Intrinsically Safe LED Cluster Lamp

VSI

Installation instructions

1. Description

The VSI is an intrinsically safe panel mounting cluster lamp that has ATEX and IECEx certification. With a terminal voltage between 14 and 30V dc it consumes a constant 20mA and has a constant brilliance. No external current limiting resistor is required.

VSI lamps are available with five different colour outputs, each identified by a product number suffix:

VSIR: Red; VSIV: Green; VSIJ: Yellow

VSIBL: Blue; VSIBN: White.

2. ATEX Intrinsic safety certification

All VSI lamps have been issued with an EC-Type Examination Certificate ITS13ATEX27822X. This confirms compliance with the European ATEX Directive 2014/34/UE for Group II, Category 1G, apparatus Ex ia IIC T4. The lamps bear the Community Mark and, subject to local codes of practice, may be installed in any of the European Economic Area (EEA) member countries. ATEX certificates are also acceptable for installations in Switzerland.

These instructions describe installations in explosive gas atmospheres which conform with EN 60079:14 Electrical Installation in Hazardous Areas.

2.1 Electrostatic charging

The ATEX and IECEx certifications specify special conditions for safe use in potentially hazardous areas to prevent the accumulation of an electrostatic charge. Each lamp carriers the following warning:

Potential Electrostatic Hazard
Clean with Damp Cloth

2.2 Power supply

When installed in a hazardous area the VSI lamp must be powered via a certified Zener barrier or galvanic isolator from a dc supply located in the safe area.

The maximum input safety parameters for a VSI lamp are:

Ui = 30V
Ii = 159mA
Pi = 1.2W

Any Zener barrier or galvanic isolator that has been certified Ex ia by an EU Notified Body may be used to power VSI lamp(s). The maximum output safety parameters of the barrier or isolator must be less than the maximum input safety parameters of the lamp, and the barrier or isolator must be certified for the required gas group.

The VSI lamp has no internal capacitance or inductance, therefore the maximum permissible cable parameters are the same as those specified for the Zener barrier or galavanic isolator powering the lamp(s).

More than one VSI lamp may be operated from one barrier or isolator, but operating lamps in parallel may reduce the brightness of each device. The amount of reduction will depend upon the type of barrier or isolator and the lamp colour.

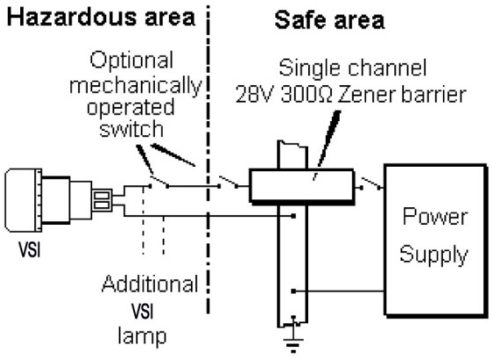

Fig 1 Typical VSI lamp circuit

2.3 Zones, gas groups and T rating

The ATEX certificate permits installation in:

Zone 0: explosive gas air mixture continuously present.
Zone 1: explosive gas air mixture likely to occur in normal operation.
Zone 2: explosive gas air mixture not likely to occur, and if it does will only exist for a short time.

Use with gases in groups:

Group A: propane
Group B: ethylene
Group C: hydrogen

Having a temperature classification of:

T1 450°C
T2 300°C
T3 200°C
T4 135°C

At an ambient temperature between –20 and +60oC when powered from a barrier or isolator with a Po of less than 1.2W.

This allows VSI lamps to be installed in all Zones and to be used with most common industrial gases.

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3. IECEx Certification

The IECEx certificate IECEx ITS 08.0030X is similar to the ATEX certification.

4. Certification Label Information

The certification label is fitted in a recess on the lamp body. It shows the ATEX certification information, year of manufacture and batch number. IECEx certification information is also shown.

5. Installation

VSI lamps must be installed by trained, competent personnel. Each lamp is supplied with a gasket that should be positioned between the lamp body and the front of the panel.

To provide an IP66 seal between the VSI lamp and the mounting panel:

Minimum panel thickness	2mm (0.08”) Steel 3mm (0.12”) Aluminium

Outside panel finish should be smooth, free from particulate inclusions, runs, or build-up around cut-out.

Edge of panel cut-out should be deburred

VSI securing nut should be tightened between 120 & 140 cNm (10.6 & 12.4inLb)

The rear of the lamp body has IP20 protection that may be increased to IP65 using the optional BA599 rear sealing assembly.

To prevent safety being degraded, the polycarbonate lens and the nylon body should not be exposed to incompatible materials and they should be protected from impact.

The ambient temperature of the lamps must remain within the certified limits.

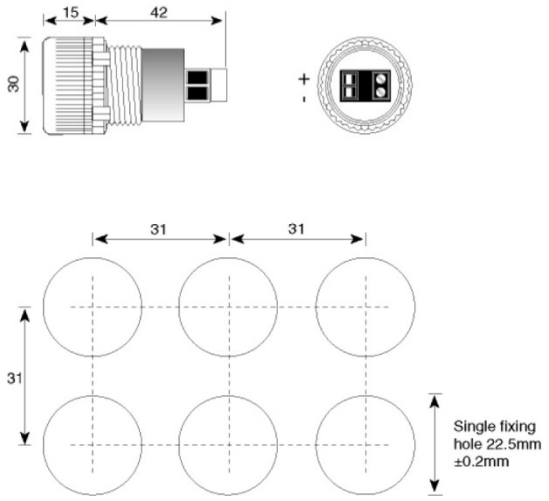

Fig 2 Dimensions

6. Maintenance

The mechanical condition of the lamp should be regularly checked, the frequency of inspections depends upon the environmental conditions.

7. Servicing

The VSI lamp is a sealed assembly that cannot be repaired. If a lamp fails it must be replaced by a new certified lamp.

8. Guarantee

Lamps that fail within the guarantee period should be returned to GEORGIN or to our local agent.

9. Customer comments

GEORGIN is always pleased to receive comments from customers about our products and services. All communications are acknowledged and whenever possible, suggestions are implemented.

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