

Laser diode module / LDM



Characteristics:

- Module for Laser diodes up to 40mW
- Operating Voltage: 5VDC
- Digital modulation (0..500kHz)
- Analogue modulation (0..1MHz)
- Output power adjustable
- Power „on“ indicator
- Compact design

Short description

The LDM series laser diode modules convince with the high functionality of the design. The LDM meets a large variety of application requirements due to the large number of integrated technical features.

The driver electronics are supplied with analogue and digital control which can be used for modulation and / or power adjustment. The integrated green LED indicates the power on status. This is especially useful to avoid accidental exposure when invisible Lasers are fitted.

LDM – modules have a multiple turn potentiometer accessible from the exterior. This enables power adjustment at any time. Subject to the type of diode used, the driver electronics are „+“ = „P-Type“ or „-“ = „M-Type“ controlled. (See Module specific operator instructions).

Options: The following accessories are available to be combined with the standard module:

- ◆ Diaphragms of different apertures
- ◆ Line generator optics
- ◆ Diffractive Optics (Gratings)
- ◆ Beam expander
- ◆ Fibre optics adapter
- ◆ Mirror for 90°-beam angle deviation
- ◆ Electrically insulated housing (reduced EMC capability)
- ◆ Protective housing for harsh environment applications

Technical data

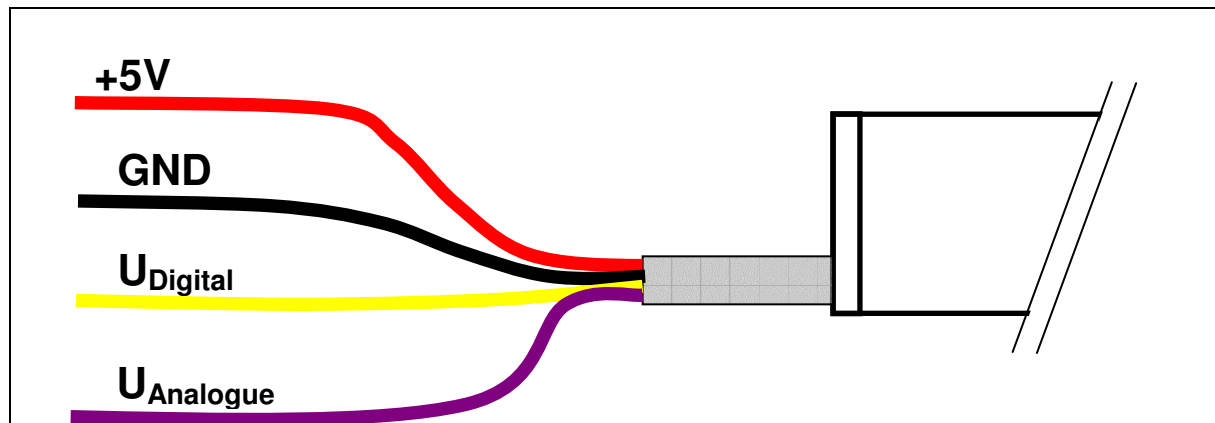
LDM	P- Type	M- Type	
Operating voltage U_b	4.0 ... 6.0		V
max. operating current ¹⁾	200		mA
Analogue control voltage U_{Analogue}	0 ... 3.0V	$(U_b-0) \dots (U_b-3.0)$	V
Digital control voltage U_{Digital}	TTL-Level		-
Frequency of digital modulation	0 ... 500		kHz
Frequency of analogue modulation ²⁾	0 ... 1.0		MHz
Variation of Laser power in function of U_b	<1		%/V
Typical operation temperature (depending on diode used)	0 ... +40		°C
Outer diameter	Ø11.0 h7		mm
Module length overall	50.5 ±0.1		mm
Length of wire connection	ca. 250		mm
Copper cross section of wire connection	0.25		mm ²
Housing material	German Silver		
Weight	approximate 20		g

Unless indicated, values are correct at room temperature and normal operating conditions

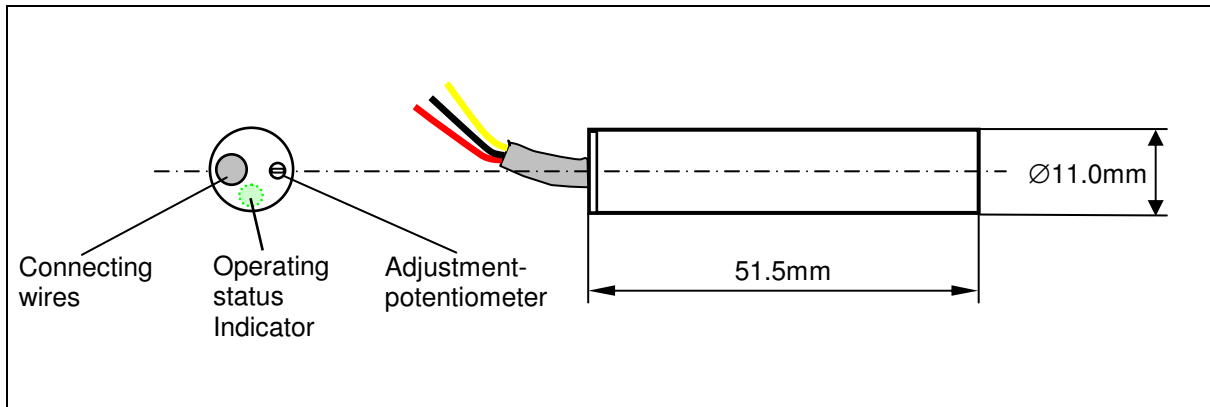
1) At maximal operating voltage

2) For U_{analogue} 0.5V ... 3.0V (P-Type) or $(U_b-0.5V) \dots (U_b-3.0V)$ (M-Type)

Connecting diagram



Dimensions and interface



Operating modes

	P-Type:		M-Type:	
cw-mode:	red	= +5VDC	red	= +5VDC
	black	= GND	black	= GND
	violet	= +5VDC	violet	= GND
	yellow	= GND or n.c. ¹⁾	yellow	= +5VDC or n.c. ¹⁾
Digital modulated:	red	= +5VDC	red	= +5VDC
	black	= GND	black	= GND
	violet	= +5VDC	violet	= GND
	yellow	= modulation ²⁾	yellow	= modulation ²⁾
Analogue modulated:	red	= +5VDC	red	= +5VDC
	black	= GND	black	= GND
	violet	= modulation	violet	= modulation
	yellow	= GND or n.c. ¹⁾	yellow	= +5VDC or n.c. ¹⁾
Analogue and digital m.:	red	= +5VDC	red	= +5VDC
	black	= GND	black	= GND
	violet	= analogue mod.	violet	= analogue mod.
	yellow	= digital mod.	yellow	= digital mod.

1) n.c. = not connected (potential free)

2) P-Type: +5V=Laser off / GND=Laser on

M-Type: +5V=Laser on / GND=Laser off

Linearity of the analogue control input

