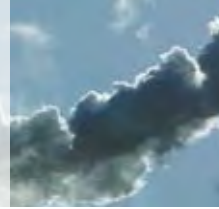




**The Signalpoint Pro is an intrinsically safe, cost effective, toxic and Oxygen gas detector for use in the toughest environmental conditions**

# Signalpoint Pro



## Flexible Operation

- Wide range of gases available
- User programmable detection ranges
- IP66 for indoor or outdoor use

## Easy to Use

- Simple plug-in sensors
- Non intrusive, one man operation
- Quick Calibration with auto-inhibit
- Local LCD display
- Minimal training required

## Simplified Installation

- Plug-in sensor replacement
- 2-wire operation
- Integral junction box
- Hinged terminal compartment cover
- Use with conduit or cable installations

## Typical Applications

- Refrigeration facilities
- Chemical stores
- Confined spaces
- Laboratories
- Car parks

**The Signalpoint Pro is an intrinsically safe, cost effective, toxic and Oxygen gas detector for use in the toughest environmental conditions. A 2-wire, 4-20mA loop powered device that can be used indoors or outdoors in areas that are routinely washed or hosed down.**

Signalpoint Pro is designed for user friendly operation along with simplified installation and maintenance. A removable cover allows sensors to simply plug into the transmitter without having to open the main terminal housing. The gas type and default sensor range for each sensor is automatically recognised and displayed on the built-in display.

Hidden push buttons provide user programmable features such as gas range and calibration gas level setting. Non intrusive, one-man calibration is initiated by a magnetically operated switch. The Quick Calibration routine, including auto-inhibit to prevent false alarms, walks the user through the process using a series of on-screen prompts to ensure right first time set-up and operation.

The large terminal compartment includes a hinged cover to provide easy hands free access for wiring. When opened, fixing points are revealed providing secure hidden mounting. A pre-formed M20 clearance cable entry is provided with a second easy knockout entry if required.

Signalpoint Pro is ideal for use with a range of dedicated gas monitoring controllers or industry standard PLCs. Either way, users are assured of being protected in all conditions by Honeywell Analytics gas monitoring solutions.

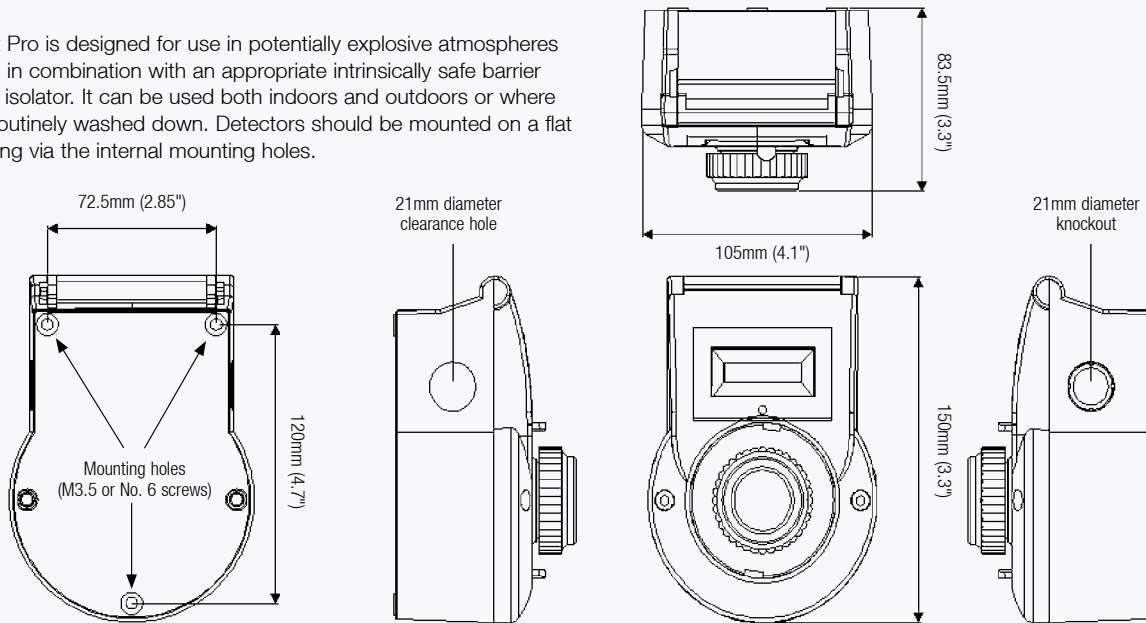


# Installation Details

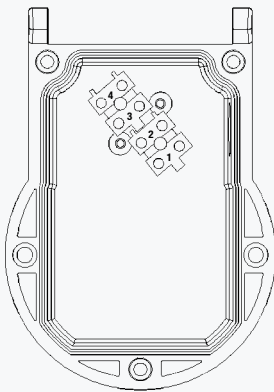


## Mechanical Installation

Signalpoint Pro is designed for use in potentially explosive atmospheres when used in combination with an appropriate intrinsically safe barrier or galvanic isolator. It can be used both indoors and outdoors or where areas are routinely washed down. Detectors should be mounted on a flat wall or ceiling via the internal mounting holes.



## Electrical Installation

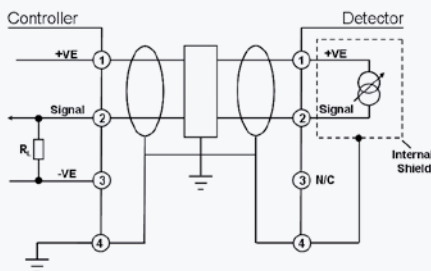


Installation should follow nationally approved wiring practices in the country concerned. The use of 2 core screened cable is required to prevent false alarms due to sources of electromagnetic interference. The use of conduit or suitably mechanically protected cabling and compression glands is recommended for any safety related gas monitoring system. Industrial applications will typically use 0.5mm<sup>2</sup> (20AWG) to 1mm<sup>2</sup> (16AWG) cross sectional area cable or similar.

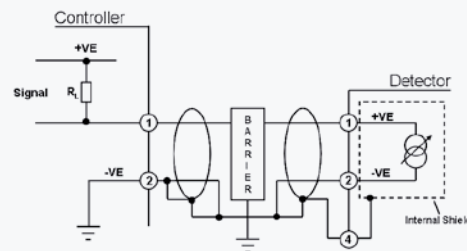
|            | Connection | Sensor Wire Colour |
|------------|------------|--------------------|
| Terminal 1 | +VE        | Red                |
| Terminal 2 | Signal     | White              |
| Terminal 3 | Not used   | Black              |
| Terminal 4 | Screen     | Braid              |



## Wiring Schematics



Dual Zener Barrier or 'Mirror' Isolator



Simple Zener Barrier or Isolator

# Technical Summary



## Maximum Cable Length Calculation

Maximum cable length is dependent on the total capacitance and total inductance of the cable and the field device. (Note: Signalpoint Pro has zero capacitance and inductance). The totals should not be greater than those indicated for the barrier or isolator to be used.

### Example using MTL7787+ dual channel zener barrier:

Capacitance permitted by the barrier = C<sub>b</sub>  
 Inductance permitted by the barrier = l<sub>b</sub>  
 Internal capacitance of the field device = C<sub>f</sub>  
 Internal inductance of the field device = l<sub>f</sub>  
 Capacitance of the cable per metre = C<sub>c</sub>  
 Inductance of the cable per metre = l<sub>c</sub>  
 Total allowable capacitance for the cable = C<sub>a</sub>  
 Total allowable inductance for the cable = l<sub>a</sub>

All capacitance measurements are in microfarads, all inductance measurements are in millihenries. Using the Safety Description of an MTL7787+ for a IIC gas as an example:

Safety Description: 28V, 93mA 0.651W

C<sub>b</sub> = 0.083 microfarads

l<sub>b</sub> = 3.05 millihenries

Total allowable capacitance C<sub>a</sub> = C<sub>b</sub> - C<sub>f</sub>, C<sub>a</sub> = 0.083 - 0 = 0.083

Total allowable inductance l<sub>a</sub> = l<sub>b</sub> - l<sub>f</sub>, l<sub>a</sub> = 3.05 - 0 = 3.05

If the cable type is known, then the parameters from the manufacturer should be used otherwise refer to the Signalpoint Pro control drawing P-1446, page 2 of 2 which suggests values of:-

### In North American Installations:

C<sub>c</sub> = 60pF/ft (0.00006 microfarads) and l<sub>c</sub> = 0.2 microhenries/ft (0.0002 millihenries)

### In European Installations:

C<sub>c</sub> = 200pF/m (0.0002 microfarads) and l<sub>c</sub> = 0.66 microhenries/m (0.00066 millihenries)

### Using the values per metre for European Installations:

Maximum length of cable due to capacitance = C<sub>a</sub>/C<sub>c</sub> = 0.083/0.0002 = **415m**

Maximum length of cable due to inductance = l<sub>a</sub>/l<sub>c</sub> = 3.05/0.00066 = **4621.21m**

As is often the case, capacitance is the most limiting figure and so the maximum cable length will be **415m**.

Note: Due to circuit limitations, do not run cable in excess of 1219m (4,000ft) even if the above formulas allow a longer length.

## Suggested Barriers and Isolators

Listed below are some suggested barriers and isolators for use with Signalpoint Pro.

MTL7728+ (single channel zener barrier)

MTL7787+ (2-channel zener barrier)

MTL5042 (Galvanic Isolator)

Pepperl+Fuchs KFD2-STC4-EX1 (Galvanic Isolator)

Notes: It is up to the user to ensure that the barrier or isolator used is suitable for their application. A single channel barrier solution is only suitable when used with a controller that provides the load resistor in the source or positive supply line where the negative of the barrier input is tied to earth ground (see Simple Zener Barrier or Isolator wiring schematic).

## General Specifications

### Use

Fixed point gas detector designed to detect toxic or Oxygen gas hazards that are commonly found in industrial applications. Suitable for safe area use or designated hazardous areas when installed with a suitable barrier European Zone 1 or 2 and North American Class I Division 1 areas

### User Interface

Non intrusive, one-man routine operation via local display and magnetically operated switch. Hidden push buttons for configuration during commissioning. 4-20mA analogue output

## Detectable Gases

| Ident Name                  | Recommended Gas Range | User Selectable Gas Range (Step Value) |
|-----------------------------|-----------------------|--|
| <b>O1</b> Oxygen            | 0.0-25.0% VOL         | 25% VOL only                           |
| <b>H1</b> Hydrogen Sulphide | 0.0-15.0ppm           | 10 to 50ppm (1.0)                      |
| <b>H2</b> Hydrogen Sulphide | 0-100ppm              | 50 to 500ppm (10)                      |
| <b>C1</b> Carbon Monoxide   | 0-300ppm              | 100 to 999ppm (100)                    |
| <b>S1</b> Sulphur Dioxide   | 0.0-15.0ppm           | 5.0 to 20.0ppm (5.0)                   |
| <b>A1</b> Ammonia           | 0-200ppm              | 50 to 200ppm (50)                      |
| <b>A2</b> Ammonia           | 0-1,000ppm            | 200 to 1,000ppm (50)                   |
| <b>N1</b> Nitrogen Dioxide  | 0.0-10.0ppm           | 5.0 to 50.0ppm (5.0)                   |
| <b>G1</b> Hydrogen          | 0-1,000ppm            | 1,000ppm only                          |



# Technical Summary cont. and Ordering Information

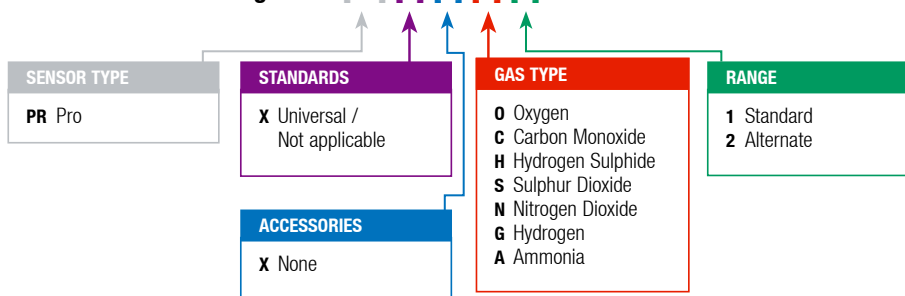


## General Specifications (continued)

|   |  |
|---|--|
| <b>Electrical Connections and Power</b> | 2-wire loop powered (current source)<br>23mA max. over range<br>Less than 1.0W   |
| <b>Signal</b>                           | 0-100% FSD 4-20mA<br>Max. over range 23mA<br>Zero gas = 4mA (toxic) or 17.4mA (for ambient Oxygen levels)<br>Auto inhibit during calibration<br>Fault ≤ 3mA  |
| <b>Cable Required</b>                   | 2-wire with screen<br>0.5mm <sup>2</sup> (20AWG) to 1mm <sup>2</sup> (16AWG)   |
| <b>Construction</b>                     |  |
| <b>Material</b>                         | Grey ABS / PPS   |
| <b>Maximum Dimensions</b>               | 150mm x 105mm x 83.5mm<br>(5.9" x 4.1" x 3.3")   |
| <b>Weight</b>                           | 479g (15.4oz)  |
| <b>Environmental</b>                    |  |
| <b>IP Rating</b>                        | IP66 as standard suitable for use in and out of doors (EN 60529:1991/A1:2001)  |
| <b>Operating Temperature</b>            | -20°C to +55°C (-4°F to 131°F) (Cell dependent)  |
| <b>Operating Humidity</b>               | Continuous 20-90% RH (non condensing)  |
| <b>Operating Pressure</b>               | 90-110kPa  |
| <b>Storage Conditions</b>               | 15°C to 30°C (59°F to 86°F) / 30-70% RH (non condensing)   |
| <b>Approvals</b>                        | CE compliant in accordance with:<br>EMC Directive 89 / 336 / EEC as amended by 92 / 31 / EEC<br>EN50270 Type 2 Heavy Industrial for susceptibility<br>EN55011B Light Industrial for emissions                        |
| <b>Certification</b>                    |  |
|   | Intrinsically safe (IS) when used with appropriately rated IS barriers<br>US and Canadian: Intrinsically Safe; Class I, Division 1, Groups A, B, C, D, E, F & G<br>European: Intrinsically Safe: II 2 G Ex ia IIC T4 |

## Ordering Information

e.g. SGPT [PR] [X] [X] [H] [X] = SGPTPLXXA1



|                             |   |  |
|-----------------------------|---|--|
| <b>Standard Supply</b>      | Each unit is supplied complete with required sensor, 1 x calibration magnet, 1 x Allen key, 1 x clearance (21mm) cable / conduit entry (LHS), 1 x clearance knockout (RHS), instruction manual and suitable transport packaging |  |
| <b>Shipping Details</b>     | Shipping carton dimensions: 230mm (L) x 114mm (W) x 89mm (H) (9" x 4.5" x 3.5")<br>Approximate weight: 530g (17oz)  |  |
| <b>Optional Accessories</b> | SGTPPCFA<br>02000-A-1635<br>Calibration Gases<br>SGTPRMTL1<br>SGTPRMTL2<br>SGTPRMTL3<br>SGTPRPF01<br>SGTPRPRFG1<br>SGTPRRCBLG   | Calibration gas flow housing<br>Weatherproof cap including remote gassing nozzle<br>Contact Honeywell Analytics Representative<br>Single channel zener barrier MTL7728+<br>2 channel zener barrier MTL7787+<br>Galvanic Isolator MTL 5042<br>Galvanic Isolator P&F KFD2-STC4-EX1<br>Hummel cable gland HSK-K-Ex, blue, M20x1.5, elongated (15mm).<br>Part number 1.291.2002.30, including locking nut Part number 1.262.2001.50. |

# Our Product Range



## Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

- » Detection of flammable, oxygen and toxic gases (including exotics)
- » Innovative use of 4 core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared
- » Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)
- » Cost effective regulatory compliance solutions

## Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces.

These include:

- » Detection of flammable, oxygen and toxic gases
- » Single gas personal monitors – worn by the individual
- » Multi-gas portable gas monitors – used for confined space entry and regulatory compliance
- » Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

## Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

- » Full technical support
- » Expert team on hand to answer questions and queries
- » Fully equipped workshops to ensure quick turnaround on repairs
- » Comprehensive service engineer network
- » Training on product use and maintenance
- » Mobile calibration service
- » Customised programmes of preventative/corrective maintenance
- » Extended warranties on products



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