

# OL Series 700-80 High Precision LED Holders And Luxeon LED Holders

*For use with input optic accessories of the  
OL 770-LED Test & Measurement System*

The OL 700-80 series of LED holders, adapters and alignment jigs, interface a large range of leaded and surface mount LEDs with Optronic Laboratories' state of the art photometers and spectroradiometers.

The design of an LED holder is crucial to the accurate measurement of the optical properties of LEDs and can influence the accuracy more than any other part of a spectroradiometric system. Yet the role of the LED holder is often overlooked by most equipment manufacturers and measurement guidelines.

The key requirements for an LED holder are:

- Repeatability in the mounting position of the LED
- Mounting the LED on its mechanical axis
- Setting the exact distance for Condition A and B averaged luminous intensity measurements
- Minimum shading of emitted light by the holder and its clamps
- Minimum reflection of emitted light
- Maintaining reliable electrical contacts after thousands of lead insertions and removals
- The separation of the current and forward voltage cabling
- Facility to heatsink LED package or leads
- Quick insertion and removal
- Accommodation of a variety of LED sizes and shapes
- Ease of operation by untrained personnel



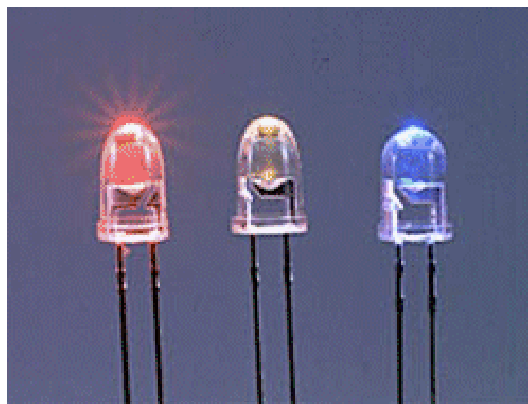
OL 700-80-20 & OL 700-82-40 LED Holders

Optronic Laboratories, Inc. offers a comprehensive selection of precision LED holders for leaded and surface mount packages, which take all of the above requirements into consideration.

## LED Packages

There are a number of standard LED packages, such as T1, T1-3/4, and T3, but within each standard there are many variables. For example, the LED tip can vary from flat topped to hemispherical. Some packages do not have a flange and some leads do not have stand offs. Many LED packages are circular, some are oval, rectangular, square or even tapered. However the majority of these leaded two pin and bi-colored three leaded LEDs have a 0.1" lead spacing. The OL 700-80-20 and OL 700-82-20 series of holders will accommodate almost any two pin LED from 3 to 10mm in diameter. Other models in these series are available for three and four pin LEDs.

Surface mount (chip) LEDs have an even greater variety of sizes, and the OL 700-86-20 Vacuum Chuck Holder is available with its interchangeable masks to suit nearly any package size.



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**OL 700-84-50 Rear Mount LED Holder**

Designed to hold 5mm, T1¼ flanged LEDs, the OL 700-84-50 provides a simple interface between the LED and the OL 15AB LED Receptor, OL IS-670-LED Integrating Sphere, and the OL 700-30 Goniometer.

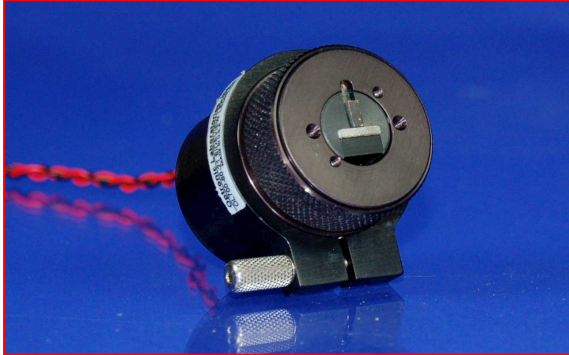
The LED is inserted from the rear and held in position by a sliding clamp without the need to remove the holder from the OL 15AB, OL IS-670, or OL 700-30. The OL 700-84-50 can be supplied for use with LEDs ranging in diameter from 1 to 10 mm.



**OL 700-80-20, -30 High Precision LED Holder**

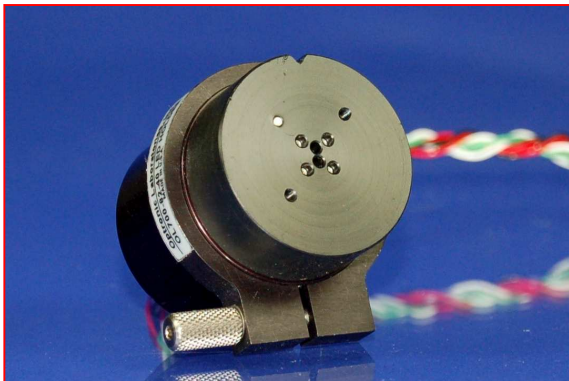
- OL 700-80-20 for 2-pin LED packages
- OL 700-80-30 for 3-pin LED packages

The OL 700-80-20 is designed to hold leaded 3-10 mm diameter LEDs, and includes a self-centering clamp to ensure the LED is positioned on the mechanical axis and, if the LED is flanged, pulled down onto its mounting surface. The clamps can be opened and closed by rotating the chuck for quick and simple insertion and removal of the test LEDs. Four or six wires originate from the LED contacts, two or three for the current drive, and two or three for accurate measurement of the forward voltage.



**OL 700-80-21 Side Viewing LED Holder**

The OL 700-80-21 is designed to allow precise holding and alignment of two-contact, surface-mount, side-viewing LEDs. It uses a variety of LED masks, and an adjustable clamp to position the LED against the fixed, gold-plated printed circuit board. Two tapped holes are provided to secure the masks to the LED Holder. (Contact the factory for information on standard and custom LED masks.)



**OL 700-82-20, -30, -40 Front Mount Socketed LED Holder**

- OL 700-82-20 for 2-pin LED packages
- OL 700-82-30 for 3-pin LED packages
- OL 700-82-40 for 4-pin square LED packages

Where the position of the LED is not critical, such as with total luminous flux measurements, the OL 700-82 series of holders offers a lower cost option to the self-centering high precision holders. The OL 700-82 series is available for two or three pin LED on a 0.1" lead pitch or four-pin square LED package on a 0.2" x 0.2" lead pitch.



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**OL 700-86 Vacuum Chuck Holder  
with OL 700-86-XX Mask for Surface Mount / Chip LEDs**

The OL 700-86 is available with optional interchangeable masks to accommodate the large number of surface mount LED sizes available today. Masks are available separately for specific size LEDs.

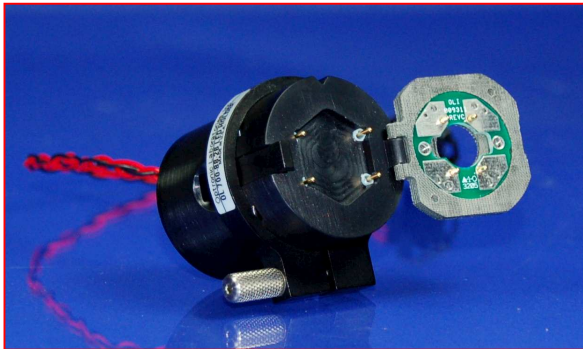
When the LED is placed into the mask, the vacuum pump holds the LED securely onto the electrical contacts.

The OL 700-86 is perfect for forward emitting surface mount LEDs.



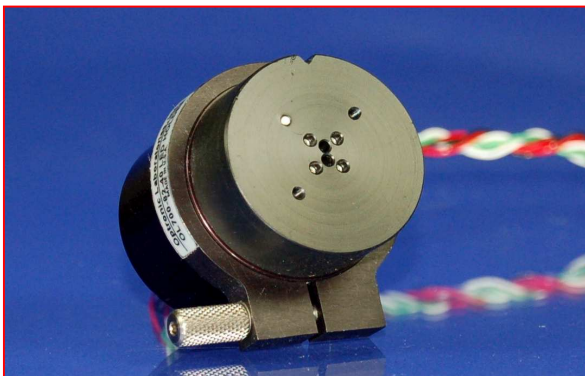
**OL 700-88-20 for Unmounted Luxeon (Emitter) LEDs**

The OL 700-88-20 LED Holder is designed to hold and align two-contact Luxeon Emitter LEDs. The LED holder uses an aluminum core printed circuit board (PCB) that aids in the thermal stabilization of the test LED. The hinged holding clamp is designed to accurately position the test LED on the PCB and hold it in place to assure reliable electrical contact.



**OL 700-88-26 for Mounted Luxeon (Star) LEDs**

The OL 700-88-26 LED Holder is designed to hold and align Luxeon Star LEDs. The LED Holder has a hexagon cutout to accommodate the Luxeon shaped PCB and to help thermally stabilize the test LED. Electrical connections are achieved through gold-plated spring-loaded contact pins, which supply power to the test LED. The hinged holding clamp is designed to accurately position the test LED on the PCB and hold it into place assuring reliable electrical contact.

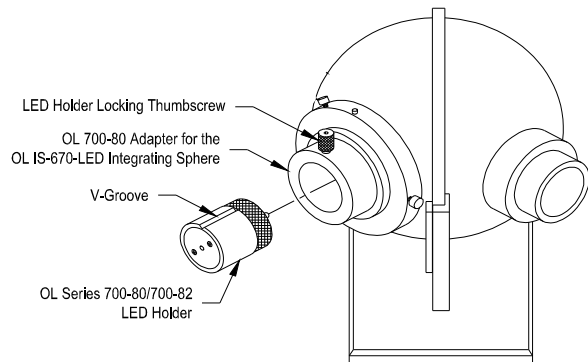
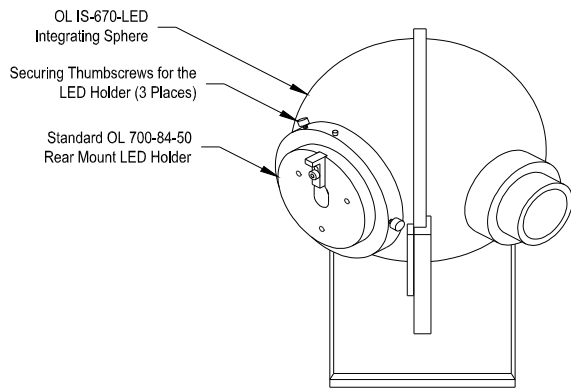


**OL 700-82-40**

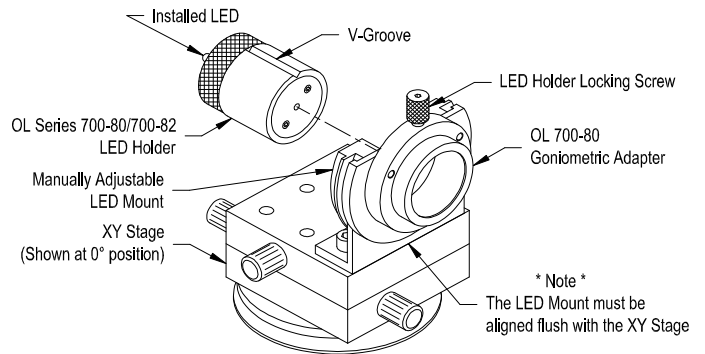
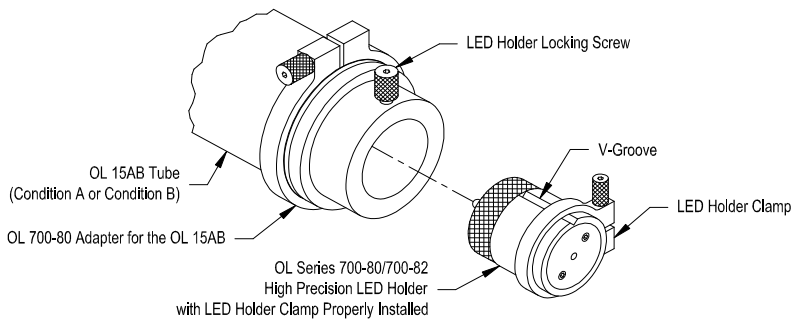
The OL 700-82-40 Front Mount Socketed LED Holder is designed to hold and align four-contact LEDs. The LED Holder has a plug-in style socket for easy installation, and can accommodate all shape and sizes of LEDs having a lead spacing of 0.20 inch (5.08 mm) in a square pattern. Two additional holes are located in the center of the holder to also accommodate two-contact LED's having a lead spacing of 0.10 inch (2.54 mm) similar to the OL 700-82-20 Front Mount Socketed LED Holder.



# OL Series 700-80 High Precision LED Holders And Luxeon LED Holders (con't.)

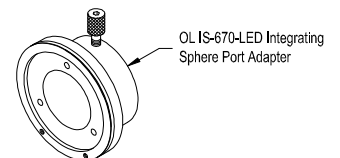
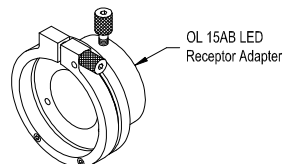
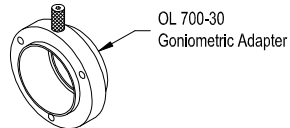
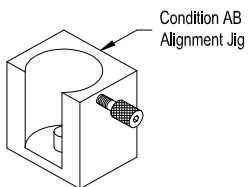


**OL IS 670-LED Total Luminous Flux Integrating Sphere with OL Series 700-84 and OL Series 700-80/ 700-82 LED Holders**



**OL 15AB LED Intensity Receptor with OL Series 700-80/ 700-82 LED Holder**

**OL 700-30 Goniometer with OL Series 700-80/ 700-82 LED**



**OL 700-80 Adapters and Alignment Kit**

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<b>Input Optic Accessory</b>	<b>OL Series 700-80 High Precision LED Holder</b>	<b>OL Series 700-82 Front Mount Socketed LED Holder</b>	<b>OL Series 700-84 Rear Mount LED Holder</b>	<b>OL 700-86 Vacuum Chuck with Mask OL 700-86-XX</b>
OL 670-LED Integrating Sphere	Sphere Port Adapter	Sphere Port Adapter	None Required	Sphere Port Adapter
OL 15AB LED Receptor	Receptor Adapter and Condition AB Alignment Jig	Receptor Adapter and Condition AB Alignment Jig	None Required	Receptor Adapter and Condition AB Alignment Jig
OL 700-30 Goniometer	Goniometer Adapter	Goniometer Adapter	None Required	Goniometer Adapter

<b>OL 700-88-20 fits:</b>	Luxeon Emitter (Batwing, Lambertian, Side-emitting)
	Luxeon III Emitter (Lambertian, Side-emitting)
	Luxeon V Emitter (Lambertian, Side-emitting)
	Luxeon V Portable Emitter (Lambertian, Side-emitting)
	Luxeon Warm White Emitter (Batwing)
	Luxeon Dental Emitter (Batwing, Lambertian)
<b>OL 700-88-26 fits:</b>	Luxeon Star Hex (Batwing, Lambertian, Side-emitting)
	Luxeon III Star Hex (Lambertian, Side-emitting)
	Luxeon V Star Hex (Lambertian, Side-emitting)
	Luxeon V Portable Star Hex (Lambertian, Side-emitting)
	Luxeon Warm White Star (Batwing)
	Luxeon Dental Star Hex (Batwing, Lambertian)
<b>OL 700-82-40 fits:</b>	Luxeon SuperFlux LED (4-pin, .20 inch lead spacing)



**OPTRONIC LABORATORIES**

A Gooch & Housego Company

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