



1 **TYPE EXAMINATION CERTIFICATE**

2 **Equipment Intended for use in Potentially Explosive Atmospheres**
3 **Directive 94/9/EC**

4 Type Examination Certificate Number : **BAS02ATEX3259X**

5 Equipment: **LIGHT SENSOR TYPE MiniVLS**

6 Manufacturer: **COMPACT INSTRUMENTS LIMITED**

7 Address: **Bolton, Lancashire, BL3 2AB**

8 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

9 The Electrical Equipment Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment of Category 3 intended for use in potentially explosive atmospheres given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential Report N°

01(C)1046 dated 13 August 2002

10 Compliance with the Essential Health and Safety Requirements has been assessed by reference to:

EN 50021: 1999

except in respect of those requirements listed at item 18 of the Schedule.

11 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.

12 This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

13 The marking of the equipment shall include the following:-

 **II 3 G** **EEx nL IIC T6**

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 4099/02/003

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



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I M CLEARE
DIRECTOR
16 August 2002



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Schedule

14

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Description of Equipment

The Light Sensor Type MiniVLS is an optical sensor designed to measure the speed of rotating shafts. It produces an optical beam using photo diodes and the reflection of the beam from a reflective surface, e.g. on a rotating shaft, is detected by a photo-transistor. Any reflections from a target will be processed by the signal conditioning, an event which is indicated by the LED on the unit.

The Light Sensor Type MiniVLS contains electronic components mounted on a printed circuit board (pcb). The pcb is mounted on the optical block assembly, along with an optical source and a phototransistor. Lenses at the front of the assembly focus the outgoing and incoming reflected light. The whole assembly is housed in stainless steel tube with a sealing 'O' ring between an internal tube ridge and the lens inside. The unit is filled with epoxy potting compound.

External connections are made at the screw-locking connector which is mounted in the end cap.

Laser diodes and detectors may be used as alternatives to the LED and phototransistor. The Type number MiniVLS may be suffixed with various characters to signify the following variants:-

MinVLS111/N	Threaded Body, Laser
MinVLS121/N	Threaded Body, LED

MinVLS211/N	Plain Body, Laser
MinVLS221/N	Plain Body, LED

Input Parameters

Connector pin 1 w.r.t. 3

$$\begin{aligned}U_i &= 6V \\I_i &= 0.5A \\P_i &= 0.3W \\C_i &= 0, \quad L_i = 0\end{aligned}$$

Output Parameters

Connector pin 4 w.r.t. 3

$$\begin{aligned}U_o &= 6V \\I_o &= 0.5A \\P_o &= 0.3W \\C_o &= 600\mu F \\L_o &= 0.3mH\end{aligned}$$



13 **Schedule**

14 **TYPE EXAMINATION CERTIFICATE N° BAS02ATEX3259X**

16 **Report No.**

01(C)1046

17 **Special Conditions For Safe Use**

1. The apparatus has no internal provision to prevent the rated voltage being exceeded. Such provision must be provided external to the apparatus.
2. The plastic lens at the front of the unit must be protected from prolonged UV exposure.

18 **Essential Health and Safety Requirements**

All requirements are covered by compliance with EN 50021: 1999.

19 **DRAWINGS**

Number	Issue	Date	Description
P0519	1.2	12.07.02	General assembly - Laser version
P0520	1.2	12.07.02	General assembly - LED version
C001027	1.1	07.08.02	Schematic
P0524	1.1	12.07.02	PCB layout
P0525	1.0	29.07.02	PCB layout
P0526	1.1	17.07.02	Label

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