Further Information

Please refer to **Crowcon** website, www.crowcon.com to download the full **T4** User and Operator manual (M070044), including safety information and language translations.

Por favor, diríjase a la página web de **Crowcon**, www.crowcon.com, para descargarse el manual completo de Usuario y Operador **T4** (M070044) que incluye la información de seguridad y las traducciones.

Das vollständige **T4** Benutzer- und Bedienerhandbuch sowie sämtliche Sicherheitsinformationen und Übersetzungen in verschiedene Sprachen finden Sie auf unserer Webseite www.crowcon.com zum Download.

Consultare il sito web di **Crowcon**, www.crowcon.com, per scaricare il manuale d'uso e funzionamento **T4** (M070044) completo e comprensivo delle informazioni sulla sicurezza e delle traduzioni in altre lingue.

Pełną wersję Podręcznika żytkownika i operatora **T4** (M070044) włącznie z informacjami bezpieczeństwa oraz inne wersje językowe można pobrać z witryny internetowej **Crowcon** www.crowcon.com.

Veuillez-vous reporter au site Internet **Crowcon**, www.crowcon.com pour télécharger l'intégralité du manuel de l'utilisateur et de l'opérateur de **T4** (M070044), y compris les informations de sécurité et les traductions dans les autres langues.

Para acessar o Manual do Usuário e Operador do **T4** (M070044), incluindo informações de segurança e versões em outros idiomas, acesse o site da **Crowcon**, www.crowcon.com.

Zie de **Crowcon** website, www.crowcon.com, voor het downloaden van de volledige **T4** Handleiding voor gebruikers & operators (M070044), m.i.v. veiligheidsinformatie en vertalingen.

Consulte el sitio web de **Crowcon**, www.crowcon.com, para descargar el manual del usuario y operador de **T4** (M070044) completo, incluida la información de seguridad y sus traducciones.

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CROWCON
Detecting Gas Saving Lives

T4

Portable Multigas Detector

Quick Start Guide

M07080

Issue 3 June 2018

Certification labels

Temperature Classes T1, T2, T3 and T4. (see Certification label below).

T4 'Type 2' (as indicated on the certification label) may be used in Zones 0, 1 and 2, for Group IIA, IIB and IIC gases and vapours and for

The certification marking for ATEX, IECEx and UL marked T4 is as follows:

T4 is certified for use in ambient temperatures in the range −20°C to +55°C (−4 to 131°F).

These devices are intended for use in normal atmospheric conditions of temperature −20 °C to +55 °C; pressure 80 KPa (0,8 bar) to 110 KPa (1,1 bar); and air with normal oxygen content, typically 21 % v/v (volume/volume).

IECEx
IEC 60079-0: 2013 6th Edition
explosive gas atmospheres Part 0: General requirements
IEC 60079-1:2014 7th Edition (T4 Type 2 only)
Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2014 6th Edition
Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Ex db ia IIC T4 Gb Tamb -20°C to +55°C (T4 Type 2)
IECEx ULD 15.0002X

ATEX
EN 60079-0: 2012 + A11:2013
Explosive atmospheres – Part 0: Equipment - General requirements
EN 60079-1:2014 (T4 Type 2 only)
Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
EN 60079-11:2012
Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
II 2 G Ex db ia IIC T4 Gb Tamb- -20°C to +55°C (T4 Type 2)
DEMKO 15 ATEX 1411

UL
Gas detector use in hazardous locations Class 1 Division 1, Groups A, B, C and D only as to intrinsic safety
UL 913   Applicable Edition of the UL standard
UL 60079-0:2013   Applicable Edition of the UL standard
UL 60079-11:2013   Applicable Edition of the UL standard

Safety Information

T4 is a hazardous area certified gas detector and as such must be operated and maintained in strict accordance with the instructions, warnings and label information included in this manual. **T4** must be operated within the limitations stated.

- Read and understand all instructions in the operation section of the manual prior to use.
- Before use ensure that the equipment is in good condition, the enclosure is intact and 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
- Do not disassemble or substitute components as this may impair intrinsic safety and invalidate safety certification.
- Only genuine Crowcon replacement parts must be used; substitute components may invalidate certification and warranty of the T4 and accessories, reference "Service and Maintenance" section of the manual for details.
- No live maintenance is permissible
- Observe all warnings and instructions marked on the unit and within the manual.
- Observe site health and safety procedures for gases being monitored and evacuation procedures.
- Understand the screen display and alarm warnings prior to use.
- If this product is not working properly, read the troubleshooting guide and/or contact your local Crowcon office or agent, for details reference the 'Crowcon Contacts' section of the manual
- Ensure maintenance, service and calibration is carried out in accordance with the procedures in the manual and only by trained personnel.
- Charging & Communication (Um = 9.1V)
- The **T4** re-chargeable battery must only be charged in non-hazardous (safe) areas.
- Only connect to **T4** in a safe area for charging or communications
- **T4** must not be charged or have communication to the device, at ambient temperatures outside the range 0°C to +40°C.
- **T4** has been certified and marked Um = 9.1V therefore, if charging **T4** via the **T4** Charger Cradle use only Crowcon supplied AC Adaptor. Otherwise this may impair intrinsic safety and invalidate safety certification
- **T4** has been certified and marked Um = 9.1V therefore, if charging **T4** via the **T4** 10 way charger use only Crowcon supplied AC Adaptor. Otherwise this may impair intrinsic safety and invalidate safety certification
- Alternative charging and communication cable assemblies types "power cable", "communication cable", "power and communication cable", "vehicle power cable", "cradle power and communications" and "cradle charger" are suitable for use with T4.
- Refer to Power & Communication Cables Technical Data" manual (M07996) for further details

PRODUCT OVERVIEW & SET UP

Before use, **T4** should always be checked for any signs of physical damage. If this is the first time of use, the battery will require charging to attain the full operating time. The typical battery run time for **T4** is 18 hours.

T4 Orientation

+ve safety™ indicator
Alarm bars
Gas sensors
2-4 depending on model
Integral rubber boot
Level display screen
95 dB alarm
One button operation
Double click to enter menu

Before Operating T4

Before turning **T4** on ensure you are in 'clean air' (i.e. outside, in normal air away from any plant process or suspected gas location). This will allow **T4** to be zeroed using clean air as the base point. If **T4** is zeroed in contaminated air a false gas reading can result, or the zero could fail.
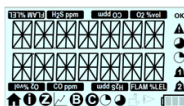
Turn On Your T4

Turn on **T4** by holding down the operator button for 3 audible short blips followed by one longer tone. **T4** will warm up and go through a series of automatic processes as follows:

i **T4 will not respond to gas until the startup sequence is complete.**

Firstly a test screen will be displayed showing all the possible LCD segments and icons turned on.
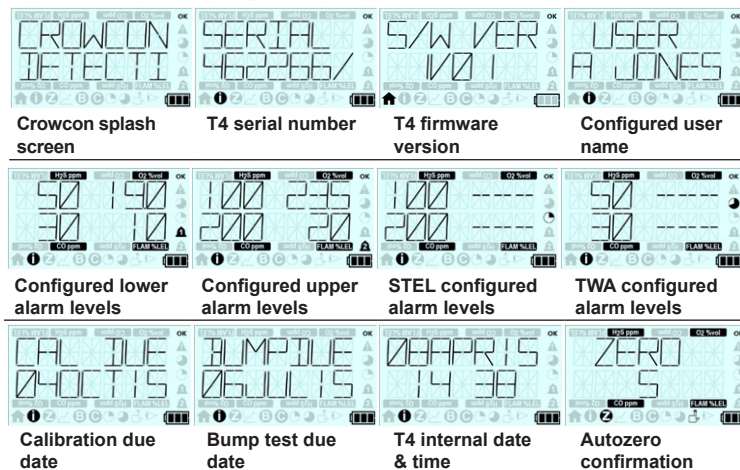
If **T4** is switched on within 8 hours of being switched off, the following screen will be displayed allowing **T4** to retain TWA, STEL and peak readings (refer to the **T4** User and Operator Manual for further details on this feature).

Simply click the operator button to retain or do not click the operator button and allow countdown to expire.

The following screens will then be shown (Note that not all screens may be shown and will be dependent upon configuration settings).

CROWCON DETECTI	SERIAL 4622266/	S/W VER 1/01	USER A JONES
Crowcon splash screen	T4 serial number	T4 firmware version	Configured user name
50 190 / 30 10	100 235 / 200 20	100 ----- / 200 -----	50 ----- / 30 -----
Configured lower alarm levels	Configured upper alarm levels	STEL configured alarm levels	TWA configured alarm levels
CAL DUE 04OCT15	BUMPDUE 06JUL15	08APR15 14 38	ZERO 5
Calibration due date	Bump test due date	T4 internal date & time	Autozero confirmation

After a successful test cycle the screen will revert to the 'home screen'.

Alarms

Low battery
T4 will indicate a low battery alarm when the battery has a maximum of 30 minutes remaining life.

Instantaneous alarm
T4 will go into alarm immediately if the level of any gas exceeds acceptable limits, **T4** will indicate an alarm state '1' or alarm state '2' according to which level has been exceeded (see alarm icon table).

Short term exposure (STEL)
For each toxic gas being monitored **T4** stores information about the gas levels detected to determine the average exposure over a 15 minute running period. If the average levels exceed predetermined levels, **T4** will go into alarm (see alarm icon table).

Time weighted average alarm (TWA)
For each toxic gas being monitored **T4** stores information about the gas levels detected to determine the average exposure over an 8 hr running period. If the average levels exceed predetermined levels, **T4** will go into alarm (see alarm icon table).

Display Alarm Icons

Icon	Description	Action
OK	Status OK	No action required
⚠	Fault status	Refer to manual
◑	Long term exposure alarm (TWA)	Follow site procedure
◔	Short term exposure alarm (STEL)	Follow site procedure
1	Alarm 1	Follow site procedure
2	Alarm 2	Follow site procedure

Accessing Menu Functions

With the home screen displayed, double click the operator button to access the menu functions. Single click the operator button repeatedly to scroll right until the required menu icon is displayed and then double click the operator button to select the function.

Menu Function & Icons

🏠 When this icon is selected, the Home screen will be displayed.

ℹ The information function displays **T4** status/configuration.

Z The manual zero function allows **T4** to be zeroed at any time.

📈 The peak mode function allows the peak gas readings to be displayed.

B The bump test function allows **T4** to be bump tested at anytime.

C The calibration function allows **T4** to be calibrated at anytime.

◔ The STEL function allows the current STEL value to be displayed.

◑ The TWA (or long term exposure limit) function allows the current TWA value to be displayed.

+ve Safety™

+ve Safety™ is a quick and easy indication of the operating status of **T4**, this status is indicated by a front mounted LED.
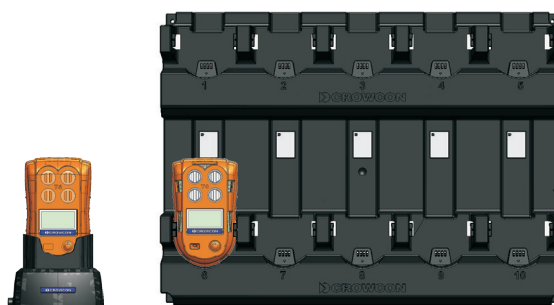
When the +ve Safety™ LED is illuminated green, this indicates that the unit is functioning as required and no further action is necessary. This enables users and supervisors to easily see that the employee is safe and following work procedures.

When the +ve Safety™ LED is illuminated red this indicates that one of the following situations has occurred and will require user action:

Battery is critically low: The battery has a maximum of 30 minutes runtime before it will be completely depleted. This will be accompanied by additional alerts signifying a low battery.

Bump test is required: Bump test has failed or exceeded the due date required to meet site procedures. The bump test due date can be reviewed via the information menu.

Calibration is due: Calibration has failed or exceeded the due date required to meet the site procedure. The calibration due date can be reviewed via the information menu.

T4 is in gas alarm: This could be a high or low gas alarm, or a STEL or TWA alarm. The **T4** display will indicate which alarm type has been activated by the relevant icon being displayed on the screen.

T4 fault: **T4** must be reviewed by trained personnel for repair as **T4** has detected an internal fault. An appropriate fault warning will also have been shown on the display.

Charging & Battery Indications

Charging must take place in non-hazardous (safe) areas. To charge **T4**, simply plug it into either the desktop charging unit or the ten-way charging unit.

Only Crowcon supplied AC Adaptors must be used.

When **T4** is powered off and placed in a charger, the +ve Safety™ LED will indicate charging status. Whilst charging the +ve Safety™ LED will flash red, then when fully charged the LED will flash green. The **T4** battery icon contains 3 segments and indicates charging by sequentially filling the segments and repeating this process.

If **T4** is switched on whilst charging, after approximately 30 minutes of being on charge **T4** will automatically power down and continue charging,

Whilst **T4** is not charging the battery icon segments, indicate the battery's state of charge.

When fully charged and all three segments are shown, the battery typically has a maximum of 18 hours run time. When **T4** changes from three to two segments the battery typically has a maximum of 12 hours run time. When **T4** changes from two segments to one, the battery typically has a maximum of 8 hours run time. When the battery icon is flashing with no segments the battery typically has a maximum of 30 minutes run time before the battery will be depleted.