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.

Pin Connections

|	Moulded Cable	Screened Cable	
Pin 1	Brown	Red	Positive Supply 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, 4K7 pull-up)

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.
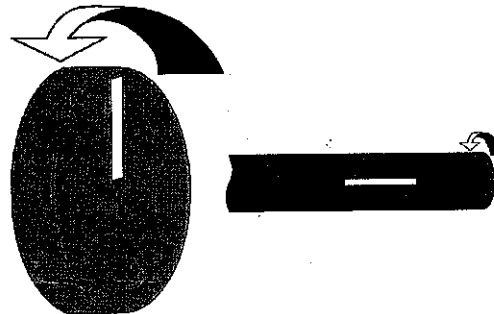
Use Without Reflective Tape.

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

Warning

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.