Honeywell | Gas Detection





Touchpoint Pro

Flexible Gas Control System

THE IDEAL SAFETY SYSTEM

Honeywell's Touchpoint Pro makes gas control system design, installation, configuration and operation simple. Touchpoint Pro uses a 'building block' approach, providing unrivalled flexibility.

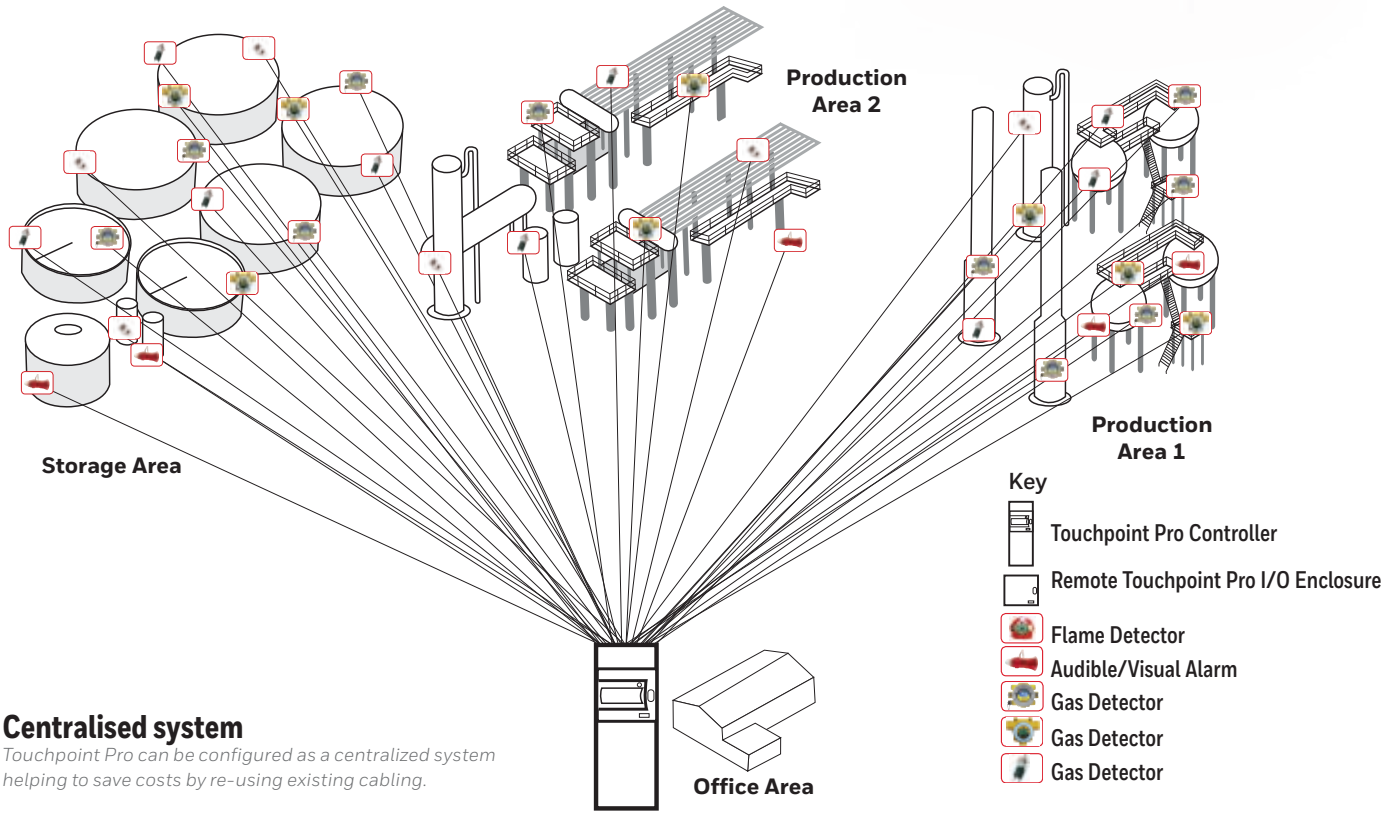
ANY SYSTEM CAN BE BUILT FROM JUST FOUR MAIN BUILDING BLOCKS:

- Central controller with color LCD touch screen user interface
- Plug-in Input/Output (I/O) modules
- Backplane power and communications highway
- Plug-in power supplies

These basic components can be mounted in cabinets or racks (or a combination) and the I/O modules freely mixed and matched in any combination. From small-scale systems to large, fully integrated gas and shutdown systems, Touchpoint Pro has the flexibility to meet all gas control requirements.

The building block approach employed by Touchpoint Pro delivers real value by being able to adapt to each unique system requirement.





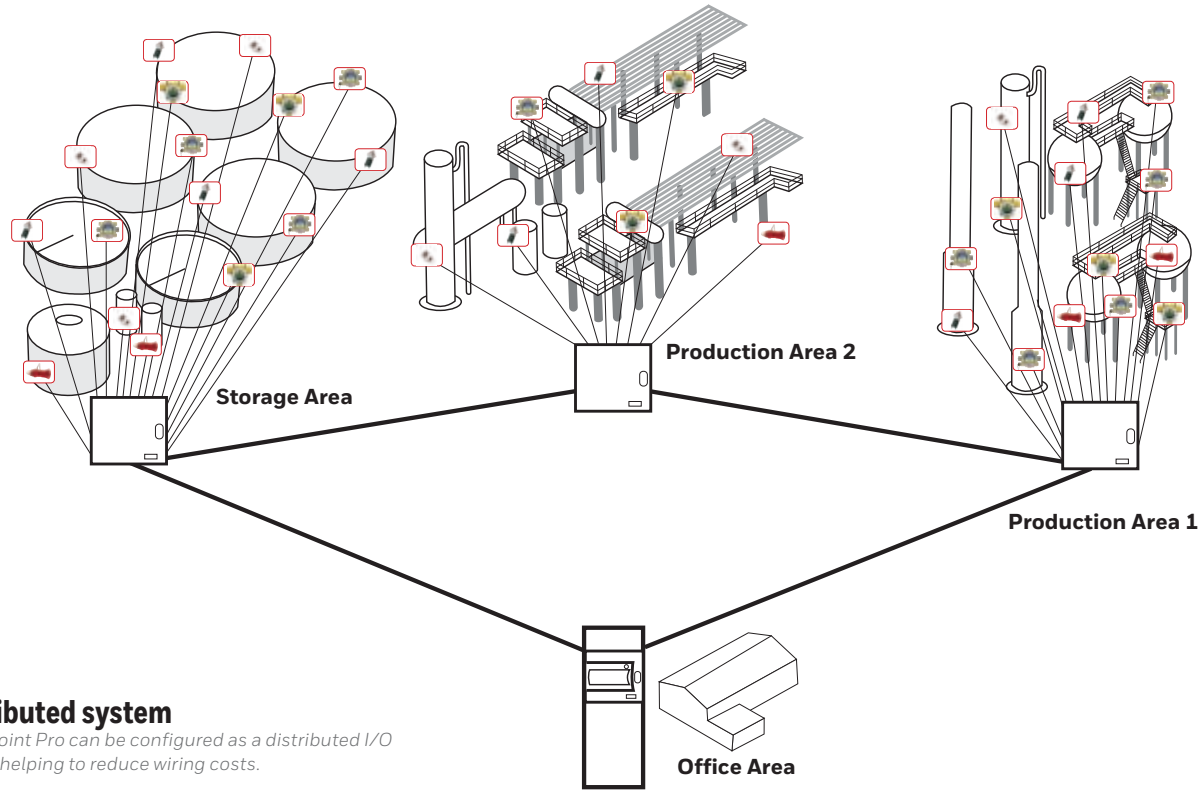
Centralised system

Touchpoint Pro can be configured as a centralized system helping to save costs by re-using existing cabling.

New Site Installations	Existing Site Upgrades and Expansions	Integrators and Engineering Houses
Remote I/O modules can deliver large savings in cabling costs when compared with the traditional 'home run' cabling approach of a centralized system.	The cost of upgrading or expanding an existing system is reduced by the ability to use existing field device cabling.	The building block approach allows easy modification of gas I/O as the client's requirements change, without reprogramming or redesign.

Touchpoint Pro is the most flexible and versatile gas and logic control system on the market	Using Touchpoint Pro means getting more value for your money	Touchpoint Pro provides 100% operational availability
Modular design - Ability to build any system - centralised, distributed or a mix of both - Meets the needs of new build, upgrade and Engineering House applications - Allows ease of expansion	Latest innovative technology - Remote I/O modules - Touch Screen User Interface - Web Server - Redundancy - "Self Healing Network" Complying with the latest legislations and regulations - Makes daily work safe, reduces operation costs and makes your budget go further	- Ring Network and redundant components ensure that the system is always up and running - No shutdowns, no downtime costs
Touchpoint Pro is a truly new system and not a remake of an existing system		

Touchpoint Pro features a modular, building block approach providing a flexible safety system platform that adapts easily. Ease of use and intuitive configuration ensures that installation, set-up and ongoing maintenance costs are reduced, providing a 'no compromise' solution designed to reduce the cost of on-site safety.



Distributed system

Touchpoint Pro can be configured as a distributed I/O system helping to reduce wiring costs.

WHY CHOOSE TOUCHPOINT PRO?

Best Practice
SIL 2: The perfect solution for small/medium plants looking to optimize uptime and reduce risk.
The higher the Safety Integrity Level (SIL), the more expensive a solution is likely to be. This means that the selection of the right SIL level is very important. The majority of small and medium sites benefit the most from a SIL 2 rated safety system, as it offers enhanced safety over SIL 1 and a considerable cost advantage over SIL 3, which is more suited to a site where more complex or hazardous processes are taking place.
An independently verified SIL 2 solution: From conception to manufacture Touchpoint Pro has been designed to comply with the requirements of SIL 2. This means that the safety system can offer additional peace of mind to users by demonstrating that Honeywell's engineering processes, manufacture and component build have also been tested, as well as the actual components' electrical, firmware and logic elements.

FLEXIBILITY

Touchpoint Pro has been designed to deliver flexibility, allowing the system to be freely configured to meet customers' varying needs.

As a global leader in life safety products and services, Honeywell is at the forefront of safety system technology. The new Touchpoint Pro controller illustrates our expertise in providing a fully independent safety system that has the capability to be integrated into a larger site safety system.

Touchpoint Pro accepts inputs from a wide range of flammable and toxic gas detectors

Touchpoint Pro is compatible with most third party flame detectors, gas detectors and manual call points

Touchpoint Pro's modularity means that any system topology can be built, including centralized, distributed I/Os, or a mix of both. This makes Touchpoint Pro capable of meeting the needs of new build, upgrade and engineering house applications

Touchpoint Pro provides an independent "all-in-one" safety system to meet the needs of small/medium sized plants

Touchpoint Pro's modularity also makes the system easy to expand, with the ability to add new I/Os as required, delivering a future-proof solution that meets changing site needs for years to come

The easy plug-in I/O modules and power supply units, mounted on a communication and power rail assembly, allow highly flexible configuration, expansion and modification

Touchpoint Pro offers a comprehensive range of outputs including relays, digital outputs and industry standard protocols like Modbus®



SAVINGS

Touchpoint Pro's flexible configuration, installation, set-up and ongoing use can offer large savings compared to other control systems. In fact, Touchpoint Pro can potentially reduce the total cost per channel by as much as 50%* compared with conventional control systems.



*All savings calculations are based on our experience in industrial gas detection applications. Actual savings may be greater or less dependent on specific individual applications.

COMMUNICATIONS POWER INPUT/OUTPUT USER INTERFACE

COMPONENT OVERVIEW

Central Controller with User Interface

The heart of the Touchpoint Pro is the central controller, which includes the user interface.

The user interface features a full color LCD touch screen, and provides engineers with an intuitive solution to system set-up and deployment. Easily accessible icons, supported by drop-down menus ensure that even the most complex of system configurations can be commissioned with efficiency.

Aside from ease of use, Touchpoint Pro's user interface also includes some valuable aspects that help engineers save time, whilst setting up and commissioning a system.

- Easily accessible system status that can be seen at a glance
- Intuitive infrastructure that features Forward/Backward/Reject functionality for simplified navigation and use
- Selectable pre-loaded field device settings, allowing the automatic population of default data
- Flexibility to inhibit parts of the system easily, helping to permit simplified and cost-effective ongoing maintenance

SENSOR CATALOG

The central controller is loaded with a sensor catalog, which contains a complete listing of all Honeywell Analytics' gas sensors, each with a full default configuration setting.

A user can choose to configure input channel settings from the sensor catalog, resulting in a three step configuration process – select channel ID, program channel tags and select sensor and gas. The rest of the configuration will be loaded automatically. The full configuration can be viewed afterwards, and individual parameters changed if desired.





ADDITIONAL USER INTERFACES

In addition to the touch screen user interface,
the central controller has a number of connectivity options:

PC CONNECTIONS

For configuration of large systems, users may prefer to use a PC rather than the touch screen, for comfort and efficiency. A PC can be connected via Ethernet, and optional PC Configuration Software is available which combines many of the configuration screens, reducing configuration time.

WEB SERVER

The central controller has a Web Server interface, which can be accessed when Touchpoint Pro is connected to a network. Normal operations and interactions are available, for example view status and event history, and acknowledge, reset or inhibit channels. Exceptions are critical safety functions such as configuration or calibration. This offers the possibility of system monitoring and data analysis from a remote location.

ADDITIONAL USER INTERFACES

REDUNDANCY

The central controller is critical to the function of the Touchpoint Pro system, therefore to maximize system availability, a Redundant Control Center Board (CCB) option is available. The Redundant CCB monitors the Master CCB and if any fault or communication failure occurs, the system immediately switches to the Redundant CCB.

MODBUS® INTERFACE BOARD

Touchpoint Pro can be supplied with an optional Modbus® RTU output. In this case a Bus Interface Board containing a dual redundant RS485 interface is added to the central controller.







COMPONENT OVERVIEW

Input / Output Module

The Touchpoint Pro Input/Output modules can be combined up to a maximum of 16 input modules (64 channels) and 32 output modules (128 channels). Modules can be located in any Touchpoint Pro enclosure. Power distribution is via the Communication/Power Rail.

- Analog Input Module 4-20 mA
- Analogue Input Module mV-Bridge
- Digital Input Module
- Relay Output Module



COMMUNICATION / POWER RAIL

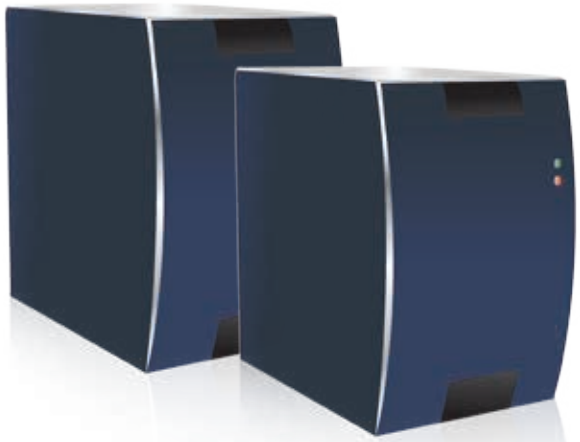
The Touchpoint Pro Communication/Power Rail provides direct power and network connection to the Input/Output modules, minimizing the wiring required. There is a single connection for the 24 Vdc supply and the network cables connect to the Ring Coupling module, which handles the communication between the modules and the central controller.



Depending on the power supply option chosen and the enclosure version, the Communication/Power Rail has space for 5, 7, 9, or 10 Input/Output modules.
The Ring Network is the communication link between all Input/Output modules in a Touchpoint Pro system and the central controller. The Ring Network is the only connection required between a local Touchpoint Pro unit (containing the central controller and user interface) and remote Touchpoint Pro units. The Ring Network is implemented for redundancy as two loops transmitting in opposite directions (Ring A and Ring B). The network is self-healing since each module only communicates with the one next to it. If a module fails, the modules after it continue to transmit data in the direction away from the failed module, while the ones before it transmit in the other direction. Thus the Touchpoint Pro system can immediately detect and locate a failed module, without affecting the availability of the rest of the system.

POWER SUPPLIES

A number of power supply options are available, including 120 W, 240 W and 480 W 24 Vdc power supply units, a redundancy module which switches to an alternative supply in the case of failure and a UPS module which charges a back-up battery to be used in the event of a mains power failure.



ENCLOSURES

Touchpoint Pro offers flexibility in how the system can be housed. The Touchpoint Pro system is comprised of four basic components – plug-in Input/ Output modules, plug-in power supplies, a backplane power and communications highway and central controller/ user interface with an LCD color touch screen.

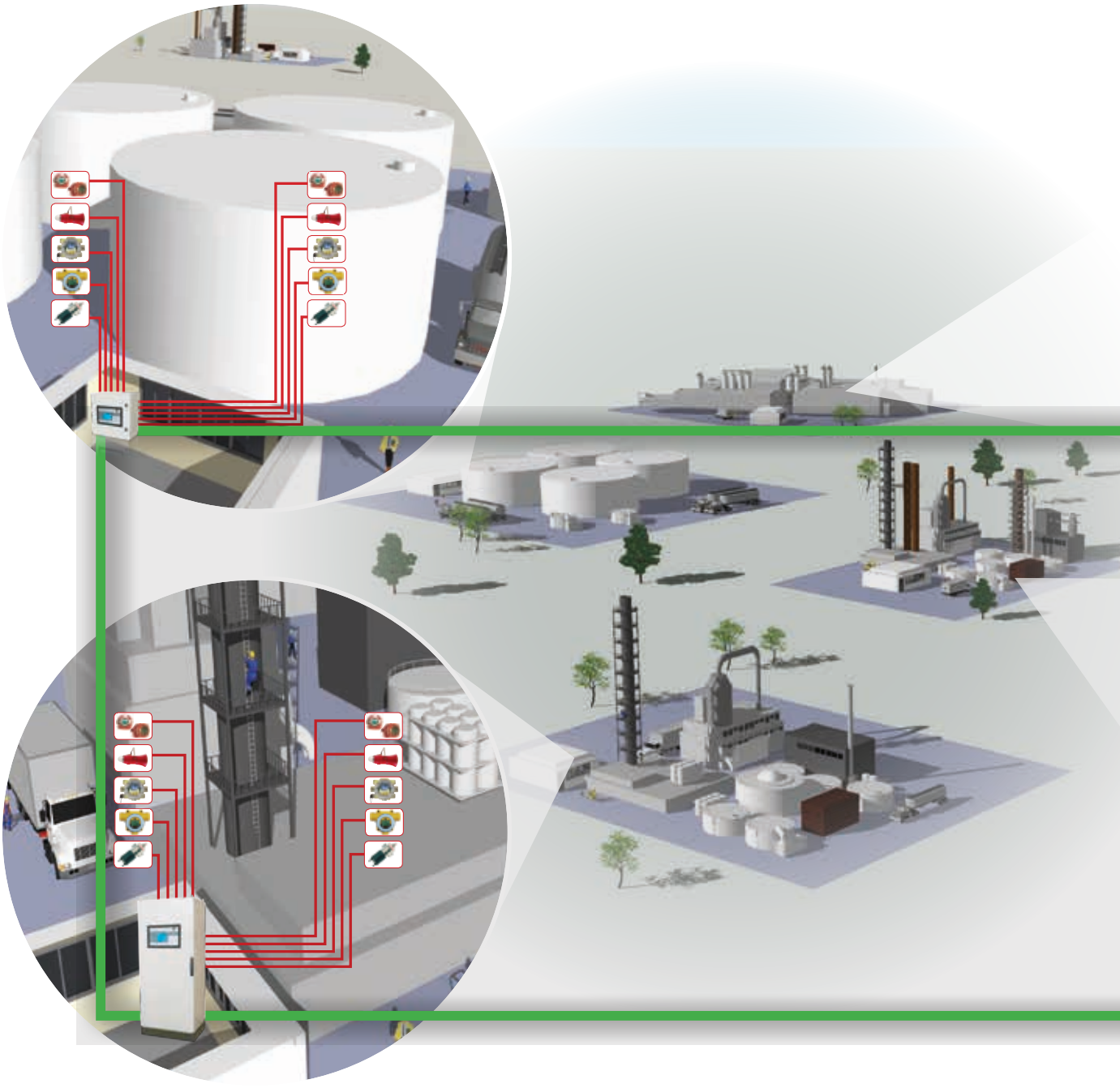
The system's modular design allows these elements to be freely mounted in a variety of configurations including cabinets and racks, delivering the freedom to create a system topology that meets specific needs.



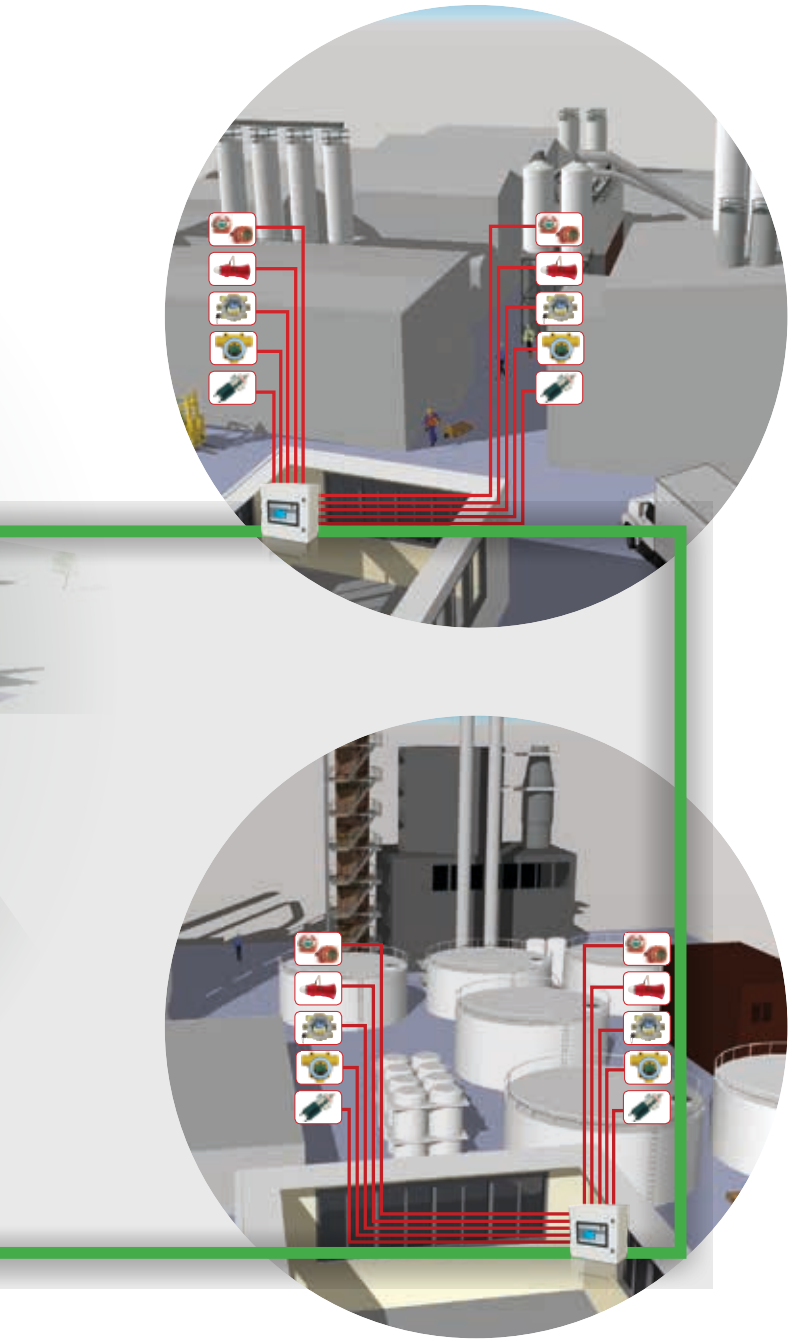
COMMUNICATIONS POWER INPUT/OUTPUT USER INTERFACE

SYSTEM EXAMPLES

Please see the illustrations for top level examples of a centralized and distributed system topology. Touchpoint Pro is so flexible it permits almost any type of system configuration.



DISTRIBUTED SYSTEMS



- Save the cost of re-cabling
- Latest, easy to use touch screen control
- Upgrade of controller to the latest standards in an existing panel or cabinet
- Simple to expand or modify as site needs changeover time
- Less cable required, reducing the cost of cable and associated installation
- State-of-the-art control system compliant with all the latest standards

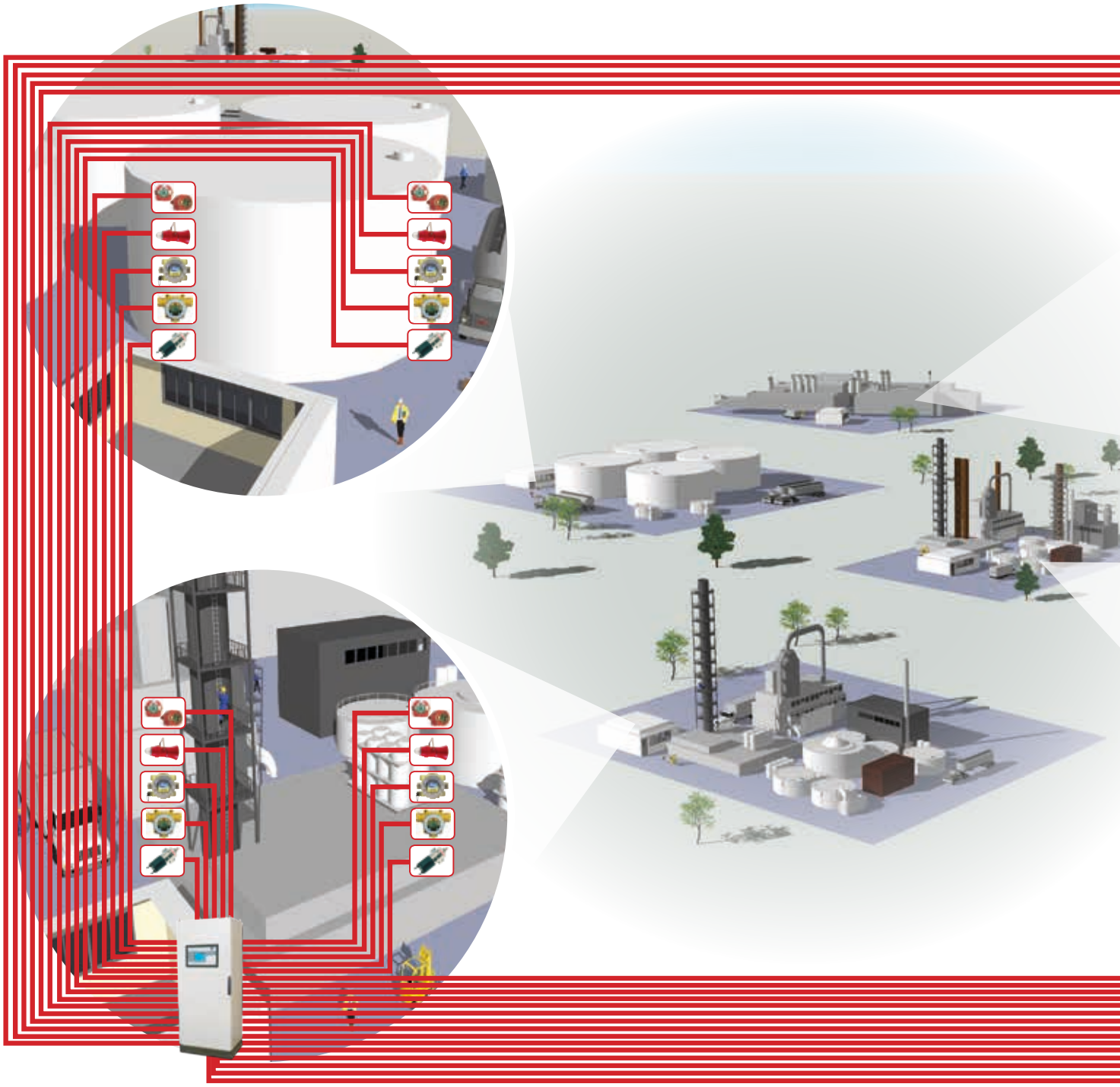
KEY

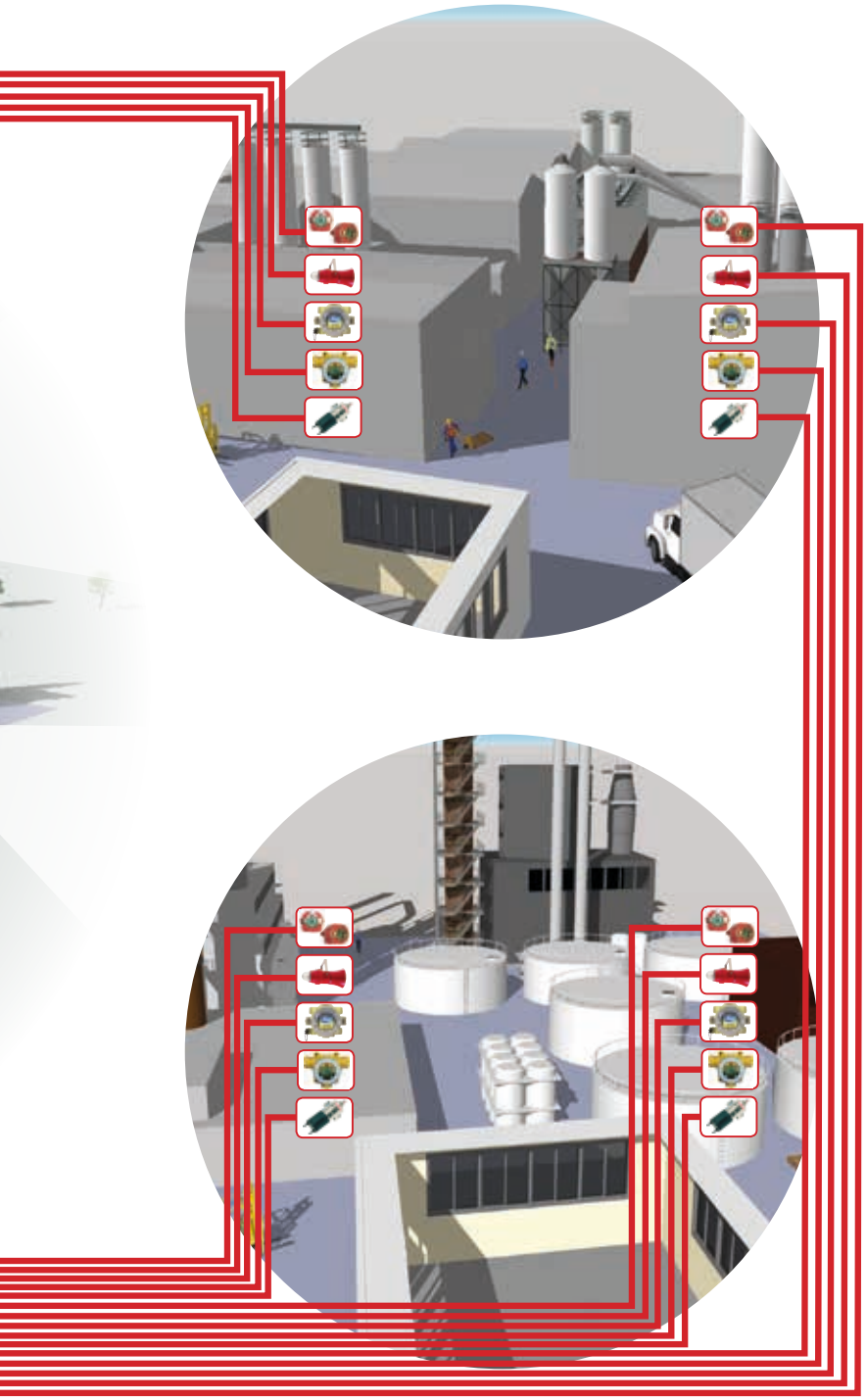
- Flame Detector
- Audible/Visual Alarm
- Gas Detector
- Gas Detector
- Gas Detector

COMMUNICATIONS POWER INPUT/OUTPUT USER INTERFACE

CENTRALISED SYSTEMS

The example above shows how a Touchpoint Pro system could be installed using traditional ‘home-run’ cabling. This approach could be chosen tore-use existing cabling, or simply due to operator prefere.





A combined approach could be used, for example to expand an existing system. New Inputs and Outputs required due to an expansion of a production area could be connected to a remote Touchpoint Pro unit, while the existing system and cabling are wired directly to the Touchpoint Pro central controller.

The example below shows the Touchpoint Pro system installed using a distributed architecture, illustrating the cabling savings that can be achieved. Clusters of Inputs and Outputs are connected to remote Touchpoint Pro enclosures, which are linked to the Touchpoint Pro central controller by the Ring Networ

KEY

- **Flame Detector**
- **Audible/Visual Alarm**
- **Gas Detector**
- **Gas Detector**
- **Gas Detector**

COMMUNICATIONS POWER INPUT/OUTPUT USER INTERFACE

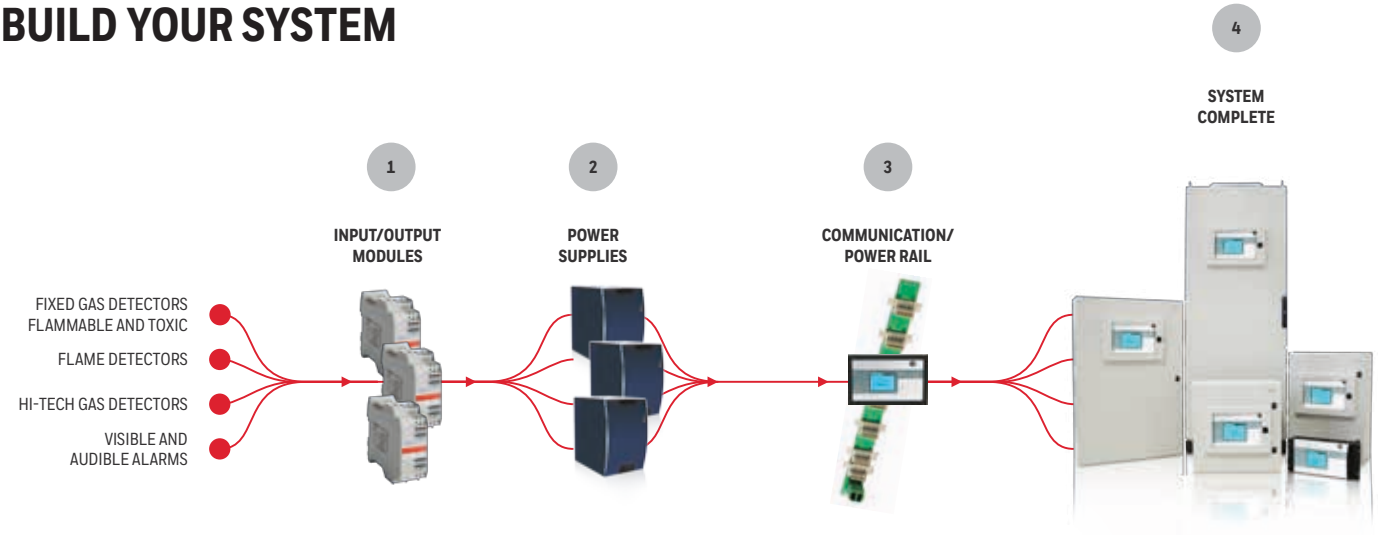
TECHNICAL SPECIFICATIONS

SYSTEM	Centralised or distributed system
ENCLOSURE	
WALL MOUNT CONTROLLER ENCLOSURE	
Dimensions (H x W x D)	600 mm x 600 mm x 300 mm (Mild Steel)
	800 mm x 600 mm x 300 mm (Mild Steel)
	1200 mm x 600 mm x 300 mm (Mild Steel)
WALL MOUNT REMOTE UNIT ENCLOSURE	
Dimensions (H x W x D)	600 mm x 600 mm x 300 mm (Mild Steel)
	800 mm x 600 mm x 300 mm (Mild Steel)
19" 5U RACK UNIT	
Dimensions (H x W x D)	483 mm x 222 mm x 110 mm (Mild Steel)
FLOOR STANDING CABINETS (FRONT OR REAR ACCESS)	
Dimensions (H x W x D)	2000 mm x 800 mm x 600 mm (Mild Steel)
CONTROL MODULE AND USER INTERFACE	
LCD Touch Screen	5.7" TFT Colour LCD with LED Backlight (resistive touch screen) 320 x 240 pixels (QVGA) Resolution Active area 115.2 mm(H) x 86.4 mm(V)
Front Panel Dimension	483 mm x 222 mm
Operating Temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Operating Humidity	10% to 90% RH (non-condensing)
INPUT SUPPLY	
Input Voltage	18-32 Vdc (24 Vdc nominal)
Voltage Ripple	50 mVp-p (maximum)
CONTROLS AND INDICATORS	
Front Panel LED	Green Power LED Red Alarm LED Yellow Fault LED Yellow Inhibit LED
Front Panel Buttons	Alarm Accept Push Button, Alarm Reset Push Button; Alarm Buzzer
Relay Outputs	2 System State Relays
Redundancy	Redundant Control Centre Board (CCB) Ring Network
EXTERNAL COMMUNICATION	
Interfaces	Redundant RS485 Modbus RTU interface Ethernet

INPUT/ OUTPUT MODULES	
COMMON SPECIFICATIONS	
Dimensions (H x W x D)	35.0 mm x 99.5 mm x 114.5 mm
Power Supply	18-32 Vdc (24 Vdc nominal)
DIN rail compatibility	TS-35 / 15
Operating Temperature Range	-40°C to 55°C
Operating Humidity Range	10 to 90% RH (non-condensing)
Inputs	Up to 16 Input Modules (64 Input channels) per system Analogue Input Module 4-20 mA; 4-channels for 2 or 3 wire 20 mA detector signals Analogue Input Module mV-Bridge; 4-channels for mV-Bridge signals Digital Input Module; 4-channels for switched input devices
Outputs	Up to 32 Output Modules (128 Output channels) per system Relay Output Module; 4-channels incorporating 4 single pole change over (SPCO) relays
Sensors	Catalytic or IR for combustible 4-20 mA transmitters Electrochemical for toxic and Oxygen Conventional smoke, heat and fire detectors
COMMUNICATION / POWER RAIL	
Description	5, 7, 9, or 10-way Communication / Power Rail consists of 1 DIN Rail, 1 Ring Coupling Module (RCM) and 5, 7, 9, or 10-way backplanes
Power Supply	Operating voltage range - 18 Vdc to 32 Vdc (double-check)
Power Supply mounted on Din-Rail	120 W 24 Vdc, 240 W 24 Vdc, 480 W 24 Vdc, Power Supply Redundancy Module (RDN Module), Uninterruptible Power Supply Module (UPS)
BACK-UP BATTERY	
Description	24 V sealed lead acid battery, 12 Ah or 27 Ah options
Electrical Connection	2 x 12 Vdc batteries in series
Dimensions (H x W x D)	300 mm x 395 mm x 215 mm
Weight	12 Ah version: 15.7 kg 27 Ah version: 25 kg
APPROVALS	
Compliance	Compliance with EMC/RFI (EN 50270:2006) and LVD (EN 61010-1:2010) CSA-C22.2 No. 61010-1-04, UL Std. No. 61010-1 (2nd Edition)
Advanced requirements	ATEX Performance Approvals - EN 50271:2010; EN 60079-29-1; EN 45544-1 /-2 /-3; EN 50104:2010 C22.2 No. 152-M1984, FM Std. 6310 and 6320
Highest level of safety	IEC/EN 61508 and EN 50402 SIL2 certification
Detailed ordering information available upon request.	



BUILD YOUR SYSTEM



Honeywell Gas Detection

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

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01/17
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