

Portable Battery-Powered Laser Power Measurement Sphere



Technical Challenge

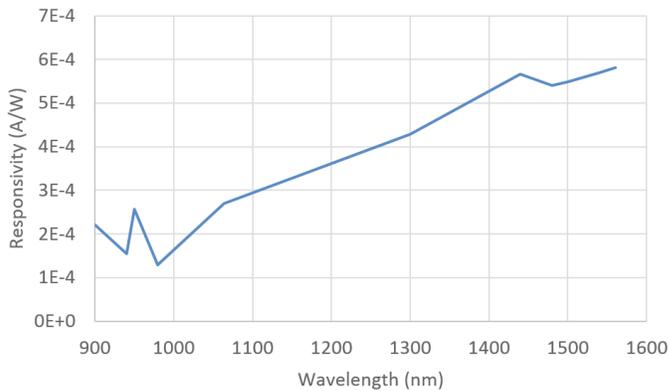
A manufacturing company with laser diodes installed in the field needed a reliable way to measure them without having to retrieve and bring them into a lab for testing. It was necessary that the light measurement system be completely battery-powered because there would be no power source on location. A self-contained, portable, and durable system like this is something only Labsphere can provide.

Labsphere's Solution

Labsphere offers standard laser diode measurement spheres; however, several new features needed to be incorporated to allow everything to be taken into the field. The resulting system is a small, lightweight sphere capable of performing reliable laser power measurements anywhere in the world.

- 1.5-inch entrance port designed to easily mount laser diode components
- Thermo-electric cooled InGaAs detector behind a pinhole filter for making radiance measurements in the infrared range at power down to 200 μ W
- Two FC/PC adaptors to allow for additional detector attachments via fiber
- Spectralon diffuse material, offering near-perfect lambertian reflectance in the UV-VIS-NIR range to optimize the accuracy of test results
- Rechargeable battery pack to power the TE cooler, as well as a charging unit
- Lightweight, handheld plastic mount to hold every component and foam-lined Pelican carrying case to ensure safe transit

Spectral Responsivity



Benefits

- The battery pack can give power to the system for several hours, providing ample time for multiple tests in one session
- Every component is contained on the mounting board, giving great mobility while the carrying case ensures everything stays protected during travel.
- The InGaAs detector offers reliable, calibrated measurements in the near-infrared range, and the additional fiber optic adapters give the system the flexibility to perform additional tests in other ranges, or with a spectrometer.
- Spectralon's extremely high diffuse reflectivity, alongside the baffle geometry within the sphere, maximizes the uniformity of the light hitting the detector.
- Live data collection, storage, and visualisation with Labsphere's HELIOSense software makes testing simple and easy.

