

Power & Communication Cables

For T4 and Gas-Pro
Multi-gas monitors

Technical Data & Safety Manual

NAVIGATION INSTRUCTIONS

The symbols in the left-hand margin of each page of the manual will enable you to carry out the following functions:

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Click on this button to display the previous view (use it to return from a reference jump).



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Click this button to print some or all of the document (specific pages can be chosen).

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1. Introduction

1.1 General

Crowcon produce the following instrument charging and communication interfaces:

- Power (see *Power cable* on *page 13*)
- Communication (see *Communication cable* on *page 14*)
- Power and communication (see *Cradle power and communications* on *page 15*)
- Bluetooth Enabled Power (see *Bluetooth Enabled Power Cable* on *page 16*)
- Cradle Power and Communications (see *Cradle power and communications* on *page 17*)
- Cradle Charger (see *Cradle charger* on *page 18*)

For details of the Crowcon products these cables can be used with, see the relevant section.

1.2 Safety Information

- Read and understand all instructions in this manual prior to use.
- Crowcon re-chargeable batteries must only be charged in non-hazardous (safe) areas.
- There are no user serviceable parts inside the equipment. Do not disassemble or substitute components as this may impair intrinsic safety and invalidate safety certification.
- Observe all warnings and instructions marked on the unit and within this manual.
- If any of these products are not working properly, contact your local Crowcon office or agent.
- Before use ensure that the equipment is in good condition, the enclosure is intact, cables are secured in position and cable insulation has not been damaged in any way.
- If there is any damage to the equipment do not use, contact your local Crowcon office or agent for repair/replacement.
- Only genuine Crowcon replacement parts must be used; substitute components may invalidate the warranty.
- All cable assemblies defined within this manual must only be used indoors in non-hazardous (safe) areas.
- Max Certified Input Voltage for all cable assemblies $U_m = 250\text{Vac}$.
(Note: do not apply this voltage to the input of the cable assemblies, please refer to the specification section for each cable for the maximum operating voltage input.)
- Refer to individual sections for further usage information.
- All cable assemblies are certified for use in ambient temperatures in the range 0°C to $+40^{\circ}\text{C}$ (32 to 104°F).

1.2.1 Applicable Standards

IECEX:

[Ex ia] $0^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$

IECEX ULD 10.0018


IEC 60079-0 6th Edition

Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-11 6th Edition

Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

ATEX:

 II (1) G [Ex ia] $0^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$

DEMKO 11ATEX153714

EN 60079-0:2012 + A11:2013

Explosive atmospheres - Part 0: Equipment - General requirements

EN60079-11:2012

Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

UL Standards:

UL913 Applicable Edition of the UL standard

UL60079-0 Applicable Edition of the UL standard

UL60079-11 Applicable Edition of the UL standard

2. Charging and Communication Options

There are several charging and communication solutions available for both **Gas-Pro** and **T4**, these are detailed below.

2.1 Power Cable (Part number CH0100)

A standalone cable assembly for charging either a **Gas-Pro** or **T4**, supplied with AC adaptor. Please refer to [Section 3.1](#) for certification information.

! Only Crowcon supplied AC Adaptors must be used.



2.2 Communications Cable (Part number CH0103)

A standalone cable assembly to connect to a PC USB port offering communications to either **Gas-Pro** or **T4**, please refer to [Section 3.2](#) for certification information.



2.3 Power and Communications Cable (Part number CH0104)

A standalone cable to connect to a PC USB port offering both charging and communications for either **Gas-Pro** or **T4**, please refer to [Section 3.3](#) for certification information.



2.4 Bluetooth Enabled Power Cable (Part number BT-CH-01)

A standalone cable assembly for charging either a **Gas-Pro** or **T4**, supplied with AC adaptor, and for communicating with Crowcon Mobile Applications via Bluetooth. Please refer to [Section 3.4](#) for certification information.

Instructions:

1. Download the Crowcon Connect App



For iOS



For Android



2. Connect either a **Gas-Pro** or **T4** to the Bluetooth Enabled Power Cable (this can be direct or using a dock).
3. Ensure both the device and power cable are turned on
4. Open the app once it has downloaded and follow the on-screen instructions.

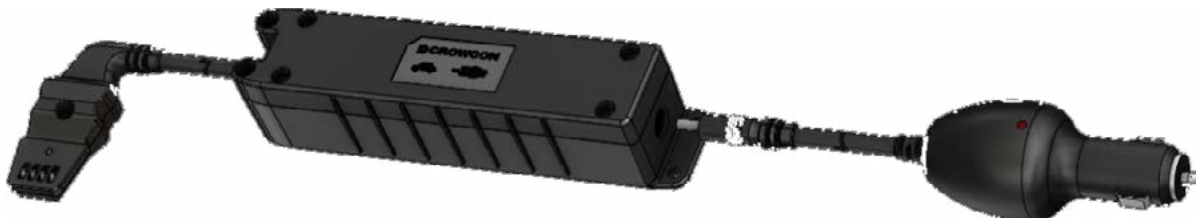
! Only Crowcon supplied AC Adaptors must be used



2.5 Vehicle Charger (Part number CH0106 & CH0102)

A standalone charging cable assembly for use within a vehicle which connects to the standard vehicle auxiliary socket suitable for either **Gas-Pro** or **T4**, please refer to [Section 3.1](#) for certification information.

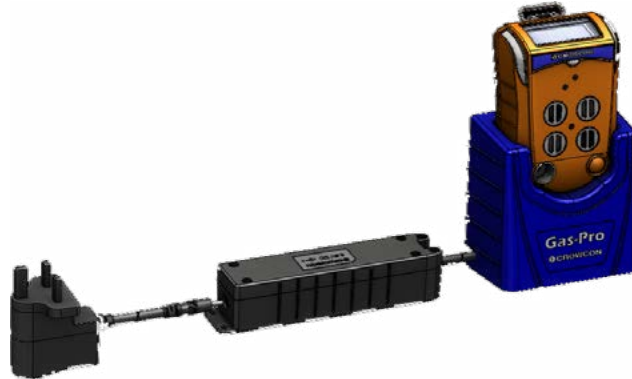
! Must only be used with Crowcon supplied Adaptor part number CH0106.



2.6 Gas-Pro Desk Top Charger (Part number CH105)

A desk or wall mounted cradle for charging **Gas-Pro** to be used with the standard power lead part number CH0100 (see [Section 2.1](#)), refer to Gas-Pro User and Operator Manual M07995 for further information.

! Only Crowcon supplied AC Adaptors must be used.



2.7 Powered Q-Test

A wall mounted cradle for simple gas testing of **Gas-Pro** that also offers the facility to charge, please refer to [Section 3.6](#) for certification information and also the Q-Test User & Operator Manual M070001 for further information.

! Only Crowcon supplied AC Adaptors must be used.



2.8 T4 Desk Top Charger (Part number T4-CRD)

A desk or wall mounted cradle for charging **T4**, please refer to T4 User and Operator Manual M070031 for further information.

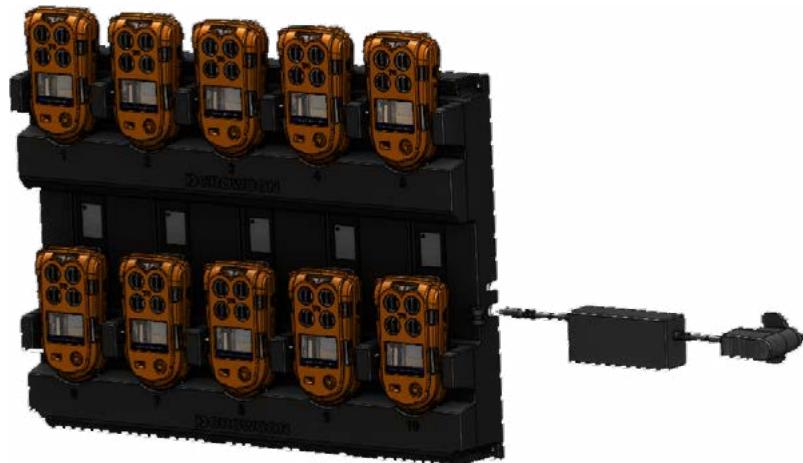
! Only Crowcon supplied AC Adaptors must be used.



2.9 T4 Ten Way Charger (Part number T4-TWC)

A wall mounted charging assembly capable of charging up to ten **T4** instruments; please refer to T4 User and Operator Manual M070031 for further information.

! Only Crowcon supplied AC Adaptors must be used.



2.10 T4 Vehicle Charger (Part number T4-VHL)

A vehicle mountable cradle for charging **T4**, refer to [Section 3.6](#) for certification information. Please refer to the T4 User and Operator Manual M070031 for further information.

! Only Crowcon supplied AC Adaptors must be used.



2.11 I-Test

I-Test is an intelligent stand alone gas test and calibration solution, suitable for small and large fleet users alike, **I-Test** offers simple fully managed testing with data capture as well as the ability to update configurations.

An **I-Test** solution is available for both **Gas-Pro** and **T4** and as part of its functionality **I-Test** can charge and communicate with either a **T4** or **Gas-Pro**, please refer to [Section 3.5](#) for certification information and also the I-Test User & Operator Manual M070002 for further information.



2.12 Charging & Communication Assemblies Compatibility

Charging/Communications Solution	Compatible with Gas-Pro	Compatible with T4
Power Cable	√	√
Communication Cable	√	√
Power and Communication Cable	√	√
Bluetooth Enabled Power Cable	√	√
Vehicle Power cable	√	√
Gas-Pro Desk Top Charger	√	x
Powered Q-Test	√	x
Gas-Pro Compatible I-Test	√	x
T4 Compatible I-Test	x	√
T4 Desk Top Charger	x	√
T4 Ten Way Charger	x	√
T4 Vehicle Charger	√	x

3. Technical & Certification Details

3.1 Power cable

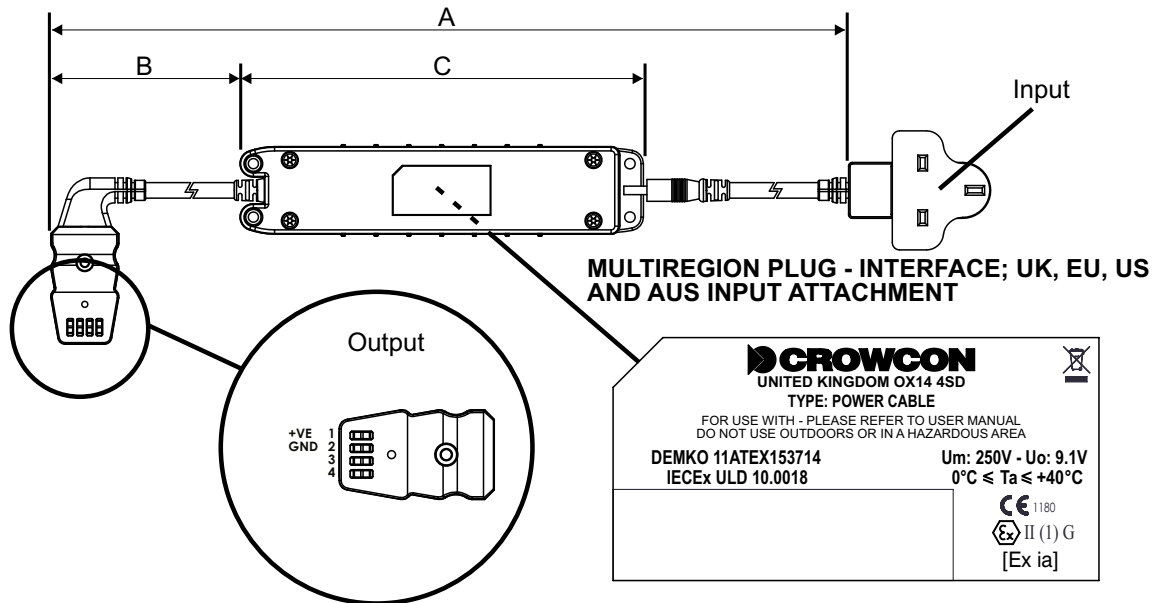
3.1.1 Specification

Dimensions:
A = 2 metres
B = 300mm
C = 166mm (typical)
Height = 37mm

Cable Assembly Input: 6.5V DC output (+/- 5%) from AC Adaptor 110v / 240v 50/60 Hz

Cable Assembly Output: 6.5v (+/- 5%)

Figure 1: Power cable detail



3.1.2 Compatibility

Before use, this manual, the manual for the specific I.S instrument and the associated hazardous area location certificates must be consulted to determine their safety compatibility for Ex.

No specific UL certification label is required. Units will be supplied with ATEX/IECEx labelling. Use only Crowcon supplied AC Adaptor. Not suitable for use with other AC Adaptors as these may cause damage to the unit.

3.2 Communication cable

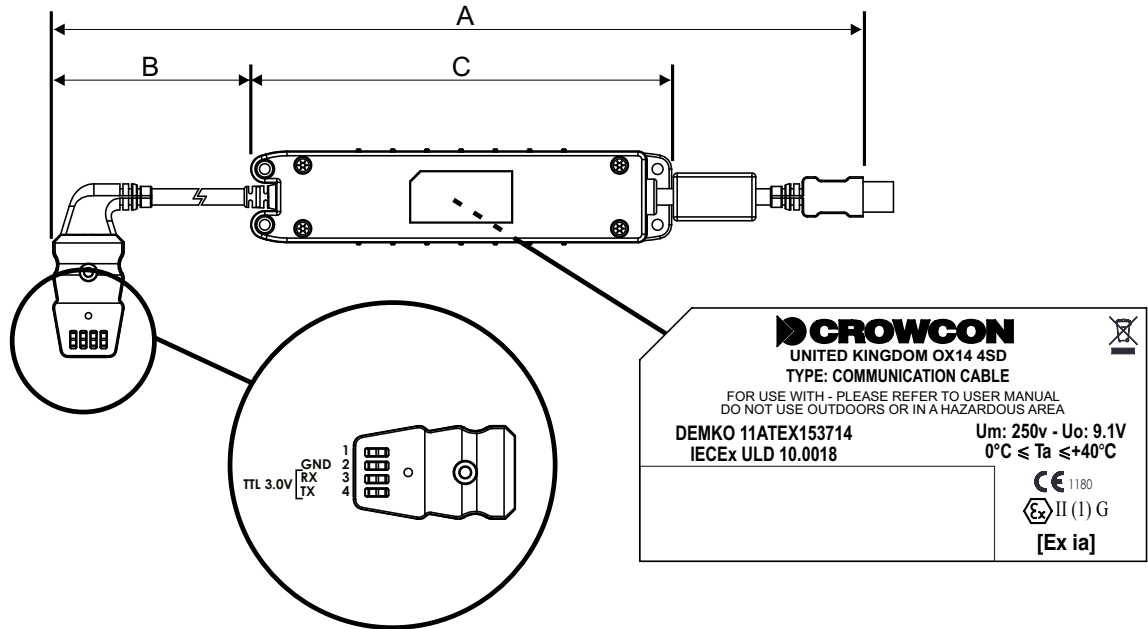
3.2.1 Specification

Dimensions: A = 2.5 metres
B = 300mm
C = 166mm (typical)
Height = 37mm

Cable Assembly Input: Standard USB Interface

Cable Assembly Output: 3.0V TTL (+/- 5%)

Figure 2: Communication cable detail



3.2.2 Compatibility

Before use, this manual, the manual for the specific I.S instrument and the associated hazardous area location certificates must be consulted to determine their safety compatibility for Ex.

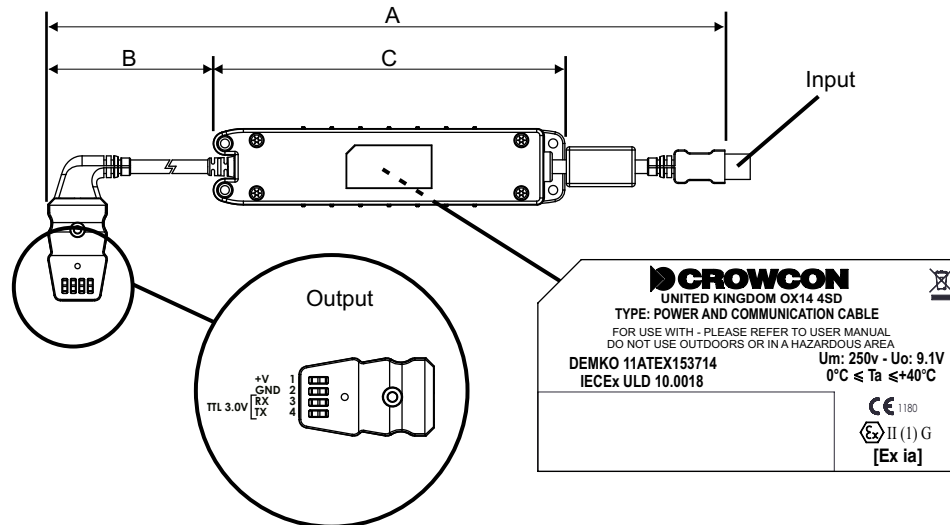
- No specific UL certification label is required. Units will be supplied with ATEX/IECEX labelling
This communication cable does not provide power to the unit.

3.3 Power and communication cable

3.3.1 Specification

Dimensions:	A = 2.5 metres B = 300mm C = 166mm (typical) Height = 52mm
Cable Assembly Input:	Comms - Standard USB Interface Power - Standard USB Interface 5v (+/-10%) @500mA DC
Cable Assembly Output:	Comms - 3.0V TTL (+/- 5%) Power - 6.5V DC (+/- 5%)

Figure 3: Power and communication cable detail



3.3.2 Compatibility

Before use, this manual, the manual for the specific I.S instrument and the associated hazardous area location certificates must be consulted to determine their safety compatibility for Ex.

- This power and communication cable will charge the unit attached and may draw > 0.5amp. Crowcon therefore recommend the use of a powered USB hub. No specific UL certification label is required. Units will be supplied with ATEX/IECEx labelling

3.4 Bluetooth Enabled Power Cable

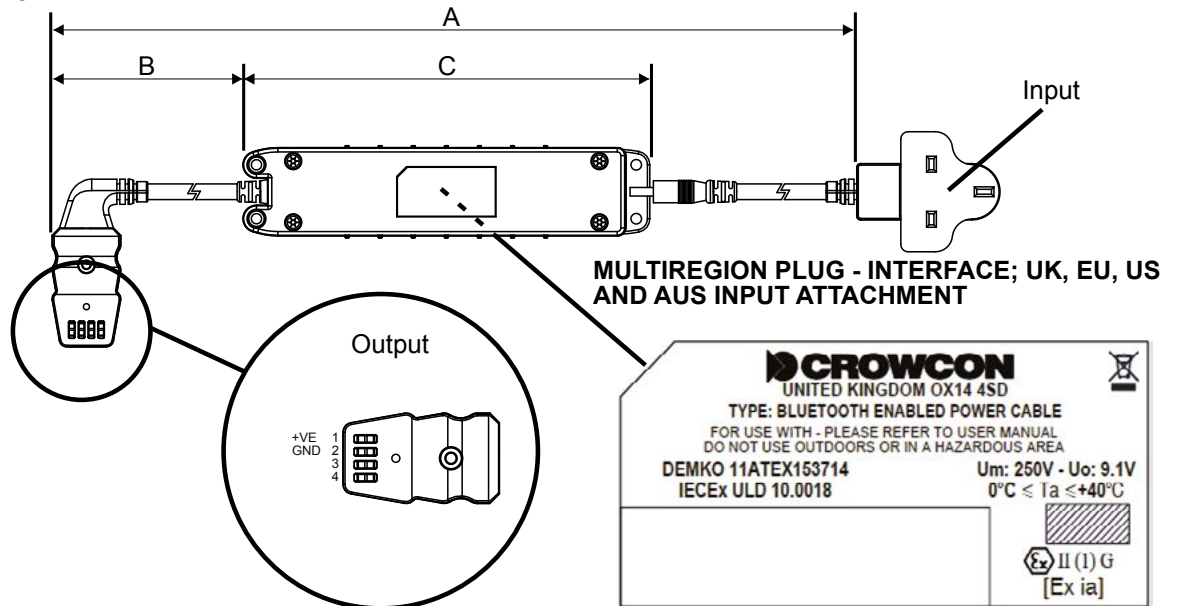
3.4.1 Specification

Dimensions: A = 2 metres
B = 300mm
C = 166mm (typical)
Height = 37mm

Cable Assembly Input: 6.5V DC output (+/- 5%) from AC Adaptor 110v / 240v 50/60 Hz

Cable Assembly Output: Comms - 3.0V TTL (+/- 5%)
Power - 6.5V DC (+/- 5%)

Figure 4: Power cable detail



3.4.2 Compatibility

Before use, this manual, the manual for the specific I.S instrument and the associated hazardous area location certificates must be consulted to determine their safety compatibility for Ex.

- ! No specific UL certification label is required. Units will be supplied with ATEX/IECEX labelling. Use only Crowcon supplied AC Adaptor. Not suitable for use with other AC Adaptors as these may cause damage to the unit.

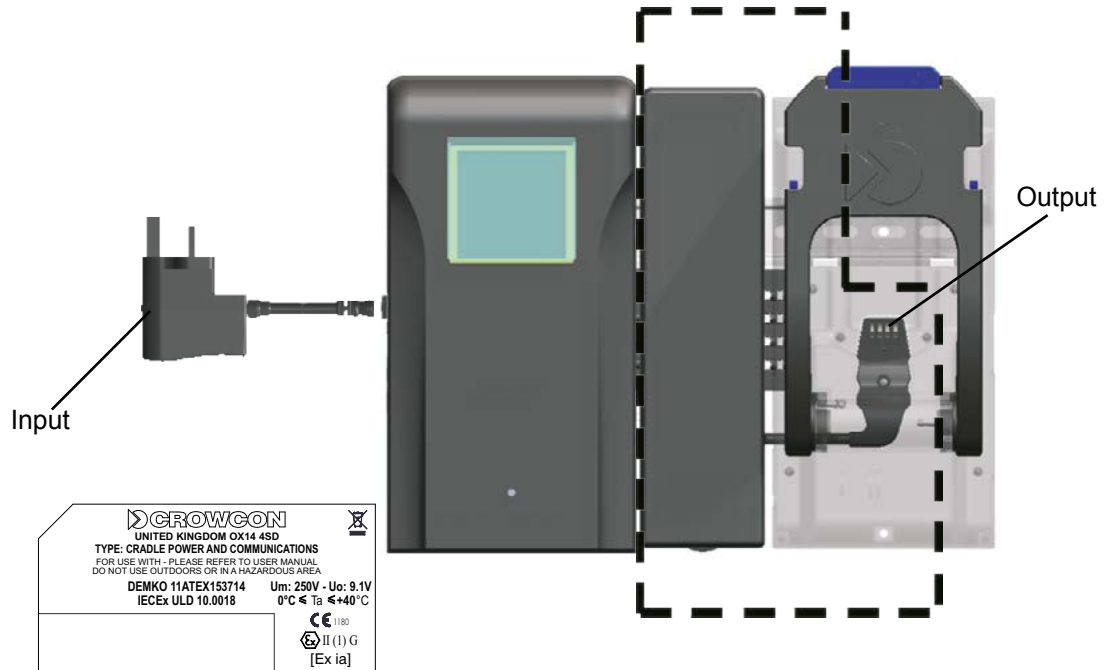
3.5 Cradle power and communications

3.5.1 Specification

Assembly Input: Power – 9v -12v (+/-10%) @850mA DC

Assembly Output: Comms - 3.0V TTL (+/- 5%)
Power - 6.5V DC (+/- 5%)

Figure 5: Cradle power and communication cable detail



The power and communications cradle (within the highlighted area) is not available separately, please refer to **Crowcon** user manual M070002.

3.5.2 Compatibility

Before use, this manual, the manual for the specific I.S instrument and the associated hazardous area location certificates must be consulted to determine their safety compatibility for Ex.

No specific UL certification label is required. Units will be supplied with ATEX/IECEX labelling.

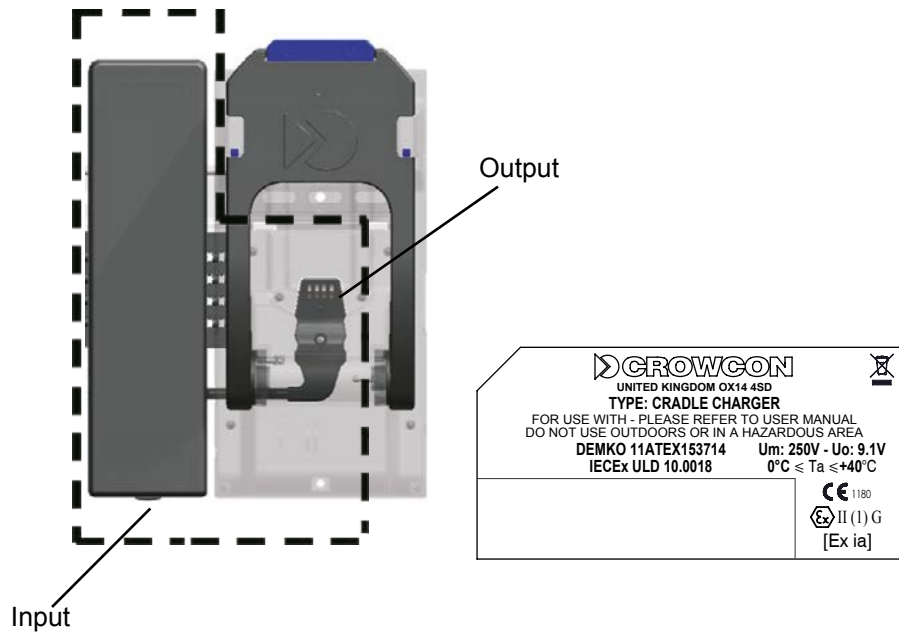
3.6 Cradle charger

3.6.1 Specification

Cable Assembly Input: 6.5V DC output (+/- 5%) from AC Adaptor 110v / 240v 50/60 Hz or standard automotive auxiliary socket

Cable Assembly Output: 6.5V DC (+/- 5%)

Figure 6: Cradle Charger detail



The cradle charger (within the highlighted area) is not available separately, please refer to **Crowcon** user manual M070031.

3.6.2 Compatibility

Before use, this manual, the manual for the specific I.S instrument and the associated hazardous area location certificates must be consulted to determine their safety compatibility for Ex.

- No specific UL certification label is required. Units will be supplied with ATEX/IECEx labelling. Use only Crowcon supplied AC Adaptor. Not suitable for use with other AC Adaptors as these may cause damage to the unit.**

3.7 Mounting

The charging boxes have been designed to allow mounting on a wall, under a desk, etc. Use M4 or equivalent length screws for wall mounting or cable ties to secure to a desk leg.

3.8 Accessories

For full details on the charging and communications accessories available please refer to the Gas-Pro User & Operator Manual M07995 and the T4 User & Operator Manual M070031.

Part Number	Description
CH0100	Multi-region power lead (includes CH0101 & CH0102)
CH0101	Multi-region power supply
CH0102	Charging lead
CH0103	USB communications lead (not powered)
CH0104	USB communication and power lead
CH0106	Vehicle charging adapter (use with CH0102)
CH0107	5 Way multi-region power supply (Note: only for use with charging leads with serial numbers greater than W186762)
CH0200	INMETRO multi-region power lead (includes CH0101 and CH0202)
CH0202	INMETRO Charging lead
CH0203	INMETRO USB communications lead (not powered)
CH0204	INMETRO USB communication and power lead
T4-CRD	T4 Cradle charger cradle comes with multiregional power supply
T4-TWC	T4 Ten way charger with multi-regional power supply
T4-VHL	T4 vehicle charger, includes vehicle charging adaptor
T4-VHL-BR	INMETRO T4 vehicle charger, includes vehicle charging adaptor
BT-CH-01	Bluetooth Enabled Charger Cable & Multi-region PSU
BT-CH-02	INMETRO Bluetooth Enabled Charger Cable & Multi-region PSU

Warranty

This equipment leaves our factory fully tested. If within the warranty period of two years from dispatch, the equipment is proved to be defective by reason of faulty workmanship or material, we undertake at our option either to repair or replace it free of charge, subject to the conditions below.

Warranty Procedure

To facilitate efficient processing of any claim, contact our customer support team on +44 (0)1235 557711 or customersupport@crowcon.com with the following information:

Your contact name, phone number, fax number and email address.

Description and quantity of goods being returned, including any accessories.

Instrument serial number(s).

Reason for return.

Alternatively, please visit the Crowcon website for further details on instrument warranty.

<https://www.crowcon.com/service-and-support/warranty.html>

A Crowcon product will not be accepted for warranty without a **Crowcon Returns Number (CRN)**. It is essential that the address label is securely attached to the outer packaging of the returned goods.

The guarantee will be rendered invalid if the instrument is found to have been altered, modified, dismantled, tampered with, or has not used Crowcon spares for replacement parts. The warranty does not cover misuse or abuse of the unit.

Product Use:

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement Crowcon Detection Instruments Limited reserves the right to make product changes without notice. The products are routinely subject to a programme of testing which may result in some changes in the characteristics quoted. Technical information contained in this document or otherwise provided by Crowcon are based upon records, tests, or experience that the company believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Many factors beyond Crowcon Detection Instruments' control and uniquely within user's knowledge and control can affect the use and performance of a Crowcon product in a particular application.

As the products may be used by the client in circumstances beyond the knowledge and control of Crowcon Detection Instruments Limited, we cannot determine the relevance of these to an individual customer's application. It is the clients' sole responsibility to carry out the necessary tests to evaluate the usefulness of the products and review all applicable regulations and standards to ensure their safety of operation in a particular application.

Warranty, Limited Remedy, and Disclaimer:

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Limitation of Liability:

Except where prohibited by law, Crowcon will not be liable for any loss or damage arising from the Crowcon product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

Crowcon accept no liability for consequential or indirect loss or damage howsoever arising (including any loss or damage arising out of the use of the instrument) and all liability in respect of any third party is expressly excluded.

This warranty does not cover the accuracy of the calibration of the unit or the cosmetic finish of the product. The unit must be maintained in accordance with the instructions in this manual.

The warranty on replacement consumable items supplied under warranty to replace faulty items, will be limited to the unexpired warranty of the original supplied item.

Our liability in respect of defective equipment shall be limited to the obligations set out in the guarantee and any extended warranty, condition or statement, express or implied statutory or otherwise as to the merchantable quality of our equipment or its fitness for any particular purpose is excluded except as prohibited by statute. This guarantee shall not affect a customer's statutory rights.

Crowcon reserves the right to apply a handling and carriage charge whereby units returned as faulty, are found to require only normal calibration or servicing, which the customer then declines to proceed with.

For warranty and technical support enquiries please contact:

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