Type Examination Certificate CML 15ATEX4042 Issue 3

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

2 Equipment **Gamma LED Luminaire**

3 Manufacturer **Abtech Limited**

4 Address **199 Newhall Road,**
Lower Don Valley,
Sheffield,
S9 2QJ, UK

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

6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design of equipment intended for use in potentially explosive atmospheres given in Annex II of Directive 2014/34/EU.

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

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of certification (affecting correct installation or safe use). These are specified in Section 14.

8 This Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Annex VIII apply to the manufacture of the equipment or component.

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 60079-0:2012+A11:2013 EN 60079-15:2010 EN 60079-31:2014

10 The equipment shall be marked with the following:

II 3 GD

Ex na IIC T* Gc

Ex tc IIIC T**°C Dc

Ta= -50ºC to +70ºC

"" - Refer to description for Temperature Class and Ambient Temperature Ranges*

R C Marshall
Certification Officer

11 Description

The Abtech Gamma LED Floodlight / Low bay luminaire is a range of Non sparking (Ex nA) luminaires, rated at 110V ac to 254 Vac. The Gamma LED Floodlight comprises of a single enclosure, manufactured from either stainless steel or mild steel protected from corrosion by a suitable coating. Optionally, an additional coating may be applied to the stainless steel versions. Silicone rubber gaskets are used to seal the enclosures.

The main enclosure, approximately 400 mm high by 400 mm wide and a depth of 110 mm. The enclosure may be manufactured larger than minimum/typical dimensions.

The enclosure is sealed using a toughened safety glass window. The enclosure houses a metal reflector, LED driver and an optical assembly comprising of Philip Luxeon M LED's and acrylic rods, optionally other LED's maybe used provided the given surface temperatures are not exceeded.

The normal method of mounting is via a single saddle bracket; alternatively any other method of mounting may be used providing the enclosure is not penetrated. The driver compartment, accessible through the rear cover, houses the electronic driver and the mains terminal block.

Cable entry holes for conduit, suitably approved cable glands or blanking plugs can be fitted into any face of the enclosure provided clearance for the cable gland and cables is sufficient. These must be sealed to minimum IP64 or higher to match IP rating.

See table * for details of wattage, T ratings and ambient temperature range.

Rating schedule – Voltage range: 110 ~ 254 Vac (Nominal), Up to -50°C to +55°C									
Product Ref.	LED Type	Current /Voltage	Power	Driver	Temp class and Surface Temp				Cable rating
					Tamb 55ºC		Tamb 40ºC		
LX2GA6L-30	LXR7-SW30	0.7A / 34.5V	97 W	EUC-16Q070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GA6L-40	LXR7-SW40	0.7A / 34.5V	97 W	EUC-16Q070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GA6L	LXR7-SW50	0.7A / 34.5V	97 W	EUC-16Q070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GA6L-57	LXR7-SW57	0.7A / 34.5V	97 W	EUC-16Q070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GA6L-65	LXR7-SW65	0.7A / 34.5V	97 W	EUC-16Q070DV	T3	T100ºC	T4	T85ºC	80ºC

Note: Current stated above is maximum allowable and voltage is nominal and may be different depending on the driver fitted.

Rating schedule – Voltage range: 110 ~ 254 Vac (Nominal), Up to -50°C to +55°C									
Product Ref.	LED Type	Current /Voltage	Power	Driver	Temp class and Surface Temp				Cable rating
					Tamb 55ºC		Tamb 40ºC		
LX2GAM4LB-40	PW40-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GAM4LB-50	PW50-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GAM4LB	PW57-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GAM4LB-65	PW65-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC

Note: Current stated above is maximum allowable and voltage is nominal and may be different depending on the driver fitted.

Rating schedule – Voltage range: 108 ~ 279 Vac (Maximum), Up to -40°C to +70°C									
Product Ref.	LED Type	Current /Voltage	Power	Driver	Temp class and Surface Temp				Cable rating
					Tamb 55/70ºC		Tamb 40ºC		
LX2GAM4LB-40	PW40-H001	0.688A / 35.02V	<96 W	T1M1UNV150P-150L	T3	T100ºC	T4	T85ºC	83ºC
LX2GAM4LB-50	PW50-H001	0.688A / 35.02V	<96 W	T1M1UNV150P-150L	T3	T100ºC	T4	T85ºC	83ºC
LX2GAM4LB	PW57-H001	0.688A / 35.02V	<96 W	T1M1UNV150P-150L	T3	T100ºC	T4	T85ºC	83ºC
LX2GAM4LB-65	PW65-H001	0.688A / 35.02V	<96 W	T1M1UNV150P-150L	T3	T100ºC	T4	T85ºC	83ºC

Note: Current and Voltage stated above is the maximum allowable.

Variation 1

This variation introduces the following changes:

i. Permit the use of a new driver and LED arrangement, covered under the LX2GAM4LB series. The LX2GAM4LB Series alternatively has four pcb boards, each fitted with up to 84 LEDs and fed from a driver module, the alternative arrangements have the following ratings:

Rating schedule									
Product Ref.	LED Type	Current /Voltage	Power	Driver	Temp class and Surface Temp				Cable rating
					Tamb 55ºC		Tamb 40ºC		
LX2GAM4LB-40	PW40-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GAM4LB-50	PW50-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GAM4LB	PW57-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC
LX2GAM4LB-65	PW65-H001	0.688A / 35.02V	96 W	EUC-096S070DV	T3	T100ºC	T4	T85ºC	80ºC

Variation 2

This variation introduces the following changes:

i. To include the previous variation 'Rating schedule' to the product description.
ii. Permit the use of an alternative driver and higher ambient range, covered under the LX2GAM4LB series.
iii. To update the certificate reference to the 2014/34/EU Directive.

Variation 3

This variation introduces the following changes:

i. To transfer the CML UK ATEX Certificate to CML BV
ii. Correction of typographical errors.

12 Certificate history and evaluation Reports

Issue	Date	Associated report	Notes
0	08 Apr 2015	R482A/00	Issue of Prime Certificate
1	21 Dec 2015	R925A/00	Introduction of Variation 1
2	03 Dec 2018	R12152A/00	Introduction of Variation 2
3	13 Sep 2019	R12524A/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.

i. 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.
ii. Each unit manufactured shall be subjected to a electric strength test in accordance with EN 60079 15:2010 clause 23.2.1 at 1000v +2Un for 60 s. Alternately at 1.2 times this test voltage for at least 100 ms.
iii. The manufacturer shall mark a maximum ambient range of -40°C to +70°C when fitting the T1M1UNV150P-150L driver, depending on Temperature class.

14 Specific Conditions of Use (Special Conditions)

None.

Certificate Annex

Certificate Number	**CML 15ATEX4042**
Equipment	**Gamma LED Luminaire**
Manufacturer	**Abtech Limited**

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

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
ABT28409	1 of 1	A	08 Apr 2015	Gamma Label Drawing
ABT28321	1 of 1	A	08 Apr 2015	Gamma Floodlight GA Certification Drawing

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
ABT30009	1 to 3	A	21 Dec 2015	GAMMA FLOODLIGHT GA CERTIFICATION DRAWING
ABT30010	1 of 1	A	21 Dec 2015	GAMMA LABEL DRAWING

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
ABT30009	1 to 3	C	03 Dec 2018	GAMMA FLOODLIGHT GA CERTIFICATION DRAWING
ABT30010	1 of 1	C	03 Dec 2018	GAMMA LABEL DRAWING

Issue 3

None.