

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

3 EU - Type Examination Certificate **Baseefa09ATEX0220X – Issue 6**
Number:

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **IR Gas Detector with Display**

5 Manufacturer: **Crowcon Detection Instruments Limited**

6 Address: **172 Brook Drive, Milton Park, Abingdon, Oxfordshire OX14 4SD**

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa09ATEX0220X to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **See Certificate History**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2012 + A11: 2013 EN 60079-1: 2014 EN 60079-11: 2012 EN 60079-31: 2014

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following :

⊕ II 2GD Ex db ia IIC T4 Gb (-40°C ≤ T_a ≤ +75°C)
Ex tb ia IIIC T135°C Db (-40°C ≤ T_a ≤ +40°C) – Remote & Handheld Display Variants

⊕ II 2G Ex db ia IIC T4 Gb (-40°C ≤ T_a ≤ +75°C) – Fixed Display Variants

SGS Baseefa Customer Reference No. **0249**

Project File No. **15/0089**

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SGS Baseefa Limited

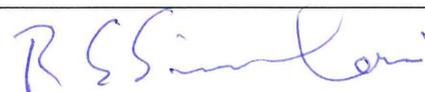
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Registered in England No. 4305578.

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R S SINCLAIR

TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa09ATEX0220X – Issue 6

15 Description of Product

The IR Gas Detector with Display comprises a stainless steel housing with a transparent sapphire detector window fitted to the end and clamped in place. A protective weatherproof cover manufactured in an antistatic plastic material is fitted over the sapphire window. The housing contains optics and a stacked PCB assembly. At the opposite end to the window is an IS Interface assembly. The IS Interface, on two encapsulated PCB's, provides an intrinsically safe output to power the display which contains one more PCB. The display may be directly mounted on the gas detector or remotely mounted using up to 30 metres of cable which is fitted with connectors at each end. The connection arrangement and the enclosures protect the intrinsically safe circuits to at least IP20. The interface assembly is secured against unintentional removal from the main gas detector by a securing plate fixed in position by cap screws with an internal hexagon head.

The internal circuits of the IR Gas Detector are rated up to a maximum of 32V and 5W, of which less than 0.7W is present at the display.

A Handheld Display is also available and is designed for connection to the IR Gas Detector only while the equipment is being calibrated. Once calibration is complete the Handheld Display is removed. The display is fitted with a 1.5 metre cable with a L/R ratio not exceeding 23μH/Ω.

In cases where the IR Gas Detector is installed in a location where it is difficult to connect the handheld display to it, a Remote Calibration Box can be connected to the detector. The Remote Calibration Box comprises a black polyester enclosure fitted with two inter-connected polarised connectors permitting connection to the Gas Detector via a cable of up to 28.5 metres and a L/R ratio not exceeding 23μH/Ω and the Handheld Display.

All variants of the IR Gas Detector with Display are suitable for installation in an explosive gas atmosphere, but the Remote and Handheld Display variants of the equipment can be additionally installed in an explosive dust atmosphere with the Gas Detector and I.S interface, and where applicable the Remote Calibration Box, mounted in the hazardous area and the remote or Handheld Display mounted in the non-hazardous area. Based on this, the following variants of the IR Gas Detector with Display are marked as follows: -

IR Gas Detector with Fixed Display	⊕ II 2G	Ex db ia IIC T4 Gb (-40°C ≤ T _a ≤ +75°C)
IR Gas Detector with Remote or Handheld Display	⊕ II 2GD	Ex db ia IIC T4 Gb (-40°C ≤ T _a ≤ +75°C) Ex tb ia IIIC T135°C Db (-40°C ≤ T _a ≤ +40°C)

For the Ex db / Ex tb part (Main Gas Detector)

Two cable entry holes are provided as specified on the certified drawings for the accommodation of a flameproof cable entry device, with or without the interposition of a flameproof thread adapter. One cable entry is of thread form M20, and the other is of thread form ½" NPT. The cable entry thread form for each cable entry is identified on the body of the IR Gas Detector by etched markings.

The cable entry device and thread adapter shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a component) under an EU Type Examination Certificate to Directive 2014/34/EU.

Any unused cable entry holes must be fitted with a suitable flameproof stopping plug certified as Equipment (not a component) under an EU Type Examination Certificate to Directive 2014/34/EU.

When the Remote and Handheld variants are mounted in an explosive dust atmosphere, cable entry device and thread adapter shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a component) under an EU Type Examination Certificate to Directive 2014/34/EU with a minimum ingress protection of at least IP6x.

For the Ex i part (IS Interface & Display)

The L/R ratio of the interconnecting cable for the Remote & Handheld Display must not exceed 23μH/Ω.

Two contacts on the front of the display are intended for connection to a HART communicator, Emerson Type 375 Communicator to Certificate BVS 03 ATEX E 347 & IECEx BVS 08.0044 or equivalent. The output parameters for these contacts are $U_o = 5.9V$, $I_o = 19mA$, $P_o = 28mW$, $C_i = 0$ and $L_i = 0$.

The contacts on the front of the display are not protected to IP20, however the possible output has a FOS of at least 250 so does not pose a hazard.

16 Report Number

See Certificate History.

17 Specific Conditions of Use

1. The equipment must be earthed using the cable gland and steel armoured cable.
2. IR Gas Detectors with Remote & Hand Held Displays Only: When located in an explosive dust atmosphere, the display must only be mounted in the non-hazardous area.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
6029* ¹	1 of 1	03	08/11/2017	Barrier Outer Adapter
6034-CERT	1 of 1	06	17/02/2014	IREX / IRmax I.S. Transformer Certification Drawing
6651-CERT* ¹	1 of 1	20	10/04/2018	IREX / IRmax IIC General Assembly
6705-CERT* ¹	1 of 1	09	31/08/2018	IREX / IRmax IS Interface
6730	1 of 1	04	02/12/2016	IREX / IRmax With Display Certification Label
6743-CERT	1 of 1	04	25/04/2012	IREX / IRmax Configurations
MCAD-000351	1 of 1	04	21/03/2017	Cert Label – IRmax Remote Display

The drawings marked *¹ are associated and held with IECEx Certificate No. IECEx BAS 09.0104 Iss. 7, but also associated with IECEx Certificate No. IECEx BAS 09.0109X Iss. 6 and ATEX Certificate No. Baseefa09ATEX0206X Iss. 5.

The remaining drawings are associated and held with IECEx Certificate No. IECEx BAS 09.0104 Iss. 7.

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
6693-CERT	1 of 1	7	07/09/2010	IREX / IRmax Fixed Display Certification GA
6729-CERT	1 of 1	8	08/09/2010	IREX / IRmax Remote Display Configuration
6713-CD-CERT	1 of 1	8	9/12/09	IRMAX Display Barrier Encapsulated Ex ia Circuit Diagram
6713-PL-CERT	1 of 1	8	9/12/09	IRMAX Display Barrier Encapsulated Ex ia Certified Parts List
6713-PCB-CERT	1 to 6	8	10/12/09	IRMAX Display Barrier Encapsulated Ex ia PCB Details

Number	Sheet	Issue	Date	Description
6663-CD-CERT	1 of 1	9	09.12.09	IRMAX Display Barrier Ex ia, Circuit Diagram
6663-PL-CERT	1 of 1	9	09.12.09	IRMAX Display Barrier Ex ia, Certified Parts List
6663-PCB-CERT	1 to 6	9	11/12/09	IRMAX Display Barrier Ex ia PCB Details
6610-CD-CERT	1 of 1	3	13.7.09	IRES Display Circuit Diagram
6610-PL-CERT	1 of 1	3	13.7.09	IRES Display Certified Parts List
6610-PCB-CERT	1 to 6	3	26.08.09	IRES Display PCB Details
6034-CERT	1 of 1	4	07/09/2010	IRES / IRmax I.S. Transformer
6044-CERT	1 of 1	1	09/09/2010	IRES / IRmax Hand Held Remote Configuration
6052-CERT	1 of 1	03	28/02/2012	IRES / IRmax Calibration Configuration
MCAD-000355	1 of 1	02	28/02/2012	IRES / IRmax Calibration Box Assembly – Black GRP

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 09.0104X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa09ATEX0220X	26 April 2010	The release of the prime certificate. The associated test and assessment is documented in Test Report No.'s. GB/BAS/ExTR09.0146/00 & GB/BAS/ExTR09.0155/00.
Baseefa09ATEX0220X/1	27 October 2010	To permit: - i) the option of fitting a Hand Held Display to the variants of the IR Gas Detector fitted with the IS Barrier Module. The fitting of the Hand Held Display does not affect the original assessment of the IR Gas Detector and it's IS interface. ii) the option of fitting a Remote Calibration Box to variants of the IR Gas Detector fitted with the IS Barrier Module where it is difficult to connect the Hand Held Display to the equipment for calibration due to its position of installation. The fitting of the Remote Calibration Box does not affect the original assessment of the IR Gas Detector and it's IS interface. iii) minor drawing changes not affecting the original assessment. The above test and assessment is documented in Certification Report No.'s GB/BAS/ExTR10.0231/00 & GB/BAS/ExTR10.0243/00.
Baseefa09ATEX0220X/2	26 September 2011	To permit a minor mechanical change to the I.S. interface not affecting the original assessment. The above test and assessment is documented in Certification Report No. GB/BAS/ExTR11.0210/00.
Baseefa09ATEX0220X/3	5 January 2012	To permit the change of material of the Remote Calibration Box fitted on some variants of the equipment to a black polyester enclosure. This change does not affect the original assessment. The above test and assessment is documented in Certification Report No. GB/BAS/ExTR11.0309/00.

Certificate No.	Date	Comments
Baseefa09ATEX0220X/4	2 May 2012	To permit: - i) an alternative optional cement to be used on the equipment not affecting the original assessment. ii) minor drawing changes not affecting the original assessment. The above test and assessment is documented in Certification Report No. GB/BAS/ExTR12.0063/00.
Baseefa09ATEX0220X/5	24 April 2013	To permit a minor marking change on the Main Gas Detector Housing not affecting the original assessment. The above change is documented in Certification Report No. GB/BAS/ExTR13.0064/00.
Baseefa09ATEX0220X Issue 6	3 October 2018	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2012 + A11: 2013, EN 60079-1: 2014 and EN 60079-11: 2012 including the revision of the marking in accordance with these standards. This issue also permits: - i) The additional assessment of the remote display variants of the IR Gas Detector fitted with the IS Barrier against the dust requirements of EN 60079-0: 2012 + A11: 2013, EN 60079-11: 2012 and EN 60079-31: 2014 permitting the mounting of this assembly in the explosive dust atmosphere with the remote display only mounted in the non-hazardous area. This variants of equipment is additionally marked with the following dust Certification Code: - $\text{Ex} \text{ II 2GD Ex tb ia IIIC T135}^\circ\text{C Db } (-40^\circ\text{C} \leq T_a \leq +40^\circ\text{C})$ The certificate schedule was revised to detail the dust certification and a Specific Condition of Use was added to the certificate specifying the display must only be mounted in the non-hazardous area. ii) Minor drawing changes not affecting the original assessment. The above test and assessment is documented in Certification Report No. GB/BAS/ExTR17.0131/00, Project Ref No. 15/0089.
For drawings applicable to each issue, see original of that issue.		

1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0220X/5**
- 4 Equipment or Protective System: **IR Gas Detector with Display**
- 5 Manufacturer: **Crowcon Detection Instruments Limited**
- 6 Address: **2 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire,
OX14 1DY**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0220X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0249**

Project File No. **12/0914**

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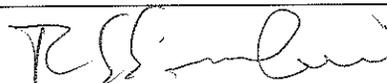
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R S SINCLAIR
GENERAL MANAGER

On behalf of SGS Baseefa Limited

Schedule

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Certificate Number Baseefa09ATEX0220X/5

15 **Description of the variation to the Equipment or Protective System**

Variation 5.1

To permit a minor marking change on the Main Gas Detector Housing not affecting the original assessment.

16 **Report Number**

GB/BAS/ExTR13.0064/00

17 **Specific Conditions of Use**

None additional to those listed previously

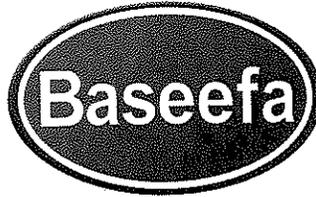
18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
6651-CERT	1 of 1	16	27/09/2012	IREX / IRmax IIC General Assembly

The above drawing is common to Baseefa09ATEX0206X/4, IECEX BAS 09.0104X Iss.5 and IECEX BAS 09.0109X Iss.4; a copy is held on both IECEX BAS 09.0104X Iss.5 & IECEX BAS 09.0109X Iss.4



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0220X/4**
- 4 Equipment or Protective System: **IR Gas Detector with Display**
- 5 Manufacturer: **Crowcon Detection Instruments Limited**
- 6 Address: **2 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire
OX14 1DY**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0220X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0249**

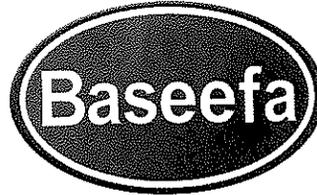
Project File No. **12/0221**

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Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR *M. P. O. W. N. E. Y*
DIRECTOR
On behalf of
Baseefa



Schedule

13

14

Certificate Number Baseefa09ATEX0220X/4

15 **Description of the variation to the Equipment or Protective System**

Variation 4.1

To permit an alternative optional cement to be used on the equipment not affecting the original assessment.

Variation 4.2

To permit minor drawing changes not affecting the original assessment.

16 **Report Number**

Baseefa Certification Report GB/BAS/ExTR12.0063/00

17 **Specific Conditions of Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

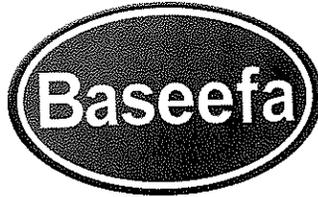
Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
6651-CERT*	1 of 1	15	12/03/2012	IREX / IRmax IIC General Assembly
6052-CERT**	1 of 1	03	28/02/2012	IREX / IRmax Calibration Configuration
MCAD-000355**	1 of 1	02	28/02/2012	IREX / IRmax Calibration Box Assembly – Black GRP

*The above drawing is common to Baseefa09ATEX0206X/3, IECEX BAS 09.0104X Issue 4 and IECEX BAS 09.0109X Issue 3; a copy is held on both IECEX BAS 09.0104X Issue 4 & IECEX BAS 09.0109X Issue 3.

** The above drawings are common to and held with IECEX Certificate No. IECEX BAS 09.0104X Issue 4.



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0220X/3**

4 Equipment or Protective System: **IR Gas Detector with Display**

5 Manufacturer: **Crowcon Detection Instruments Limited**

6 Address: **2 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire,
OX14 1DY**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0220X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0249**

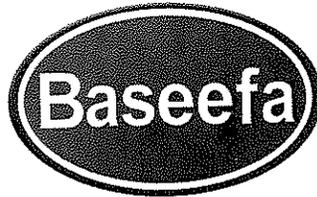
Project File No. **11/0924**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

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Baseefa is a trading name of Baseefa Ltd
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Schedule

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Certificate Number Baseefa09ATEX0220X/3

15 Description of the variation to the Equipment or Protective System

Variation 3.1

To permit the change of the material of the Remote Calibration Box fitted on some variants of the equipment.

The Remote Calibration Box now comprises a black polyester enclosure of the same dimensions of the original enclosure. The enclosure is fitted with the same two inter-connected polarised threaded connectors permitting connection to the IR Gas Detector, and to the Hand Held Display during calibration. The change does not affect the original assessment.

16 Report Number

GB/BAS/ExTR11.0309/00

17 Specific Conditions of Use

None additional to those listed previously

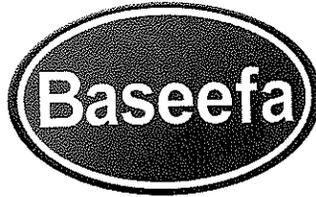
18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
6052-CERT	1 of 1	02	23/11/2011	IREX / IRmax Calibration Configuration
MCAD-000355	1 of 1	01	23/11/2011	IREX / IRmax Calibration Box Assembly – Black GRP

The above drawing is common to and held with IECEx Certificate No. IECEX BAS 09.0104X Issue 3



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
3 **Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0220X/2**

4 Equipment or Protective System: **IR Gas Detector with Display**

5 Manufacturer: **Crowcon Detection Instruments Limited**

6 Address: **2 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire,
OX14 1DY**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0220X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0249**

Project File No. **11/0584**

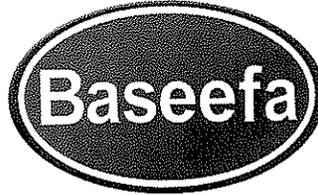
This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



Schedule

13

14

Certificate Number Baseefa09ATEX0220X/2

15 **Description of the variation to the Equipment or Protective System**

Variation 2.1

To permit a minor mechanical change to the I.S. interface not affecting the original assessment.

16 **Report Number**

GB/BAS/ExTR11.0210/00

17 **Specific Conditions of Use**

None additional to those listed previously

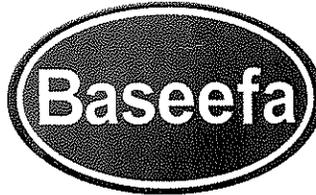
18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
6705-CERT	1 of 1	7	14/09/2011	IREX / IRmax I.S. Interface

This drawing is common to and held with IECEx Certificate No. IECEx BAS 09.0104X Issue 2.



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0220X/1**

4 Equipment or Protective System: **IR Gas Detector with Display**

5 Manufacturer: **Crowcon Detection Instruments Limited**

6 Address: **2 Blacklands Way, Abingdon Business Park, Abingdon,
Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0220X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0249**

Project File No. **10/0385**

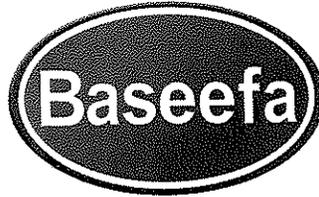
This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

A handwritten signature in black ink, appearing to read "R S Sinclair".

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Baseefa is a trading name of Baseefa Ltd
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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa09ATEX0220X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To permit the option of fitting a Hand Held Display to the variants of the IR Gas Detector fitted with the IS Barrier Module.

The Hand Held Display is designed for connection to the IR Gas Detector only while the equipment is being calibrated. Once calibration is complete the Hand Held Display is removed.

The Hand Held Display comprises the same display circuitry and enclosure as used on the remote mounted display variant previously certified. A 1.5 metre cable with a L/R ratio not exceeding $23\mu\text{H}/\Omega$ is fitted to the Display to permit connection to the IR Gas Detector.

The fitting of the Hand Held Display does not affect the original assessment of the IR Gas Detector and its IS interface.

Variation 1.2

To permit the option of fitting a Remote Calibration Box to the variants of the IR Gas Detector fitted with the IS Barrier Module.

The Remote Calibration Box is designed to provide a connection point for the IR Gas Detector when it is installed in a location where it is difficult to connect the Hand Held Display to the equipment for calibration.

The Configuration Box comprises a coated aluminium enclosure with two inter-connected threaded polarised connectors fitted, one for permanent connection to the IR Gas Detector and the other for connection to the Hand Held Display during calibration.

The cable connecting the Calibration Box to the IR Gas Detector must have a maximum length of 28.5 Metres and a L/R Ratio not exceeding $23\mu\text{H}/\Omega$.

The fitting of the Calibration Box does not affect the original assessment of the IR Gas Detector and its IS interface.

Variation 1.3

To permit minor drawing changes not affecting the original assessment.

16 Report Number

GB/BAS/ExTR10.0231/00 & GB/BAS/ExTR10.0243/00

17 Special Conditions for Safe Use

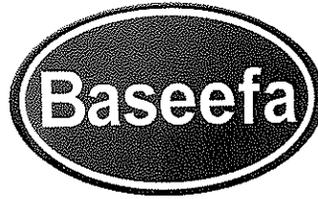
None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

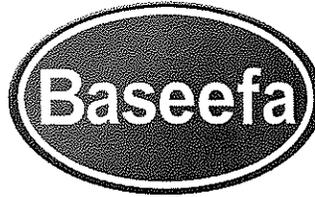
Number	Sheet	Issue	Date	Description
6034-CERT	1 of 1	4	07/09/2010	IREX / IRmax I.S. Transformer



Number	Sheet	Issue	Date	Description
6044-CERT	1 of 1	1	09/09/2010	IREX / IRmax Hand Held Remote Configuration
6052-CERT	1 of 1	1	02/09/2010	IREX / IRmax Calibration Configuration
6651-CERT*	1 of 1	13	06/09/2010	IREX / IRmax IIC General Assembly
6693-CERT	1 of 1	7	07/09/2010	IREX / IRmax Fixed Display Certification GA
6705-CERT	1 of 1	5	08/09/2010	IREX / IRmax I.S. Interface
6729-CERT	1 of 1	8	08/09/2010	IREX / IRmax Remote Display Configuration
6743-CERT	1 of 1	3	09/09/2010	IREX / IRmax Configurations

*This drawing is common to ATEX Certificate No. Baseefa09ATEX0206X/1, IECEx Certificate No's IECEx BAS 09.0104X/1 and IECEx BAS 09.0109X/1. Copies are held with both IECEx BAS 09.0104X/1 & IECEx BAS 09.0104X/1.

All other drawings are common to and held with IECEx Certificate No. IECEx BAS 09.0104X/1.



EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 EC - Type Examination Certificate Number: **Baseefa09ATEX0220X**
- 4 Equipment or Protective System: **IR Gas Detector with Display**
- 5 Manufacturer: **Crowcon Detection Instruments Limited**
- 6 Address: **2 Blacklands Way, Abingdon Business Park
Abingdon, Oxfordshire, OX14 1DY**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Reports No.
GB/BAS/ExTR09.0146/00 & GB/BAS/ExTR09.0155/00
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN60079-0:2006 EN60079-0:2009 EN60079-1:2007 EN60079-11:2007
except in respect of those requirements listed at item 18 of the Schedule.
- 10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :

⊕ II 2G Ex d ia IIC T4 Gb (-40°C ≤ Ta ≤ +75°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

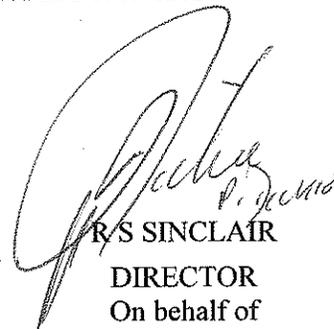
Baseefa Customer Reference No. **0249**

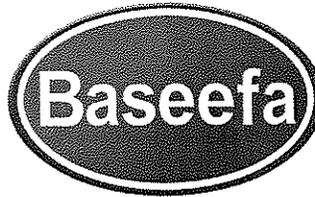
Project File No. **09/0508**

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R/S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa09ATEX0220X

15 Description of Equipment or Protective System

The IR Gas Detector with Display comprises a stainless steel housing with a transparent sapphire detector window fitted to the end and clamped in place. A protective weatherproof cover manufactured in an antistatic plastic material is fitted over the sapphire detector window. The housing contains optics and a stacked PCB assembly. At the opposite end to the window is an IS Interface assembly. The IS Interface, on two encapsulated PCBs, provides an intrinsically safe output to power the display which contains one more PCB. The display may be directly mounted on the gas detector or remotely mounted using up to 30m of cable which is fitted with connectors at each end. The connection arrangement and the enclosures protect the intrinsically safe circuits to at least IP20. The interface assembly is secured against unintentional removal from the main gas detector by a securing plate fixed in position by cap screws with an internal hexagon head.

The internal circuits of the IR Gas Detector are rated up to a maximum of 32V and 5W, of which less than 0.7W is present at the display.

For the Ex d part (main gas detector):

Two cable entry holes are provided as specified on the certified drawings for the accommodation of a flameproof cable entry device, with or without the interposition of a flameproof thread adapter. One cable entry is of thread form M20, and the other is of threadform ½" NPT. The cable entry thread form for each cable entry is identified on the body of the IR Gas Detector by etched markings.

The cable entry device and thread adapter shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC-Type Examination Certificate to Directive 94/9/EC.

Any unused cable entry holes must be fitted with a suitable flameproof stopping plug certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 94/9/EC.

For the Ex i part (IS Interface & display):

The L/R Ratio of the interconnecting cable for the remote display must not exceed $23\mu\text{H}/\Omega$.

Two contacts on the front of the display are intended for connection to a HART communicator, Emerson type 375 communicator to Certificate BVS 03 ATEX E 347 & IECEx BVS 08.0044, or equivalent. The output parameters for these contacts are $U_o = 5.9\text{V}$, $I_o = 19\text{mA}$, $P_o = 28\text{mW}$, $C_i = 0$ and $L_i = 0$.

The contacts on the front of the display are not protected to IP20, however the possible output has a FOS of at least 250 so it does not pose a hazard.

16 Report Number

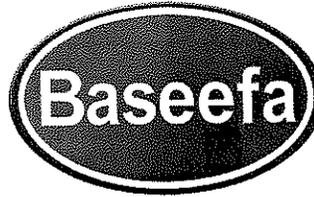
GB/BAS/ExTR09.0146/00 & GB/BAS/ExTR09.0155/00

17 Special Conditions for Safe Use

1. The equipment must be earthed using the cable gland and steel armoured cable.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.



19 Drawings and Documents

Number	Sheet	Issue	Date	Description
*6651-CERT	1 of 1	12	Apr-10	IREX IIC General Assembly (IR Gas Detector basic assembly with options)
6743-CERT	1 of 1	2	11-09	IREX/IRMAX (IR Gas Detector) Configurations
6693-CERT	1 of 1	6	02-10	IREX/IRMAX Fixed Display Certification GA
6729-CERT	1 of 1	7	03-10	IREX/IRMAX Remote Display Configuration (IR Gas Detector With Display)
6730-CERT	1 of 1	2	02/10	IREX / IRMAX With Display Certification Label (IR Gas Detector With Display)
6705-CERT	1 of 1	4	Mar-10	IREX/IRMAX IS Interface General Assembly
6713-CD-CERT	1 of 1	8	9/12/09	IRMAX Display Barrier Encapsulated Ex ia Circuit Diagram
6713-PL-CERT	1 of 1	8	9/12/09	IRMAX Display Barrier Encapsulated Ex ia Certified Parts List
6713-PCB-CERT	1 to 6	8	10/12/09	IRMAX Display Barrier Encapsulated Ex ia PCB Details
6663-CD-CERT	1 of 1	9	09.12.09	IRMAX Display Barrier Ex ia, Circuit Diagram
6663-PL-CERT	1 of 1	9	09.12.09	IRMAX Display Barrier Ex ia, Certified Parts List
6663-PCB-CERT	1 to 6	9	11/12/09	IRMAX Display Barrier Ex ia PCB Details
6610-CD-CERT	1 of 1	3	13.7.09	IREX Display Circuit Diagram
6610-PL-CERT	1 of 1	3	13.7.09	IREX Display Certified Parts List
6610-PCB-CERT	1 to 6	3	26.08.09	IREX Display PCB Details
6034-CERT	1 of 1	3	Oct-09	IRMAX IS Transformer

*This drawing is common to Baseefa09ATEX0206X, IECEX BAS 09.0104X and IECEX BAS 09.0109X and copies are held with both IECEX BAS 09.0104X and IECEX BAS 09.0109X.

All other drawings are common to IECEX BAS09.0104X and held with that Certificate.



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0220X/4**
- 4 Equipment or Protective System: **IR Gas Detector with Display**
- 5 Manufacturer: **Crowcon Detection Instruments Limited**
- 6 Address: **2 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire
OX14 1DY**

- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0220X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. **0249**

Project File No. **12/0221**

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DIRECTOR
On behalf of
Baseefa