MiniVLS Optical Speed Sensor - Type nL Laser Version Instructions MiniVLSx11/N

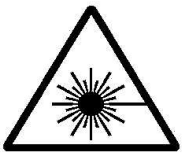
EEx nL IIC T6 II 3 G

Specification

Optical Range (laser version):	100 - 2000 mm.
Fixing method (Threaded - code 111/N):	M20 x 1.5mm thread (bulkhead fixing).
Fixing method (Plain body -code 211/N):	Slotted for bracket mounting.

Pin Connections

	Moulded Cable	Screened Cable	
Pin 1	Brown	Red	Positive Supply 5V
Pin 3	Blue	Green	Ground
Pin 4	Black	Yellow	Signal output (NPN, 4K7 pull-up)



WARNING
LASER RADIATION
CLASS II LASER

Installation

The threaded body type should be mounted through a 20mm diameter hole, with a lock nut on each side of the bulkhead. Ensure the lock nuts are not over tightened and that the MiniVLS or it's cable does not come into contact with any moving parts.

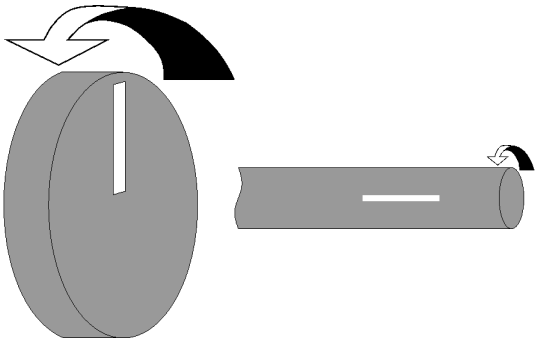
The plain body has two slots enabling it to be mounted onto a bracket. Once the bracket is fixed in position either permanently or temporarily onto a tripod, the MiniVLS can be clipped in. Ensure no parts will come into contact with moving machinery.

Instructions for use

1. Fix a piece of reflective tape as shown below.
2. The minimum size of the reflective target in the direction of travel should be twice the size of the light source image.
3. Arrange the MiniVLS fixing so the beam is roughly in the centre of the tape.

4. With the MiniVLS connected, the LED should light as a signal is received back from the target. On fast rotating targets the LED will appear to be on continuously.

Tape orientation for use on discs or shafts.



Use Without Reflective Tape.
Under controlled conditions reflective tape may not be required. If there is an existing difference in reflectivity on part of the object to be monitored then this may be used e.g. keyways and slots in bright shafts, spokes of a wheel, fan blades etc.
If there is more than one target per revolution of the shaft then the resulting reading must be divided by the number of targets to obtain the correct reading. In the case of multiple targets these must be equally spaced around the shaft or disc or jitter will occur in the measured value, this effect is most apparent at slow speeds.
On bright shafts it is possible to paint a non-reflective segment and conversely on non-reflective shafts a reflective mark can be painted.

Note
The unit detects contrasts in reflectivity not differences in colour.
As conditions can vary greatly from application to application some experimentation may be required to determine the best method.

Warning
1. The MiniVLS must **only** be connected to appropriately Ex certified equipment.
2. The sensor cannot be repaired and must be replaced by an equivalent unit.
3. The MiniVLS models are not intended to be exposed to dusty conditions.
4. The MiniVLS should not be subjected to mechanical or thermal stress, nor should it be subjected to any aggressive substances
5. The apparatus has no internal provision to prevent the rated voltage being exceeded. Such provision must be provided external to the apparatus
6. The plastic lens at the front of the unit must be protected from prolonged UV exposure

The sensor has been designed such that it will not give rise to injury or harm due to contact, nor will it produce excessive heat, infra-red, electromagnetic or ionising radiation, nor does it have any non-electrical dangers.

Input Parameters, connector pin 1 w.r.t. 3
Ui = 6V
Ii = 0.5A
Pi = 0.3W
Ci = 0
Li = 0

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EU DECLARATION OF CONFORMITY

Compact Instruments Limited. 61-65 Lever Street, Bolton Lancashire, UK, BL3 2AB declare that the following product:- OPTICAL SENSOR MINIVLS211/N
is designed and manufactured in accordance with European Directive 89/336/EEC

Ex Classification Ex nL IIC T6, ATEX II 3 G
EC type Examination certificate BAS02ATEX3259X
Notified Body:- Baseefa 1180, Buxton UK

Harmonised Standard:- EN 60079-15:2003

Other Standards Used
EN 50021:1999 (A review against EN60079-15:2003, which is harmonised shows no significant changes relevant to this equipment so EN 590021:1999 continues to represent "State of the art".)

EU Directive 2004/108/EC meeting the requirements of EN61000-6-4:2007, EN61000-6-2:2005
Laser :- class II power <1mw , EN60825-1:2007

Regulation(EC)No1907/2006:- The product contains none of the 46 substances of Very High Concern(SCHC) on the Reach candidate list, in a concentration above the 0,1% by weight allowable limit.

K. Whittingham