



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 06.0028 issue No.:1

Status: Current

Certificate history:
Issue No. 1 (2014-8-14)
Issue No. 0 (2006-10-13)

Date of Issue: 2014-08-14 Page 1 of 5

Applicant: **Crowcon Detection Instruments Ltd**
172 Brook Drive
Milton Park
Abingdon
Oxon OX14 4SD
United Kingdom

Electrical Apparatus: **Detective+**
Optional accessory:

Type of Protection: **Intrinsic Safety and flameproof**

Marking: **Ex ib d IIC T4; Ta= -20°C to +50°C**

Approved for issue on behalf of the IECEx Certification Body: A G Boyes

Position: Certification Support Officer

Signature:
(for printed version)

Date:

2014-08-14.

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:
SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION





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Issue No.: 1

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Manufacturer: **Crowcon Detection Instruments Ltd**
172 Brook Drive
Milton Park
Abingdon
Oxon OX14 4SD
United Kingdom

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/SIR/ExTR06.0097/00](#)

[GB/SIR/ExTR14.0185/00](#)

Quality Assessment Report:

[GB/BAS/QAR06.0070/00](#)
[GB/BAS/QAR06.0070/03](#)

[GB/BAS/QAR06.0070/01](#)

[GB/BAS/QAR06.0070/02](#)



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Certificate No.: IECEx SIR 06.0028

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Detective+ is a battery powered, transportable, multiple gas detector. There are various possible combinations of oxygen, toxic, biased toxic, thermal conductivity, flammable and infra-red sensors. A cluster of LEDs mounted on top of the instrument and an audible sounder provide alarm status. A continuous display is provided on an LCD panel mounted on the side of the instrument. The circuits are housed within an ABS enclosure, which is mounted within a steel tripod. The electronic circuits are located on two main circuit boards, with up to four daughter boards located adjacent to the gas sensors. The oxygen and toxic sensors are electrochemical and the thermal conductivity and flammable sensors are flameproof component-certified devices.

CONDITIONS OF CERTIFICATION: NO



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Certificate No.: IECEx SIR 06.0028

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Issue No.: 1

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EQUIPMENT(continued):

The unit is supplied from two internal battery packs each containing two 6 V lead-acid batteries and has an integral charger that may be connected to a 110 Vac or 240 Vac mains supply, depending on the factory setting of the supply voltage. Charging or replacement of the batteries is only permitted in a non-hazardous area. The unit also has a single rechargeable 2.4V back-up cell

The Detective+ incorporates a data logger and has an RS232 port for connection to a computer interface for the downloading of data when in the non-hazardous area. A single unit can be used alone or a number linked together via the two four-pin DIN sockets located on the back of the instrument, thus providing protection for a larger area.

The safety description for these interface socket is as follows

Refer to EQUIPMENT (continued) for Safety Parameters

	Intrinsically safe Second Detective+ (JP6 1-3)	Third Detective+(JP6 4-6)	Non-intrinsically safe Computer RS232(safe area) (JP6 9-12)
U_i	7.05 V	7.05 V	± 25 V o/c
I_i	18 mA	18 mA	
P_i	0.028 W	0.028 W	120 mW
C_i	0	0	-
L_i	0	0	-
U_o	7.05 V	7.05 V	-
I_o	18 mA	18 mA	-
P_o	0.028 W	0.028 W	-

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The equipment shall only be fitted with one IR Module.
2. If a suitably-certified sounder is fitted, it shall be compatible the Detective+ connection port, which has the following safety description.
 $U_i = 0$ $U_o = 27.3$ V $I_o = 0.047$ A $P_o = 0.154$ W $C_o = 88$ nF $L_o = 16.095$ mH
3. The charging voltage shall be adjusted at manufacture so as not to exceed 7.35 V at the battery connection to the 6V line.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 – this Issue introduced the following change:

1.	The recognition of a change of company address from 2 Blacklands Way, Abingdon, OX14 1DY to 172 Brook Drive, Milton Park, Abingdon, Oxon OX14 4SD.
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Certificate No.: **IECEX SIR 06.0028** Issue No.: **0**

Status: **Current**

Date of Issue: **2006-10-13** Page **1** of **4**

Applicant: **Crowcon Detection Inst Ltd**
2 Blacklands Way
Abingdon Business Park
Abingdon
Oxfordshire OX14 1DY
United Kingdom

Electrical Apparatus: **Detective+**
Optional accessory:

Type of Protection: **Intrinsic Safety and flameproof**

Marking: **Ex ib d IIC T4; Ta= -20°C to +50°C**

Approved for issue on behalf of the IECEx
Certification Body:

C Ellaby

Position:

Certification Officer

Signature:
(for printed version)

Date:

2006-10-13

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Certificate issued by:

SIRA Certification Service

South Hill
Chislehurst
Kent BR7 5EH
United Kingdom

sira
CERTIFICATION



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Manufacturer: **Crowcon Detection Inst Ltd**
2 Blacklands Way
Abingdon Business Park
Abingdon
Oxfordshire OX14 1DY
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Manufacturing location(s):

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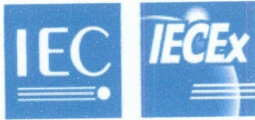
Schedule

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