

## EU - TYPE EXAMINATION CERTIFICATE

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

EU - Type Examination Certificate Number: **Baseefa15ATEX0142 – Issue 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.

Product: **Light Sensor Type MiniVLS**

Manufacturer: **Compact Instruments Limited**

Address: **61-65 Lever Street, Bolton, Lancashire, BL3 2AB**

This re-issued certificate extends EU Type Examination Certificate No. Baseefa15ATEX0142 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.

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

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

**EN 60079-0:2012+A11:2013    EN 60079-11:2012    EN 60079-28:2015**

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

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.

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.

The marking of the product shall include the following :

**⊕ II 1G Ex ia op is IIC T4 Ga (-20°C ≤ Ta ≤ +40°C)**

SGS Baseefa Customer Reference No. **4099**

Project File No. **16/0487**

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.sgs.com/SGSBaseefa/Terms-and-Conditions.aspx>. 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.

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R S SINCLAIR

TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

13

## Schedule

14

### Certificate Number Baseefa15ATEX0142 – Issue 1

#### 15 Description of Product

The Light Sensor Type MiniVLS is an optical sensor designed to measure the speed of rotating shafts. It produces an optical beam and the reflection of the beam from a reflective surface, e.g. on a rotating shaft, is detected by a photo-transistor. Any reflections from a target will be processed by the signal conditioning, an event which is indicated by the LED on the unit and a change in voltage on the output.

The Light Sensor Type MiniVLS contains electronic components mounted on a printed circuit board (PCB). The PCB is mounted on the optical block assembly, along with an optical source and a phototransistor. Lenses at the front of the assembly focus the outgoing and incoming reflected light.

The whole assembly is housed in stainless steel tube with a sealing 'O' ring between an internal tube ridge and the lens inside. The unit is filled with epoxy potting compound.

External connections are made at the screw-locking connector which is mounted in the end cap.

The type number MiniVLS may be suffixed with various characters to signify the following variants:

MiniVLS111/ia	Threaded Body, Laser
MiniVLS211/ia	Plain Body, Laser

#### Terminal Parameters

Pin 1 w.r.t Pin 3	Pin 2 w.r.t Pin 3
$U_i = 6V$	$U_o = 6V$
$I_i = \text{self-limiting}$	$I_o = 12mA$
$P_i = \text{self-limiting}$	$P_o = 14mW$
$C_i = 3.2\mu F$	$C_i = \text{zero}$
$L_i = \text{zero}$	$L_i = \text{zero}$

#### 16 Report Number

See certificate history

#### 17 Specific Conditions of Use

None

#### 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
P0654	1	1.1	15-06-2016	MiniVLS Type 'ia' label details Certificate No. Baseefa15ATEX0142, IECEX BAS 15.0032

These drawings are held with IECEX Certificate No. IECEX BAS 15.0032 and also associated with Baseefa15ATEX0142.

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
C001036	1	1.2	26-08-2015	EX MiniVLS Schematic
P0652	1	1.0	29-07-2015	MiniVLS Ex Assembly Drawing Schedule Cased
P0653	1	1.0	29-07-2015	Ex minivls pcb

These drawings are held with IECEX Certificate No. IECEX BAS 15.0032 and also associated with IECEX BAS 15.0142X, Baseefa15ATEX0142 & Baseefa15ATEX0144X.

## 20 Certificate History

Certificate No.	Date	Comments
Baseefa15ATEX0142	2 December 2015	The release of the prime certificate. The associated test and is documented in Test Report No. GB/BAS/ExTR15.0072/00.
Baseefa15ATEX0142 Issue 1	16 June 2016	This issue permits minor changes to the marking label. The associated test and is documented in Test Report No. GB/BAS/ExTR16.0168/00.

For drawings applicable to each issue, see original of that issue.



# 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](http://www.iecex.com)

Certificate No.: IECEx BAS 15.0032 issue No.: 1 Certificate history:  
Issue No. 1 (2016-6-16)  
Issue No. 0 (2015-12-2)

Status: **Current**

Date of Issue: **2016-06-16** Page 1 of 4

Applicant: **Compact Instruments Limited**  
61-65 Lever Street  
Bolton  
Lancashire  
United Kingdom

Equipment: **Light Sensor MinVLS**  
Optional accessory:

Type of Protection: **Intrinsic Safety & Optical Radiation op is**

Marking: **Ex ia op is IIC T4 Ga (-20°C ≤ Ta ≤ +40°C)**

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair *PP DIBVREAVLEY*

Position: Technical Manager

Signature:  
(for printed version) *[Signature]*

Date: *16/6/16*

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:

**SGS Baseefa Limited**  
Rockhead Business Park  
Staden Lane  
Buxton  
Derbyshire  
SK17 9RZ  
United Kingdom

**SGS**





# IECEx Certificate of Conformity

Certificate No.: IECEx BAS 15.0032

Date of Issue: 2016-06-16

Issue No.: 1

Page 2 of 4

Manufacturer: **Compact Instruments Limited**  
61-65 Lever Street  
Bolton  
Lancashire  
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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-28 : 2015</b> Edition: 2	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

*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/BAS/ExTR15.0072/00](#)

[GB/BAS/ExTR16.0168/00](#)

##### Quality Assessment Report:

[GB/BAS/QAR15.0012/00](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx BAS 15.0032

Date of Issue: 2016-06-16

Issue No.: 1

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Light Sensor Type MiniVLS is an optical sensor designed to measure the speed of rotating shafts. It produces an optical beam and the reflection of the beam from a reflective surface, e.g. on a rotating shaft, is detected by a photo-transistor. Any reflections from a target will be processed by the signal conditioning, an event which is indicated by the LED on the unit and a change in voltage on the output.

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$P_i = \text{self-limiting}$

$C_i = 3.2\mu F$

$L_i = \text{zero}$

Pin 2 w.r.t Pin 3

$U_o = 6V$

$I_o = 12mA$

$P_o = 14mW$

$C_o = \text{zero}$

$L_o = \text{zero}$

CONDITIONS OF CERTIFICATION: NO



# IECEx Certificate of Conformity

Certificate No.: IECEx BAS 15.0032

Date of Issue: 2016-06-16

Issue No.: 1

Page 4 of 4

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

### Variation 1.1

Minor changes to the marking label.

ExTR: GB/BAS/ExTR16.0168/00

File Reference: 16/0487