



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx CML 15.0060U**

Page 1 of 4

Certificate history:

Status: **Current**

Issue No: 3

[Issue 2 \(2018-01-30\)](#)
[Issue 1 \(2017-11-03\)](#)
[Issue 0 \(2015-10-15\)](#)

Date of Issue: 2020-11-10

Applicant: **HMI Elements Limited**
Unit A & B
Windmill Industrial Estate, Showfield Lane
Malton, North Yorkshire, YO17 6BT
United Kingdom

Ex Component: Optical TOSA - E168-9010-ELC Assembly

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Optical radiation**

Marking: [Ex op is IIC T6 Gb]
[Ex op is III C T85°C Db]
0°C ≤ Ta ≤ +40°C

Approved for issue on behalf of the IECEx
Certification Body:

D R Stubbings BA MIET

Position:

Technical Director

Signature:
(for printed version)

Date:

2020-11-10

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





IECEx Certificate of Conformity

Certificate No.: **IECEx CML 15.0060U**

Page 2 of 4

Date of issue: 2020-11-10

Issue No: 3

Manufacturer: **HMI Elements Limited**
Unit A & B
Windmill Industrial Estate
Showfield Lane
Malton
North Yorkshire YO17 6BT
United Kingdom

Additional
manufacturing
locations:

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 equipment 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

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

This Certificate **does not** indicate compliance with 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 Reports:

[GB/CML/ExTR15.0070/00](#)
[GB/CML/ExTR20.0225/00](#)

[GB/CML/ExTR17.0201/00](#)

[GB/CML/ExTR17.0236/00](#)

Quality Assessment Report:

[NO/DNV/QAR09.0001/07](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx CML 15.0060U**

Page 3 of 4

Date of issue: 2020-11-10

Issue No: 3

Ex Component(s) covered by this certificate is described below:

The LED TOSA - E168-9010-ELC assembly is designed for fibre optic data communication applications.

See Annex for full description, Conditions of Manufacture and Schedule of Limitations

SCHEDULE OF LIMITATIONS:

Refer to Annex



IECEx Certificate of Conformity

Certificate No.: **IECEx CML 15.0060U**

Page 4 of 4

Date of issue: 2020-11-10

Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Refer to Annex for all certificate changes

Annex:

[15.0060U Annex.pdf](#)

Annexe to: IECEx CML 15.0060U Issue 3
Applicant: HMI Elements Limited
Apparatus: Optical TOSA – E168-9010-ELC Assembly



Description

The LED TOSA - E168-9010-ELC assembly is designed for fibre optic data communication applications.

The LED TOSA - E168-9010-ELC assembly consists of the TOSA device fitted to a small pcb board and housed inside a pluggable (SFT) optical transceiver unit and is designed to be fitted to an appropriate media converter unit.

Product Specifications

Absolute Maximum Ratings (T = 25°C)						
	Symbol	Unit	Min	Typ	Max	Notes
Operating temperature	T _{op}	°C	0		40	
Reverse Voltage	V _r	V			2	
Forward Current	I _F	mA			150	
Electro-Optical Characteristics (T = 25°C, CW, I _F =60mA)						
Optical output power	P _o	μW	30			62.5/125μm MM Fibre
Wavelength	λ	nm	1280	1310	1380	
Spectral width (RMS)	Δλ	nm			170	
Forward Voltage	V _F	V		1,2	1,7	
Bandwidth	BW	MHz	115			0°C to +40°C
Rise & Fall Time	T _r /T _f	ns			3	10-90%
Output Power over Temperature	ΔP _o / ΔT	dB			±3	0°C to +40°C



Conditions of Manufacture

Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

Specific Conditions of Use

The Optical TOSA - E168-9010-ELC arrangement is a small component intended to be fitted inside a separate enclosure within the non-hazardous area only that provides an appropriate clean and dry environment. After fitting, the supplied label shall be fixed as close as possible to where the device is located.

The Optical TOSA - E168-9010-ELC arrangement is designed to be used with the 1700 Sa Desktop 'op is' Media Converter unit or similar devices, where incorporated in other devices, the parameters listed in the description shall not be exceeded.

Variation 1

This variation includes the following modifications:

- i. Change of the manufacturer's name to Smart-Ex Technology Ltd.

Variation 2

This variation includes the following modification:

- i. Change of the manufacturer's name to HMI Elements Limited.

Variation 3

This variation introduces the following modification:

- i. Update IEC 60079-0 Ed 6 to IEC 60079-0 Ed 7