



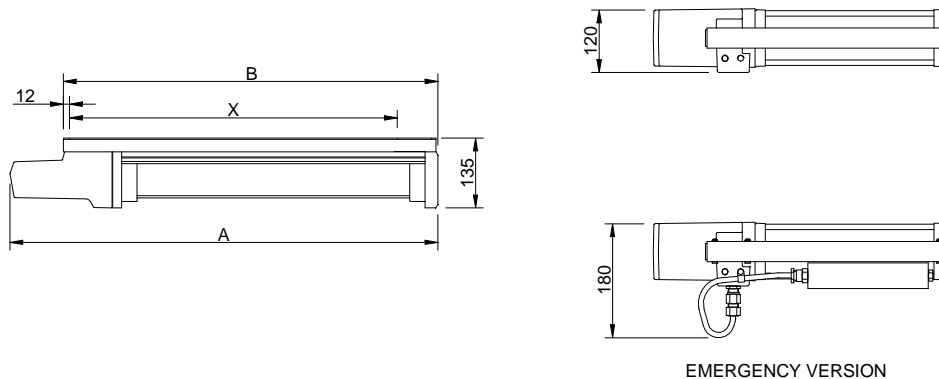
Installation & Maintenance Manual for Calstar Luminaire

Specifications

Types	500/XXXX non emergency fitting for gas groups IIA, IIB 600/XXXX non emergency fitting for gas groups IIC 550/XXXX emergency fitting (with battery backup) for gas groups IIA, IIB 650/XXXX emergency fitting (with battery backup) for gas groups IIC XXX/0211 1x8W lamp XXX/0103 1x18W lamp XXX/0121 2x18W lamp XXX/0109 1x36W lamp XXX/0127 2x36W lamp XXX/0115 1x58W lamp XXX/0133 2x58W lamp	
Hazardous Area	SIRA00ATEX1107X IECEX SIR 10.0077X POCC DE.ГБ06.В01007	
ATEX certificate number	SIRA00ATEX1107X	
IECEX certificate number	IECEX SIR 10.0077X	
GOST certificate number	POCC DE.ГБ06.В01007	
INMETRO certificate number		
CE number	CE 0102	
Certification coding for ATEX/IECEX		
500/XXXX types	Ex II 2 GD	Ex d IIB T* Gb Ex tb IIIC T** Db
600/XXXX types	Ex II 2 GD	Ex d IIC T* Gb Ex tb IIIC T** Db
550/XXXX types	Ex II 2 GD	Ex de IIB T* Gb Ex tb IIIC T** Db
650/XXXX types	Ex II 2 GD	Ex de IIC T* Gb Ex tb IIIC T** Db
Gas/dust temperature class	T6/T85°C @ Ta+40°C T5/T100°C @ Ta+55°C T4/T135°C @ Ta+60°C	
500/XXXX / 600/XXXX types		
550/XXXX / 650/XXXX types	T6/T85°C @ Ta+40°C T5/T100°C @ Ta+50°C	
Minimum ambient temperature	-20°C	
IP Rating	IP67 (IP6X for XXX/XXXX/P models)	
Mechanical		
Material		
Castings	Light metal alloy	
Overtube	Borosilicate glass or polycarbonate for XXX/XXXX/P models	
Finish		
Castings	Epoxy powder coated RAL7032	
Reflector	Epoxy powder coated white	
Entry threadform	M20	
Electrical		
Operating voltage	220 – 254V	
Frequency	50/60Hz	
Operating current	0.5A max	
Power factor	0.98	
Terminal capacity	2.5mm ²	
Other		
Ballast lumen factor	8W lamps – 27%, 18W lamps – 12% 36W lamps – 10%, 58W lamps – 7%	
Charge time	24 hours from fully discharged	
Emergency operating duration	3 hours	
EMC	To EN55015: 2000	
Lamp type	Bi-pin fluorescent tube – T5 for 8W, T8 for all over fittings	
Conformity	EN 60079-0: 2006 IEC 60079-0: 2007 Ed 5 EN 61241-1: 2004	EN 60079-1: 2007 EN 60079-7: 2007 EN 60529

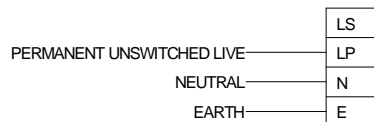
Dimensions & Weights

Lamp	Dimensions (mm)			Weight (kg)
	A	B	X (fixings)	
8W	575	488	391	11
18W	835	748	661	12
36W	1440	1353	1266	14
58W	1740	1653	1566	16

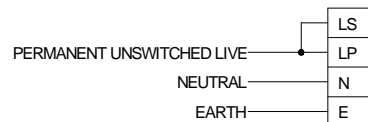


Connections

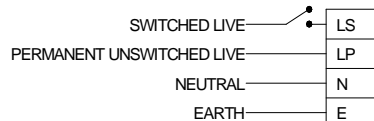
EMERGENCY LAMP IN NON MAINTAINED MODE - LAMP ONLY LIGHTS WHEN POWER FAILS



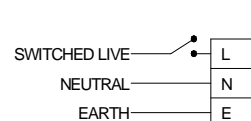
EMERGENCY LAMP IN MAINTAINED MODE - LAMP IS LIT AT ALL TIMES



EMERGENCY LAMP MAY BE EITHER ON OR OFF UNDER NORMAL CONDITIONS AND ALWAYS LIGHTS WHEN POWER FAILS



NON EMERGENCY LAMP IS CONTROLLED BY SWITCH



Installation

To minimise the risk of ignition by electrical apparatus in hazardous areas efficient installation, inspection and maintenance of apparatus and systems is essential and the work should be carried out by suitably trained personnel in accordance with the prevailing code of practice.

- 1) If the environment in which the luminaire is to be mounted contains aggressive liquids, vapours, dusts or compounds seek expert advice from Pepperl+Fuchs. It is important to ensure that the luminaire is not likely to have its concepts of protection compromised by any environmental conditions. This is particularly important for models with a polycarbonate overtube.
- 2) Remove the top support rails by removing the 3 "Snap Fit" clips. Mount the support rail to its operating position using the two 10mm fixing holes. Offer the fitting to the support rail and secure with a pin and clip through the middle-fixing hole then fit the remaining pins and clips.
- 3) To make electrical connections separate the control housing from the overtube assembly by unscrewing the two captive screws. The overtube can be withdrawn and lowered; an internal tie wire will support the tube. On emergency models remove the battery cable clip. To ensure compliance with the EMC directive, keep supply leads as far apart from tube leads as possible. Refer to the diagram above when wiring for the correct mode of operation.
- 4) Cable entries should be made only with suitably approved Ex d / Ex tb glands noting that this equipment is suitable for use with gas group IIB/C & dust group IIIC. IP ratings should be suitable for the intended area of installation.
- 5) Ensure that the type of cable being used is suitable for the type of gland. Certain types of cable have a hollow centre and must not be used with compression type glands. With these types of cables, barrier or 'stuffing' glands should be used.



- 6) All unused entries should be fitted with suitably approved Ex d / Ex tb stopping plugs.
- 7) A corrosion inhibiting grease may be applied to the surface of the flameproof joints before assembly. If applied, the grease should be of a type that does not harden because of ageing, does not contain any evaporating solvent and does not cause corrosion of the joint surfaces.
- 8) Once the cover is fitted, ensure that all fasteners are fully tightened.
- 9) Switch on the mains supply and ensure that the luminaire operates correctly. On emergency versions ensure that the LED is lit – the tubes may be on or off depending on the wiring configuration selected. Switch off the supply to the luminaire after one minute to ensure that the tube lights in emergency mode. Re-establish the supply to allow the battery to fully charge.
- 10) No metal should be removed from the enclosure i.e. extra cable entries or mounting points should not be made.**
- 11) No modifications should be made to the fitted equipment without consultation with Pepperl+Fuchs. The fitted equipment has been assessed to produce a heat rise that will maintain the stated gas/dust temperature classes.**

Special Conditions for Safe Use

- 1) The polycarbonate overtube that may be used in the construction of these luminaires (XXX/XXXX/P models) can present a risk of electrostatic discharge; therefore, products that are fitted with this type of overtube shall only be cleaned with a damp cloth.

Maintenance

Electrical apparatus installed in hazardous locations has design features that make it operationally safe under normal conditions. In order to ensure that the apparatus remains serviceable the following points should be attended to on a periodical basis. The period between inspections is not fixed, but should be adjusted to suit the environmental conditions where the equipment is situated. An initial inspection after 12 months of use is suggested.

- 1) Ensure that all fasteners are present and of the correct property class. Refer to the certification label for details.
- 2) Ensure that the luminaire is not damaged or distorted so as to affect the dimensions of the flameproof joints.
- 3) Ensure external earth bonding connections are in place and in good condition.
- 4) Ensure that all entry devices are in good condition and securely tightened.
- 5) Ensure that the certification label is present and legible.
- 6) The Ex e battery tube should not be opened and maintenance is limited to ensuring that it is securely fastened to the reflector and it is not visibly damaged. Ensure that there is no damage to the cable from the battery tube to the control gear housing.

Ensure that the location where the luminaire is fitted is free from flammable gas or dust. With the control gear housing separated from the overtube:

- 7) Ensure that the 'o' ring on the spigot that inserts into the control gear housing remains in place and is in good condition. Replacement 'o' rings are available from Pepperl+Fuchs.
- 8) Look for pitting or damage to the flamepaths of the control gear housing and spigot. Surface corrosion may be removed, but abrasive cleaners should not be used.
- 9) The flamepaths of the luminaire should be cleaned, and may optionally be coated in grease to guard against corrosion. If applied, the grease should be of a type that does not harden because of ageing, does not contain any evaporating solvent and does not cause corrosion of the joint surfaces.
- 10) With the control gear housing refitted, ensure that all fixings are fully tightened.

Lamp Replacement

- 1) Separate the control gear housing from the overtube as described in the installation section.
- 2) Disconnect the Molex connectors in the leads to the lamps and move the wiring to one side.
- 3) Screw the socket cap head screw under the barrier into which the lamp cables are cemented INWARDS.
- 4) The barrier may now be unscrewed and the complete light bar assembly withdrawn.
- 5) Remove the lamps by rotating through 90° so that their pins align with the slots in the lampholder.
- 6) With new lamps fitted, screw the barrier all the way in by hand, then back it off until the slot aligns with the socket cap head screw underneath. UNSCREW the socket cap head screw to lock the barrier in place.
- 7) Reconnect the lamp cables and refit the control gear housing to the overtube.

Battery Replacement

- 1) Separate the control gear housing from the overtube as described in the installation section.
- 2) Disconnect 2 pin battery plug and its earth connection. Remove the battery from its fixings and release the cable gland.
- 3) Reassembly is the reverse of removal.