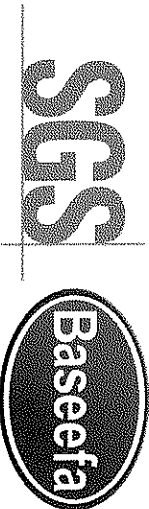


Certificate Number
Baseefa09ATEX0220X/5



Issued 24 April 2013
Page 1 of 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/5

4 Equipment or Protective System: IR Gas Detector with Display

5 Manufacturer: Crowcon Detection Instruments Limited
2 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DY

6 Address:

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**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.baseefa.com/terms-and-conditions.asp>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Baseefa Limited

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Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com

Registered in England No. 4305578.
Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

A handwritten signature in black ink, appearing to read 'R S Sinclair', written over a horizontal line.

R S SINCLAIR
GENERAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

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.

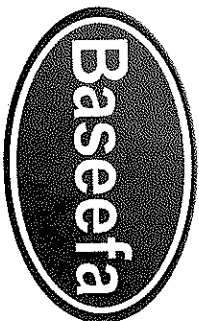
19

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

Certificate Number
Baseefa09ATEX0220X/4



Issued 2 May 2012
Page 1 of 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/4

4 Equipment or Protective System: IR Gas Detector with Display
Crowcon Detection Instruments Limited

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**

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.

Baseefa

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e-mail info@baseefa.com web site www.baseefa.com

Baseefa is a trading name of Baseefa Ltd

Registered in England No. 4305578. Registered address as above.

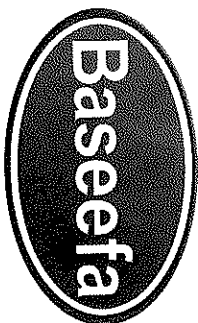
A handwritten signature in black ink, appearing to read "P R S Sinclair".

P R S SINCLAIR M'LOWNEY

DIRECTOR

On behalf of

Baseefa



13 **Schedule**

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.

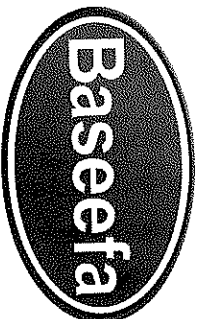
19 **Drawings and Documents**

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.

Certificate Number
Baseefa09ATEX0220X/3



Issued 5 January 2012
Page 1 of 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/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".

Baseefa

R S SINCLAIR

Rockhead Business Park, Staden Lane,

DIRECTOR

Buxton, Derbyshire SK17 9RZ

On behalf of

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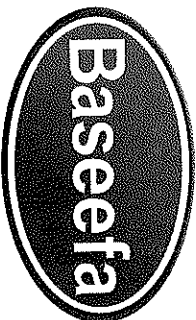
Baseefa

e-mail info@baseefa.com web site www.baseefa.com

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Certificate Number
Baseefa09ATEX0220X/2



Issued 26 September 2011
Page 1 of 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/2

4 Equipment or Protective System: IR Gas Detector with Display
Crowcon Detection Instruments Limited

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**

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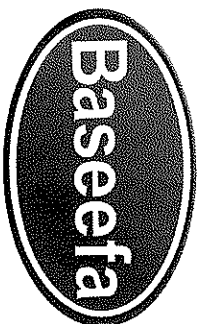
A handwritten signature in dark ink, appearing to read "R S Sinclair".

R S SINCLAIR

DIRECTOR
On behalf of
Baseefa

Baseefa

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Buxton, Derbyshire SK17 9RZ
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e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
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13 **Schedule**

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

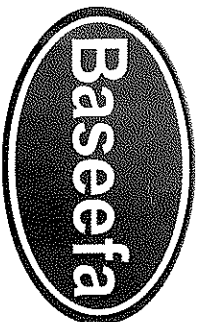
18 **Essential Health and Safety Requirements**
Compliance with the Essential Health and Safety Requirements is not affected by this variation.

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.

Certificate Number
Baseefa09ATEX0220X/1



Issued 27 October 2010
Page 1 of 3

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**

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

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R S SINCLAIR

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e-mail info@baseefa.com web site www.baseefa.com

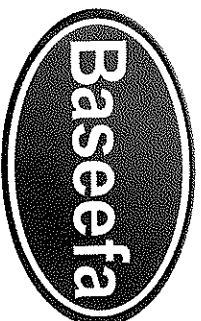
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Registered in England No. 4305578. Registered address as above.

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 μ H/ Ω 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 μ H/ Ω .

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**

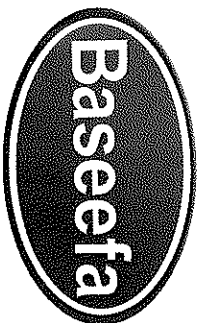
None additional to those listed previously

18 **Essential Health and Safety Requirements**

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

19 **Drawings and Documents**

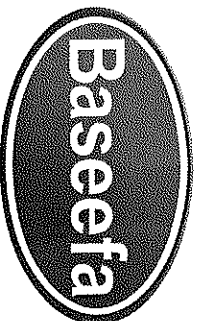
Number	Sheet	Issue	Date	Description
6034-CERT	1 of 1	4	07/09/2010	IREX / IRmax I.S. Transformer



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 HIC 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.



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 anti-static 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 1/2" NPT. The cable entry thread from 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 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 $U_o = 5.9V$, $I_o = 19mA$, $P_o = 28mW$, $C_1 = 0$ and $L_1 = 0$.

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

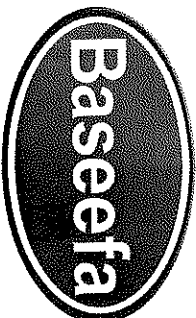
17 Special Conditions for Safe Use

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.

Certificate Number
Baseefa09ATEX0220X



Issued 26 April 2010
Page 3 of 3

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.