

Fiber-Optic Radiance Collector

User's Manual

Revision B, June 23, 2004



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800-414-4624 (800-414-HOBI)

Revisions:

B—June 23, 2004: Complete revision

A—August 2, 1999: First release

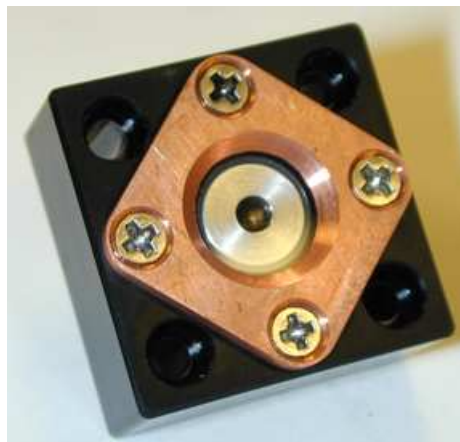
DESCRIPTION

The HOBI Labs fiber-optic radiance collector attaches to an SMA-terminated fiber optic cable to provide a narrow field of view (FOV). The FOV varies in approximate proportion to the fiber core diameter; for a 200-micron core, it is 3.2 degrees in air, 2.4 degrees in water.

The collector window is sealed against water at depths up to 100m. However the SMA connection to the back of the collector is not inherently water-tight. For use under water it must be sealed either by

- 1) encapsulating the assembled SMA connection in a sealant compound, or
- 2) mounting the assembly to an appropriate structure to enclose the SMA.

Mounting holes and an o-ring groove on the back of the collector are included for this type of mounting, which is also used in the underwater cables built into HOBI Labs instruments. Contact HOBI Labs for further information if you require a water-proof connection.



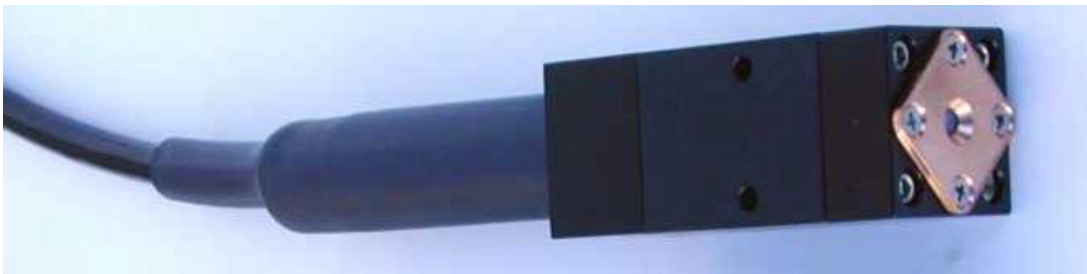
USING THE COLLECTOR

If the collector is to be mounted onto a sealing surface, first place a lubricated Parker size 2-012 O-ring in the larger groove around the SMA thread, pass the end of the fiber optic patch cord through the sealing surface, and then attach the cord to the collector. Use #4 screws (not supplied) to attach the collector to the sealing surface.

Attach a standard SMA-terminated fiber optic to the back of the collector. Tighten if firmly with your fingers, but do not use a wrench; excessive torque could strip the plastic threads.



SMA cable attached to radiance collector. For underwater operation the SMA connection must be sealed.



Collector mounted to HOBI underwater cable

PRECAUTIONS AND MAINTENANCE

- Keep the inside of the collector clean and dry.
- Cover the SMA fitting with a cap whenever the fiber optic cable is detached.
- Do not use a wrench to tighten the connector so much that it could damage the plastic threads.
- Do not use acetone to clean any part of the collector.
- Some corrosion of the copper window retainer is normal and will not harm the collector.