

THG-FA Series

Third Harmonic Generator with Integrated Amplifier

PriTel's THG-FA Series of Third Harmonic Generators with Integrated Amplifiers can be used in a variety of research applications at 510 to 522 nm.

The THG-FA Series is designed to be used with PriTel's FFL Series of easy-to-use passively mode-locked fiber lasers that provide polarization maintaining, high peak power pulses at 1528 - 1565 nm with pulsewidths from 10 ps to 0.6 ps. The addition of the THG-FA (with a temperature-controlled section containing periodically-poled LiNbO₃) to the FFL yields frequency-tripled pulses from 510 to 522 nm at relatively high power.

The FFL plus THG-FA is easy to use with no external equipment required. The optics are fiber-based, and no alignment is required. This makes the FFL-THG-FA system a very valuable tool in the research laboratory.

Applications include biomedical, microscopy and materials sciences.



Third Harmonic Generator with Integrated Fiber Amplifier (shown with *free-space output*)



Third Harmonic Generator with Integrated Fiber Amplifier (shown with *fiber-coupled output*)

Typical Specifications

	THG-FA-50
Wavelength	510 nm to 522 nm, tunable
Typical output power (varies with pulse repetition frequency and pulsewidth)	200 μ W free-space output @ 20 MHz 100 μ W fiber-coupled output @ 20 MHz
Pulsewidth	10 ps to 0.6 ps, variable
Optical bandwidth	0.2 nm to 2 nm
Pulse repetition freq.	5 MHz to 100 MHz, fixed
Fundamental suppression	\geq 40 dB
Optical	
THG medium	Temperature-controlled periodically-poled LiNbO ₃
Amplifier gain medium	Er doped silica fiber
Fundamental source	Passively mode-locked fiber laser at 1530 – 1560 nm
Connectors	Free space or fiber-coupled (FC/PC; other connectors available on request)
Environmental	
Operating temperature	+15 to 30 °C
Storage temperature	-20 to 50 °C
Electrical/ Mechanical	
Operating Voltage	110/220 VAC
Dimensions	10 cm x 26 cm x 28 cm (plus 5.5 cm x 5.5 cm x 12 cm for free-space-output head)

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