EQX-850 LDLS®
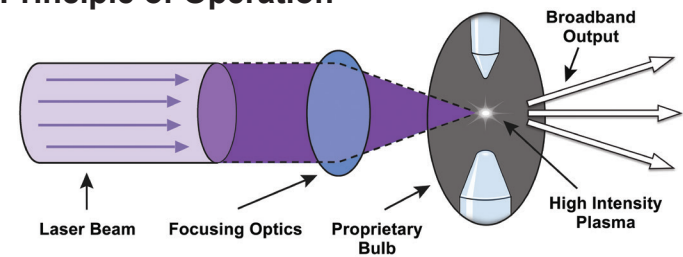
Laser-Driven Light Source

Overview

Energetiq's EQX-850 LDLS is a high-brightness source with a broad wavelength range from UV to VIS and into the NIR region. The unique principle of operation provides extremely bright, spatially and spectrally stable broadband radiation from 170 nm – 2500 nm with a lifetime greater than 10,000 hours.

Principle of Operation

Laser Beam   **Focusing Optics**   **Proprietary Bulb**   **High Intensity Plasma**   **Broadband Output**

LDLS technology utilizes a laser to create an extremely small, high-brightness plasma with a broad spectral range.

Properties

Wavelength Range	170 nm – 2500 nm
Plasma Size (FWHM)*	With Retro: 140 µm X 290 µm Dual Output: 120 µm X 280 µm
Numerical Aperture	0.58 NA
Bulb Lifetime	10,000 hours
Distance of Plasma from Output Window**	13.7 mm
Laser Class	Class 1 (IEC 60825-1: 2014)

* Average plasma size

** Approximate distance measured with quartz output window

Typical Performance

Spectral Radiance at 500 nm	With Retro: 146 mW/mm².sr.nm No Retro: 79 mW/mm².sr.nm
Broadband Optical Power***	2.75 W
Optical Interface	Diverging beam (single or dual output)

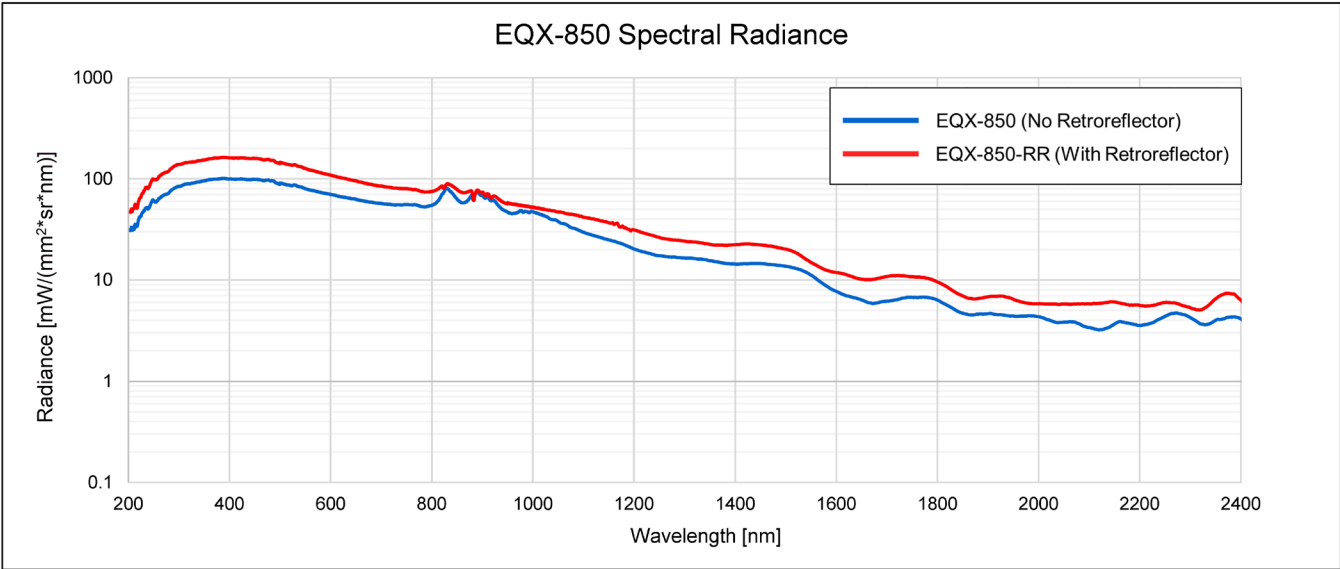*** Measured with thermopile

Models

LDLS products are sold as systems. Each EQX-850 system includes a lamp head, controller, remote control, power supply, and necessary cables.

Part Number	Description	Wavelength Range	Part Number	Description	Wavelength Range
EQX-850-QZ-S	Quartz window, no retroreflector	170 nm – 2500 nm	EQX-850-RR-QZ-S	Quartz window, retroreflector	170 nm – 2500 nm
EQX-850-BK7-S	BK7 window, no retroreflector	350 nm – 2500 nm	EQX-850-RR-BK7-S	BK7 window, retroreflector	350 nm – 2500 nm

Spectral Radiance Comparison
Average radiance, measured with quartz output windows. For reference only.

EQX-850 Spectral Radiance

Consumable Components

The recommended service interval is 10,000 hours.

New Crowns

Part Number	Description	Wavelength Range
EQX-850-CRN-QZ	EQX-850 Replacement Crown (Dual Output, Includes Bulb and QZ Windows)	170 nm – 2500 nm
EQX-850-CRN-BK7	EQX-850 Replacement Crown (Dual Output, Includes Bulb and BK7 Windows)	350 nm – 2500 nm
EQX-850-RR-CRN-QZ	EQX-850 Replacement Crown (Single Output with Retroreflector, Includes Bulb and QZ Window)	170 nm – 2500 nm
EQX-850-RR-CRN-BK7	EQX-850 Replacement Crown, Single Output with Retroreflector, Includes Bulb and BK7 Window	350 nm – 2500 nm

Optional Accessories

Part Number	Description
EQX-850-EWP	12-Month Extended Warranty Protection for EQX-850

Facility Requirements
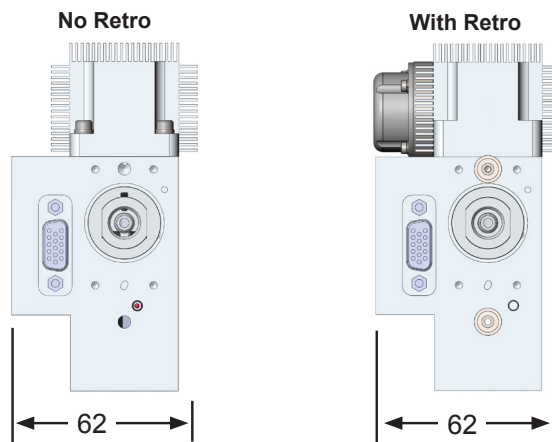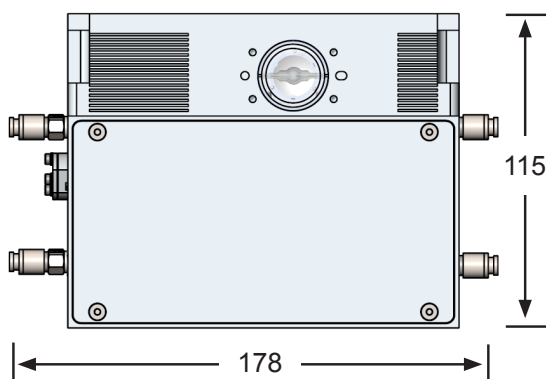
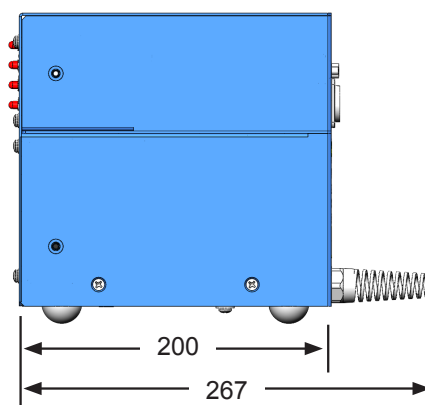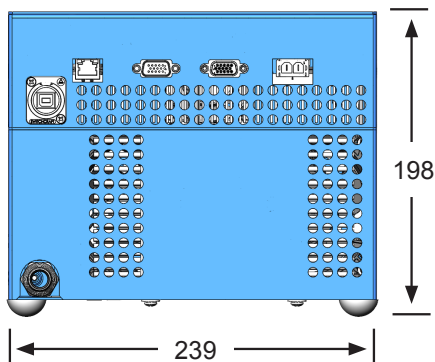|	
Electrical	100-240V AC, 6.8-2.7A; 50/60 Hz
Cooling (Lamp Head)	Fan (30 CFM forced air cooling)
Cooling (Controller)	Required clearance for air flow
Nitrogen Purge	Required. Grade 4.8 or higher, filtered to 5 µm. 20 psig ±2
Ambient Temperature	15-35 °C

Physical Specifications

Lamp Head Dimensions (H x W x D)	115 x 178 x 62 mm
Lamp Head Weight (no retroreflector)	1 kg
Controller Dimensions (H x W x D)	198 x 239 x 267 mm
Controller Weight	5.67 kg

Lamp Head Dimensions (Unit: mm)

Drawings are for reference only and are not to scale. STEP file available.

No Retro

With Retro

Controller Dimensions (Unit: mm)

Specifications are typical and subject to change without notice.
EQX-850 LDLS – 12/2025
Rev. 3