



# Certificate of Compliance

**Certificate Number:** LR 90397-6

**Revision:**

**Date Issued:** April 3, 1995

**Issued To:** CROWCON DETECTION INSTRUMENTS LTD.  
2 Blacklands Way  
Abingdon Business Park  
Abingdon, Oxon  
OX14 1DY, England

*The products listed below are eligible to bear the CSA Mark.*

**Issued By:** Andrew Redeker, C.E.T.  
Edmonton, Alberta Canada

**Signature** *P Andrew Redeker*

## CLASS

CLASS 4828 01 - SIGNAL APPLIANCES - Combustible Gas Detection Instruments - For Hazardous Locations

## PRODUCTS

Class I, Groups A, B, C and D:

"DETECTIVE", portable, four channel, multi-gas detectors (combustibles, toxics and oxygen), battery operated ("CROWCON" battery pack Cat No CO1-406); Intrinsically safe, Temp Code T3A, Encl Type 3R.



## Certificate of Compliance

Certificate Number: LR 90397-6

Revision:

Date Issued: April 3, 1995

### APPLICABLE REQUIREMENTS

- CSA Standard C22.2 No 0-M1991 - General Requirements - Canadian Electrical Code Part II.
- 0.4-M1982 - Bonding and Grounding of Electrical Equipment (Protective Grounding).
- 94-M1991 - Special Purpose Enclosures.
- 142-M1987 - Process Control Equipment.
- 152-M1984 - Combustible Gas Detection Instruments.
- 157-M1992 - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.

### MARKINGS

- (1) Submitter's name, trademark, or the CSA file number (adjacent the CSA Mark).
- (2) Catalogue / Model designation.
- (3) Complete electrical rating (replacement battery pack type).
- (4) Date code / Serial number traceable to month and year of manufacture.
- (5) Hazardous Location designations. (Class I, Groups A, B, C and D)
- (6) The symbol "Exia".
- (7) Temperature code T3A.
- (8) CSA Enclosure Type 3R.
- (9) The CSA Mark.
- (10) The symbol "C22.2 No 152"
- (11) The following cautions:  
WARNING: UNDERSTAND MANUAL BEFORE OPERATING

The following warnings may be marked in the instruction manual or on the DETECTIVE gas detector:

- (a) CAUTION: FOR SAFETY REASONS THIS EQUIPMENT MUST BE OPERATED AND SERVICED BY QUALIFIED PERSONNEL ONLY. READ AND UNDERSTAND INSTRUCTION MANUAL COMPLETELY BEFORE OPERATING OR SERVICING;
- (b) WARNING - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY
- (c) WARNING - TO PREVENT IGNITION OF A HAZARDOUS ATMOSPHERE, BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS
- (d) WARNING: BATTERIES MUST ONLY BE CHARGED IN AN AREA KNOWN TO BE NONHAZARDOUS:

### REQUIRED METHOD OF MARKING:

The marking shall be permanent, such as a 0.5-mm thick metal nameplate secured by drive pins or screws in bottomed holes, cast, etched, or engraved.



## Certificate of Compliance

Certificate Number: LR 90397-6

Revision:

Date Issued: April 3, 1995

### FACTORY TESTS

#### Dielectric:

The equipment at the conclusion of manufacture, prior to shipment, shall withstand for one minute without breakdown, the application of the following ac potentials:

- (1) 1000 Vac plus twice the rated voltage between primary input circuits and non-current carrying parts.
- (2) 1000 Vac plus twice the rated voltage between primary input circuits and other low voltage or extra-low voltage circuits if such circuits leave or enter the enclosure.
- (3) 500 Vac between extra-low voltage circuits and non current carrying parts if such circuits leave or enter the enclosure.

#### NOTES:

- (1) As an alternative, potentials 20 percent higher may be applied for one second.
- (2) The required dielectric strength test may be made by applying a dc potential, providing it is 1.414 times the ac test potential.
- (3) Capacitors in the extra-low voltage circuits may be disconnected during the dielectric test.

#### WARNING:

The factory test(s) specified may present a hazard of injury to personnel and/or property, and should be performed by persons knowledgeable of such hazards, and under conditions designed to minimize the possibility of injury.



# Certificate of Compliance

**Certificate Number:** LR 90397-6

**Revision:** LR 90397-18

**Date Issued:** July 15, 1998

**Issued to:** CROWCON DETECTION INSTRUMENTS LTD.  
2 Blacklands Way  
Abingdon Business Park  
Abingdon, Oxon  
OX14 1DY, England  
Attention: Mr. Leigh Greenham

*The products listed below are eligible to bear the CSA Mark*

**Issued by:** G. Black  
Toronto, ON Canada

**Signature:** *Glen Black*

**CLASS** 4828 01 - SIGNAL APPLIANCES - Combustible Gas Detection Instruments - For Hazardous Locations

## **PRODUCTS**

Class I, Groups A, B, C and D:

"DETECTIVE", portable, four channel, multi-gas detectors (combustibles, toxics and oxygen), battery operated ("CROWCON" battery pack Cat No CO1-406); Intrinsically safe, Temp Code T3A, Encl Type 3R.



Certificate No: LR 90397-6

Date: July 15, 1998

Revision: LR 90397-18

### APPLICABLE REQUIREMENTS

CSA Standard C22.2 No 0-M1991	-	General Requirements - Canadian Electrical Code Part II.
0.4-M1982	-	Bonding and Grounding of Electrical Equipment (Protective Grounding).
94-M1991	-	Special Purpose Enclosures.
142-M1987	-	Process Control Equipment.
152-M1984	-	Combustible Gas Detection Instruments.
157-M1992	-	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.

### MARKINGS

- (1) Submitter's name, trademark, or the CSA file number (adjacent the CSA Mark).
- (2) Catalogue / Model designation.
- (3) Complete electrical rating (replacement battery pack type).
- (4) Date code / Serial number traceable to month and year of manufacture.
- (5) Hazardous Location designations. (Class I, Groups A, B, C and D)
- (6) The symbol "Exia".
- (7) Temperature code T3A.
- (8) CSA Enclosure Type 3R.
- (9) The CSA Mark.
- (10) The symbol "C22.2 No 152"
- (11) The following cautions:  
WARNING: UNDERSTAND MANUAL BEFORE OPERATING

The following warnings may be marked in the instruction manual or on the DETECTIVE gas detector:

- (a) CAUTION: FOR SAFETY REASONS THIS EQUIPMENT MUST BE OPERATED AND SERVICED BY QUALIFIED PERSONNEL ONLY. READ AND UNDERSTAND INSTRUCTION MANUAL COMPLETELY BEFORE OPERATING OR SERVICING;
- (b) WARNING - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY
- (c) WARNING - TO PREVENT IGNITION OF A HAZARDOUS ATMOSPHERE, BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS
- (d) WARNING: BATTERIES MUST ONLY BE CHARGED IN AN AREA KNOWN TO BE NONHAZARDOUS:

### REQUIRED METHOD OF MARKING:

The marking shall be permanent, such as a 0.5-mm thick metal nameplate secured by drive pins or screws in bottomed holes, cast, etched, or engraved.



## *Supplement to Certificate of Compliance*

**Certificate Number:** LR 90397-6

**Issued to:** CROWCON DETECTION INSTRUMENTS LTD.  
2 Blacklands Way  
Abingdon Business Park  
Abingdon, Oxon  
OX14 1DY, England  
Attention: Mr. Leigh Greenham

*The products listed, including the latest revision described below,  
are eligible to be marked in accordance with the referenced Certificate.*

**Issued By:** G. Black  
Toronto, ON Canada

**Signature:** *Glen Black*

### **Product Certification History**

<b>Revision</b>	<b>Date</b>	<b>Description</b>
-18	July 15/98	Add new manufacturer for toxic cell.
-6	April 3/95	Certification of "Detective" gas detector.