




Date : 2018/9/26

CERTIFICATE OF COMPLIANCE

This certificate of compliance validates the following			
TEST REPORT NUMBER 'Assessment Reports' are not acceptable	BMA 12042 150399-AU01+SPB05-PB01 101441-AU01+SW01 101441-AU01+UCE01	CERTIFICATE NUMBER	G217007
DATE OF ISSUE	20.04.2012 09.01.2017 07.02.2012 07.11.2011	DATE OF ISSUE	14.06.2018
DATE OF EXPIRY	N/A	DATE OF EXPIRY	31.03.2019
Manufacturer details			
NAME OF FACTORY/ MANUFACTURER	FFE Ltd	NAME OF THE BRAND	Fireray
FACTORY ADDRESS / REGION (STREET / TOWN / CITY / COUNTRY)	9 Hunting Gate Hitchin Hertfordshire, UK SG4 0TJ	MODEL / NO	Fireray3000 Exd
WEBSITE	www.ffeuk.com	LOGO ON THE PRODUCT	
TEL	+44 (0)1462 444 270	EMAIL	pottavio@ffeuk.com



Product Details From Test Report		Reference Test Report page NO																					
<p>DESCRIPTION OF THE PRODUCT (TECHNICAL DETAILS FROM TEST REPORT, SUCH AS ACTUAL FIRE RATINGS/DIMENSIONS/THICKNESS/ SENSITIVITY ETC)</p>	<p>1.6 Funktionsprinzip des Melders (nach Herstellerangaben) Der Melder wird zusammen mit einem Steuergerät betrieben. Der Melder besteht aus einem Sender und einem Empfangsteil. Das Steuergerät wird zum Ausrichten des Melders und zur Einstellung und Parametrierung verwendet.</p> <p>1.7 Technische Daten des Prüflings (nach Herstellerangaben)</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Wert / Value</th> <th>Performance</th> </tr> </thead> <tbody> <tr> <td>Versorgungsspannung (DC)</td> <td>(12V bis 30V) ±10%</td> <td>Supply Voltage (DC)</td> </tr> <tr> <td>Stromaufnahme, Sender</td> <td>8 mA</td> <td>Supply current, Transmitter</td> </tr> <tr> <td>Stromaufnahme, Controller</td> <td>14 mA</td> <td>Current consumption, Controller</td> </tr> <tr> <td>Wellenlänge</td> <td>850nm</td> <td>Wave length</td> </tr> <tr> <td>max. Fehrwinkel Sender</td> <td>± 0,7°</td> <td>max. misalignment, Transmitter</td> </tr> <tr> <td>max. Fehrwinkel Empfänger</td> <td>± 2,5°</td> <td>max. misalignment, Receiver</td> </tr> </tbody> </table>	Parameter	Wert / Value	Performance	Versorgungsspannung (DC)	(12V bis 30V) ±10%	Supply Voltage (DC)	Stromaufnahme, Sender	8 mA	Supply current, Transmitter	Stromaufnahme, Controller	14 mA	Current consumption, Controller	Wellenlänge	850nm	Wave length	max. Fehrwinkel Sender	± 0,7°	max. misalignment, Transmitter	max. Fehrwinkel Empfänger	± 2,5°	max. misalignment, Receiver	8
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<p>TEST STANDARD (SUCH AS ASTM/BS EN/ DN ETC)</p>	EN 54-12:2003	11																					
<p>TEST DESCRIPTION</p>	<p>Purpose of the type test is to verify whether the requirements of the following standards and VdS guidelines are fulfilled:</p> <ul style="list-style-type: none"> DIN EN 54-12-2003-03 Fire Detection and fire alarm systems – Smoke Detectors – Line detectors using an optical light beam (German version EN 54-12:2002) VdS 2504, Ed. 12/96: VdS Guidelines for automatic fire detection and fire alarm systems, smoke detectors, Requirements and test methods, Cl 5.6: Immunity of detector acc. DIN EN 50130-4 	11																					
<p>SPECIFICATION OF TEST SPECIMEN</p>	7 x Fireray 3000 Technical documentation	4																					
<p>TEST RESULT (SUCH AS PASSED CRITERIA___/ COMPLIED TO___/ DURATION___/OBSERVATION___/ETC)</p>	Line detector type Fireray 3000 fulfils the requirements of the standards and guidelines specified under Cl. 2 of this report.	46																					
<p>PRODUCT APPLICATION GUIDELINE (END USE) (CLEARLY STATE THE END USE WITH SPECIFIC APPLICATION, SUCH AS EXACT FIRE RATING/TO BE INSTALLED IN___/TO BE INSTALLED AT___/TO BE CONNECTED WITH___/TO BE INSTALLED WITH___ ETC ALONG WITH ANY WARNINGS SUCH AS NOT TO BE USED IN___/NOT TO BE INSTALLED AT___/ NOT TO BE INSTALLED WITH___ ETC.</p>	The detector is delivered together with a controller unit. The detector consists of a transmitter and a receiver. The controller is used to align the detector exactly.	8																					



Clause – Title/Test	Clause title	Result	Report
EN 54-12:2002 Clause 5.2	Reproducibility (Response threshold values before environmental tests)	Pass	BMA 12042
EN 54-12:2002 Clause 5.3	Repeatability	Pass	BMA 12042
EN 54-12:2002 Clause 5.4	Directional Dependence	Pass	BMA 12042
EN 54-12:2002 Clause 5.5	Mains supply voltage variation	Pass	BMA 12042
EN 54-12:2002 Clause 5.6	Fast variation of light attenuation	Pass	BMA 12042
EN 54-12:2002 Clause 5.7	Slow variation of light attenuation	Pass	BMA 12042
EN 54-12:2002 Clause 5.8	Effect of variation of the optical measuring distance	Pass	BMA 12042
EN 54-12:2002 Clause 5.9	Fire sensitivity	Pass	BMA 12042
EN 54-12:2002 Clause 5.10	Scattered light	Pass	BMA 12042
EN 54-12:2002 Clause 5.11	Dry heat (operational)	Pass	BMA 12042
EN 54-12:2002 Clause 5.12	Cold (operational)	Pass	BMA 12042
EN 54-12:2002 Clause 5.13	Damp heat, steady state (operational)	Pass	BMA 12042
EN 54-12:2002 Clause 5.14	Damp heat, steady state (endurance)	Pass	BMA 12042
EN 54-12:2002 Clause 5.15	Vibration (endurance)	Pass	BMA 12042
EN 54-12:2002 Clause 5.16	Electrostatic discharge	Pass	BMA 12042
EN 54-12:2002 Clause 5.16	Radiated E.M. fields	Pass	BMA 12042
EN 54-12:2002 Clause 5.16	Conducted disturbances	Pass	BMA 12042
EN 54-12:2002 Clause 5.16	Conducted fast transient burst	Pass	BMA 12042
EN 54-12:2002 Clause 5.16	High energy slow voltage surges	Pass	BMA 12042
EN 54-12:2002 Clause 5.17	SO2 corrosion	Pass	BMA 12042
EN 54-12:2002 Clause 5.18	Impact	Pass	BMA 12042



Laboratory and Certification body details			
NAME OF CERTIFICATION BODY	VdS Schadenverhütung GmbH	NAME OF TEST FACILITY	VdS Schadenverhütung GmbH
CERTIFICATION BODY ADDRESS / REGION <small>(STREET / TOWN / CITY / COUNTRY)</small>	Amsterdamer Str. 174 50735 Cologne Germany	TEST FACILITY ADDRESS / REGION <small>(STREET / TOWN / CITY / COUNTRY)</small>	Amsterdamer Str. 174 50735 Cologne Germany
WEBSITE	www.vds.de	WEBSITE	www.vds.de
TEL	+49 221 7766 0	TEL	+49 221 7766 0
EMAIL	Cs-fire@vds.de	EMAIL	Cs-fire@vds.de
ACCREDITED BY <small>(NAME OF ACCREDITATION BODY WHICH ISSUED ACCREDITATION TO THE CERTIFICATION BODY, ALONG WITH WEBSITE)</small>	DAkKS www.dakks.de	ACCREDITED BY <small>(NAME OF ACCREDITATION BODY WHICH ISSUED ACCREDITATION TO THE LABORATORY, ALONG WITH WEBSITE)</small>	DAkKS www.dakks.de
AS PER <small>(STANDARD TO WHICH THE CERTIFICATION BODY IS ACCREDITED TO)</small>	DIN EN ISO 17065	AS PER <small>(STANDARD TO WHICH YOUR ORGANIZATION IS ACCREDITED TO)</small>	DIN EN ISO 17025
VALIDITY <small>(EXPIRY DATE OF CERTIFICATION BODY ACCREDITATION)</small>	2018-11-28	VALIDITY <small>(EXPIRY DATE OF LABORATORY ACCREDITATION)</small>	2018-11-28
REFERENCE NUMBER: <small>(CERTIFICATION BODY ACCREDITATION REFERENCE NUMBER TO VERIFY ON THE ACCREDITOR'S WEBSITE)</small>	D-ZE-11149-01-01	REFERENCE NUMBER: <small>(THE LABORATORY ACCREDITATION REFERENCE NUMBER TO VERIFY ON THE ACCREDITOR'S WEBSITE)</small>	D-PL-11149-01-00
CERTIFICATION MARK			

(ENDORSEMENT) TO BE SIGNED BY MANUFACTURER			
NAME OF MANUFACTURER'S SIGNATORY	P. Ottavio	SIGNATURE	
EMAIL / TEL	pottavio@ffeuk.com +44 (0)1462 444 740	FACTORY OFFICIAL SEAL	FFE Ltd 9 Hunting Gate Hitchin SG4 0TJ England
NOTES: I Undertake that all data and information provided are genuine and accurate			

(ENDORSEMENT) TO BE SIGNED BY CERTIFICATION BODY			
NAME OF CERTIFICATION BODY SIGNATORY		SIGNATURE	
EMAIL / TEL	mhesch@vds.de	CERTIFICATION BODY OFFICIAL SEAL	VdS SCHADENVERHÜTUNG GmbH Zertifizierungsstelle Amsterdamer Str. 172 50735 Köln
NOTES: I Undertake that all data and information provided are genuine and accurate			



ATTACHMENTS:

- **COPY OF 'CERTIFICATE OF COMPLIANCE' ISSUED BY CERTIFICATION BODY (OLD OR NEW)**



zur Anerkennungsnummer/ to Approval No. G 217007 vom/ dated 14.06.2018

Der Gegenstand der Anerkennung umfasst folgende Bestandteile.
The subject of the approval comprises the following parts.

Bezeichnung des Gegenstandes Description of Subject	Typ Type	Kenn-Nr. des Inhabers Holder's Registration No.	Anerkennungsnr Approval No.
Linienförmiger Rauchmelder / Line-Type Smoke Detector Halterung / Bracket Ex Verschraubungen / EXD Cable Glands	Fireray 3000 Exd - - - 0051-003-01		



zur Anerkennungsnummer/ to Approval No. G 217007 vom/ dated 14.06.2018

Der Gegenstand der Anerkennung wird durch folgende Unterlagen beschrieben.
The subject of the approval is described by the following documents.

Art der Unterlage Type of Document	Kennzeichnung der Unterlage Identification of document	Datum Date	Seiten Pages
VdS Prüfberichte: Test Reports:	BMA 12042	20.04.2012	
	101441-AU01+SW01	07.02.2012	
	101441-AU01+UCE01	07.11.2011	
	150399-AU01+SPB05-PB01	09.01.2017	
Fireray 3000 Exd Bedienungsanleitung / Instructions for Use	0044-073-01-DE	---	20
Bedienungsanleitung / Instructions for Use	0044-073-01-EN	---	20
Typenschilder / Labels			
DIL Switch Product Label	0040-228-01	20.04.2014	1
Transmitter & Receiver	0040-230-02	14.12.2016	1
Syscon Product Labels	0040-231-02	14.12.2016	1
Exd ATEX Product Labels	0040-233-01	20.04.2016	1
Exd Carton Label	0041-166-02	2016	1
Stücklisten / Parts Lists			
User Guide Bundle	98-0045-015-01	05.05.2015	1
Bracket Assembly	98-0061-001-01	27.04.2016	1
Receiver PCB Assy	98-0100-012-03	2015	1
System Controller PCB Assy	98-0100-014-01	29.11.2010	1
Syscon 1 st Fix std PCB Assy	98-0100-015-02	---	1
AIM std PCB Sssy	98-0100-016-01	29.11.2010	1
TX Support Beam PCBA	98-0100-026-01	19.06.2015	1
Rx Support Beam PCBA	98-0100-028-01	19.06.2015	1
Transmitter PCB Assy	98-0100-029-01	19.06.2015	1
Fireray 3000 Exd	98-3000-115-02	15.11.2016	1



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Der Gegenstand der Anerkennung wird durch folgende Unterlagen beschrieben.
The subject of the approval is described by the following documents.

Art der Unterlage Type of Document	Kennzeichnung der Unterlage Identification of document	Datum Date	Seiten Pages
Stromlaufpläne / Circuit Diagrams AIM PCB – Conventional	01-0032-04	30.06.2011	6
Gerber und Layouts / Gerbers and Layouts Tx PCB Assy	0001-013-06	10.07.2014	2
Rx PCB Assy	0001-014-09	16.02.2012	2
Syscon Main PCB Assy	0001-016-05	16.02.2012	2
SysCon Term PCB Assy	0001-017-04	03.07.2014	2
Conv AIM Main PCB Assy	0001-018-04	23.03.2011	3
Verfahren / Procedure System Controller - Build Guide	03-0009-02	11.03.2014	14
Exd Receiver - Build Guide	03-0036-01	20.04.2016	14
Exd Transmitter - Build Guide	03-0037-01	20.04.2016	15
Bracket Assembly - Build Guide	03-0038-01	31.06.2015	8
Packaging & Labelling - Build Guide	37-0013-01	20.04.2016	11
Software Dokumentation / Software Documentation Transmitter Software Documentation	LSSL/2010071201, Version 1.2	20.07.2015	15
Detector Software Documentation	02-0019-17	08.03.2013	15
Syscon Software Documentation	LSSL/2010112501, Version 1.3	30.04.2012	36

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The subject of the approval is described by the following documents.

Art der Unterlage Type of Document	Kennzeichnung der Unterlage Identification of document	Datum Date	Seiten Pages
Technische Zeichnungen /			
Technical Drawings			
Empfänger / Sender /			
Receiver / Transmitter			
Ex Housing 01128-01	3000-115-01	09.12.2015	1
Lens Housing rh	0020-025-08	25.07.2011	1
Lens Housing lh	0020-026-08	25.07.2011	1
Laser Switch	0020-031-06	25.07.2011	1
LED Lightpipe	0020-032-07	02.07.2015	1
Pot Interface	0020-033-08	13.08.2013	1
Transmitter Lens	0020-034-10	28.06.2013	1
Receiver Lens	0020-035-09	28.09.2011	1
Laser Lens	0020-036-07	02.07.2015	1
3 Way Cable + Heatshrink	0023-005-02	29.11.2010	1
Systemsteuerung /			
System Controller			
LCD Panel	0007-002-03	11.08.2010	3
Zebra Strip	0008-001-03	05.04.2012	1
Keypad Array	A21663-DESIGN03.DWG	23.11.2012	1
First Fix Syscon	0020-037-04	25.07.2011	1
System Controller Rear Cover	0020-038-05	25.07.2011	1
System Controller Front Cover	0020-039-05	25.07.2011	1
Aim Door	0020-040-04	25.07.2011	1
LCD Window	0020-041-06	28.06.2013	1
Keypad	0025-004-02	21.11.2012	1
O-Ring Seal	0034-007-01	04.12.2014	1
Halterung /			
Bracket			
Front Plate	0052-014-01	18.08.2015	1
Gimbal	0052-015-01	18.08.2015	1
Rear Plate	0052-016-01	23.06.2015	1



zur Anerkennungsnummer/ to Approval No. G 217007 vom/ dated 14.06.2018

Hinweise für die Anwendung des Gegenstandes der Anerkennung nach Anlage 1.
Instructions for the application of the subject of approval (see enclosure 1).

Der lineare Rauchmelder Typ Fireray 3000 Exd ist zur Verwendung in automatischen Brandmeldeanlagen vorgesehen.

Der Melder besteht aus Sendeeinheit, Empfangseinheit und Controller.

Technische Daten (nach Herstellerangaben):

Abstand zwischen Sender und Empfänger:	10 m bis 100 m
Betriebsspannung U_B (DC)	12 V bis 36 V ($\pm 10\%$)
Betriebsstrom – Steuerung (1 oder 2 Empfänger):	14 mA
Betriebsstrom – Sender:	8 mA
Stromausfall Rücksetzzeit:	>20 s
Optische Wellenlänge:	850 nm
Toleranz zu Strahlenfehlausrichtung bei 25 %:	Empfänger $\pm 2,5^\circ$ Sender $\pm 0,7^\circ$
Alarmschwellwert:	0,45 dB (10 %) 3,98 dB (60 %)
Feuer- und Fehlerverzögerungen:	2 s bis 30 s
Störungsschwellwert bei schneller Verdunkelung:	85 %

Die EG-Baumusterprüfbescheinigung SIRA 15ATEX1260, Issue 0 vom 18. Dezember 2015 bescheinigt in Übereinstimmung mit den Richtlinien 94/9/EG, dass der lineare Rauchmelder Typ Fireray 3000 Exd als Betriebsmittel für den Einsatz in explosionsgefährdeten Bereichen geeignet ist.

Marking:  II 2G D Ex db op is IIC T6 Gb
 II 2G D Ex tb IIIC T85°C Db



zur Anerkennungsnummer/ to Approval No. G 217007 vom/ dated 14.06.2018

Hinweise für die Anwendung des Gegenstandes der Anerkennung nach Anlage 1.
Instructions for the application of the subject of approval (see enclosure 1).



Line-type smoke detector type Fireray 3000 Exd is intended for the use in automatic fire detection and fire alarm systems.

The detector consists of a transmitting unit, a receiving unit and a controller.

Technical data (manufacturer's specifications):

Operating distance between transmitter and receiver:	10 m to 100 m
Operating voltage (DC):	12 V to 36 V ($\pm 10\%$)
Operating current – Controller (1 or 2 receiver):	14 mA
Operating current – Transmitter:	8 mA
Power down reset time:	>20 s
Optical wavelength:	850 nm
Tolerance to beam misalignment at 25 %:	Receiver $\pm 2.5^\circ$ Transmitter $\pm 0.7^\circ$
Fire threshold range:	0.45 dB (10 %) 3.98 dB (60 %)
Delays to fire and fault:	2 s to 30 s
Rapid obscuration fault threshold:	85 %

EC Type Examination Certificate SIRA 15ATEX1260, issue 0 dated December 18th 2015 confirms in compliance with Guidelines 94/9/EC that Line-type smoke detector type Fireray 3000 Exd as equipment is suitable for the use in explosion-hazardous areas.

Marking:  II 2G D Ex db op is IIC T6 Gb
 II 2G D Ex tb IIIC T85°C Db