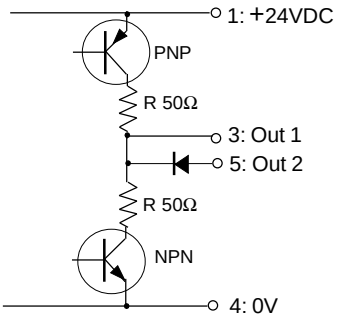
ISO 9001:2008

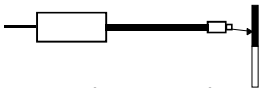
Optical Rotation Speed Counter
Type OCS-LTD S187

- For dynamic rotation speed control up to 100'000 RPM
- Simple connection of synthetic fibre optics (POF) without special tools
- Visible laser emitter, red 650nm

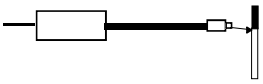
Technical Data / Type	OCS-LTD S187
Laser class	Class 2, 650nm, visible red, <1mW
Rotation speed detection range	300 RPM up to 100'000 RPM (at 2 partition reflector-disc) Note1
Frequency	0.01kHz - 5kHz
Output rise and fall time	<= 1us
Power-up delay time	<= 2s
Supply voltage	24 VDC +- 10%
Absolute maximum supply voltage Um	Um = 30VDC
Maximum current consumption	70mA
Maximum power dissipation	ca. 1.85W
Output 1	1 x Push-Pull, short circuit protected, max. 20mA
Output 2	1 x NPN, short circuit protected, max. 20mA
Output impedance	max.150Ω
Signal test output	push-pull, maximum 2mA, (BNC)
Output impedance, signal test output	appr. 10kΩ
Ambient light influence	The sensitive area of the POF must be protected against ambient light
Housing	Synthetic (Polycarbonate, Polystyrene)
Enclosure rating at EN 60529	IP20
Mounting	On DIN rail at EN 50022 or with 2 screws
Ambient operating temperature TA	-20°C < TA < +50°C
Electrical connection	Terminal screws
POF connection	Screw adaptation, thread 1/4-36UNS-2B
POF length	Dependent on type and structure of the used POF
Applicable POF's	Outside diameter: 2.2mm / Core diameter: 1mm
Accessories (not included)	- POF Quick-connector, Phoenix, type Q-FSMA-KT
Options	--

Output / Function:

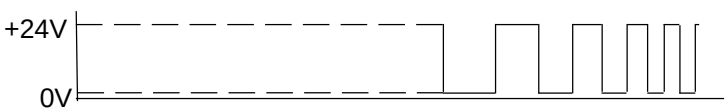




Sprayer is not running:



Rotary indicator is turning:

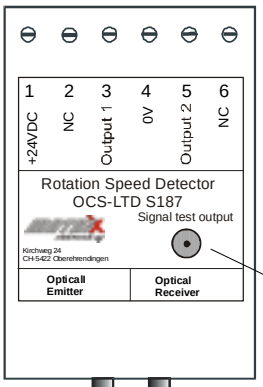


Rotary indicator is static:
Output: Holds "H" or "L"

Rotary indicator is turning:
Output generates pulses equal to the rotation speed.

Note 1:
The real reachable switching/rotary frequency is dependent on the condition of the marking disc and the careful working up of the optical fibres. The maximum rotation speed detection range will be reduced by applications with reflection-disc with more then 2 partitions.

Connection: OCS-LTD S187:

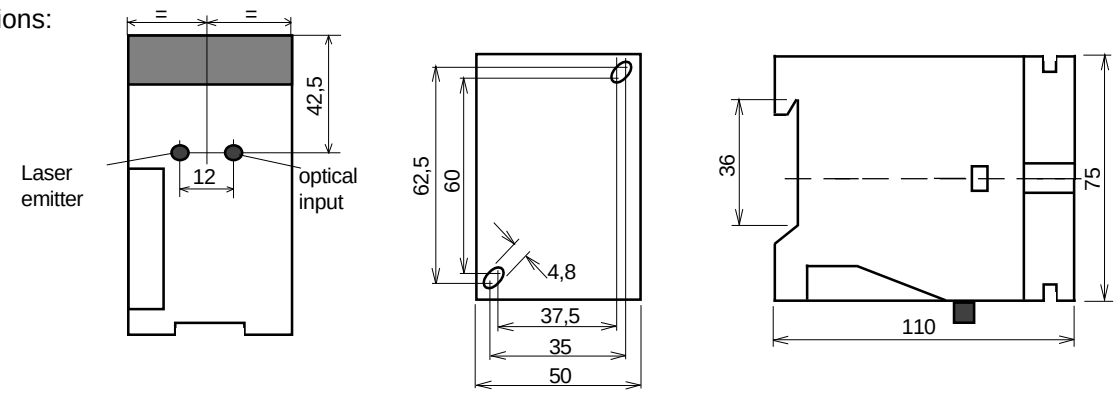


1	+24VDC
2	NC
3	OUT 1 (Push-Pull)
4	OV
5	OUT 2 (NPN)
6	NC

BNC-Connector: Signal test output
(Galvanic isolated from power supply)

Laser emitter Optical input

Dimensions:



Operating Manual / EC - Declaration of Conformity:

General mounting prescriptions:
Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. For highest noise immunity use twisted pair cables with shielding. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function:
The sensor can only be used with connected fibre optics. Laser light reflection alterations, generated by the marking disc of the spraying apparatus, will be amplified and formed.
The internal signal qualitiy can be checked, at the signal test output with a special scope. The signal test output is galvanic isolated from power supply!

Using the fibre optics:
The fibre optics (POF) must be assembled, mounted and cutted careful. Use special cutting tools for cutting into lengths. The face of optical fibers must be completely even and free of scratches. The applicable length of the POF is dependent of there type and structure. The functional safety of the sensor is given by the condition of the marking disc and the careful working up oft optical fibres. The fibre optics must not be buckled or to tight laid. Tight laying or buckling decrease the function safety.

Maintenance
Protect the fibre optic adaptor of the sensor and the optical fibres against pollution. Please set up the protection caps if no optical fibres are connected. If the fibre optic adapter is contaminated, clean with alcohol. Do not use aggressive solvents. Plastic optical fibres can be destroyed by strong solvents. Equipment must only be repaired or serviced by the manufacturer.

General Safety Informations
The sensor OCS-LTD S187 must not be used for Accident-Prevention! In worst case of disturbance, the outputs can show any state. When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations.
Standards met:
EN 60825-1:2007 EN 60825-2+A1:2007;
EN 60529:2000; EN 60950-1:2006; EN 61000-2-4:2002,
EN 61000-4-1:2000, EN 61000-4-4:2001,
EN 61000-4-5:2001, EN 61000-4-11:2001,
EN 61000-6-1:2001, EN 61000-6-2:2001,
EN 61000-6-3:2001/A11:2004, EN 61000-6-4:2001,
Machine directive: 2006/42/EC
EMC: 2004/108/EG
RoHS: 2002/95/EG

General Notes
We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EC-Declaration of Conformity:
The conformity of the devices with the EC standards and directives and the observation of the Quality Safety System ISO 900:2000 with the ATEX module "Production", declares:

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