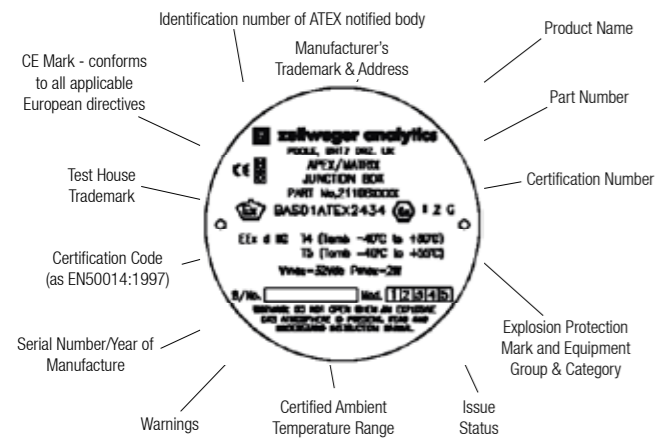


## 6. CERTIFICATION

One of the following certification labels is located on top of the Certified Junction Box. The label contains all the relevant information regarding the product's identification and certification state.



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## 7. NOTES

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## NOTES

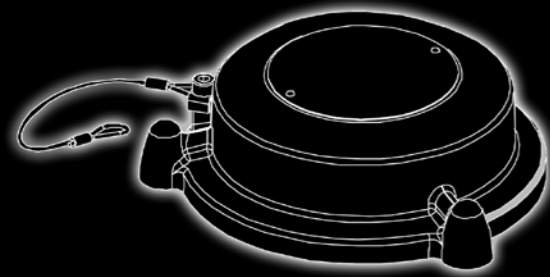
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## NOTES

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Quick Start Guide

**Honeywell**



Certified Junction Box

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## 1. INTRODUCTION

The Certified Junction Box is designed for use in hazardous areas to provide a mounting point for a Certified Sensor to be located remotely from a transmitter unit (Apex for a hazardous location or Opus for a non-hazardous location).

This guide provides the information necessary to mechanically install a Certified Junction Box, fit a Certified Sensor to it, and make the necessary electrical connections.

For details about the Certified Sensor see its Quick Start Guide.

Proper consideration must be made when siting the Certified Junction Box to ensure trouble free operation throughout its life.

This guide assumes that consideration of the location and mounting of the gas detection system has previously been taken into account in accordance with the guidelines in the Apex Technical Handbook.

### Associated Documentation:

Apex Quick Start Guide, MAN0601  
Part No: 2110M8000

Opus Quick Start Guide, MAN0600  
Part No: 2110M8001

Certified Sensor Quick Start Guide, MAN0598  
Part No: 2110M8005

Apex Technical Handbook, MAN0604  
Part No: 2110M8030

Refer to the relevant control system manual for connection information.

If information outside the scope of these instructions is required please contact Honeywell Analytics Ltd.

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## 2. SAFETY

This system is certified for and intended for use in potentially hazardous areas. Install and use the unit in accordance with current local and national regulations.



### WARNINGS

1. This apparatus is not suitable for use in oxygen enriched atmospheres (>21%V/V). Oxygen deficient atmospheres (<10% V/V) may suppress some sensor outputs.
2. Operator should be fully aware of the action to be taken if the gas concentration exceeds alarm level.
3. Installation should consider not only the optimum siting for gas detection related to potential leak points, gas characteristics and ventilation, but also placement where the potential for mechanical damage is minimised or avoided.
4. Exposures above the recommended range may result in ambiguous readings and may require subsequent re-calibration of the sensor.
5. Do not modify or alter the construction of the unit as essential safety requirements may be invalidated.
6. Refer to local or national regulations related to installation and use at the site.
7. Input voltage must not exceed the stated maximum (32V DC) as essential safety requirements may be invalidated.
8. Dispose of in accordance with local disposal regulations. Materials used: Stainless steel.

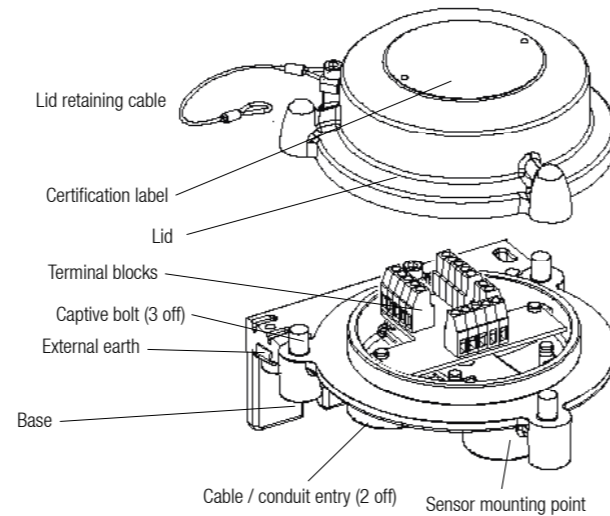
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## 3. INSTALLATION

For optimum performance the junction box should be installed in a location free from dust and direct sunlight. Additional sunshade and weather protection devices are available for sensors in harsh environments. Locations near antennae of high power radios, radar and satellites are not recommended. Environments subject to excessive mechanical vibrations are not recommended.

The installation procedure is divided into mechanical installation and electrical installation. The unit needs to be mounted to a supporting structure before electrical connections are made.

The diagram shows the main component parts of the unit.



Cable entry sealing plug (1 off)

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## INSTALLATION

The Certified Junction Box complies with the EMC requirements of EN 50270. In order to maintain compliance with EN50270 it is essential that the product is installed correctly as detailed below. It is the responsibility of the installation design authority to ensure that the electrical installation meets appropriate standards.

1. The unit case should not be electrically connected to electrically noisy (dirty) metalwork or conductors. The case should be connected to a low noise (clean) earth line.
2. The entire length of the field cabling connected to each unit should be fully screened with the screen or conduit connected to a low noise earth.
3. The low noise earth line should only be connected to safety earth at a single point. Star earthing arrangements minimise earth current crosstalk. Field cabling shields should not be connected such that earth loops are produced.
4. The earth bonding arrangement must ensure that the maximum peak voltage between the unit case earth and any field cable conductor is less than 350V.
5. The use of a single, screening cable for each gas detector ensures maximum screening and minimum crosstalk. Cabling arrangements which use a single cable for connecting field devices compromise screening, increase the potential for crosstalk and prevent implementation of true star earthing.

### 3.1 BOX DIMENSIONS

Width:	5.50in (140mm)
Height:	3.75in (95mm)
Depth:	6.00in (150mm)
Height with sensor:	8.50in (215mm)
	9.00in (230mm) with O <sub>2</sub> sensor fitted

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## INSTALLATION

### 3.2 INSTALLATION PROCEDURE

**Caution: Ensure that the junction box flamepath is not damaged during this procedure.**

1. **Isolate all associated power supplies and ensure that they remain OFF during the installation procedure.**
2. **Attach the junction box to the supporting structure.**  
Drill two mounting holes (68mm apart) and use the unit's mounting slots in the base with either of the following fixings:
  - Two M10 bolts.
  - A single 10mm U-bolt.

### 3. Remove the junction box lid.

Unscrew the three captive M8 bolts. The lid is retained by a metal retaining cable attached to the base.

### 4. Fit and connect the field wiring.

See Section 4 for wiring details. Use either:

**Conduit** - using one or both of the ¼ NPT cable entries. Ensure that a conduit sealing fitting is placed within 18" of the enclosure on conduit runs.

**Cable** - using any suitable flameproof cable entry device certified as Equipment to Directive 94/9/EC (ATEX).

Notes:

1. All unused cable entries must be sealed with a certified sealing plug (one plug is supplied fitted).
2. For a multi-sensor system using a network loop, both cable entries are used, one bringing the loop connections in and the other taking them out of the box. Remove the fitted certified sealing plug from the cable entry.

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## INSTALLATION

### 5. Fit the Certified Sensor.

Screw the sensor firmly into the sensor mounting point.

### 6. Connect the sensor wiring.

See Section 4 for wiring and termination link details.

### 7. Refit the lid to the base.

#### Cautions:

1. **Ensure that there is no moisture inside the junction box before fitting the lid.**
2. **Use only the supplied bolts, replacement with alternative bolts will invalidate certification.**

**Ensure that the lid retaining cable and/or wiring are not trapped and the O-ring in the top is correctly located. Tighten the captive M8 bolts.**

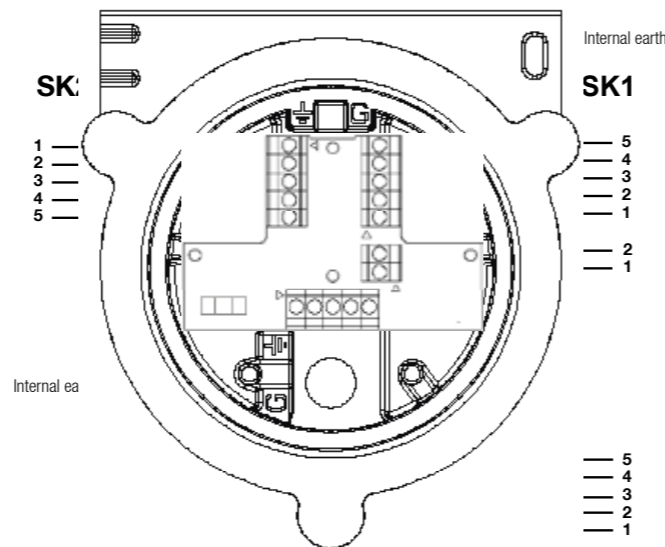
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## 4. WIRING

The following information details the wiring for the unit.

Note: Isolate all associated power supplies and ensure that they remain OFF when wiring the unit.

Connect the junction box, sensor and field wiring as shown in the following diagram and the accompanying table.



Notes:

1. Marked terminal numbers only used to cross-refer to table.
2. The junction box terminations that need to be wired depend on the overall system wiring scheme.

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## WIRING

Surplus wire length can be located about the base of the PCB. Ensure that the cable is not trapped by the lid when fitted.

Terminal number	Function	Colour	
SK1	1	CAN_L	White
	2	CAN_H	Green
	3	+V	Red
	4	0V	Black
	5	Zener clamp screen	Green/Yellow
SK4	1	Screen	
	2	Screen	

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## 5. CONFIGURATION

The following information specifies the unit configuration options.

### 5.1 CAN TERMINATION LINK - J1

- Terminated
- Unterminated (default)

Note: Put the link in the Terminated position if the junction box is at the end of a network loop.

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Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



**UK Office**

**Keison Products,**

**P.O. Box 2124, Chelmsford, Essex, CM1 3UP, England.**

**Tel: +44 (0)330 088 0560**

**Fax: +44 (0)1245 808399**

**Email: [sales@keison.co.uk](mailto:sales@keison.co.uk)**

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