

RUBRIColor™ Wavelength Extension

/'rū-bri-kə-lôr/, proper noun

An extension of precision, a modular system for customizable laser wavelength locking.



One of the key challenges hindering the proliferation of optical atomic clocks, neutral-atom and ion-based quantum computers, and quantum sensors is the expensive, bulky, and environmentally susceptible infrastructure required to frequency stabilize the various state-preparation and probing lasers that necessarily operate at disparate wavelengths across the visible/NIR spectrum.

In combination with the RUBRIComb, Vescent's RUBRIColor provides an extensible commercial platform for transferring frequency stability to any set of selectable wavelengths between 490 – 2000 nm, offering a dramatic reduction in space, cost, and complexity for these applications.

Features

- Scalable Commercial Platform
- Modular Selectable Wavelengths: for quantum computing, quantum timing system, or sensing
- Reliable Performance: built to withstand demanding conditions
- Modular Design: adaptable to your solution needs
- Compact Footprint: saves space with consistent performance
- Seamless Integration: Extension of the RUBRIComb Platform



FREQUENCY COMBS | LASERS | CONTROLLERS

RUBRIColor™ Specifications

Extension	Extension Prefix	Optical Output Wavelengths	Bandwidth (typical)
Supercontinuum Long-λ	SCL	1100 – 2000 nm (broadband)	>900 nm
Supercontinuum Short-λ	SCS	980 – 1100 nm (broadband)	>120 nm
Heterodyne IR	H	980 – 2000 nm (factory set wavelength)	4 – 13 nm ¹
Heterodyne SHG	HS	490 – 979 nm (factory set wavelength) ²	~1 nm
SHG	S	490 – 979 nm (factory set wavelength) ²	~1 nm
Repeater Heterodyne Telecom	RHT	1529 – 1577 nm (broadband)	>40 nm
Repeater	R	1529 – 1577 nm (broadband)	>40 nm
Compressed Pulse	CP	1520 – 1580 nm (broadband)	>60 nm

¹ Bandwidth varies in accordance with selected wavelength

² Wavelength tunability of 5 nm (typical)

Parameter	Min	Typical	Max	Comments
Size, Weight, and Power				
Line Voltage	100 VAC		230 VAC	50/60 Hz
Weight		8.5 kg		
Chassis Volume		17 L		
Dimensions (in)		19 x 19 x 3.875 W x D x H		2U 19" rack mount
Dimensions (cm)		48.3 x 48.3 x 9.8 W x D x H		2U 19" rack mount

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