

1 EC-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 94/9/EC**

3 EC-Type Examination Certificate No: **FM06ATEX0019X**
4 Equipment or protective system: **LUMASTAR™ SERIES EPL-100 Tank Gauge Illuminator**
(Type Reference and Name)
5 Name of Applicant: **Clark-Reliance Corporation**
6 Address of Applicant: **16633 Foltz Industrial Parkway
Strongsville, OH 44149 USA**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 confidential report number 3025897EC dated 11 July 2007

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents: EN 60079-0: 2006, EN 60079-1: 2004 and EN 60079-11:2007

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2(2) G Ex d [ia] IIC T6 Ta = -40°C to +77°C (Power Supply)
II 2 G Ex ia IIC T4 Ta = -40°C to +77°C (Light Strip)

Andrew Was
General Manager, FM Approvals Ltd.

Issue date: 11th July 2007



THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE



to EC-Type Examination Certificate No. FM06ATEX0019X

13 Description of Equipment or Protective System:

General - The LumaStar Series EPL-100 Tank Gauge Illuminator is comprised of two basic sub-assemblies, the EPL-100 Power Supply and the EPL-100 Light Strip.

Power Supply - The EPL-100 Power Supply is housed in a flameproof enclosure. The power supply provides power, limited to intrinsically safe levels, to the Light Strip. The Intrinsically Safe output leaves the flameproof enclosure through a conduit sealing device directly coupled to one of the ½ NPT entries. A special electrical connector is threaded into the base of the conduit sealing device to provide a connection point for the Intrinsically Safe Light Strip.

Input Voltage = 120 Vac or 240 Vac

Light Strip - The EPL-100 Light Strip consists of a PCB board with evenly spaced LEDs and a number of resistors. It is housed in a metal enclosure with a glass window to permit transfer of the light from the LEDs to the sight window.

LumaStar EPL-100-a-b-c-dX, Tank Gauge Illuminator

a = Gauge window 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20.

b = Power input 1 (120 Vac) or 2 (240 Vac).

c = Number of gauge sections 1, 2, 3, 4, or 5.

d = Mounting brackets 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12.

14 Special Conditions for Safe Use:

- 1. The Model LumaStar EPL-100 Tank Gauge Illuminator shall be supplied power from the Model LumaStar EPL-100. Power Supply.*

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

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SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM06ATEX0019X

17 Approved Drawings

Drawing No:	Rev	Date	Title / Description
S-23505	0	09-25-06	ASSY : SEALING FITTING ATEX LUMASTAR
S-23477-EX	0	09-09-06	POWER SUPPLY: ATEX LUMASTAR
V-20863	0	10-24-06	ENCLOSURE: EX PROOF ATEX
J500.33	09-11-06	09-11-06	INSTALLATION, OPERATING, & MAINTENANCE INSTRUCTIONS
V-20831-EX	0	07-05-06	ATEX LABEL – POWER SUPPLY
V-20832-EX	0	07-05-06	ATEX LABEL – RATING
A-27464-EX	0	07-05-06	LED FLAT GLASS ILLUMINATOR
S-23174	1	10-06-04	EPL-100 LED CIRCUIT BOARD
S-23478-EX	0	09-06-06	LED FLAT GLASS ILLUMINATOR
A-4836	4	06-06-2007	BOM POWER SUPPLY
V-20603	1	09-02-05	RECEPTACLE EXPLOSIONPROOF
EPWBJ1002	1	11-08-06	LED FLAT GLASS LED STRIP ILLUMINATOR
A-4861	6	6-14-07	POWER SUPPLY SCHEMATIC
S-23507	0	12-04-06	BRACKET POWER SUPPLY
E PWB 2A36VDCPS1	10		Power Supply Board Layout (Gerber File Layers 1-11)

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Supplement 1 to
EC-Type Examination Certificate No. FM06ATEX0019X
in accordance with Clause 6 of Annex III to Directive 94/9/EC.



Equipment or protective system:
(Type Reference and Name)

LUMASTAR™ SERIES EPL-100 Tank Gauge Illuminator

Name of Applicant:

Clark-Reliance Corporation

Address of Applicant:

16633 Foltz Industrial Parkway
Strongsville, OH 44149 USA

The examination and test results are recorded in Supplement 1 to confidential report number 3025897EC dated 12th March, 2008.

Description of the supplements and modifications:

Replacement of resistors and modification of printed wiring board

17. Approved Drawings

Drawing No:	Rev	Title / Description
A-4836	5	BOM Power Supply
A-4861	8	Power Supply Schematic
E PWB 2A36VDCPS	11	Power Supply Board Layout

Ron Webb
Deputy Certification Manager, FM Approvals Ltd.

Issue date: 12th March, 2008



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Supplement 2 to
EC-Type Examination Certificate No. FM06ATEX0019X
in accordance with Clause 6 of Annex III to Directive 94/9/EC.



Equipment or protective system:
(Type Reference and Name)

LUMASTAR™ SERIES EPL-100 Tank Gauge Illuminator

Name of Applicant:

Clark-Reliance Corporation

Address of Applicant:

**16633 Foltz Industrial Parkway
Strongsville, OH 44149 USA**

The examination and test results are recorded in Supplement 2 to confidential report number 3025897EC dated 5th August, 2009.

Description of the supplements and modifications:

13. **Description**

Add an alternate component Approved enclosure (SIRA 08AATEX1082U), modify the bracket and add the entire 656 Series Cable Gland.

17. **Approved Drawings**

The following drawings have been modified or added.

Drawing No:	Rev	Title / Description
S-23477-EX	1	POWER SUPPLY: ATEX LUMASTAR
S-23507	1	BRACKET POWER SUPPLY
S-23505	1	ASSY : SEALING FITTING ATEX LUMASTAR
V-20815	0	ENCLOSURE: EXPLOSIONPROOF

Nicholas Ludlam
Deputy Certification Manager, FM Approvals Ltd.

Issue date: 5th August, 2009



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Supplement 3 to
EC-Type Examination Certificate No. FM06ATEX0019X
in accordance with Clause 6 of Annex III to Directive 94/9/EC.



- 4 Equipment or protective system: LUMASTAR™ SERIES EPL-100 Tank Gauge Illuminator
(Type Reference and Name)
- 5 Name of Applicant: Clark-Reliance Corporation
- 6 Address of Applicant: 16633 Foltz Industrial Parkway
Strongsville, OH 44149 USA

The examination and test results are recorded in confidential report number:
3017395rev090921 dated 7th March 2011

Description of the supplements and modifications:

1. Update and renumber of EPL-100 schematic drawing.

17 Approved Drawings:

Drawing No:	Previous Revision	New Revision	Title / Description
E-PWB-J1002	0	Deleted	Schematic EPL-100
E-S-J1007	None	0	Schematic EPL-100



Digitally signed by Andrew Was
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Andrew Was
Certification Manager, FM Approvals Ltd.

Issue date: 17th March 2011

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Supplement 4 to
EC-Type Examination Certificate No. FM06ATEX0019X
in accordance with Clause 6 of Annex III to Directive 94/9/EC.



4 **Equipment or protective system:** LUMASTAR™ SERIES EPL-100 Tank Gauge Illuminator
(Type Reference and Name)

5 **Name of Applicant:** Clark-Reliance Corporation

6 **Address of Applicant:** 16633 Foltz Industrial Park
Strongsville, OH 44149, USA

The examination and test results are recorded in confidential report number:
Supplement 3 to 3025897EC dated 21 June, 2011.

Description of the supplements and modifications:

Addition of new illuminator models and alternative power supply model numbering.

13 Description of Equipment or Protective System:

The Phaeton, DuraStar and NightStar Illuminators each comprise of two basic sub-assemblies, the S23477 Power Supply and the Phaeton, DuraStar and NightStar light strips.

S23477 Power Supply - The S23477 Power Supply is identical to the power supply used with the LumaStar EPL-100 Light Strip and is housed in a flameproof enclosure. The power supply provides power, limited to intrinsically safe levels, to the Light Strips. The Intrinsically Safe output leaves the flameproof enclosure through a conduit sealing device directly coupled to one of the 1/2 NPT entries. A special electrical connector is threaded into the base of the conduit sealing device to provide a connection point for the Intrinsically Safe Light Strip.

Input Voltage = 120 Vac or 240 Vac

Phaeton Sight Flow Illuminator - The Phaeton Sight Flow Illuminator consists of four evenly spaced LED's mounted on a round PC board. The unit is housed in a metal enclosure with a glass window to permit transfer of light from the LEDs to the sight window.

Phaeton TIK-PH-a-b-c-d-X. Sight Flow Illuminator.

where;

a = SL (Standard Light) or HL (Hygenic Light)

b = L (Aluminum) or S (Stainless Steel)

c = Power input 1 (120Vac) or 2 (240Vac).

d = Cord Length (49ft) 15m max.



Digitally signed by Andrew Was
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Andrew Was
Certification Manager, FM Approvals Ltd.

Issue date: 5th July 2011

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Supplement 4 to
 EC-Type Examination Certificate No. FM06ATEX0019X
 in accordance with Clause 6 of Annex III to Directive 94/9/EC.



13 Description of Equipment or Protective System (continued):

DuraStar Gauge Glass Illuminator – The DuraStar Gauge Glass Illuminator consists of up to 72 evenly spaced LED's mounted on a rectangular PC board. The unit is housed in a metal enclosure with a glass window to permit transfer of light from the LEDs to the sight window.

DuraStar RDX5000-a-b-c-d-e. Gauge Glass Illuminator.

where;

- a = Gauge Manufacturer for bracket style
- b = Gauge Size: 5-9
- c = Power input 1 (120Vac) or 2 (240Vac).
- d = Hazardous Location Model
- e = Gauge Pressure 1 (Low Pressure) or 2 (High Pressure)

NightStar Illuminated Magnetic Flag Gauge – The NightStar Illuminated Magnetic Flag Gauge consists of up to 24 evenly spaced LED's mounted on a rectangular PC board. The unit is housed in a metal enclosure with a glass window to permit transfer of light from the LEDs to the sight window.

NightStar A30335-a-b-c. Illuminated Magnetic Flag Gauge.

where;

- a = Power input 1 (120Vac) or 2 (240Vac).
- b = Length of Magnetic Gauge
- c = Length Units (cm, in, %)

14 Special Conditions for Safe Use:

1. The Model Phaeton SL/HL Sight Flow Illuminator shall be supplied power from the Model S23477 Power Supply.
2. The Model DuraStar Gauge Glass Illuminator shall be supplied power from the Model S23477 Power Supply.
3. The Model NightStar Illuminated Magnetic Flag Gauge shall be supplied power from the Model S23477 Power Supply.

17 Approved Drawings:

Drawing No:	Previous Revision	New Revision	Title / Description
S-23477-EX	1	2	POWER SUPPLY, ATEX, LUMASTAR
A27464-EX	0	2	LED FLAT GLASS ILLUMINATOR
R500,E248A	N/A	0	ATEX Installation, Operation, Maint. DuraStar
DX5000-A	N/A	0	Assembly: ATEX: Haz Loc: DuraStar
DX9000-A	N/A	0	Label: ATEX: Power Supply: DuraStar
DX9001-A	N/A	0	Label: Rating: ATEX: DuraStar
M500.141	N/A	0	ATEX Installation, Operation, Maint. NightStar
A-30335	N/A	0	Assembly: NightStar: ATEX
V-21374	N/A	0	Label: ATEX: Power Supply: NightStar
V-21375	N/A	0	Label: Rating: NightStar: ATEX
T500.8	N/A	0	ATEX Installation, Operation, Maint. Phaeton SL
A-5141	N/A	0	Assembly: Light: Phaeton SL/HL: ATEX
A-5137	N/A	0	Label: ATEX: Power Supply: Phaeton SL
A-5138	N/A	0	Label: ATEX: Light: Phaeton SL/HL
ES-TA5053	N/A	0	Schematic/BOM/PCB Phaeton SL Led Array Ring
ES-S23431-X	N/A	0	Schematic/BOM/PCB NightStar Led Arrays
ES-RDS5004-X-X-H	N/A	0	Schematic/BOM/PCB DuraStar Led Arrays

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Supplement 5 to
EC-Type Examination Certificate No. FM06ATEX0019X
in accordance with Clause 6 of Annex III to Directive 94/9/EC.

- 4 **Equipment or protective system:** LUMASTAR™ Series EPL-100 Tank Gauge Illuminator
(Type Reference and Name)
- 5 **Name of Applicant:** The Clark-Reliance Corporation
- 6 **Address of Applicant:** 16633 Foltz Industrial Parkway
Strongsville, OH 44149, USA

The examination and test results are recorded in confidential report number:
3025897rev120201 dated 5 March 2012

Description of the supplements and modifications:

Minor drawing changes

17 Approved Drawings:

Drawing No:	Previous Revision	New Revision	Title / Description
A-4836	5	6	BOM POWER SUPPLY
J500.33	09-11-06	01-10-12	INSTALLATION, OPERATING & MAINTENANCE INSTRUCTIONS

Mick Gower
Deputy Certification Manager, FM Approvals Ltd.

Issue date: 12th March 2012

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EC Declaration of Conformity

Manufacturer: The Clark-Reliance Corporation
16633 Foltz Parkway
Strongsville, OH 44149 USA

Model # LumaStar or EPL-100-#####

Rating:  II 2(2) G Ex d[ia] IIC T6 Power Supply
II 2 G Ex ia IIC T4 LED Light

Declaration: The equipment listed is in conformity with the provisions of the ATEX directive 2014/34/EU.

Certificate: FM06ATEX0019X

Standards: 60079-0: 2006 60079-1:2004 60079-11:2007

QAN: QAN Certificate Number ITS09ATEXQ6353 issued by
Intertek Testing & Certification Limited
Deeside Lane
Chester, CH1 6DD

Authorized

Signature(s): _____ Date _____
Engineering Manager

OR

: _____ Date _____
MRfQ

