

**Important Safety Notes**

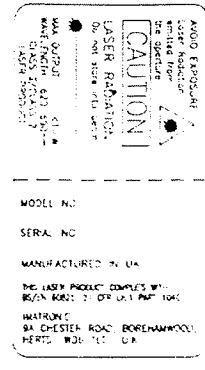
The output power of the LDM145 is factory preset to meet Class 2 (II), Class 3a (IIIa), or Class 3b (IIIb) limits as defined in EN60825.

The nature of the laser radiation hazard is clearly shown by means of a warning label affixed to each module. The location of the warning label is shown in Figure 1 and examples of these labels are shown in Fig. 3.

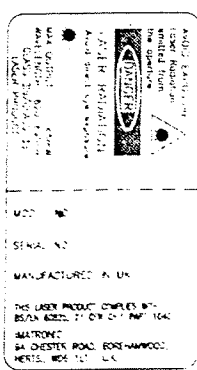
Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous laser radiation. With the exception of the user adjustable focussing lens, there are no serviceable parts or adjustments on the LDM145.

Any final product or system of which the LDM145 forms a component part must incorporate the appropriate safety features. These include emission indicator, beam shutter, key switch and warning label in order to comply fully with the safety regulations for laser equipment specified by the appropriate regulatory body (i.e. CENELEC in Europe or FDA in the USA).

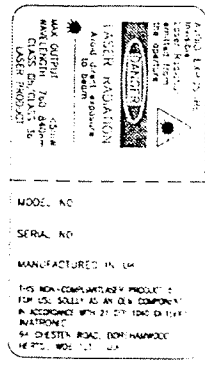
All LDM145 modules are supplied as OEM components for incorporation into the customer's end product or system. It is the responsibility of the manufacturer of the final equipment of which the LDM145 is a component to ensure that it is compliant with the applicable regulations and where necessary to register or certify the final product with the appropriate regulatory body before its release for use or sale.



Class 2 label



Class 3a label



Class 3b label

Figure 3 – Warning labels

**LDM145 User Guide**



**Introduction**

The LDM145 is a self-contained Laser Diode Module available with wavelengths of 633, 650, 670, 780 or 830nm and output powers of 1, 3 or 5mW as standard. Its features include output power stabilisation, integral drive circuitry, reverse polarity protection, user adjustable focus, and an emission indicator. The LDM145 also comes with a choice of collimating lens (refer to relevant data sheet for details).

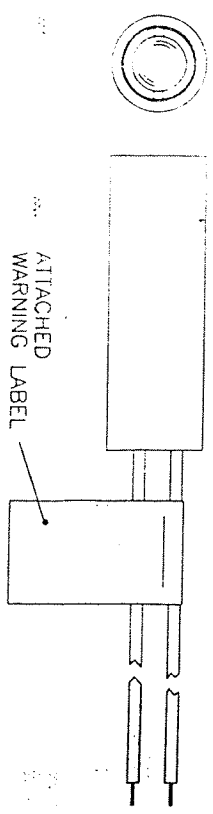


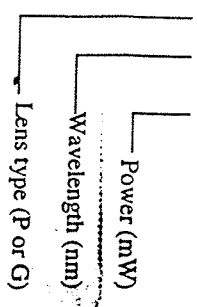
Figure 1 – LDM145 sketch

**Typical Applications**

- Alignment and Targeting
- Metrology
- Robot Control
- Event Detection
- Edge Detection
- Security
- Entertainment

**Order Codes**

LDM145 X / YYY / ZZZ



**Electrical and Mechanical Interface**

Supply Voltage – Red Lead (V)	LDM145G	LDM145P
Supply Voltage – Black Lead (V)	4 to 6 see note 1	4 to 6 see note 1
Supply Rail Rejection	0	0
Length (mm)	49	49
Diameter (mm)	16	16
Mass (g)	22	22
Supply Lead Length (mm)	200	200
Recommended Heatsinking	>24 cm <sup>2</sup> metal	
Emission Indication	Green LED at the rear of the module	
Reverse Bias Protection	Internally protected against supply polarity reversal at rated voltage	
Housing Isolation	The anodised module housing is internally connected to the positive supply rail	

*Typical values quoted unless otherwise stated. Imatronix reserves the right to modify specifications without notice.*

**Laser Product Matrix**

	Ultrasmall	Miniature	Compact	Modulatable Compact	Laboratory
<b>MaxiBrite</b>	LDM122P/633/x	LDM115P or G/633/x	LDM145P or G/633/x	LDM146P or G/633/x	LDL175/633/x
<b>HiBrite</b>	LDM122P/650/x	LDM115P or G/650/x	LDM145P or G/650/x	LDM146P or G/650/x	LDL175/650/x
<b>MediBrite</b>	LDM122P/670/x	LDM115P or G/670/x	LDM145P or G/670/x	LDM146P or G/670/x	LDL175/670/x
<b>VisiLite</b>	LDM122P/780/x	LDM115P or G/780/x	LDM145P or G/780/x	LDM146P or G/780/x	LDL175/780/x
<b>DarkLite</b>	LDM122P/830/x	LDM115P or G/830/x	LDM145P or G/830/x	LDM146P or G/830/x	LDL175/830/x

Standard output powers x = 1, 3 or 5mW. Higher powers available upon request.

**Note**

- 1) Connecting the laser diode to a +5V supply without electrically isolating the module housing will destroy the laser. Under these circumstances, protection is not afforded by the Reverse Bias Protection circuit
- 2) Laser diode lifetime decreases by a factor of two (approx.) for every ten degree increase in operating temperature
- 3) A range of accessories is available for the LDM145 including line and cross generators, and mounts
- 4) Sensitivity of the eye varies as a function of wavelength (see Figure 2)

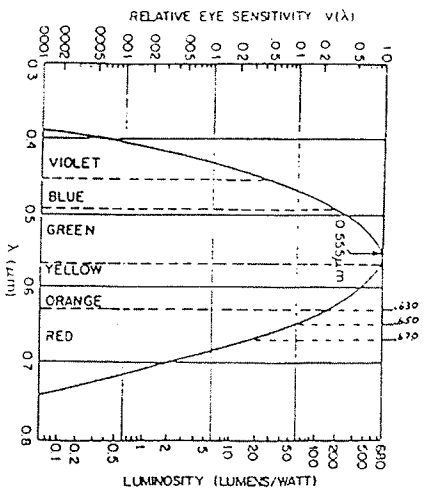


Figure 2 – Photopic response of the human eye

**IMATRONIX LIMITED**  
 9/10 Roseleyworth Business Park  
 Aberlillery, South Wales, NP13 1SP, UK

Tel. +44 (0) 1 495 320 222  
 Fax +44 (0) 1 495 320 484  
 E-mail imatronix@vector-technology.co.uk  
 Website www.vector-technology.com

Imatronix Document No. 3145-00-900A