



## Quality and Excellence, presented by Sintec Optronics

### \*NEW\* STC-Spark series ultrafast laser and ultrafast OPOs



The STC-Spark-X provides up to 30 mW at **1280 nm** (with 40nm bandwidth) and is designed as a source for semiconductor failure analysis and material characterization applications. With pulsewidths **<250fs** it is an ideal source for multiphoton imaging.

The STC-Spark-OPO provides exceptional tunability and power across the near-infrared, making it an ideal light source for a wide range of application areas (from multi-photon microscopy to spectroscopy). Our ultrafast optical parametric oscillator technology can generate light from **1.4  $\mu\text{m}$  to 4.2  $\mu\text{m}$  with picosecond pulsewidths**. With a fully integrated pump source it is able to deliver high average power at both the signal and idler wavelengths with exceptional reliability. We also provide access to the fixed wavelength pump light, making it suitable for CARS microscopy.

The STC-Spark-OPO-FIR is the world's first commercial broadband ultrafast OPO providing **output in the 5 – 12  $\mu\text{m}$  region**. In the 5 – 7  $\mu\text{m}$  region up to 80 mW can be achieved and at 12  $\mu\text{m}$  up to 10 mW of light is available. The Spark FIR is an ideal source for spectroscopy in the molecular fingerprint region as well as stand-off detection and remote sensing applications.

#### STC-Spark-X laser features

- 1280nm wavelength
- Output power >30 mW
- Sub-250-fs pulses
- 100-MHz repetition frequency

#### STC-Spark-OPO features

- Quasi-CW output from 1.48 – 4.2  $\mu\text{m}$
- Up to 800 W from signal port and
- 250 mW from idler port
- 3rd output 500 mW at 1040 nm
- 100 MHz repetition frequency

#### STC-Spark-OPO features

- Spectral output from 5-12  $\mu\text{m}$
- Up to 80 mW from 5-7  $\mu\text{m}$  region
- Up to 10mW at 12  $\mu\text{m}$ .
- First commercial quasi-CW OPO in the fingerprint region
- 100 MHz repetition frequency

### \*NEW\* Laser optics: F-theta Lens for large aperture

With increasing laser intensities, beam size is also increased to minimise damage. The larger the incident beam, the smaller the final spot diameter at the focus point can be. We present a new f-theta lens made fully of fused silica dimensioned for large scanner apertures up to  $\text{\O}30\text{mm}$  with an effective focal length of 420mm at 1064nm. It has no internal ghosts and is diffraction limited. On a scan area of 180mm x 180mm spot sizes of about 16 $\mu\text{m}$  are possible (simulation with  $\text{\O}30\text{mm}$  scanner aperture,  $\text{\O}20\text{mm}$  input beam diameter, and 1064nm with  $M^2=1$ ). This new release is the start of a new f-theta lens series specially designed for  $\text{\O}30\text{mm}$ -scanners. With the new STS-2340/328, we present a 340mm focal length F-Theta lens, which is able to achieve spot sizes down to 16 $\mu\text{m}$  on a 61mm x 61mm field at 442mm working distance.



### \*NEW\* Laser optics: Color corrected F-theta Lens for ultrafast pulses

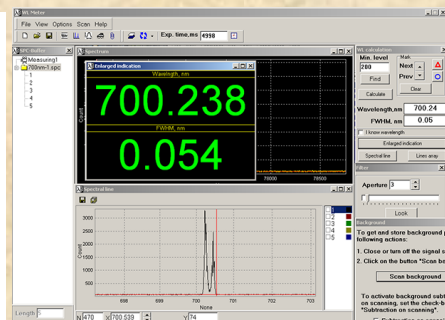
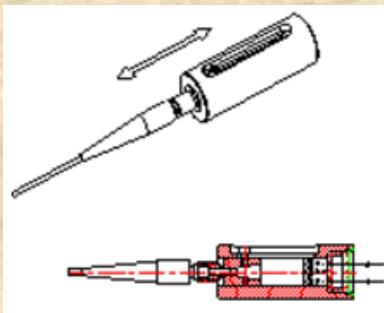
We present the first of its kind fully color corrected F-theta scan lens for ultra-short pulse lasers. Lasers with pulses shorter than 1 picosecond create a noticeable spectral bandwidth which will degrade the spot performance via chromatic errors. For example, an 800 femtosecond Gaussian shaped pulse has a spectral width of about 2nm and a 250 femtosecond pulse has a width of almost 7nm (1064nm, FWHM). This will aberrate the spot in an F-theta lens which is designed to focus only one wavelength. Two new scan lens we have uses multiple glass types in its design so all the wavelengths within a pulse are in focus at the work surface. The lenses have focal lengths of 100mm, are telecentric, have scan areas of 35mm x 3mm and will accept a maximum 10mm 1/e<sup>2</sup> input beam. The STS-7010/008 covers from 1500 – 160nm, the STS-7010/450 from 1000 – 100nm and the STS-7012/292 from 510 – 590nm. All three lenses are





designed to have no internal ghosts or back reflections which can damage lens elements within the lens. Our product range also includes an ultrashort pulse compatible beam expander with fixed magnification factor of three and designed for 1000 – 110nm range. The STS-4803/450 has a 10mm (1/e<sup>2</sup>) maximum input beam diameter and M30x1 mounting.

## \*NEW\* High Resolution wavelength Meter model SHR



The SHR is an ideal low-cost high-precision spectrometer for measuring laser wavelength in a large field of laser applications, as well as in the process of alignment and testing of solid-state lasers, diode lasers, dye lasers and OPOs. Laser beam is steered to the SHR entrance slit either via a multimode optical fiber fitted with a diffuser attenuator (both are included in the delivery set) or directly, without any fibers. The SHR allows quick and easy measuring of absolute wavelength value of both CW and pulsed lasers with outstanding precision of  $\pm 3$  pm within a widest spectral range of 190-1100 nm, as well as detecting FWHM of the analysed line. Apart from wavelength measuring the SHR provides demonstration of analysed spectra with resolution of 30000 ( $\lambda/\Delta\lambda < \text{FWHM}$ ) which constitutes from 6pm for the UV spectrum range to 40pm for the NIR. The SHR also ensures on-line monitoring of the above values and spectra in the process of tuning the analysed wavelength. Spectral range can measure from 190 – 1100nm, and SHR-IR version can measure from 600nm to 1800nm.

## Visited at Laser World of Photonics Munich 26-29 June 2017

We visited our customers and suppliers at Laser World of Photonics Munich 2017 show in Munich Germany 26-29 June 2017.

## Exhibited at International Laser Expo Korea 26-29 June 2017

We have exhibited at International Laser Expo Korea 2017 at KINTEX from 27-29 June 2017.

## Exhibiting at Conference Lasers Electro Optics (CLEO) Pacific Rim in Singapore 31 July 2017 \*NEW

We will be exhibiting at the Conference for Lasers and Electro Optics (CLEO) Pacific Rim to be held at Marina Bay Sands here in Singapore from 31 July to 4 August 2017. Do come down to our booth and have a chat with us about your needs !



## Promotional items!

We are currently overstocked on items such as Q-switch drivers, laser lamps, CO2 focussing lens and CO2 f-theta lens, high power fiber cable, ceramic reflectors, Optical galvanometers that supports 12-30mm apertures, and galvo drivers. Inquire about our stock items now and receive large discount! Our LSLC-DIGI self-tuning scanheads are on offer too!

## Sintec Optronics (India)

Bangalore  
E-mail: [india@sintec.sg](mailto:india@sintec.sg)

## Sintec Optronics Pte Ltd (Headquarters)

10 Bukit Batok Crescent #07-02 The Spire Singapore 658079  
Tel: +65 63167112 Fax: +65 63167113  
E-mail: [sales@sintec.sg](mailto:sales@sintec.sg), [sales@SintecOptronics.com](mailto:sales@SintecOptronics.com)  
URL: <http://www.sintec.sg>, <http://www.SintecOptronics.com>