6. SPECIFICATIONS

Connections
- Outputs: IS protected Honeywell SHC1 Handheld Interrogator communications (RS485), 4-20mA (Non-isolated).
- Power Supply: 18-32VDC.

Environmental
- Operating temperature: UL -25°C to 40°C (-13°F to 104°F), CSA -55°C to 40°C (-67°F to 104°F).
- Enclosure: One IS protected Communications Link Entry Socket for connecting the Honeywell SHC1 Handheld Interrogator.
- Size: 212mm (8.35 in) wide x 152.4mm (6 in) high x 117.5mm (4.625 in) deep. Add approximately 60mm (2.36 in) to the height for the Communications Link Entry Socket.
- Weight: 2.9kg.
- Material: Aluminium.
- Ingress Protection: IP66 to BS EN 60529, Degrees of protection provided by enclosures (IP code).
- Certification: UL Class I, Div. 1, Groups B, C, D, CSA Class I, Div. 1, Groups B, C, D.
- Digital Interface: Use the Modbus RTU communications protocol.
- Field Wiring: 22-12 AWG (0.326 to 3.31 mm) to accept gas detector and field cabling or 3/4" conduit.

6. CERTIFICATION

UL Control Drawing

2. SAFETY

Ensure that you read and understand this document BEFORE installing/operating the equipment. Pay particular attention to the Safety Warnings.

WARNINGs
1. The DX100 (M) Termination Unit is certified for and intended for use in potentially hazardous areas. Install and use the DX100 (M) Termination Unit in accordance with the latest regulations. No modifications to the unit is permitted without reference to the relevant certifying authority.
2. Install UL approved and certified equipment including field wiring in strict accordance with the National Electrical Code for Division 1 Hazardous Locations (NFPA 70G).
3. Install CSA approved and certified equipment including field wiring in strict accordance with Canadian Electrical Codes, Part 1.
4. For installations elsewhere, the appropriate local or national regulations should be used.
5. The Code of Practice regulating Selection, Installation, Use And Maintenance of Appendix For The Detection Of Combustible Gases (Other Than For Mining Applications Or Explosive Processing And Manufacture) must be complied with.
6. The DX100 (M) Termination Unit must be properly earthed to protect against electrical shock, minimise electrical interference and comply with IS Safety Requirements.
7. Dismantling or removal of equipment should be carried out in the safe area only.
8. Do not drill holes in the housing as this will invalidate the explosion protection.
9. In order to maintain electrical safety, the unit must not be operated in atmospheres with more than 21% oxygen.
10. Do not open the enclosure in the presence of an explosive atmosphere.

CAUTIONs
- Only the Handheld Interrogator (SHC1) must be connected to the Termination Unit’s communication link entry socket.

Honeywell Analytics reserves the right to change or revise the information supplied in this document without notice and without obligation to notify any person or organization of such revision or change. If further details are required, please refer to the document contact Honeywell Analytics or one of its agents.
This section shows the main features of the Termination Unit and also details important dimensions for the unit when installing.

**Electrical Installation General Guidelines**

1. Isolate all associated power supplies and ensure that they remain OFF during the procedures. Ensure a gas-free atmosphere.
2. Ensure that approved and certified cable glands have been fitted to the Termination Unit: cable entries where used for field wiring, with sealing washers where necessary to maintain the ingress protection rating.
3. Ensure that any cable gland/conduit locknuts are fitted before terminating the cables.
4. Make sure that a conduit sealing fitting is inserted within 460 mm (18 in.) of the Termination Unit on all conduit runs. The following diagram shows a typical conduit seal fitted in the conduit run to a Termination Unit fixed with an Optima unit. Excel Open-Path and Cross-Duct installations should be similar.

**Electrical Installation**

- Isolate all associated power supplies and ensure that they remain OFF during the procedures. Ensure a gas-free atmosphere.
- Ensure that approved and certified gland/conduit locknuts are fitted before terminating the cables.
- Make sure that a conduit sealing fitting is inserted within 460 mm (18 in.) of the Termination Unit on all conduit runs. The following diagram shows a typical conduit seal fitted in the conduit run to a Termination Unit fixed with an Optima unit. Excel Open-Path and Cross-Duct installations should be similar.

**Mechanical Installation Guidelines**

- Identify a suitable location where the Termination Unit can be mounted. The unit must be fitted to a flat surface.
- When fitting a Termination Unit consideration should be made regarding the probability of mechanical impacts and interference from other equipment and apparatus.
- The mounting plates for the Searchline Excel gas detectors, and to which the DX100 (M) unit is attached, have fixing holes that are unaheated. Unit and gas detector system component mounting holes are threaded. For the identity of other plate holes refer to the Searchline Excel Technical Handbook.

**With Searchpoint Optima**

- The diagram below shows the DX100 (M) is installed at the mounting location and then the Optima gas detector is fitted to the Termination Unit.
- Securely fit the Termination Unit at the required monitoring point.
- Use the two Termination Unit mounting lugs. Ensure the communications link entry socket connector is located at the bottom. This fulfills the requirement to position the Optima sensor horizontally so that the communications link remains intact and is located at the bottom.

**Termination Unit**

- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.
- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.

**With Searchline Excel Open-Path**

- The DX100 (M) is fitted to the Excel receiver's mounting plate and then the units are wired.
- Securely fit the Termination Unit to the mounting plate so that the communications link entry socket connector is located at the bottom.
- Use the Termination Unit mounting holes marked G on the diagram below. The Termination Unit uses two of the four holes depending on the position of the Application Unit.
- Remove the Termination Unit lid.
- Use the lugs on the lid to unscrew it anticlockwise from the Termination Unit.

**With Searchline Excel Cross-Duct**

- The DX100 (M) is fitted to the Cross-Duct mounting plate and then the units are wired.
- Securely fit the Termination Unit to the Cross-Duct mounting plate.
- Use the lugs on the lid to unscrew it anticlockwise from the Termination Unit.

**Installation**

- Fit a gas-free atmosphere during the procedures. Ensure a gas-free atmosphere.
- Fit the external field wiring through the cable/conduit fittings and secure.

**General Installation Guidelines**

- Read the Warnings and Cautions at the beginning of this document and all the relevant instructions before starting any of the installation procedures.
- Identify external cable requirements and the necessary cable entry ports to be used on the Termination Unit.
- Refer to the relevant handbooks for details about the gas detectors.
- Identify a suitable location where the Termination Unit can be mounted. The unit must be fitted to a flat surface.
- When fitting a Termination Unit consideration should be made regarding the probability of mechanical impacts and interference from other equipment and apparatus.

**Termination Unit**

- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.
- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.

**Connections**

- Connect the gas detector and field wiring to the terminal blocks in the DX100 (M) Termination Unit according to the following wiring diagrams and tables.

**Mechanical Installation Guidelines**

- Identify a suitable location where the Termination Unit can be mounted. The unit must be fitted to a flat surface.
- When fitting a Termination Unit consideration should be made regarding the probability of mechanical impacts and interference from other equipment and apparatus.
- The mounting plates for the Searchline Excel gas detectors, and to which the DX100 (M) unit is attached, have fixing holes that are unaheated. Unit and gas detector system component mounting holes are threaded. For the identity of other plate holes refer to the Searchline Excel Technical Handbook.

**With Searchpoint Optima**

- The diagram below shows the DX100 (M) is installed at the mounting location and then the Optima gas detector is fitted to the Termination Unit.
- Securely fit the Termination Unit at the required monitoring point.
- Use the two Termination Unit mounting lugs. Ensure the communications link entry socket connector is located at the bottom. This fulfills the requirement to position the Optima sensor horizontally so that the communications link remains intact and is located at the bottom.

**Termination Unit**

- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.
- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.

**With Searchline Excel Open-Path**

- The DX100 (M) is fitted to the Excel receiver's mounting plate and then the units are wired.
- Securely fit the Termination Unit to the mounting plate so that the communications link entry socket connector is located at the bottom.
- Use the Termination Unit mounting holes marked G on the diagram below. The Termination Unit uses two of the four holes depending on the position of the Application Unit.
- Remove the Termination Unit lid.
- Use the lugs on the lid to unscrew it anticlockwise from the Termination Unit.

**With Searchline Excel Cross-Duct**

- The DX100 (M) is fitted to the Cross-Duct mounting plate and then the units are wired.
- Securely fit the Termination Unit to the Cross-Duct mounting plate.
- Use the lugs on the lid to unscrew it anticlockwise from the Termination Unit.

**Installation**

- Fit a gas-free atmosphere during the procedures. Ensure a gas-free atmosphere.
- Fit the external field wiring through the cable/conduit fittings and secure.
- Terminate the gas detector and field wiring. Refer to Electrical Installation.

**Connections**

- Connect the gas detector and field wiring to the terminal blocks in the DX100 (M) Termination Unit according to the following wiring diagrams and tables.

**General Installation Guidelines**

- Read the Warnings and Cautions at the beginning of this document and all the relevant instructions before starting any of the installation procedures.
- Identify external cable requirements and the necessary cable entry ports to be used on the Termination Unit.
- Refer to the relevant handbooks for details about the gas detectors.
- Identify a suitable location where the Termination Unit can be mounted. The unit must be fitted to a flat surface.
- When fitting a Termination Unit consideration should be made regarding the probability of mechanical impacts and interference from other equipment and apparatus.

**Termination Unit**

- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.
- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.

**Connections**

- Connect the gas detector and field wiring to the terminal blocks in the DX100 (M) Termination Unit according to the following wiring diagrams and tables.

**Mechanical Installation Guidelines**

- Identify a suitable location where the Termination Unit can be mounted. The unit must be fitted to a flat surface.
- When fitting a Termination Unit consideration should be made regarding the probability of mechanical impacts and interference from other equipment and apparatus.
- The mounting plates for the Searchline Excel gas detectors, and to which the DX100 (M) unit is attached, have fixing holes that are unaheated. Unit and gas detector system component mounting holes are threaded. For the identity of other plate holes refer to the Searchline Excel Technical Handbook.

**With Searchpoint Optima**

- The diagram below shows the DX100 (M) is installed at the mounting location and then the Optima gas detector is fitted to the Termination Unit.
- Securely fit the Termination Unit at the required monitoring point.
- Use the two Termination Unit mounting lugs. Ensure the communications link entry socket connector is located at the bottom. This fulfills the requirement to position the Optima sensor horizontally so that the communications link remains intact and is located at the bottom.

**Termination Unit**

- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.
- Ensure that approved and certified blanking plugs are fitted to all unused Termination Unit cable entries.
- The Termination Unit mounting plate must be bonded to a protective earth.

**With Searchline Excel Open-Path**

- The DX100 (M) is fitted to the Excel receiver's mounting plate and then the units are wired.
- Securely fit the Termination Unit to the mounting plate so that the communications link entry socket connector is located at the bottom.
- Use the Termination Unit mounting holes marked G on the diagram below. The Termination Unit uses two of the four holes depending on the position of the Application Unit.
- Remove the Termination Unit lid.
- Use the lugs on the lid to unscrew it anticlockwise from the Termination Unit.

**With Searchline Excel Cross-Duct**

- The DX100 (M) is fitted to the Cross-Duct mounting plate and then the units are wired.
- Securely fit the Termination Unit to the Cross-Duct mounting plate.
- Use the lugs on the lid to unscrew it anticlockwise from the Termination Unit.

**Installation**

- Fit a gas-free atmosphere during the procedures. Ensure a gas-free atmosphere.
- Fit the external field wiring through the cable/conduit fittings and secure.
- Terminate the gas detector and field wiring. Refer to Electrical Installation.

**Connections**

- Connect the gas detector and field wiring to the terminal blocks in the DX100 (M) Termination Unit according to the following wiring diagrams and tables.