

Laser photoelectric reflex switch for moving objects LS05



Characteristics:

- One way reflection light barrier
- Suppression of interfering light
- Automatic response adjustment to compensate for dust build up (Sensitivity of light to dark is automatically adjusted to signal history)
- Function indicator LED indicates signal symmetry for accurate set up
- Identification of 1 ... 3000 changes of intensity / Second
- Housing is anti static
- Protected to IP65

Short description

The one way reflection light barrier **LS05** was originally developed to control the speed of a rotating body. In this application, the laser of the **LS05** is directed on a spiked disc at an operating distance of approximately 31cm. When rotating, the laser beam is reflected in turns by the spokes and the background. The **LS05** identifies these changes in intensity of reflection and indicates them on the short circuit protected open-collector (PNP) output.

To enable retrofit on existing installations, the signal is also available on a second output in even fractions (Quotient) of the real signal. This allows to increase the signal sequence, if for example the number of spokes is increased, without having to change the existing "old" controls.

It is a particular feature of the **LS05**, that the measuring point is defined by the intensity of the reflected light. Due to this, the change of intensity is correctly identified even when dust and dirt alter the conditions. In most of these circumstances, the change of intensity levels out until it is limited to a minute difference to which the **LS05** adjusts.

Different levels of reflections can be generated by any other object. Changing colours or surface qualities of moving objects will generate the same effect. For this reason, the application of the **LS05** is not limited to rotating bodies.

The power supply requirement of the **LS05** is 24VDC $\pm 15\%$. The laser can be switched "on" or "off" by a separate „Enable Input“ feature. A red LED indicates function and can be used for alignment because the illumination frequency is dependent on the symmetry of the light reflection on the detector.

Technical data

One way light barrier LS05		
Supply voltage	24 ±15%	VDC
max. operating current ¹⁾	100	mA
Optical output ²⁾	<1	mW
Laser class	2	-
Wavelength	650 ... 670	nm
Modulation frequency ³⁾	60	kHz
Min. response speed	1	Intensity change/s
Max. response speed	3000	Intensity change/s
Working distance ³⁾	310	mm
Output signal	PNP; Open-Collector	-
Max. load on output ⁴⁾	30	mA
Connecting plug	Escha FS 4.5; 5pin	-
Housing	Plastic; anti static; black	-
Weight	165	g
Operating temperature	0 ... 40	°C

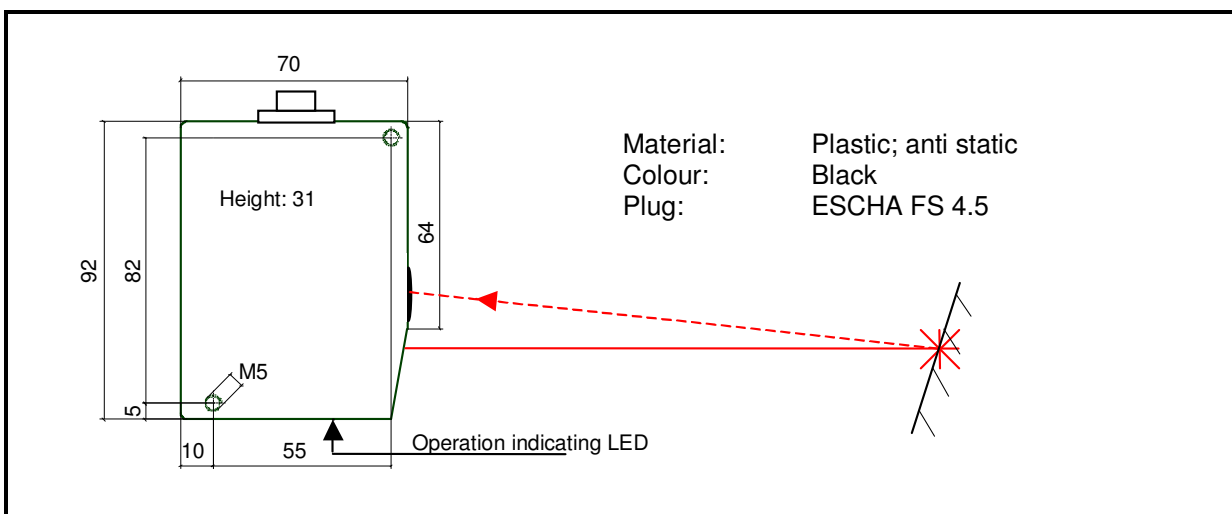
Unless noted, all data are valid at room temperature (21 °C) and normal operating conditions

- 1) At 24VDC operating voltage
- 2) Average
- 3) Typical value
- 4) Short current protected output

Electrical connections

Pin number	Description
1	Supply voltage; +24VDC
2	Input switching laser; +24VDC laser "ON"; GND or NC laser "OFF"
3	GND
4	Output signal; PNP; max. 30mA; short current protected
5	Split output signal; PNP; max. 30mA; short current protected

Dimensions





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