Module Data 	●	○	○	○
 SD Card	●	●	○	○
  Eject	●	●	○	○
  Format	●	●	○	○
 Power Off 	●	●	○	○

Menu Item	Admin.	Service	Operator	Others
System Test	●	●	○	○
↻ Force Relay ⚙	●	●	○	○
↻ Force 4–20 mA ⚙	●	●	○	○
↻ Relay C & E Matrix ⚙	●	●	○	○
↻ Dedicated Alarm Contacts ⚙	●	●	○	○
↻ LCD test ⚙	●	●	○	○
↻ LED & Buzzer test ⚙	●	●	○	○

Table 6. User / Component Matrix

4.4.1 Navigation – Active Access Level Icons

You must enter a valid password to access the menu items listed above.

The silhouette icon below shows who is logged in. Touch the icon to log in / out, or to change to a higher access level:

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

Note: The system will log you out after a set period of inactivity. (The default authentication timeout is 15 minutes, but this can be changed in system settings.)

4.5 SD Card Usage

The SD card is used to store the system event history. Touchpoint Plus logs all events and all changes to input readings. A notification will be given when the SD card 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 accepts standard size SD cards of 2 to 32 GB (FAT32). SD cards must be formatted on first insertion.

4.5.1 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.

SD Card Usage	
Available	10.7 GB
Total	16 GB

4.5.2 Inserting or Replacing SD Cards

SD Cards must be unlocked to allow read/write. They must be formatted by TPPL only, and they should be used for TPPL 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.

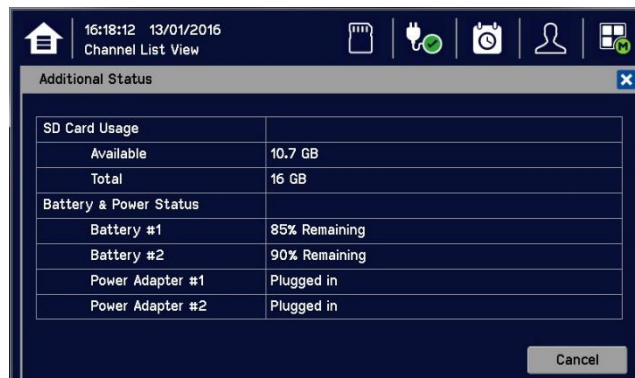
WARNING

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 TPPL 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 (see *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 TPPL 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.

4.6 Normal Operation (Safety Functions)

During normal operation:

- The Touchpoint Plus 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.
- The Cause and Effect matrix will be evaluated every 1 second, and commands sent accordingly to the appropriate output channels.
- 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.
- The system response time of Touchpoint Plus is 3 seconds. However, the gas response time of Touchpoint Plus will be increased more of input sensor's time of response.
- Touchpoint Plus monitors the internal communication. In case of communication error detected, Touchpoint Plus will generate the communication fault in 5 seconds.

4.7 Operating Overview

See(or print) *Ch.12 Icon Glossary* for easy reference.

4.7.1 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.

4.7.2 User Interface Screen

The icons in the navigation toolbar are used to toggle through the User Interface options, as shown in the tables below.

Alarm Event	Fault Event	Warning Event	Inhibit Event
-------------	-------------	---------------	---------------

	Channel List View		Manual Scrolling Toggle (the list and all events can be manually scrolled)
	Channel Tile View		Auto Scrolling Toggle (active events are locked at the top of the list, other events scroll down)
	Channel Summary View		Scroll the list up
	Output Channel List View		Scroll the list down

Table 7. Home Screen Icons

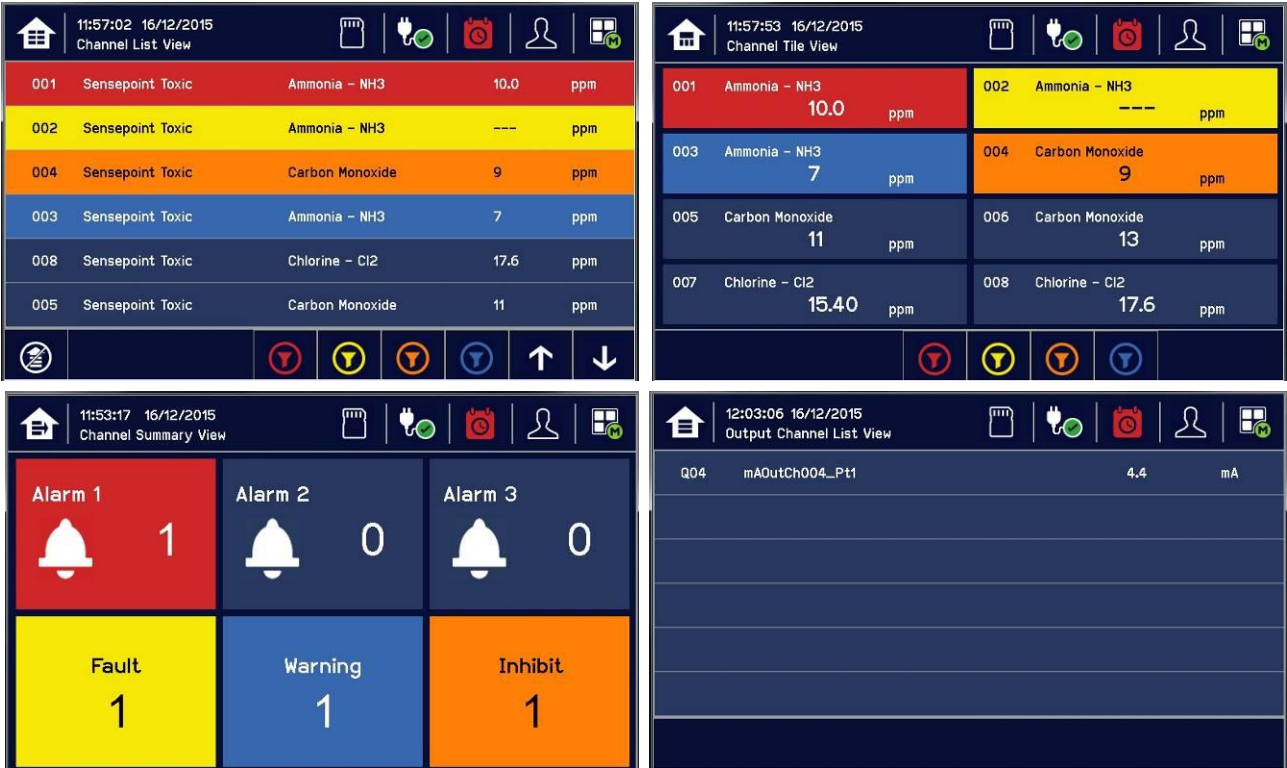
Notes:

- Flashing Colour – New Events
- Steady Colour – Acknowledged Events
- Channel List View – Display shows up to six inputs and events with automatic or manual scrolling.
- Channel Tile View – Display shows up to eight inputs and events.
- Channel Summary View – Display shows total counts for alarm 1, alarm 2, alarm 3, fault, warning and inhibits.
- Output Channel List View – Display shows up to eight outputs and events.

Events flash until acknowledged, and they stay coloured until the causative event is cleared / reset.

Touch any colour, channel or event if you want to see more information. You can also touch a filter icon (see below) to show only items in that colour band, which is useful when you have multiple events demanding attention.

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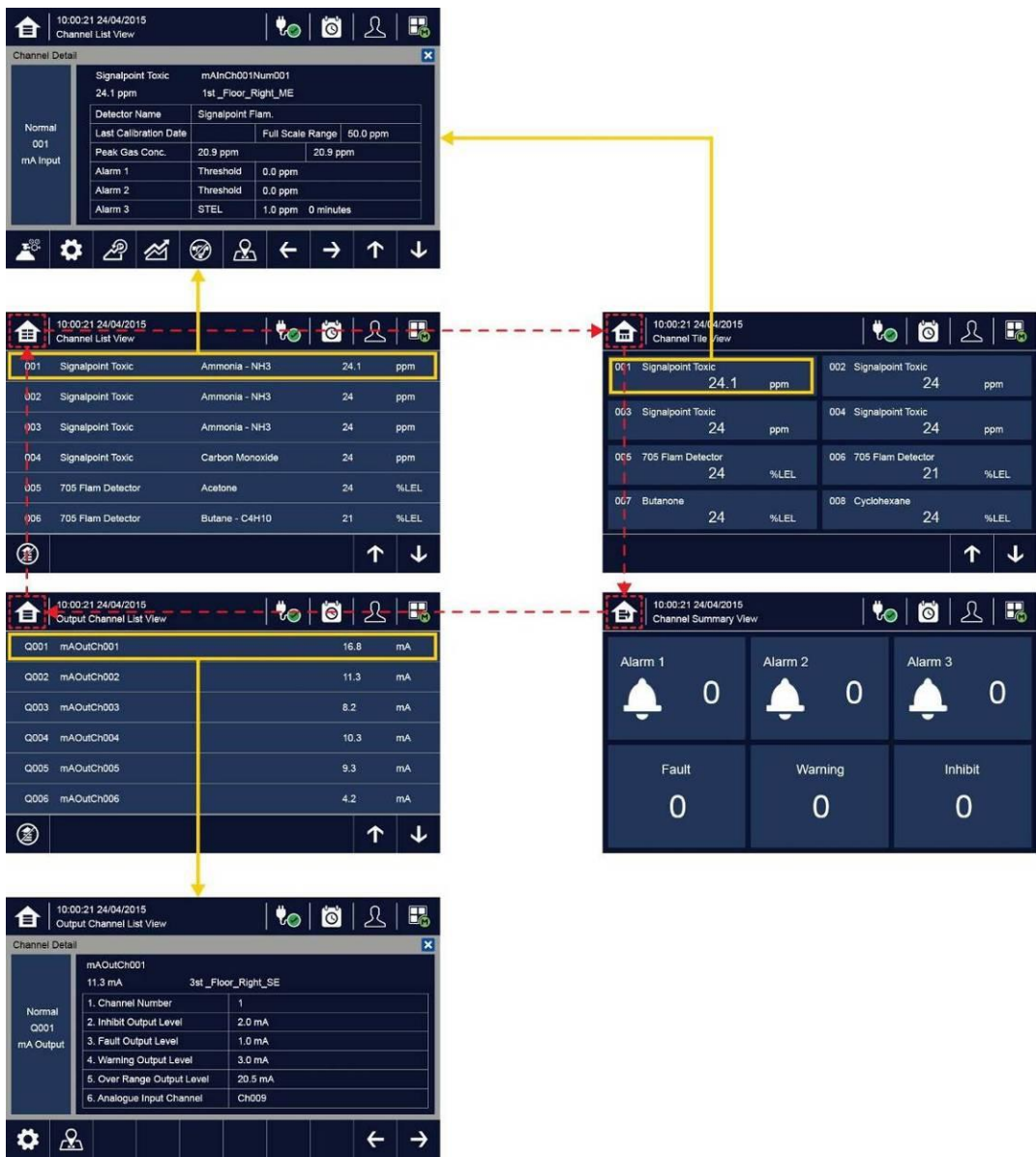
	Alarm Filter		History Information
	Fault Filter		Alarm History
	Inhibit Filter		Fault History
	Warning Filter		Inhibit History
	Filter Information		Warning History
	Filter Refresh		Toggle View

Table 8. View Control Icons

Filters only show during active events but you can use them to instantly filter multiple events for clarity.

4.7.3 Navigating the Channel Detail Screens

Touch an individual channel or item to display more details:

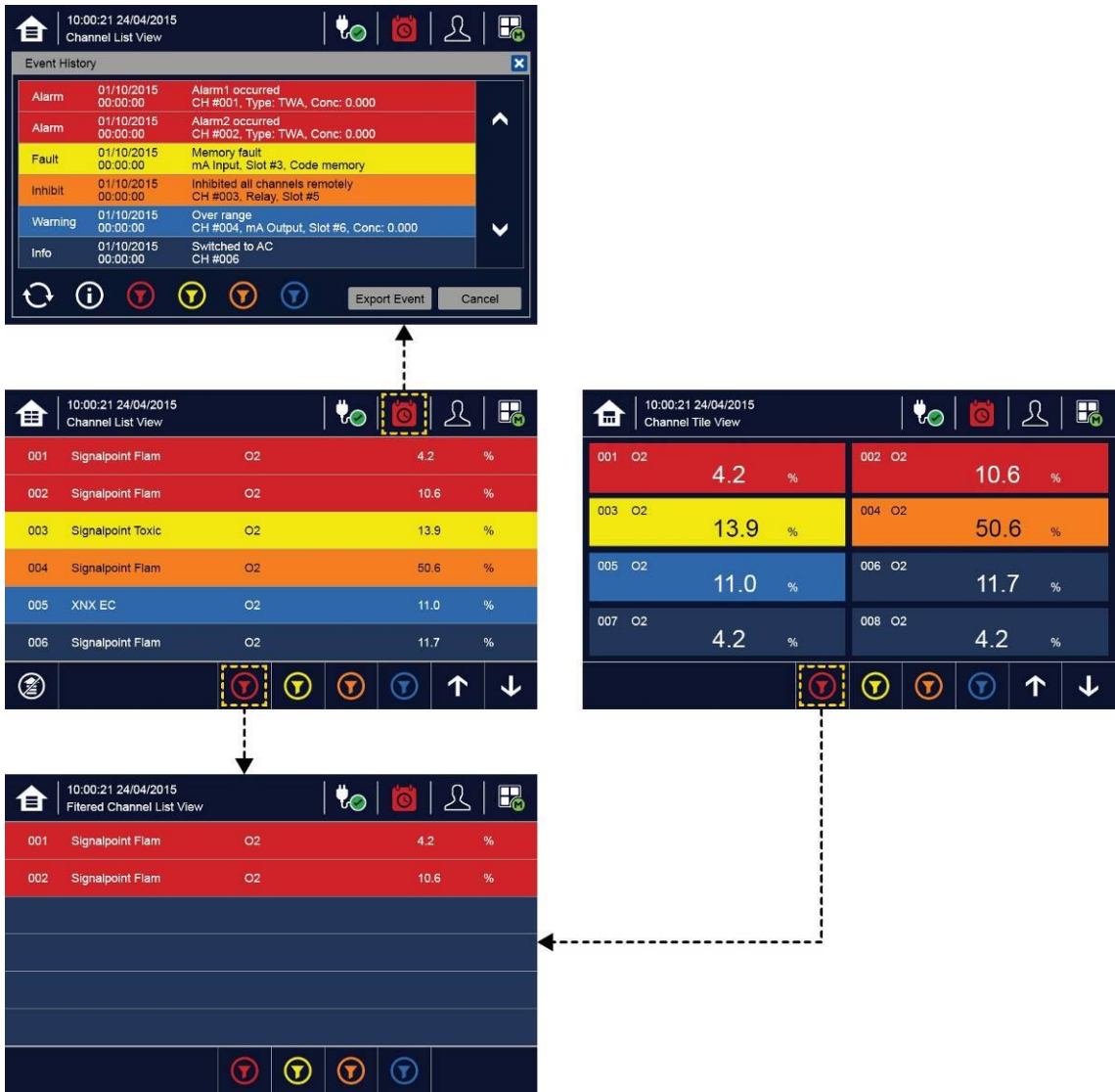


Please see Ch12. Icon Glossary for further information.

4.7.4 Navigation – Active Events and Filtering

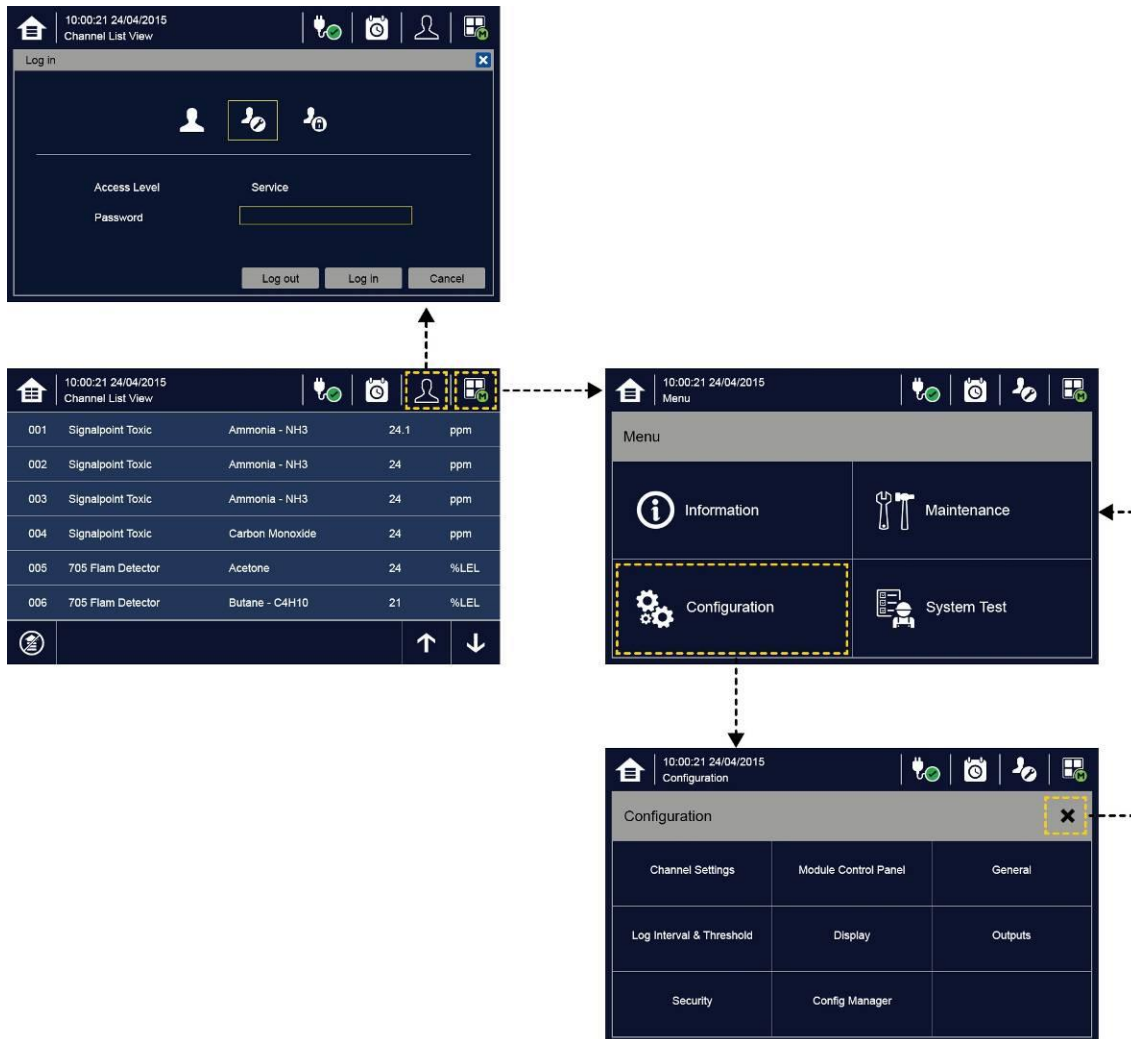
You can change the list type by touching a filter from one of the Tile views, and you can export the events to the SD card by touching **History>Export Event**

Note: In event view display, events are displayed in an order of priority: Alarm > Fault > Inhibit > Warning



4.7.5 Navigation – Menu

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



Note: The system will log out after a defined period of inactivity.
 (The default password authentication timeout is 15 (15 – 100) minutes and the Menu Timeout is 90 (5 – 100) seconds, but these can be changed in Configuration>General>Timeout if required.)

4.8 Responding to Alarms

4.8.1 View Active Alarms

Active alarms can be viewed:

- 1) At the Input screen, touch the red filter icon to display a list of the active Alarms, starting with the most recent event.
- 1) Unacknowledged alarms will flash; acknowledged ones will stay on.
- 2) Touch any alarm to view more information.

10:57:05 15/12/2014 Channel List				
001	XCD CAT	Flammable	0	%LEL
005	XCD EC	Oxygen - O2	21.3	%VOL
008	XNX EC	Ammonia - NH3	0	ppm



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

4.8.2 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.

4.8.3 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. TPPL 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.

4.9 Event Information

4.9.1 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).



ID	Event Type	Channel Name	Value	Unit
001	Sensepoint Toxic	Ammonia - NH3	10.0	ppm
002	Sensepoint Toxic	Ammonia - NH3	---	ppm
003	Sensepoint Toxic	Ammonia - NH3	0	ppm
004	Sensepoint Toxic	Carbon Monoxide	0	ppm
005	Sensepoint Toxic	Carbon Monoxide	0	ppm
006	Sensepoint Toxic	Carbon Monoxide	0	ppm

Channel Information																									
Normal 001 mA Input	Ammonia - NH3 10.0 ppm mAInCh001Num001 1st_Layer_Right_ME																								
19/01/2016 14:38:59	<table border="1"> <tr> <td>Detector Name</td> <td colspan="3">Sensepoint Toxic</td> </tr> <tr> <td>Last Calibration Date</td> <td></td> <td>Full Scale Range</td> <td>50.0 ppm</td> </tr> <tr> <td>Peak Gas Conc.</td> <td>0.0 ppm</td> <td colspan="2">10.0 ppm</td> </tr> <tr> <td>Alarm 1</td> <td>Threshold</td> <td colspan="2">10.0 ppm</td> </tr> <tr> <td>Alarm 2</td> <td>Threshold</td> <td colspan="2">20.0 ppm</td> </tr> <tr> <td>Alarm 3</td> <td>Threshold</td> <td colspan="2">30.0 ppm</td> </tr> </table>	Detector Name	Sensepoint Toxic			Last Calibration Date		Full Scale Range	50.0 ppm	Peak Gas Conc.	0.0 ppm	10.0 ppm		Alarm 1	Threshold	10.0 ppm		Alarm 2	Threshold	20.0 ppm		Alarm 3	Threshold	30.0 ppm	
Detector Name	Sensepoint Toxic																								
Last Calibration Date		Full Scale Range	50.0 ppm																						
Peak Gas Conc.	0.0 ppm	10.0 ppm																							
Alarm 1	Threshold	10.0 ppm																							
Alarm 2	Threshold	20.0 ppm																							
Alarm 3	Threshold	30.0 ppm																							

4.9.2 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.

4.9.3 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. TPPL 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.

4.10 Inhibiting Channels

Note: Service or higher access level is required.

4.10.1 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.

4.10.2 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.

4.10.3 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:



The screenshot shows the 'Configuration | Channel Settings' screen at page 7/7. The screen has a dark blue background with white text. At the top, there is a status bar showing a home icon, the time '15:45:07', the date '19/01/2016', and the word 'Configuration'. Below this, there are several icons representing different system components. The main area is divided into two columns of settings, each with a label and a numeric input field followed by a unit. The settings are: Lower Deadband (-2 ppm), Upper Deadband (2 ppm), Min. Inhibit Signal (1.8 mA), Max. Inhibit Signal (2.2 mA), Min. Fault Signal (0.0 mA), Max. Fault Signal (1.1 mA), Min. Warning Signal (0.0 mA), Max. Warning Signal (0.0 mA), Gas Over Range (100 ppm), Gas Under Range (-7 ppm), and Inhibit Timeout (10 minutes). At the bottom, there are three buttons: 'Prev', 'Finish', and 'Cancel'.

Setting	Value	Unit
Lower Deadband	-2	ppm
Upper Deadband	2	ppm
Min. Inhibit Signal	1.8	mA
Max. Inhibit Signal	2.2	mA
Min. Fault Signal	0.0	mA
Max. Fault Signal	1.1	mA
Min. Warning Signal	0.0	mA
Max. Warning Signal	0.0	mA
Gas Over Range	100	ppm
Gas Under Range	-7	ppm
Inhibit Timeout	10	minutes

- 4) Touch the chosen value, enter a new value, and touch [Finish]>[Finish]>[Apply]

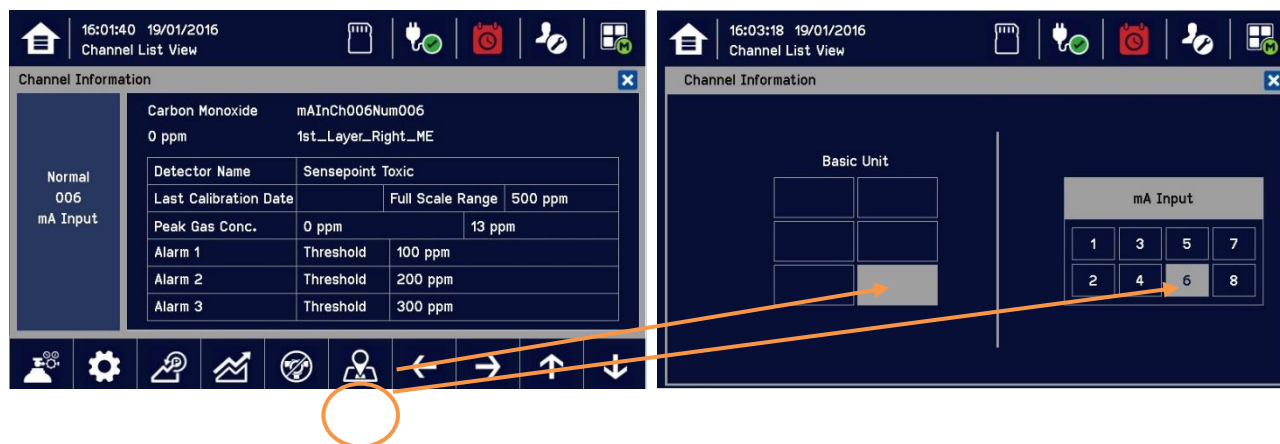
Please see *Ch12. Icon Glossary* for further information.

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.

4.11 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 (see *Ch.12 Icon Glossary* 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.

4.12 Viewing Output Channels

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

- 1) From the **Input** screen, select **Channel List** or **Channel Tile**.
- 2) A list of all output channels is shown in order of channel ID. The channel ID, location tag and status are shown.
- 3) The list can be filtered by status – **Fault**, **Inhibit**, **Warning** or **All**.
- 4) Touch a channel and the **Channel** detail screen will appear. Depending on access level, a number of options will be shown:

Function	Icon	Access Level	Comment
Channel configuration		Service	Change the output channel configurations: Inhibit, Fault, Warning, and Over-range output level
Linked input Channel Nr.		Viewer	Display an output channel number that is mapped to the terminal number

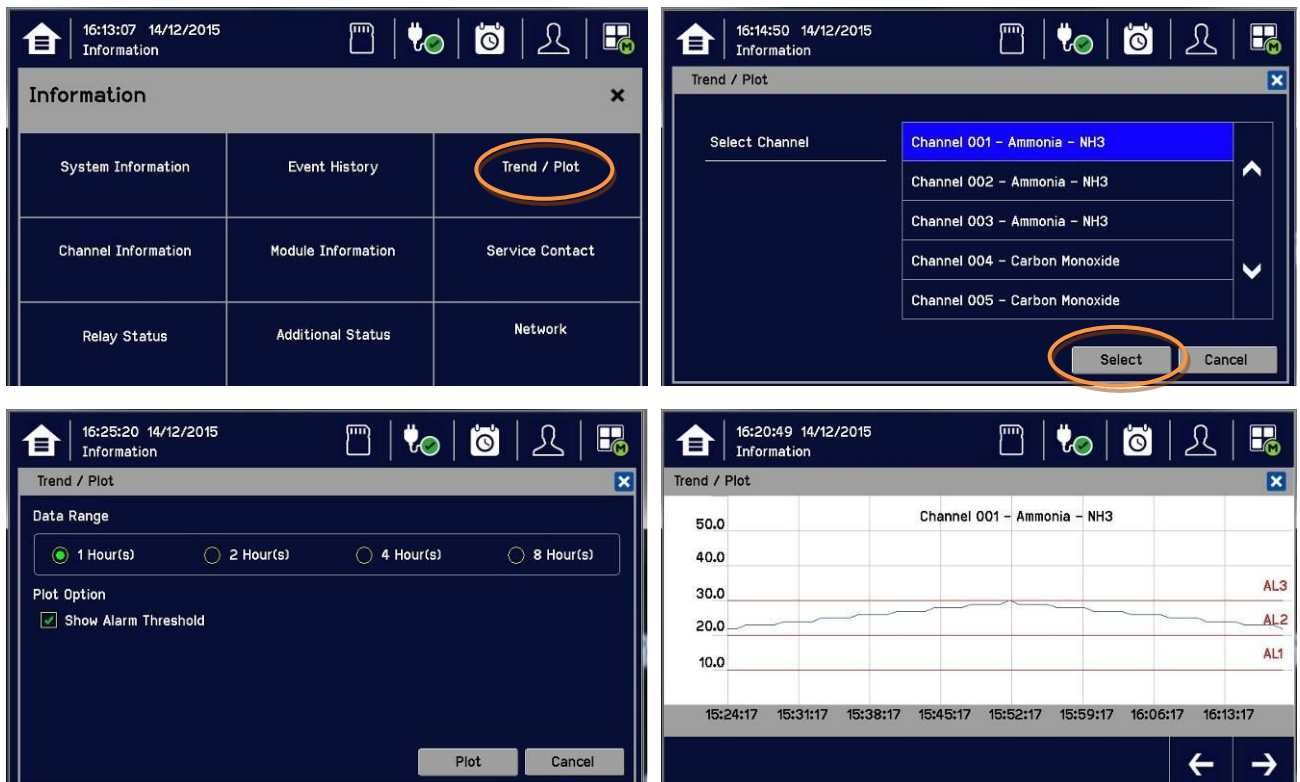


4.1.3 Viewing the Trend Graph

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 Touchpoint Plus Trend / Plot will retain up to the latest 8 hours of data but will be cleared after a power reset.

Note: Touchpoint Plus 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).

4.14 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.

4.14.1 To View the Event History

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

Note: Touchpoint Plus 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.

4.14.2 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 Touchpoint Plus generated reports.

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

4.15 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 see the back page for details of how to access technical support.

4.16 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.

4.17 Monitoring TPPL via the Optional Web Interface

You can view the TPPL status via an optional Web interface but you cannot currently control it remotely (due late 2016).

CAUTION

Windows XP has known security issues and therefore must not be used with TPPL.

WARNING

The data from Touchpoint Plus web interface should not be used for safety relevant purposes

The following browsers are currently supported:

- Chrome
- IE10, IE11
- IE8, IE9 (Trend / Plot is not available)
- Safari
- Other browsers may work but their performance may vary.

Note: Please contact Honeywell Support (back page) if a browser security update causes performance issues.

4.17.1 Web Interface Configuration

The Web Interface supports two concurrent web clients but this does not prevent further users from accessing it, although multiple users will degrade performance across all connected clients.

The TPPL Default IP address is **192.168.0.100**, but this may have to be changed if you experience network conflicts or are monitoring multiple TPPL systems. Please contact your Service Contact if you need help to do this.

The Web Interface shows the current TPPL status as follows:

- **Channel List View** – shows up to six inputs and events with automatic scrolling
- **Channel Summary View** – shows total counts for alarm 1, alarm 2, alarm 3, fault, warning and inhibits
- **Channel Output View** – shows up to eight outputs and events

Key to examples below:

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

You can select how you monitor TPPL via the Web Interface menus (currently view only) by selecting from the menu:

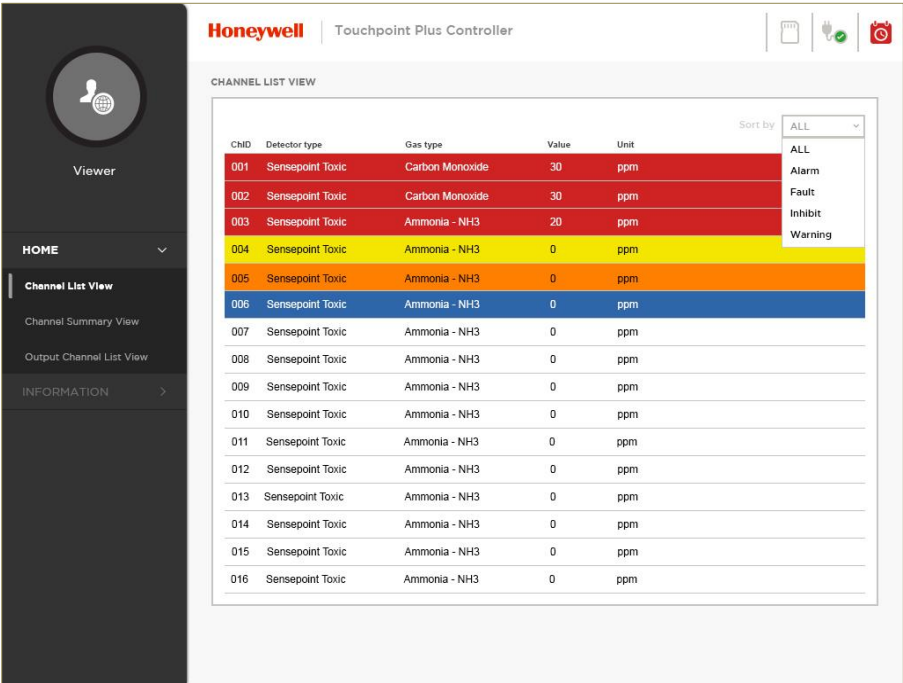


Figure 14.Web Interface Channel List View

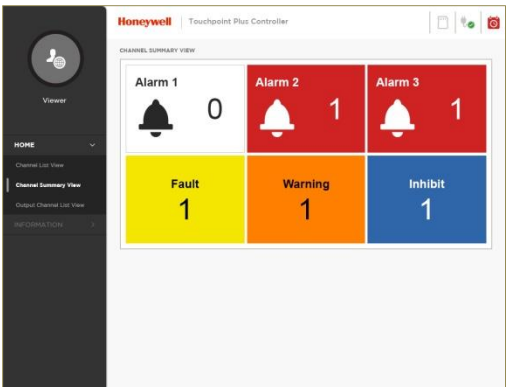


Figure 15.Web Interface Channel Summary View

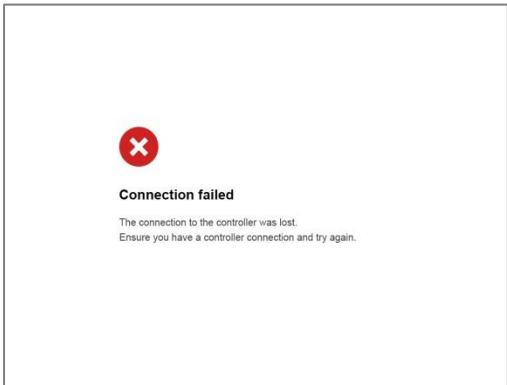


Figure 16.Web Interface Connection Failed Dialog

4.17.2 Web Interface Navigation

The Web Interface menu allows you to see and monitor the following information:

- System Information
- Event History
- Trend / Plot (not IE8 or IE9)
- Channel Information
- Module Information
- Service Contact
- Relay Status
- Additional Status
- System Configuration

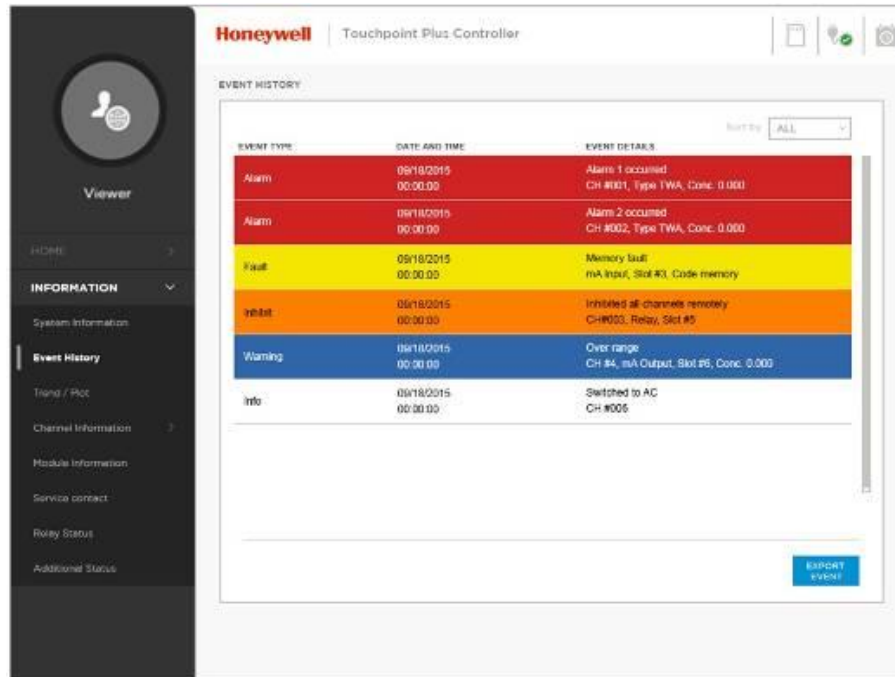


Figure 17. Web Interface Information Menu Showing Event History

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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 TPPL 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 TPPL 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 TPPL power is switched off, isolated and allowed to dissipate before opening the enclosure. This includes external mains voltages routed through TPPL 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.

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Chapter 6. Routine 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. Please 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* and other related warnings and cautions before carrying out any work on the system.

WARNING

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

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 shall be regularly gas calibrated at the interval specified in sensor's user manual.
LCD

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 Touchpoint Plus Controller with a soft damp cloth or use PC Screen cleaner.
- Check for dust contamination.
- Periodically exercise the outputs (see *the following chapters*) to confirm their functionality (see *Caution* above).
- Audio/Visual Alarms shall be checked weekly basis (refer to Ch.6.2.1).

CAUTION

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

6.2 Routine Testing

It is normal practice to sound the site alarms weekly, both to check they work and to accustom personnel to the sound they make.

As it involves isolating / inhibiting emergency systems during testing, it might be more prudent to test the TPPL relays and mA outputs only on a planned monthly basis.

Always have alternative safety arrangements in place and alert your personnel before and during testing.

6.2.1 Exercising the Audio/Visual Alarms

Audio/visual alarms can be tested by switching the Dedicated Alarms **On**. To do this:

- 1) Ensure that relay activated output systems (i.e. emergency deluge / sirens etc.) are isolated before starting the test.
- 2) Login as an Administrator or Service.
- 3) Touch **Menu>System Test >Dedicated Alarm Contacts**.
- 4) Touch the appropriate Alarm to toggle it on for each output (see below).



- 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.

6.2.2 Exercising the Relays

WARNING

If the relays are switching mains voltages, hazardous live terminals may be present. Ensure that all mains current is isolated and dissipated before touching live terminals.

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

- 1) Ensure that relay activated output systems (i.e. emergency deluge / sirens etc.) are isolated before starting the test.
- 2) Login as an Administrator or Service.
- 3) Touch **Menu>System Test>Force Relay**.
- 4) Touch the active (yellow) Relay Output Channels to be tested, and toggle them on.

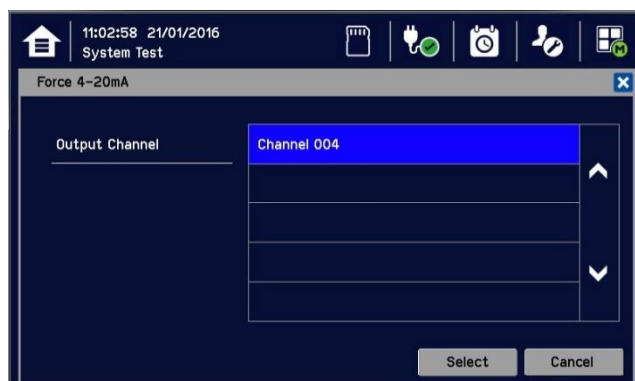
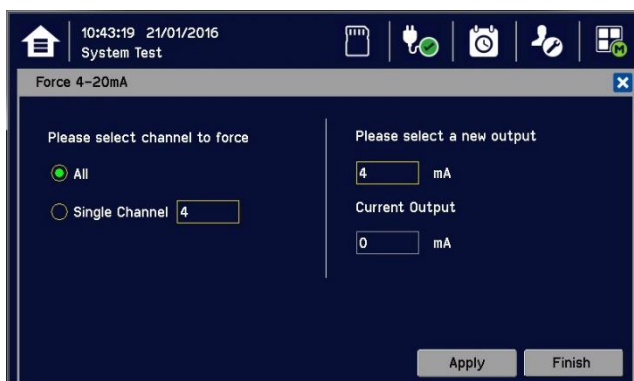


- 5) Check the selected relay output contact power switching using a suitable test tool or voltmeter.
- 6) Touch **[Finish]>[Cancel]** and all selections will turn off.
- 7) Proceed to the next step.

6.2.3 Checking the mA Outputs

Milliamp (mA) output channels can be tested by forcing the mA output:

- 1) Ensure that relay activated output systems (i.e. emergency deluge / sirens etc.) are isolated before starting the test.
- 2) Login as an Administrator or Service.
- 3) Touch **Menu>System Test>Force 4-20mA**.
- 4) Touch the **All** radio button and check the mA output value; touch the mA box to change it. For single channels touch the **Single Channel** number box and then scroll through the list and touch the required channel followed by **[Select]**.



- 5) Touch [Apply].
- 6) Check the appropriate mA output levels using a suitable ammeter.
- 7) Repeat steps 4 to 6 for all mA output channels.
- 8) Touch [Finish] when the tests are completed.

CAUTION

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

6.2.4 Calibrating mV Input Channels

Catalytic sensors should be calibrated periodically according to the manufacturer's recommendations. This should be a two-person job to avoid the controller timing out and losing the settings.

Note: To enable a calibration interval for the channel, edit the interval setting before starting calibration (see *the TPPL Technical Handbook* or call your Service Contact).

You should select **First Span** only when calibrating a new or replacement sensor for the first time. You then adjust the mV Baseline, and then you should use **Span** for all calibrations thereafter (see *Note* below).

Note: Adjustment of the Baseline is only required when a mV channel is configured for the first time or when a catalytic bead element is replaced. Once the Baseline is established it should not be adjusted for second or subsequent gas calibrations, i.e. until the next catalytic bead replacement.

CAUTION

For greater accuracy, catalytic gas detectors should be calibrated using a certified gas/air mixture equal to 50 %LEL of the actual target gas being monitored. Always refer to the sensor technical manual for detailed information.

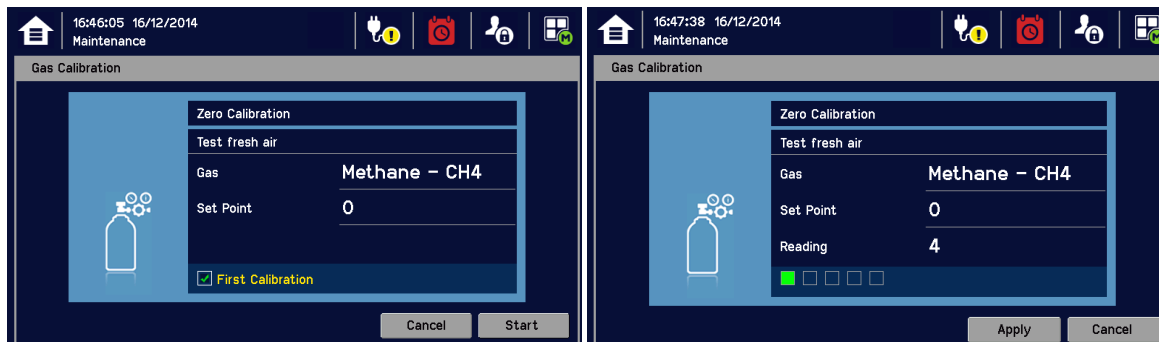
If you cannot obtain an exact or certified span gas match you can carry out a 'cross-calibration' using a similar hydrocarbon / air mix. Always follow the sensor manufacturer's data sheet when cross-calibrating

To Calibrate a mV Input Channel:

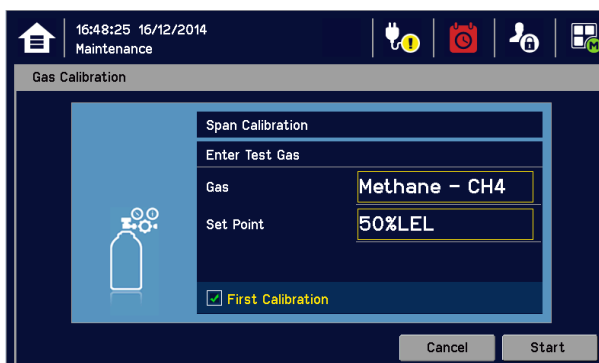
- 1) Install or replace catalytic bead sensor elements according to their technical manual.
- 2) Login as **Administrator** or **Service**.
- 3) Touch **Menu>Maintenance>Adjust mV Baseline** and select a mV input channel.
- 4) Touch **Menu>Maintenance>Gas Calibration**. Touch the channel to be calibrated, followed by [Select]:



- 5) Select **Zero Calibration**, check or uncheck **First Calibration**, touch **[Start]** and apply clean air to the sensor:



- 6) View the reading until it is stable, and then touch **[Apply]**.
 7) Confirm that the gas reading is stable, and touch **[Next]**.
 8) Enter the concentration of the span gas and touch **[Start]**:



- 9) When ready touch **[Start]** and apply gas to the sensor.
 10) View the reading until it is stable, and then touch **[Apply]**. This may take 3 – 5 minutes, depending on the gas type.
 11) Confirm that the gas reading is correct.
 12) Remove the span gas from the sensor, and confirm that the gas reading has returned to zero.

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 TPPL 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.

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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 TPPL 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 only with Honeywell Analytics part no. **TPPLSIBB** and the PCB CMOS battery only with battery type **CR2032**.

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

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

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 TPPL power supplies.
- Visually inspect the Touchpoint Plus 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.

7.1.2 How to Replace the Backup Battery

DANGER

Touchpoint Plus shall not be operated with the access door unsecured when in Normal mode.

Failing to secure it properly will risk fire, explosion or electric shock, and will invalidate Regulatory Approval.

The battery pack goes into sleep mode when it is disconnected or switched off. Connecting the battery pack to a power source switches it to active mode and it will function normally after a short booster charge.

To replace the battery pack:

- 1) Ensure that the environment is safe and the atmosphere is below flammable levels.
- 2) Switch TPPL off and isolate its power supplies.
- 3) Unscrew the two locking handle security screws and open the enclosure.
- 4) Switch the backup battery On/Off switch to **Off** (Fig. 50) to protect the PCB from arcing/spiking when disconnecting / reconnecting

- 5) Disconnect the battery connector from the PCB.
- 6) Replace the battery pack with Honeywell Analytics Part No. **TPPLSIBB**.
- 7) Reconnect the battery connector to the PCB.
- 8) Switch the backup battery On/Off switch back to **On**.
- 9) Close the enclosure door and secure the handle with the two security screws.
- 10) Switch power on and restore TPPL to normal operation.
- 11) Touch the power icon to check battery power levels.



Figure 18. 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* and other related warnings and cautions 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 *Ch.9. Fault Codes*. Note the fault numbers / messages and check them in *Ch. 9* before power-cycling the TPPL as they may be spurious / unreproducible following a system reboot.

Contact Honeywell Analytics Technical Support if an error appears repeatedly, if it cannot be cleared, or if it is not listed in *Ch.9. Fault Codes*.

8.1 Calling for Technical Support.

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

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

- Your Company contact details and a contact name and department
- The system model type, i.e. Touchpoint Plus, and its Serial Number and Part Number. These can be found on the system identification label or under the **System Information** menu option.
- The software version found under the **System Information** menu option.
- Error messages and code numbers that were shown on the display screen.
- Details of the difficulty that you are experiencing.
- Status of the system (Inoperative, partially operative, still functioning etc.)

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

Chapter 9. Fault Codes

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

Chapter 10. Technical Specifications

10.1 Environmental

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

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

10.2 User Interface and Main Module

LCD Touch Screen Type	7" TFT Colour LCD with LED Backlight (resistive touch screen) 800 x 480 pixels (WVGA) Resolution Active area 155.08 mm (H) x 86.92 mm (V)
Front Display	Green Power LED
	Red Alarm LED
	Yellow Fault/inhibit LED
	Alarm Mute /Reset Push Button
	Alarm Buzzer (Sound Level: 70 dB at 1 m)
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 V_s (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

10.3 External Power Supplies

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

10.4 Backup Battery

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

10.5 Wall Mount Enclosure

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

Chapter 11. Certifications

11.1 EC Declaration of Conformity

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

WARNING

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

AVERTISSEMENT

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

WARNING

CSA performance is only valid when TPPL is connected to Honeywell Model MPD or 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 MPD ou 705, ou à des détecteurs de gaz 4 – 20 mA dûment approuvés.

11.2 National and International Certificates of Compliance

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

Title	Standards	Certificates
Hazardous Locations (Non-Incendive)	Class 1, Division 2, Groups A,B,C,D, Temp. Code T4 ISA 12.12.01-2013 CSA C22.2 No. 213-M1987	UL File E480011
Ordinary Locations / Electrical Safety	UL/IEC/EN 61010-1, UL 508 CSA C22.2 No.61010-1/No.142	UL File E466771 and E480011 UL File E470577
Ingression protection	IP65 and NEMA 4X	—
EMC/RFI	EMC Directive (EN 50270:2015)	—
Battery Pack	UN 38.3 (IEC 62133), UL 2054, UL 60950-1 CSA C22.2 No.60950-1-07	UL File MH60522
Performance	ISA 12.13.01 and CSA C22.2 No.152	UL File E466771 and E480011
	EN 60079-29-1, EN 50103, EN 45544-1/3 and EN 50271	BVS 17 ATEX G 001 X, PFG 17 G 002 X
Safety Integrity	Designed to meet IEC/EN61508:2010 and SIL2 certification	FS/71/220/17/0178
Marine Approval	MED	—

Copies of the certificates are available on request.

Note 1: OEMs are responsible for ensuring that their systems are certified in accordance with these tables and any 3rd-party requirements.

WARNING

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

AVERTISSEMENT

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

Chapter 12. Icon Glossary

#	Icon	Description	#	Icon	Description
1		Summary View Alarm	28		Trend Graph
2		Summary View Normal	29		Processing Ok
3		Summary View	30		Processing Failed
4		List View	31		Cancel
5		Tile View	32		Scroll Start
6		Output View	33		Scroll Stop
7		Information Menu	34		List Up
8		Event History Information	35		List Down
9		Event History Alarm	36		Move Up
10		Event History Fault	37		Move Down
11		Event History Inhibit	38		Move Left
12		Event History Warning	39		Move Right
13		No One Logged In	40		Maintenance Menu
14		Operator Logged In	41		System Setting Menu
15		Service Logged In	42		Configuration Menu
16		Administrator Logged In	43		Configuration
17		Menu Select	44		Calibration
18		Mains Power On	45		Inhibit
19		Mains Off, Batteries On	46		Channel Location
20		SD Card Good	47		Base Line Adjust
21		SD Card Not Good	48		Peak Reset
22		Alarm Filter	49		Trend
23		Fault Filter	50		Alarm Pop Up
24		Inhibit Filter	51		Error Pop Up
25		Warning Filter	52		Fault Pop Up
26		Filter Information	53		Inhibit Pop Up
27		Filter Refresh	54		Warning Pop Up
55		Battery Warning	58		Gas Calibration
56		Battery Critical			

Icon Glossary

#	Icon	Description	#	Icon	Description
57		Power Off			

Chapter 13. List of Figures

Figure 1.	Quick Start Guide Label (Not to Scale)	8
Figure 2.	Rating Label (External – Not Shown Below)	8
Figure 3.	Protective Earth (Ground) Point	8
Figure 4.	Equipment Earth (Ground) Point	8
Figure 5.	Internal Label Positions	8
Figure 6.	Touchpoint Plus Wall-Mounted Controller	13
Figure 7.	Typical Installation Options	13
Figure 8.	TPPL Controller Exploded View	14
Figure 9.	Undoing the Two Security Screws and Opening the Enclosure	15
Figure 10.	Controller Unit Layout Before Installation	18
Figure 11.	Expansion Unit Layout Before Installation	19
Figure 12.	Backplane DIP Switch Settings	19
Figure 13.	Touchpoint Plus Controller User Interface	21
Figure 14.	Web Interface Channel List View	42
Figure 15.	Web Interface Channel Summary View	42
Figure 16.	Web Interface Connection Failed Dialog	42
Figure 17.	Web Interface Information Menu Showing Event History	43
Figure 18.	Battery On/Off Switch and Battery Connector	54

Chapter 14. List of Tables

Table 1.	Power Supply (SMPS RS–150–24) Electrical Ratings	16
Table 2.	Maximum Power Consumption Calculations	16
Table 3.	System Weights	17
Table 4.	System Dimensions	17
Table 5.	Home Screen Menu Icons	22
Table 6.	User / Component Matrix	25
Table 7.	Home Screen Icons	27
Table 8.	View Control Icons	29

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