

Cobolt Modulated Dual Combiner

A permanently aligned combination of any 2 wavelengths in a compact package



Compact modulated laser combiner

Permanently aligned with very high level of precision and stability in beam overlap

Choice of any 2 wavelengths (o4-o1 Series lasers)

Modulation up to 125 Hz

Short rise time, $<350 \mu\text{s}$

Completely dark state in OFF mode

24 hours warranty, unlimited hours

The modulated version of the Cobolt Dual Combiner offers two attractive emission wavelengths from one small box. Through the integrating of a silent SRS shutter, the output beam can be modulated at up to 125 Hz with a very short rise time of $<350 \mu\text{s}$, with maintained 3% power stability and a completely dark state in OFF mode.

Each line can be individually addressed through a software application provided with the lasers, or through RS-232/USB communication. The modulated Cobolt Dual Combiner™ is perfectly suited applications where high level of power stability and control of the delivered energies are required. The use of Cobolt's unique HT

Cure Technology™ for laser manufacturing provides a very high level of robustness and insensitivity to ambient conditions, which ensures excellent beam overlap and beam pointing stability. The modulated Dual Combiner is also available with any other 2-line combination of the Cobolt o4-o1 series lasers.

Specifications

Cobolt Dual Combiner is combining 04-01 laser models: Also available for single 04-01 laser	Wavelengths [nm]: Any two of 457, 473, 491, 515, 532, 561, 594
Spectral linewidth	<1 MHz (<0.01 pm)
Spatial mode	TEM ₀₀ M ² <1.1
Beam diameter at aperture	700 μm
Beam divergence (full angle)	<1.2 mrad
Beam overlap	<250 urad
Long-term stability (8 hr)	<3% (±3°C)
Beam pointing stability (over 10–40 °C)	<25 μrad/°C
Polarization ratio (linear)	>100:1, vertical
Total system power consumption	<70 W, typical <30 W
Operating temperature	10–40°C
Dual Combiner dimensions [mm] [inches]	190 x 65 x 46 7.6 x 2.6 x 1.8
Controller dimensions [mm] [inches]	190 x 72 x 28 7.6 x 2.9 x 1.1
Communication	RS-232 or USB

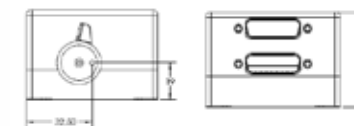
Shutter specifications

Modulation frequency (SR475 shutter)	125Hz (External TTL controller available)
Rise time	<350 μs

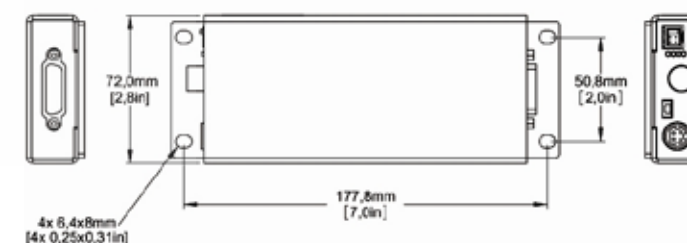
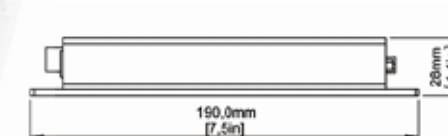
Options & Accessories

As seen in the image to the right:

- Mounting block FIC-03
- SM/PM or MM fiber coupling (Qioptiq, OZ Optics and more)



Laser controller



HTCure™ is a Cobolt proprietary technology for manufacturing of ultra-robust and reliable laser sources, allowing Cobolt to offer market leading warranty terms. Lasers built using HTCure™ Technology have shown to withstand 60G mechanical shocks in operation as well as extreme storage temperature shocks (-30 to >100 degC) without any sign of degraded performance, and they are also insensitive to pressure and humidity.