



## 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: **Baseefa06ATEX0007X**
- 4 Equipment or Protective System: **Orbis IS Series Fire Detectors**
- 5 Manufacturer: **Apollo Fire Detectors Limited**
- 6 Address: **36 Brookside Road, Havant, Hampshire, PO9 1JR, UK**
- 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 (2001) Ltd., 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 Report No. 05(C)0414
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 60079-0:2004      EN 50020:2002      EN 60079-26:2004**
- 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 :

**Ex II 1 G Ex ia IIC T4 (-40°C ≤ Ta ≤ +60°C) / T5 (-40°C ≤ Ta ≤ +40°C)**

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

Baseefa Customer Reference No. 0073

Project File No. 05/0414

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

### Baseefa

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Baseefa is a trading name of Baseefa (2001) Ltd  
Registered in England No. 4305578 at the above address

R S SINCLAIR  
DIRECTOR  
On behalf of  
Baseefa (2001) Ltd.



## Schedule

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Certificate Number Baseefa06ATEX0007X

### 15 Description of Equipment or Protective System

The Orbis IS Series Fire Detectors are designed to detect the presence of fire using optical, heat (which may be static or rate of rise type) and multisensor (an optical sensor with a heat sensing element) techniques. Each type of detector shares a common printed circuit board located in a plastic enclosure which is fitted to a mounting base.

Electrical connections to external circuits are made to the terminals located in the mounting base.

A Base Adaptor may be used to install and use an Orbis IS Series Fire Detector in a pre-existing Series 60 installation.

$$\begin{array}{ll} U_i & = 28V \\ I_i & = 93.3mA \\ P_i & = 0.67W \end{array} \quad \begin{array}{ll} C_i & = 0 \\ L_i & = 0 \end{array}$$

### 16 Report Number

05(C)0414

### 17 Special Conditions for Safe Use

1. To avoid problems with electrostatic charging of the enclosure, the equipment must not be located in a dust-laden airflow or cleaned with a dry cloth or with solvents.

### 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
400-HT-00011_CS SHT1_3 ✓	1 of 1	1 ✓	Jun 06	Heat Detector, Certificate Schedule
400-HT-00011_CS SHT2_3 ✓	1 of 1	1 ✓	Jun 06	Heat Detector, Certificate Schedule
400-HT-00011_CS SHT3_3 ✓	1 of 1	1 ✓	Jun 06	Heat Detector, Certificate Schedule
400-OH-00012_CS SHT1_3 ✓	1 of 1	1 ✓	Jun 06	Multisensor Detector, Certificate Schedule
400-OH-00012_CS SHT2_3 ✓	1 of 1	1 ✓	Jun 06	Multisensor Detector, Certificate Schedule
400-OH-00012_CS SHT3_3 ✓	1 of 1	1 ✓	Jun 06	Multisensor Detector, Certificate Schedule
400-OP-00013_CS SHT1_3 ✓	1 of 1	1 ✓	Jun 06	Optical Smoke Detector, Certificate Schedule
400-OP-00013_CS SHT2_3 ✓	1 of 1	1 ✓	Jun 06	Optical Smoke Detector, Certificate Schedule
400-OP-00013_CS SHT3_3 ✓	1 of 1	1 ✓	Jun 06	Optical Smoke Detector, Certificate Schedule
300-MA-00011_CS ✓	1 of 1	1 ✓	Jun 06	Timesaver Base, Certificate Schedule
400-BA-00014_CS ✓	1 of 1	1 ✓	Jun 06	Base Adaptor, Certificate Schedule



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: **Baseefa06ATEX0007X/1**

4 Equipment or Protective System: **Orbis IS Series Fire Detectors**

5 Manufacturer: **Apollo Fire Detectors Limited**

6 Address: **36 Brookside Road, Havant, Hampshire, PO9 1JR, UK**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0007X 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. 0073

Project File No. 06/0684

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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DIRECTOR  
On behalf of  
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## Schedule

Certificate Number Baseefa06ATEX0007X/1

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

**Variation 1.1**

To permit:

- a) minor changes to various safety components
- b) an alternative PCB layout.

**16 Report Number**

06(C)0684

**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	Issue	Date	Description
400-HT-00011_CS SHT1_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Heat Detector, Certificate Schedule
400-HT-00011_CS SHT2_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Heat Detector, Certificate Schedule
400-HT-00011_CS SHT3_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Heat Detector, Certificate Schedule
400-OH-00012_CS SHT1_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Multisensor Detector, Certificate Schedule
400-OH-00012_CS SHT2_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Multisensor Detector, Certificate Schedule
400-OH-00012_CS SHT3_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Multisensor Detector, Certificate Schedule
400-OP-00013_CS SHT1_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Optical Detector, Certificate Schedule
400-OP-00013_CS SHT2_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Optical Detector, Certificate Schedule
400-OP-00013_CS SHT3_3 ✓	2 ✓	Aug 06	Orbis, Intrinsically Safe Optical Detector, Certificate Schedule

All drawings are common to, and held with, IECEx BAS06.0002X/1



## TYPE EXAMINATION CERTIFICATE

### Intrinsically Safe System Intended for use in Potentially Explosive Atmospheres

- 3 Type Examination Certificate Number: **Baseefa09Y0051**
- 4 System: **Orbis Intrinsically Safe Fire Detection System**
- 5 Certificate Holder: **Apollo Fire Detectors Limited**
- 6 Address: **36 Brookside Road, Havant, Hampshire, PO9 1JH**
- 7 This system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa certifies that this system has been found to comply with the following standards  
**EN 60079-25: 2004**
- 9 The examination and test results are recorded in confidential Report No. 07(C)0078
- 10 If the sign "X" is placed after the certificate number, it indicates that the system is subject to special conditions of safe use specified in the schedule to this certificate.
- 11 This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified intrinsically safe system and not to specific items of equipment therein. It is the responsibility of the system certificate holder to supply the relevant documentation to the installer of the intrinsically safe electrical system referred to in this certificate.
- The installer has the responsibility to ensure that the system conforms to the specification laid down in the Schedule to this certificate and has satisfied routine verifications and tests specified therein.
- 12 The marking of the system shall include the following :  
**SYST Baseefa09Y0051**
- This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0073

Project File No. 07/0078

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

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

  
**R S SINCLAIR**  
DIRECTOR  
On behalf of  
Baseefa



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## Schedule

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Certificate Number Baseefa09Y0051

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### System Description

An Orbis Intrinsically Safe Fire Detection System comprises:

1. Apparatus that may be installed in a Non Hazardous Area (Safe Area.)

- 1.1.1 Any single channel shunt zener diode safety barrier or single channel of a dual channel shunt zener diode safety barrier certified by Baseefa or any EEC Approved Certification Body to [EEx ia] IIC having the following or lower output parameters:

$$U_o = 28V \quad I_o = 93.3mA \quad P_o = 0.67W$$

In any safety barrier used, the output current MUST be limited by a resistor 'R' such that

$$I_o = U_o / R$$

1.1.2 OR any one of the following:

- i) A Pepperl + Fuchs Transformer Isolated Loop Powered Current Separator Type KFD0-CS-Ex1.51P or KFD0-CS-Ex2.51P, coded  $\langle Ex \rangle$  II (1)GD [EEx ia] IIC ( $-20^{\circ}C \leq T_a \leq +60^{\circ}C$ ), to Baseefa Certificate BAS98ATEX7343.
- ii) A Measurement Technology Ltd MTL4061 Two-Channel Fire And Smoke Detector Interface, coded  $\langle Ex \rangle$  II (1)GD [EEx ia] IIC ( $-20^{\circ}C \leq T_a \leq +60^{\circ}C$ ), to Baseefa Certificate BAS01ATEX7176.
- iii) A Measurement Technology Ltd MTL5061 Two-Channel Loop Powered Fire And Smoke Detector Interface, coded  $\langle Ex \rangle$  II (1)GD [EEx ia] IIC ( $-20^{\circ}C \leq T_a \leq +60^{\circ}C$ ), to Baseefa Certificate BAS01ATEX7160.
- iv) A Turck-Banner IM33-FSD-Ex/L Smoke And Fire Detector Isolator, coded  $\langle Ex \rangle$  II (1)G [EEx ia] IIC ( $T_a \leq +70^{\circ}C$ ), to TÜV Certificate TÜV02ATEX1862.

- 1.2. The above apparatus is to be supplied from apparatus situated in the safe area which is unspecified except that it must not be supplied from nor contain in normal or abnormal conditions a source of potential with respect to earth in excess of 253 volts r.m.s. or 253 volts d.c.

2. Apparatus that may be installed in a Hazardous Area

- 2.1 A combination of up to twenty (20) of the Orbis IS Series Fire Detectors, coded  $\langle Ex \rangle$  II 1 G Ex ia IIC T4 ( $-40^{\circ}C \leq T_a \leq +60^{\circ}C$ ) / T5 ( $-40^{\circ}C \leq T_a \leq +40^{\circ}C$ ) to Baseefa Certificate Baseefa06ATEX0007X with the following input parameters:

$U_i$	=	25.2V	$C_i$	=	0
$I_i$	=	93.3mW	$L_i$	=	0
$P_i$	=	0.67W			





3. Permissible Interconnecting Cables

3.1.1 Any shunt zener diode safety barriers at item 1.1.1

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the following values:-

GROUP	C $\mu\text{F}$	L mH	OR	L/R Ratio $\mu\text{H}/\Omega$
IIC	0.083	4.20		55
IIB	0.650	12.6		165
IIA	2.150	33.6		440

3.1.2 Galvanic isolators at item 1.1.2

3.1.2.1 Pepperl + Fuchs Transformer Isolated Loop Powered Current Separator Type KFD0-CS-Ex1.51P or KFD0-CS-Ex2.51P

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the following values:-

GROUP	C $\mu\text{F}$	L mH	OR	L/R Ratio $\mu\text{H}/\Omega$
IIC	0.107	4.3		60
IIB	0.820	18		243
IIA	2.900	33		486

3.1.2.2 Measurement Technology Ltd MTL4061 Two-Channel Fire And Smoke Detector Interface  
and  
Measurement Technology Ltd MTL5061 Two-Channel Loop Powered Fire And Smoke Detector Interface

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the following values:-

GROUP	C $\mu\text{F}$	L mH	OR	L/R Ratio $\mu\text{H}/\Omega$
IIC	0.083	4.20		55
IIB	0.650	12.6		210
IIA	2.150	33.6		444

3.1.2.3 Turck-Banner IM33-FSD-Ex/L Smoke And Fire Detector Isolator

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the following values:-

GROUP	C $\mu\text{F}$	L mH	OR	L/R Ratio $\mu\text{H}/\Omega$
IIC	0.070	1		-
IIB	0.300	5		-
IIA	-	-		-



- 3.2 Wiring to terminals of the safe area apparatus may be achieved by separate cables or by separate circuits within a Type A or Type B multicore cable (as defined in clause 12.2 of EN 60079-14) subject to the following:-
- a. The circuit to be individually screened when used within a Type A multicore cable.
  - b. The peak voltage of any other circuit within a Type B multicore cable must not exceed 60V.

**16 Report**

07(C)0078

**17 Special Conditions for Safe Use**

None.

**18 Drawings and Documents**

Number	Issue	Date	Description
Z20985	1	March 08	Orbis Intrinsically Safe System Drawing