

ORPHEUS | TWINS

Dual Optical Parametric Amplifier

FEATURES

- Two simultaneous independently tunable outputs
- 210 – 16000 nm tuning range
- Single-shot – 2 MHz repetition rate
- Up to 60 W, 0.5 mJ pump
- Compact and cost-effective
- CEP-stable option



ORPHEUS-TWINS consists of two independently tunable optical parametric amplifiers (OPAs) in a compact footprint. The OPAs are optically synchronized and provide simultaneous outputs. Integrated into a single housing, both OPAs share the same white-light seed enabling the generation of broadband mid-infrared (MIR) radiation with a passively stable carrier-envelope phase (CEP).

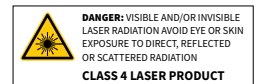
Each of the OPA can be configured separately to a version of ORPHEUS, ORPHEUS-F, or ORPHEUS-ONE. Check the respective models for more information and detailed specifications.

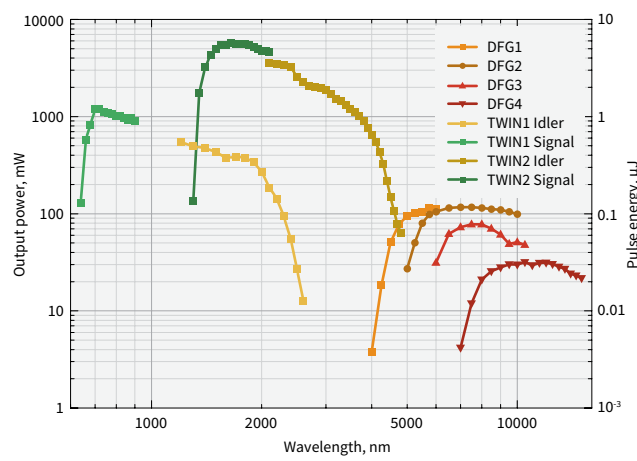
For high-repetition-rate (76 MHz) dual-output source, refer to CRONUS-2P.

SPECIFICATIONS

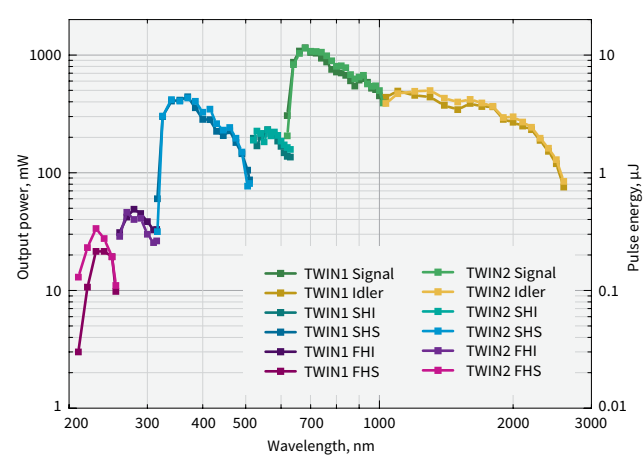
Model	ORPHEUS-TWINS
MAIN OUTPUT	
Tuning range	Choice between ORPHEUS, ORPHEUS-F, and ORPHEUS-ONE configurations
Output pulse energy	Depends on the configuration, see the specifications of the chosen models
Spectral bandwidth	Depends on configuration, 100 – 750 cm ⁻¹
Pulse duration	Depends on configuration, down to < 50 fs
Supported repetition rates	Single-shot – 2 MHz
PUMP LASER REQUIREMENTS	
Required pump laser	PHAROS or CARBIDE
Center wavelength	1030 ± 10 nm
Maximum pump power	60 W
Repetition rate	Single-shot – 2 MHz
Pump pulse energy	16 – 500 μJ
Pulse duration ¹⁾	180 – 300 fs

¹⁾ FWHM, assuming Gaussian pulse shape.





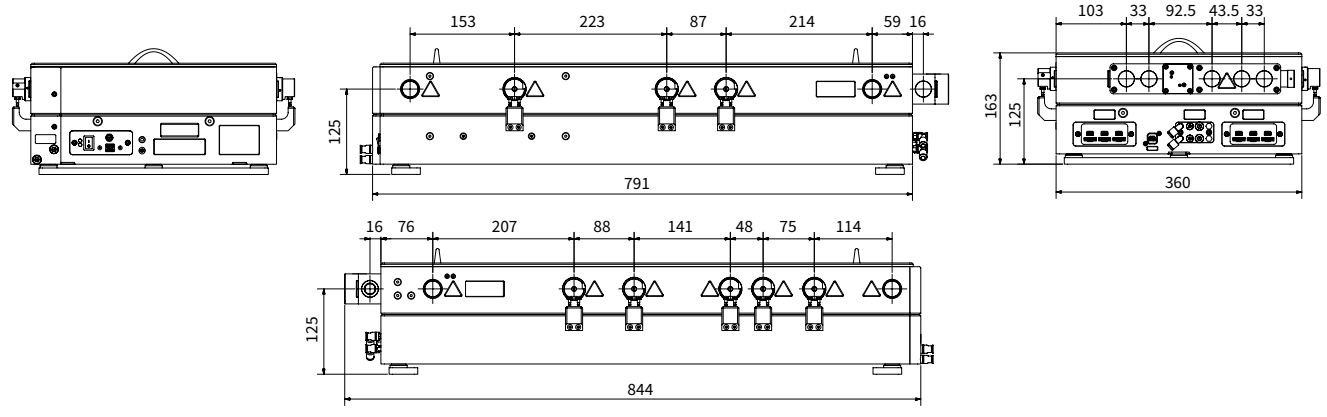
ORPHEUS-TWINS (ONE/F configuration)
tuning curves. Pump: 40 W, 40 µJ, 1000 kHz



ORPHEUS-TWINS (ORPHEUS/ORPHEUS configuration)
tuning curves. Pump: 20 W, 20 µJ, 100 kHz

For custom tuning curves visit <http://toolbox.lightcon.com/tools/tuningcurves/>

DRAWINGS



ORPHEUS-TWINS drawings