# Assessment Report

**Title:**
Report on: UKCA ‘mb’ & ‘ta’ Certification of Type K30L and K50L LED Indicator Lights

**Applicant:**
Banner Engineering Corporation

**Report No.**
R80106745A

**Date of issue:**
July 2022

| CSA Issuing Body | Scheme | CSA Project No.s |
|---|---|---|
| CSA Group Testing UK Ltd, Unit 6, Hawarden Industrial Park, Hawarden, Deeside, CH5 3US, United Kingdom | UKCA | 80106745 |



B_51213510

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

# 1 Report Summary

## 1.1 Certification Overview

This report is to issue UKCA certification of the Type K30L and K50L LED Indicator Lights based on the ATEX certificate, Sira 13ATEX5270X (Issue 9).

## 1.2 Applicant's Name & Address

Banner Engineering Corporation
9714 Tenth Avenue North
Minneapolis
MN 55441
United States of America

## 1.3 Manufacturer's Name & Address

Banner Engineering Corporation
9714 Tenth Avenue North
Minneapolis
MN 55441
United States of America

The product is manufactured at the following location, covered by the same QAN:

Banner Engineering Corporation
715 North County Road
Aberdeen SD 57401
United States of America

## 1.4 Product Name/Model Number

Type K30L and K50L LED Indicator Lights

## 1.5 Rating

The equipment has the following electrical parameters:

Vmax = 30 V  Imax = 25 mA

## 1.6 Assessment Standards

| UKCA |
|---|
| EN IEC 60079-0:2018 |
| EN 60079-18:2015/A1:2017 |
| EN 60079-31:2014 |

This report may be issued against standards that do not appear on the UKAS Scope of Accreditation, but have been added through CSA Group Testing UK Ltd.'s flexible scope of accreditation.

## 1.7 Marking

| Detail | UKCA |
|---|---|
| Certificate number: | CSAE 21UKEX5682X |
| Certification code: | Ex mb IIC T4 Gb<br>Ex ta IIIC $T_{200}$ 135°C Da |
| Other marking: | UK CA 1725 Ex II 2G<br>II 1D |
| Model number: | Type K30L and K50L LED Indicator Lights |
| Manufacturer's name: | Banner Engineering Corporation |
| Manufacturer's address: | 9714 Tenth Avenue North, Minneapolis, Minnesota 55441. USA |
| Ambient range: | Ta = -40°C to +50°C |
| Serial number: | As appropriate |
| Year of manufacture: | As appropriate |
| Warnings: | None. |

Example Nameplates:










## 1.8 Product Description

Type K30L and K50L LED Indicator Lights comprise LEDs mounted on a printed circuit board, all encapsulated within a plastic housing with a transparent dome. The Type K50L is physically larger than the K30L having more LEDs mounted on the PCB than the K30L. The indicator lights have an integral cable fitted for the electrical connections.

The equipment has the following electrical parameters:

Vmax = 30 V  Imax = 25 mA

### Incorporated amendments

The product description includes the following applicable amendments from the previous supporting assessments. Only amendments directly applicable to UKCA certification have been included in this list. The amendments are numbered to include a reference to the variation at which these were introduced.

i) (Variation 1)
- The specification of the material used for the K30L and K50L LED indicator covers was changed, one of the options being removed.

ii) (Variation 2)
- A number of editorial changes to the documentation.
  - Replace drawing 126905 with drawing 164906.
  - Replace drawing 133593 with drawing 164905.

- Remove document 173494 from the drawing list.

iii) (Variation 3)
- The use of an alternative encapsulation material was approved.
- Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-31:2009 and EN 60079-18:2009 were replaced by EN 60079-18:2015 and EN 60079-31:2014.

iv) (Variation 4)
- The recognition of minor drawing modifications; these modifications do not affect the aspects of the product that are relevant to explosion safety.
- Standard EN 60079-0:2012 was updated to EN 60079-0:2012/A11:2013.

v) (Variation 5)
- Drawing 173292 has been revised from rev A to rev B to update cable details for the LED Indicator lights.

vi) (Variation 6)
- A number of editorial changes not affecting compliance have been made to the drawings for the LED Indicator lights.

vii) (Variation 7)
- Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012/A11:2013 & EN 60079-18:2015 were replaced by EN IEC 60079-0:2018 and EN 60079-18:2015/A1:2017. Where applicable, the markings were updated accordingly to recognise the new standards.
- Drawing and documentation update.

## 1.9 Manufacturer's Documents

### 1.9.1 Documents common to ATEX Certification

| Drawing | Sheets | Rev. | Date (Stamp) | Title |
|---|---|---|---|---|
| 119759 | 1 of 1 | - | 12 Jul 13 | PCB RAW panel (dimensions), T18 EZ light – K30L |
| 128145 | 1 of 1 | A | 12 Jul 13 | PCB Raw Panel (dimensions) K50L |
| 133592 | 1 of 1 | K | 27 Apr 22 | Base K30 EZ Light |
| 133594 | 1 of 1 | D | 22 Jan 19 | Nut M22 X 1.5 |
| 133595 | 1 of 1 | A | 12 Jul 13 | Washer assembly |
| 145878 | 1 of 1 | A | 12 Jul 13 | Foam spacer EZ Light K30L |
| 162904 | 1 of 1 | D | 09 Feb 17 | Base K50 IS Black M30x1.5 mounting base |
| 164905 | 1 of 1 | C | 09 Feb 17 | Cover K30 EZ Light |
| 164906 | 1 of 1 | J | 04 Apr 18 | Cover K50 IS EZ light 2nd GEN |
| 168051 | 1 to 3 | D | 27 Apr 22 | Proc Potting K50L Hazardous Environment Cable Final Assy |
| 169014 | 1 to 3 | E | 27 Apr 22 | Proc Potting K50L Hazardous Environment QD Final Assy |
| 169015 | 1 & 2 | E | 22 Jan 19 | Proc potting K30L Hazardous Environment Final Assembly |
| 172718 | 1 & 2 | A | 17 Jul 13 | PCB RAW, K30L Exmb EZ light |
| 172718 | 1 to 4 | A | 17 Jul 13 | PCB K30L track and component layout |
| 172719 | 1 of 1 | B | 22 Jan 19 | Schematic diagram K30L Exmb EZ light |
| 172727 | 1 & 2 | A | 17 Jul 13 | PCB Assy, EZ LGT PNP3E GRY Exmb (172718) |
| 172727 | 1 of 1 | A | 17 Jul 13 | PCB Assy, EZ LGT PNP3E GRY Exmb (172718) |
| 172728 | 1 of 1 | B | 22 Jan 19 | PCB RAW, K50L Ex mb EZ Light |
| 172729 | 1 of 1 | E | 22 Jan 19 | Schematic diagram K50L Ex mb EZ light |
| 172737 | 1 & 2 | A | 17 Jul 13 | PCB assy, K50L, EZ LGT PNP3E GRY Exmb (172728) |
| 172737 | 1 of 1 | A | 17 Jul 13 | PCB BOM, PCB assy, K50L, EZ LGT PNP3E GRY Exmb |
| 172926 | 1 to 7 | B | 17 Jul 13 | DWG K50L, Exmb Final assembly |
| 172927 | 1 to 8 | B | 17 Jul 13 | DWG K30LExmb Final Assembly |
| 173292 | 1 of 1 | C | 27 Apr 22 | Cable |
| 217424 | 1 & 2 | L | 27 Apr 22 | Dwg Hex Nut with Knurl M30 x 1.5 |

### 1.9.2 Drawings added as part of UKCA Certification

| Drawing | Sheets | Rev. | Date (Stamp) | Title |
|---|---|---|---|---|
| 171656 | 1 of 1 | D | 27 Apr 22 | K30L/K50L Hazardous Area Markings |

## 1.10 Supporting Documents

| Number | Details | Pages |
|---|---|---|
| R26812B/00 | (Issue 0) Original ATEX Report – 24th July 2013 | 33 |
| R26812B/01 | (Issue 1) Report replacing original Report No. R26812B/00 – 12th February 2014 | 35 |
| R70034003A | (Issue 2) Variation 1 Supplementary Report - 7th July 2015 | 8 |
| R70115581A | (Issue 3) Variation 2 Supplementary Report – 6th March 2017 | 10 |
| R70115798A | (Issue 4) Variation 3 Supplementary Report – 11th July 2017 | 14 |
| R70177521A | (Issue 5) Variation 4 Supplementary Report – 24th April 2018 | 10 |
| R70188875A | (Issue 6) Variation 5 Supplementary Report – 12th September 2018 | 8 |
| R70205810A | (Issue 7) Variation 6 Supplementary Report – 4th February 2022 | 8 |
| 0346 | (Issue 8) Transfer of certificate Sira 13ATEX5270X from Sira Certification Service to CSA Group Netherlands B.V.. | 4 |
| R80074932A | (Issue 9) Variation 7 | 34 |

## 1.11 Specific Conditions Of Use

i. In certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.

ii. Ex ta requires that the prospective short circuit current of the supply must not exceed 10 kA.

iii. The equipment has been evaluated to EN 60079-0 Table 15, Resistance to Impact, as a low risk of mechanical damage. If the installation has a high risk of impact, the user must take suitable precautions to provide protection from impact.

## 1.12 Production Control

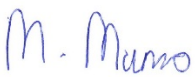
i. Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders.

ii. The manufacturer shall undertake the following routine tests on 100% of all production in accordance with the appropriate clauses of EN 60079-18:2015/A1:2017:
- Visual inspection in accordance with clause 9.1.
- Dielectric strength test in accordance with clause 9.2.

## 1.13 Conclusion

The equipment described in this report satisfies the requirements of the listed standards, the relevant certification code being as indicated in section 1.77. The tests and assessments are limited to the standards aforementioned. In addition, the equipment meets the requirements UKSI 2016:1107 (as amended by UKSI 2019:696 – Schedule 3A, Part 1) for UK Type Examination, for the Category indicated in section 1.7.

## 1.14 Signatories

| | | |
|---|---|---|
| Compiled by + signature | **M Munro**<br>Certifier III |  |
| Reviewed by + signature | **Rawn Murphy**<br>Certification Specialist |  |

## 2 Supporting Assessments

The assessment and tests conducted for this equipment are based primarily on the assessment performed for ATEX certification, and the associated Test Reports as indicated in section 1.10. A copy of the reports are archived in the Test Data folder associated with this project.

| | |
|---|---|
| IECEx & ATEX Certificate Numbers | Sira 13ATEX5270X – Issue 9 |
| Assessment Reports | See Section 1.10 above |
| Standards | EN IEC 60079-0:2018, EN 60079-18:2015/A1:2017 & EN 60079-31:2014 |

The assessment report is accepted in full against the listed standards in section 1.6 and the assessment and test data has been considered acceptable in demonstrating compliance with these listed standards.

## 3 Assessment against UKCA Regulations

The table below lists all relevant Essential Health and Safety Requirements (EHSRs) in Schedule 1 of UKCA Regulations that are not addressed by the listed standards.

| EHSR | Title | Justification for compliance |
|---|---|---|
| 9 | Enclosed structures and prevention of leaks | N/A – Equipment is not capable of releasing flammable gases or dusts. |
| 11 | Additional means of protection | N/A – Equipment is not exposed to external stresses. |
| 19 | Hazards arising from overheating | N/A – The equipment is not susceptible to overheating caused by friction or impacts occurring. |
| 20 | Hazards arising from pressure compensation operations | N/A – Equipment not operated under pressure. |
| 22, 23, 24, 25 | Requirements in respect to safety-related devices | N/A – Equipment is not a safety-related device. |
| 26, 27, 29 | Integration of safety requirements relating to the system | N/A – Equipment is not a safety-related device. |
| 38, 39, 40, 41, 42, 43 | Supplementary requirements in respect of protective systems | N/A – Equipment is not a protective system. |