Elliot Scientific

solution science for research and industry

November 2018

Prizmatix reveal DMD module at Neuroscience 2018

New Prizmatix DMD module (black unit) in-situ

Prizmatix announced, at Neuroscience 2018, the introduction of a digital micromirror device (DMD) module for delivering light to cellular and subcellular targets. Applications include: optogenetics, uncaging, photoactivation and fluorescence recovery after photobleaching (FRAP).

The one megapixel DMD utilises a grid of 1140 x 914 independently controllable micromirrors to divert light to specific areas under study at over 1000 times per second, offering almost spatial light modulator (SLM) performance without the need to use lasers.

Prizmatix were also wowing the crowds at last week's conference and exhibition with their self-contained **UHP-M**, an ultra-high power UV and visible light source for many applications, such as a mercury lamp replacement in fluorescence microscopy.

Microscope mounted UHP-M

Incorporating two independently controllable Prizmatix large-chip LEDs, the UHP-M delivers broadband white light from a single 55 W LED, and high power UV from a single 10 W LED operating at 365, 385 or 405 nm depending on model ordered. The UHP-M offers:

- Optically isolated TTL & analogue inputs
- Fast TTL switching
- Low optical noise
- Long life (no lamp replacement)
- Fanless operation
- Remote control*
- USB interface*

** The UHP-M requires no external control if operating at full power. However, if power levels need to be adjusted, the optional remote control or USB interface will be required.*

For more information about these or other life science products from Prizmatix, please **contact us**.

Lake Shore's 240 Series monitor distributed cryogenic temperature sensors precisely

Lake Shore's **240 Series** offer a convenient, modular input solution for precision monitoring of cryogenic temperature sensors in large-scale applications employing distributed PLC-based control.

Conversion of sensor resistance/voltages to calibrated temperature units is performed automatically by the module and reported digitally to the controller via PROFIBUS-DP or Modbus.

Widely distributed *big physics* applications like particle accelerators and fusion reactors, as well as large industrial sites, can benefit from the same performance as **Lake Shore**'s benchtop cryogenic instruments - which are trusted throughout the world for precision measurement

Lake Shore
CRYOTRONICS
ADVANCING SCIENCE

- 2 or 8 inputs
- 1 to 800 K
- Integral OLED display
- PROFIBUS-DP & USB
- Broad range of sensors

Space telescopes, research satellites, supercolliders, and fusion reactors are just some of the difficult to access systems that would benefit from Lake Shore **HR (High Reliability) Sensors**.

These off-the-shelf sensors, ideal for use with the Model 240, have already undergone extreme testing for such mission-critical applications. **Contact us** for more information now.

Ultrafast fibre lasers for science from IPG Photonics

IPG Photonics are developing a range of green, infrared, and mid-IR high speed fibre and fiber-to-bulk hybrid lasers operating in the pico and femtosecond regimes, making them ideal for scientific and medical research.

Ultrashort pulse durations in the 10^{-11} to 10^{-13} s range are generated by a master oscillator/ fibre power amplifier (MOFPA) architecture, and are particularly well suited for generating pulse energies in the range from several microjoules to ~1 mJ with repetition rates from 10 kHz to 3 MHz.

IPG Photonics currently offer two **1030 nm pulsed ultrafast lasers**. For more information about these or other lasers from IPG, please **contact us**.

A-H enable precision metrology via capacitance measurement in a multitude of applications

Andeen-Hagerling has been manufacturing class-leading capacitance and capacitance/loss bridge test equipment for over thirty years. Their equipment is used in laboratories worldwide, in a wide variety of research and industrial applications. These include:

- Atomic Layer Deposition (ALD)
- Dielectric characterisation
- Glasses
- Spectroscopy
- Gravity
- Liquid crystals
- Magnetometry
- Low temperature physics
- Nano-force metrology
- Quantum Dots
- Tunneling
- Dilatometry:
  - Thermal expansion
  - Magnetostriction
- Biophysics
- Carbon nanotubes & nanowires
- Electrical/Capacitance metrology
- Ferroelectrics
- Semiconductor testing
- Precision positioning
- Pressure/Capacitive Bolometry
- Scanning Capacitance Microscopy (SCM)
- Scanning Tunneling Microscopy (STM)
- Single Electron Tunneling (SET)
- Structure & Phase transitions
- Superconductivity & Superfluids
- Magneto-capacitance, -resistance & -dielectric effects

Elliot Scientific is able to offer expert advice on selecting the right Andeen-Hagerling instrument for your project, so please **contact us** with details of the application and we will be happy to help.

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