

## Laser Reflection Sensor 1001034

### Instruction sheet

09/15 TLE



- 1 Connecting cable, miniDIN
- 2 Push-button for distant zone
- 3 Light transmitter and light receiver
- 4 Push-button for near zone

### 1. Safety instructions

The laser reflection sensor meets the safety regulations for Class 2 lasers. It emits light in the visible region of the spectrum (400 – 700 nm). The radiation power is less than 1 mW.

Provided that the instrument is used in accordance with the instructions, safe operation is ensured.

In schools and other places of education or training, the instrument must only be used under the supervision of a trained and responsible person.

**Do not look into the light beam - that is not necessary when using the sensor.**

- If the housing of the instrument shows visible signs of damage, it must be taken out of use immediately.
- Do not use any optical equipment that narrows the light beam.
- Do not open the instrument housing.

### 2. Description

The instrument emits a laser beam at 630 nm wavelength and measures the reflected light. Two sensitivity ranges (near zone and distant zone) are provided, to adjust the instrument parameters for different operating conditions.

The near-zone setting (4) adjusts the instrument parameters for operating distances of 5 to 50 mm.

The experiment should be chosen so that there are widely different reflectivities (e.g. matt black markings on a white or diffusely reflecting background). With reflecting foils or microprism mirrors, a larger fraction of the light is reflected in the incident direction, and one can then work with a beam box up to 5 m long without special adjustments to the mirror. In such cases one should use the distant-zone setting (2).

By connecting the instrument to other external technical aids, one can measure physical quantities related to the motions of bodies,

such as rate of rotation, angle of rotation, angular acceleration, distance travelled, velocity and linear acceleration.

The sensor is compatible with the 3B Net/og™ system (1000539 or 1000540) and the digital counter (1001032 or 1001033). Through the connection box (1009954 or 1009955) it is possible to link the sensor to any of the other instrument technologies via 4 mm sockets.

A magnet in the base of the sensor provides a convenient means of locating it firmly.

### 3. Scope of delivery

- 1 Laser reflection sensor
- 1 MiniDIN connecting cable
- 1 Piece of reflecting foil

### 4. Technical data

Light source:	Laser module, 630 nm wavelength
Beam divergence:	approx. 1 mrad
Max. light power:	500 µW
Laser class:	II
Dimensions:	40 x 25 x 90 mm
Mass:	approx. 0.05 kg

### 5. Maintenance

No special maintenance procedures are necessary.