

GL TEC Control System

Thermal controlled measurement system.



Today, the realm of light measurement is expanding beyond classic optical measurement and investigating phenomena like thermal conditions, current or power levels. Requirements placed on luminaire developers and manufacturers either by updated standards or the market directly go beyond the classic sphere-based system and for example, call for stable and reliable temperature conditions.

The need has therefore arisen to stabilize the temperature of LED fixtures during measurements or simulate different LED performance temperatures. In fact, the latest test method standards, like CIE S 025/E:2015, are demanding that lighting developers and manufacturers look at the issues of thermal control more closely.

To this end, GL Optic has taken the step to develop and now offer a complete solution to meet the new thermal control demands. The GL TEC Control System includes our top-of-the-line Spectris 6.0 laboratory grade spectrometer, coupled with a state-of-the-art TEC controller and mount, along with a programmable power supply and the GL OPTI SPHERE 500. Here TEC is the magic word. TEC stands for thermoelectric cooler, also referred to as a Peltier cooler or module. In general the technology uses a system of plates which when applied the appropriate current in the right direction, generate the appropriate cooling or heating effect. With detailed control from the temperature controller, the module can create the optimal stable conditions for measurements, or simulate nearly any temperature conditions. So for example, you can easily ensure a steady 25°C temperature level to guarantee correct power measurement, as well as simulate 55°C and 85°C case temperatures as prescribed in LM-80-08. The hardware is integrated with GL AUTOMATION, powerful software of the GL SPECTROSOFT solution, which essentially lets you control the entire set of peripheral devices and plan, launch and monitor any required automated testing scenario. Of course, the standard powerful features of SPECTROSOFT are at your disposal, so you can save, process and present results professionally.

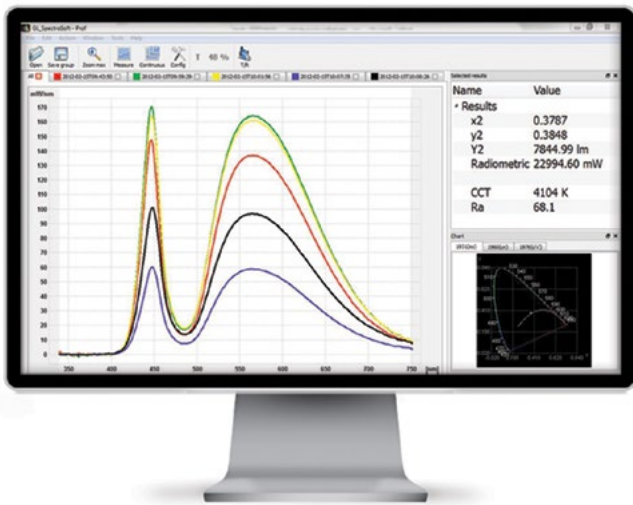
Selecting the right size and type of TEC mount is of the essence, depending on what you are measuring, be it single LEDs, LED panels, larger fixtures or arrays. The temperature level you are planning to work with has an impact as well. The standard TEC setup features an air-cooled mount, however with higher thermal outputs you may need to opt for a water-cooled version which increases thermal capacity but also proves more complex to set up and maintain.

Naturally, you do not need to make these decisions on your own. GL Optic offers consultation to help you decide on the right components. As with the entire GL Optic product line, compatibility is key. The featured GL TEC Control System is a recommended configuration, but you may decide you need a smaller or larger sphere, or feel that the processing power of a portable spectrometer will be enough. Likewise, if you already have any of the peripheral devices: an integrating sphere or power supply, for example, GL Optic can provide a solution to integrate those components via the AUTOMATION module.

GL SPECTROSOFT AUTOMATION

add-on for GL SPECTROSOFT

It is an intelligent tool which communicates with and manages peripheral devices connected to your measurement system.



GL SPECTROSOFT AUTOMATION

Instead of the need for setting up parameters in each plugged in device separately, this smart additional software cooperates with and runs all of them. Thanks to this, in one program on your computer, you can set sequences of operations such as: cooling temperature, current and voltage before a measurement. GL SPECTROSOFT AUTOMATION can collect data from external devices and link them together with measurement results.

GL SPECTROSOFT AUTOMATION automates complex operations, supplements and accelerates measurements of additional information (eg. the luminous efficacy, temperature, etc.) and minimises errors caused by misalignment of the equipment. It is a novelty on the market and a revolutionary solution in light measurement.

This is perfect tool for laboratories, where there is the need for complex operations. The AUTOMATION ADD-ON supports programmable: power supplies, current sources, multimeters and temperature controllers. Automation software can communicate with peripheral devices using a custom-made plug-in.

GL SPECTROSOFT AUTOMATION is available with GL SPECTROSOFT PRO or LAB versions only. Integration of new devices is available upon request.

