1. INTRODUCTION

The DX100 (I) Termination Unit is an explosion proof junction box that provides a
signal connection point and mounting point for the Honeywell Analytics Searchpoint Optima or Optima Plus gas detectors.

Caution: The DX100 (I) Termination Unit can only be used with Searchpoint Optima or Optima Plus gas detectors.

This guide covers the basic on-site mechanical and electrical installation of the
unit. Refer to the DX100 Series Terminals Technical Manual (Part No: 2104M0701) for more detailed information about the DX100 (I).

The unit is certified to UL and CSA standards and is intended for use in
hazardous environments. The DX100 (I) provides:

• terminals for connecting the gas detector and the field cabling
• an Intrinsically Safe (IS) connection point for the Hand Held
  Interrogator (SHC1)
• a local mounting point for the Searchpoint Optima or Optima Plus
gas detector

The unit features:

• three 3/4" NPT cable/conduit entries
• two terminal blocks
• a voltage clamp and a communications link entry socket

One of the three cable/conduit entries (usually the left-hand one) is used to mount
the Searchpoint Optima or Optima Plus gas detector directly to the box. The
Optima and Optima Plus output a 4-20mA signal that is sent via the Termination
Unit field wiring back to the controller.

The voltage clamp and the external socket provide the IS connection to the
Handheld Interrogator (SHC1).

The SHC1 allows the operator to communicate with the attached gas detector
calibration, calibrate or diagnose the system.

Full details about the Searchpoint Optima and Optima Plus units can be found
in their documentation, which includes operation of the SHC1.

Caution: Only the SHC1 Handheld Interrogator must be connected to the
DX100 (I) Communications Link Entry Socket.

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person or organization of such revision or change. If further details are required
that do not appear in this document contact Honeywell Analytics Limited or one of
its agents.

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 (I) Termination Unit is certified for and intended for use in
potentially hazardous areas. Install and use the DX100 (I) 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 articles of the National Electrical Code for Division 1
Hazardous Locations (NFPA 70).

3. Install CSA approved and certified equipment including field wiring in
strict accordance with Canadian Electrical Code, Part 1.

4. For installations elsewhere, the appropriate local or national regulations
should be used.

5. The Code of Practice, Regarding Selection, Installation, Use And
Maintenance Of Apparatus For The Detection Of Combustible Gases
(Other Than For Misting Applications Or Explosive Processing And
Manufacture) must be completed.

6. The DX100 (I) Termination Unit must be properly earthed to protect
against electrical attack, minimise electrical interference and comply with
IS Safety Requirements.

7. Diamantling or repair 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

1. Only the Handheld Interrogator (SHC1) must be connected to the
Termination Unit's communications link entry socket.

2. The DX100 (I) Termination Unit can only be used with Searchpoint Optima
or Optima Plus gas detectors.

Note: While every effort has been made to ensure accuracy in this
publication, no responsibility can be accepted for errors or omissions.
Data only changes as and when legislated, and you are strongly advised
to consult the latest Honeywell Analytics product catalogue, regulations, standards,
and guidelines.

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3. MAIN FEATURES

4. INSTALLATION

It is important before starting these procedures that the detailed information provided in the DX100 Series Terminal Units Technical Handbook about DX100 (I) installation has been carefully considered at the planning stage.

The following points should be noted:

General Installation Guidelines

1. Read the Warnings and Cautions at the beginning of this document and all the relevant instructions before starting any of the installation procedures.
2. Identify external cable requirements and the necessary cable entry ports to be used on the Terminal Unit.
3. Refer to the documentation for the associated control system for details about external network connection information, field wiring, interconnections, etc.
4. Refer to the associated Searchpoint Optima handbook for details about the gas detector.

MECHANICAL INSTALLATION

Mechanical Installation Guidelines

1. Identify a suitable location where the Terminal Unit can be mounted. The unit should be fitted to a flat surface.
2. When fitting a Terminal Unit consideration should be made regarding the probability of mechanical impacts and interference from other equipment and apparatus.

Procedure

This procedure describes how the DX100 (I) is installed at the mounting location and then the Optima gas detector is fitted to the Terminal Unit.

1. Securely fit the Terminal Unit at the required mounting point.
2. Use the two Terminal Unit mounting lugs. Ensure the communications link entry socket connector is located at the bottom. This is to fill in the requirement to position the Optima sensor horizontally so that the risk of locating the gas detector’s optical surface is reduced.
3. Remove the Terminal Unit lid.
4. Use the lugs on the lid to unscrew it anticlockwise from the Terminal Unit base.

5. SPECIFICATIONS

TABLE 3

Connections

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<thead>
<tr>
<th>Terminal Unit</th>
<th>Field Wiring</th>
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<tbody>
<tr>
<td>Optima Wired</td>
<td>orange (A)</td>
<td>blue (B)</td>
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<tr>
<td></td>
<td>red (+24VDC)</td>
<td>black (IV)</td>
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Electrical Installation

Electrical Installation Guidelines

1. Isolate all associated power supplies and ensure that they remain OFF during the procedures.
2. Ensure that approved and certified cable glands have been fitted to the Terminal 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 locking rings are fitted before terminating the cables.
4. Make sure that a conduit sealing fitting is installed within 460mm (18in.) of the Terminal Unit on all conduit runs.

6. CERTIFICATION

This section specifies UL and CSA certification information for the DX100 (I) Terminal Unit. It includes relevant Control Drawings.

A Honeywell Analytics certification label is located on the right-hand side of the DX100 (I) Terminal Unit.

The label contains all the relevant information regarding the product’s identification and certification state.

The part number of the certified UL/CSA DX100 (I) Terminal Unit is 210485381.

The following diagrams show the Honeywell Analytics UL and CSA Certification Labels. The label content for the CSA label is explained. The UL label is similar.