## **Concentricity Laser Module / Precision Laser Module**

## CLM-635-11 LPO / CLM-635-12 LPT



Concentricity laser modules are designed for those who need to perform precision alignment task. Beam error is less than 1 mm at the distance of 30 meters with perfect circular dot. Accessories- Battery pack, 3 meters USB to Type C cable and cable switch are all included in a plastic carry case.

#### **FEATURES:**

- Concentricity(beam point error): less than 1mm at 30 meters(10 second).
- Circular beam shape, aspect ratio 1:1.
- Class 1 / Class 2 eye safe laser product.
- Type C power connector.
- Battery pack, USB to Type C cable, Type C cable switch included.
- Plastic carrying case.
- Dimensions: 20(W) x 20(H) x 60(L) mm (0.787" x 0.787" x 2.36")
- Wavelength: 630~645 nm
- Output power: CLM-635-11 LPO Class 1 less than 0.39mW.

CLM-635-12 LPT - Class 2 - less than 1mW.

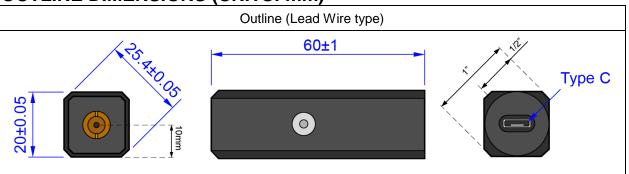
- Beam Divergence (Half Angle): 0.15 mRad
- 3~6 VDC operation.
- Connection type: Type C

#### APPLICATIONS: ideal for

- Aiming or position work.
- Concentricity test of rotating parts.
- Alignment of machine.
- Straightness test for all kinds of equipment, like carriages, crabs, etc.

# CLM-635-11 LPO / CLM-635-12 LPT

**OUTLINE DIMENSIONS (UNITS: mm)** 



### **SPECIFICATIONS**

| Model No. |                                  | CLM-635-11 LPO   | CLM-635-12 LPT    |  |  |  |  |
|-----------|----------------------------------|--|-------------------|--|--|--|--|
| 1         | Recommended working range        | 0~1M   | 1~30M or above    |  |  |  |  |
| 2         | Concentricity(Beam point error)  | 1mm@30M (10 second)                                    |                   |  |  |  |  |
| 3         | Dimensions                       | 20(W) x 20(H) x 60(L) mm (0.79" x 0.79" x 2.36")       |                   |  |  |  |  |
| 4         | Weight                           | 53 g   |                   |  |  |  |  |
| 5         | Operating voltage (Vop)          | 3~6 VDC  |                   |  |  |  |  |
| 6         | Operating current (lop)          | Less than 50mA   |                   |  |  |  |  |
| 7         | Optical output power (Po)        | Less than 0.39mW                                       | Less than 1mW     |  |  |  |  |
| 8         | Laser class                      | Class 1  | Class 2           |  |  |  |  |
| 9         | Wavelength at peak emission (λp) | 630~645nm  |                   |  |  |  |  |
| 10        | Collimating lens                 | Aspherical glass lens                                  |                   |  |  |  |  |
| 11        | Output Aperture                  | 0.8mm  | 3mm               |  |  |  |  |
| 12        | Beam shape                       | Circular, aspect ratio 1:1                             |                   |  |  |  |  |
| 13        | Beam size                        | AS <b>TABLE A</b>                                      | AS <b>TABLE B</b> |  |  |  |  |
| 14        | Divergence (Half Angle)          | 0.15 mRad  |                   |  |  |  |  |
| 15        | Operating temp. range            | -20°C ~+60°C   |                   |  |  |  |  |
| 16        | Storage temp. range              | -40°C ~+85°C   |                   |  |  |  |  |
| 17        | Housing                          | Hard anodized aluminum                                 |                   |  |  |  |  |
| 18        | Housing Color                    | Black  |                   |  |  |  |  |
| 19        | Potential of housing             | Isolated   |                   |  |  |  |  |
| 20        | Electrostatic discharge (ESD)    | 30KV / Arc protection                                  |                   |  |  |  |  |
| 21        | Moisture sensitivity level (MSL) | Level 1 - acc to JEDEC J-STD-020E.                     |                   |  |  |  |  |
| 22        | Protection circuit               | Reversed supply circuit protection, over-current       |                   |  |  |  |  |
|           |                                  | protection, surge protection, Short circuit protection |                   |  |  |  |  |

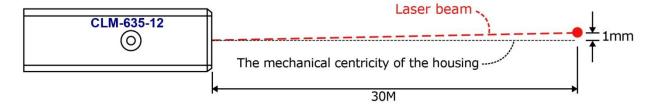
# CLM-635-11 LPO / CLM-635-12 LPT

| 23 | Vibration resistance             | 10 to 55Hz,1.5mm amplitude for 2 hours each in |                          |  |
|----|----------------------------------|--|--------------------------|--|
|    |                                  | X, Y and Z direction                           |                          |  |
| 24 | Standard                         | IEC60825:2014                                  |                          |  |
| 25 | Power supply connector           | Type C   |                          |  |
| 26 | Mean time to failure (MTTF) 25°C | 10000hrs                                       |                          |  |
| 27 | Accessories(included)            | Battery pack, USB to Type C cable,             |                          |  |
|    |                                  | Type C cable switch                            |                          |  |
| 28 | Package                          | Plastic carrying case                          |                          |  |
| 29 | Application                      | Concentricity laser                            |                          |  |
| 30 | Suggestion work distance         | 0~1 meters / 0~3 feet                          | 1~30 meters / 3~100 feet |  |

Please note that this is a high-accuracy instrument. Dropping it may cause a loss of accuracy and will void the warranty.

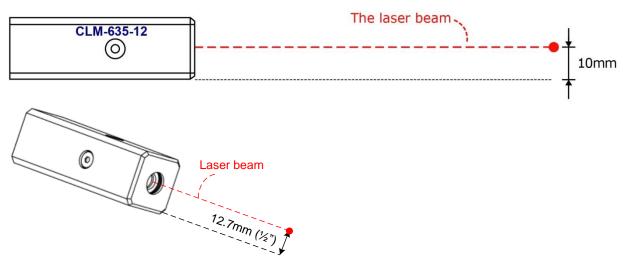
## **Concentricity:**

The laser beam error at a distance of 30M is less than 1mm from the mechanical center of the housing.



#### **Laser Beam Position:**

Laser beam center to the surface of the housing is 10mm.



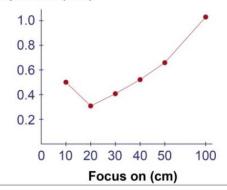
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## Circular beam shape:

Aspect ratio 1:1

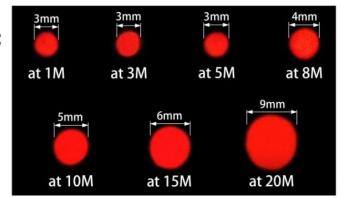
#### Spot size (mm)

TABLE A:



CLM-635-11 LPO

**TABLE B:** 



CLM-635-12 LPT



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# CLM-635-11 LPO / CLM-635-12 LPT



### **Accessories:**

**CLM-BP4N3** - Battery pack (4\* AA batteries)

\*\*\* AA Batteries are **NOT** included in package.

USB Output Voltage: 5V DC

Color: Black



## **CLM-TCSW** – Type C Cable Switch

Length: 32cm Color: Black





# CLM-635-11 LPO / CLM-635-12 LPT

USB to Type C Cable

Length: 3 meters

Color: Black



#### **ORDER CODE**

| Order Code     | Wavelength | Laser Power Output | Laser Class | Connection Type |
|----------------|------------|--------------------|-------------|-----------------|
| CLM-635-11 LPO | 635 nm     | Less than 0.39mW   | Class 1     | Type C          |
| CLM-635-12 LPT | 635 nm     | Less than 1mW      | Class 2     | Type C          |

### **SAFETY LABEL**

CLASS I LASER PRODUCT
This product complies with 21CFR
Chapter 1. subchapter J.

CLM-635-11 LPO



CLM-635-12 LPT