EU Type Examination Certificate CML 15ATEX2116U Issue 5

1 Components intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Component **Optical TOSA – E168-9010-ELC**

3 Manufacturer **HMI Elements Limited**

4 Address Unit A&B
Windmill Industrial Estate
Showfield Lane,
Malton, North Yorkshire, YO17 6BT

5 The component is specified in the description of this certificate and the documents to which it refers.

6 CML B.V., Chamber of Commerce No 6738671, Koopvaardijweg 32, 4906CV Oosterhout The Netherlands, Notified Body Number 2776, 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 component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 The 'U' suffix after the certificate number indicates that the component is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2018 EN 60079-28:2015

10 The equipment shall be marked with the following:

II (2) G D

[Ex op is IIC T6 Gb]

[Ex op is IIIC T85ºC Db]

Ta= 0 to +40ºC

11 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 = 25ºC)						
	Symbol	**Unit**	**Min**	**Typ**	**Max**	**Notes**
Operating temperature	T_{op}	ºC	0		40	
Reverse Voltage	V_r	V			2	
Forward Current	I_F	mA			150	
Electro-Optical Characteristics (T = 25ºC, 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			0ºC to +40ºC
Rise & Fall Time	T_r/T_f	ns			3	10-90%
Output Power over Temperature	$\Delta P_O / \Delta T$	dB			±3	0ºC to +40ºC

Variation 1

This variation includes the following modifications:

i. Change of the manufacturer's name to Smart-Ex Technology Ltd.
ii. To update the certificate reference to the 2014/34/EU Directive.

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 EN 60079-0:2012+A11:2013 to EN 60079-0:2018

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	30/09/2015	R644A/00	Issue of prime certificate
1	03/11/2017	R11424A/00	Introduction of Variation 1
2	16/01/2018	R11519A/00	Introduction of Variation 2
3	26/10/2018	-	To correct the standard issue date in section 9
4	15/02/2019	R12285A/00	Transfer of certificates to CML B.V.
5	10/11/2020	R13634C/00	Introduction of Variation 3

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

13.1 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.

14 Schedule of Limitations

The following conditions relate to safe installation and/or use of the equipment.

14.1 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.

14.2 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.

Certificate Annex

Certificate Number	**CML 15ATEX2116U**
Equipment	**Optical TOSA – E168-9010-ELC**
Manufacturer	**HMI Elements Limited**

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
D100262	1 to 2	A0	29/09/2015	iSiS1700Sa TOSA Control and Label Drawing

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
D100262	1 to 2	A1	03/11/2017	1700Sa TOSA Control and Label drawing & Base PCB

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
D100262	1 to 2	B0	16/01/2018	1700Sa TOSA Control and Label drawing & Base PCB

Issue 3

No drawings issued

Issue 4

No drawings issued

Issue 5

No drawings issued