

## MiniVLS Instructions - Laser Speed Sensor

### Specification

Optical Range: 100 - 2000 mm typ.  
 Fixing method (Threaded): M20 x 1.5mm thread (bulkhead fixing).  
 Fixing method (Plain body): Slotted for bracket mounting.  
 Supply current: 30mA typ.

**WARNING**  
**LASER RADIATION**  
**DO NOT STARE INTO BEAM**  
**CLASS II LASER PRODUCT**

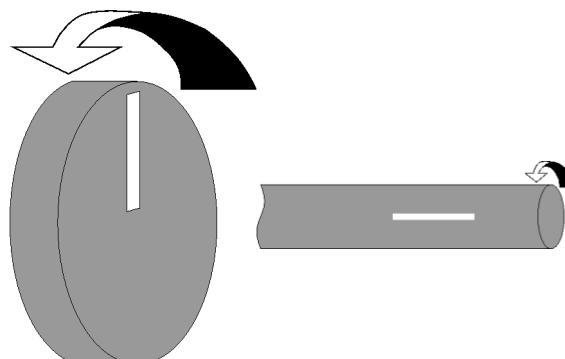
### Pin Connections

	Moulded Cable	Screened Cable	
Pin 1	Brown	Red	MiniVLS xx1 5V MiniVLS xx2 8 to 24V MiniVLS xx3 6 to 12V
Pin 3	Blue	Green	Ground
Pin 4	Black	Yellow	Signal output (NPN, 4.7K pull-up internally)

### 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 laser speed sensor fixing so the beam is roughly in the center of the tape.
4. With the laser speed sensor 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. 4.7k resistor pull-up resistor is connected internally sensor, no need to connect extra pull-up resistor externally.

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 black non-reflective segment and conversely on non-reflective shafts a white mark can be painted.

### Caution

The unit detects contrasts in reflectivity no differences in colour.

As conditions can vary greatly from application to application some experimentation may be required to determine the best method.