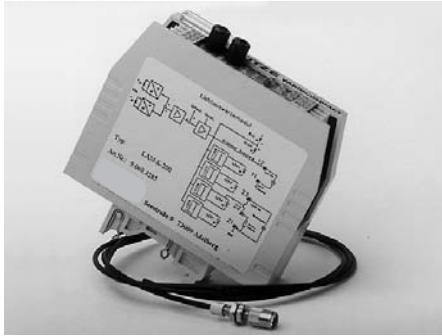


# INPROX Sensors



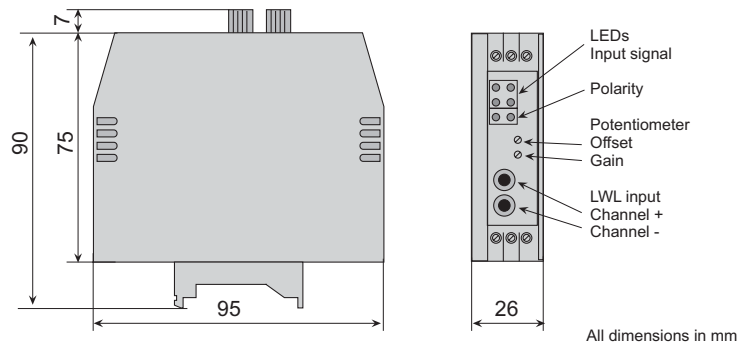
## Light evaluation module for LED testing

### Series MLD4

- Light-difference input via fibre optic
- Switching output max capacity up to 1 A
- Analogue output  $\pm 5$  VDC
- LED display 4-grade

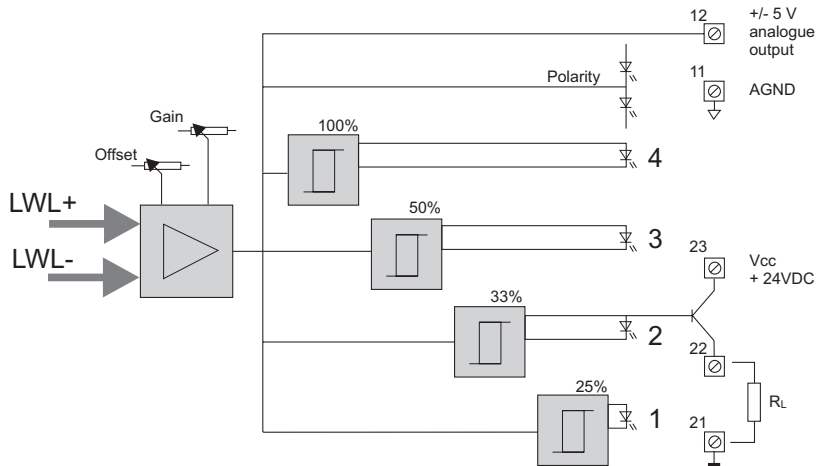
#### Principal features:

- Light-difference input
- Analogue output  $\pm 5$  V
- Classification via 4-grade LED display
- Rugged plastic housing
- DIN-rail mounting
- Terminal-screw connection
- Plastic fibre optic cable 1mm
- Adjustable offset and gain
- $\phi$



#### Applications:

- Operational check of LEDs, low-voltage and incandescent lamps
- Luminosity selection
- Production check with and without reference sample
- Final inspection of appliances



#### Advantages:

- Light-difference input
- Simplest operation
- Capable switching output
- High sensitivity
- Luminosity classification via Analogue output possible
- Low-cost product

The Light Evaluation module MLD4 allows automatic evaluation of the light intensity of artificial light sources. LEDs, low-voltage and incandescent lamps can be tested. A fibre optic cable is positioned over the light source, and the evaluation module is adjusted with the light source as a reference. Differences in brightness of subsequently tested lamps can be checked against this source. 4 LEDs located at the front assist in module adjustment. A lens is available as optional extra for lamps with very small light intensity. The module has a light-difference input and can be used for comparison tests.

# INPROX Sensors

<b>Electrical Data</b>	Operating voltage	18-28 VDC
	Current consumption	45-56 mA
	Current output	≤ 1 A (max. 20 Watt)
	Switch-on delay	230-270 ms (10-90%)
	Switch-off delay	270-310 ms (90-10%)
	Analogue output	± 5 VDC
	Display	6 LEDs on front panel
	Offset and gain	adjustable with Potentiometer on front panel
<b>Data on ambiente conditions</b>	Operating temperature	0 to +50 °C
	Temp. drift at out = 1nW at out = 100 nW	£ 15 % £ 5 %
<b>Mechanical Data</b>	Mounting	35 mm DIN-rails (EN50022) or G-rail (EN 50035)
	Connections LWL	2 x 2,2 mm Ø

## Way of operation

The light, supplied via the fibre optics cables will be converted into an electrical signal. The difference of the signals will be increased by a fixed factor in the pre-amplifier. The signal will again be increased by means of a second, adjustable amplifier and corrected by the offset factor.

A 4-grade comparator evaluates the increased input signal with switching points at +25% (LED1), +33% (LED2), +50% (LED3) and 100% (LED4). Each grade of the comparator will be assigned to a yellow LED at the front. Parallel to LED2 the switching output switches.

The green and red LEDs show the polarity of the analogue signal.

Red LED (-) = negative signal.

Green LED (+) = positive signal.

The analogue signal is supplied on clamps X11 and X12.

## Adjustment instruction

### Operating as light switch

The fibre optic channel marked with (-) will be darkened, i.e. only the fibre optic channel marked with (+) is active. In this condition the module will be suitable for recognition of light sources' assessment in quantity.

- Turn Potentiometer OFFSET so that none of the LEDs is active. (LED 1-4)
- Switch on light signal and turn potentiometer GAIN as long as LED4 (+100%) is active.

### Operating as light-difference switch

- Connect both fibre optic cables.
- Turn Potentiometer OFFSET so that none of the LEDs is active. (LED 1-4)
- Activate the light signals and twist potentiometer GAIN as long as LED4 (+100%) shines weakly.

Description	Type	Part Number
Light evaluation module incl. 1m fibre optic cable (without mounting thread)	MLD4	MLD4AFTS
Thread for fibre optic cable, M4	MLD4F91	F91MLD4
Lens optic 6 mm, according to thread	MLD4F92	F92MLD4
Fibre optic cable as endless-ware	call for info	on request

