



Question and Answer Document
Enabling Mobile Spectroscopy
New Light Source Technologies for Analytical Instruments

Enabling Mobile Spectroscopy – New Light Source Technologies for Analytical Instruments

At our recent webinar: 'Enabling Mobile Spectroscopy – New Light Source Technologies for Analytical Instruments' we had a number of questions from our attendees. We've put together this handy Q and A document for you. Should you have any queries please get in touch with your local Heraeus Noblelight sales office listed on the back of this document.

Q How is FiberLight® L₃ operated?

FiberLight® L₃ is incredibly simple to operate. It comes as a complete unit that you can operate as a standalone desktop lightsource, or you can integrate it into an OEM system.

Connection is straightforward: on one side of the device is an SMA fiber connector for light output; on the other side is a multi-pin socket to supply power, switch the unit ON/OFF, operate in CW or pulsed mode to 1kHz, and to readout LED temperature information for data correction.

The simplest operation is to use the USB cable adapter designed for a portable power bank, and you are ready to take FiberLight® L₃ anywhere for your mobile spectroscopy.

Q How does the light output work?

FiberLight® L₃ comes with an SMA connector, simply plug in an SMA fiber and the light is provided.

Q Is a battery included?

No. A battery is not included with FiberLight® L₃. It has been designed as a standalone unit without a battery.

This is because it is intended that the power supply and control are decided by the OEM Engineer or End User, to suit their particular applications.

As mentioned, it is incredibly easy to use with just a power bank and USB cable - ideal for in-field/on-site testing.

Q How do you control FiberLight® L₃

Light output is via a fiber optic to the SMA connector. Control is through the multi-pin connector, either with 5V TTL logic or you can add a frequency generator to get the desired pulse frequency up to 1kHz.

Q You have shared details of a standalone device, is there an OEM integratable device available?

Yes, FiberLight® L₃ is available as an OEM device that doesn't have a housing or cooling jacket, which provides passive cooling. The internal LED requires cooling to keep the device stable, and there is a signal output to monitor temperature. We can work with the OEM to advise on cooling and integration into their system.

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Q Can the design engineer have control to measure what the temperature is?

Yes, one output of the FiberLight® L₃ is temperature of the LED. This is so that the design engineer can have control to measure what the temperature is, in order to monitor LED performance.

The junction temperature of the LED is directly feedback because the output is linear to the junction temperature. If the temperature changes in the environment, the output curve can be recalculated based on the junction temperature.

This will enable you to design for your particular instrument or correction curve. Aided by the correction curve and temperature information you can get accuracy that you can rely on.

Q Why not design a product with multiple LEDs and Phosphors?

The use of a single UVC LED is more cost effective than an array of multiple LEDs. In addition, the lifetime and optical performance of the device are optimised because multiple LEDs would result in:

- the problem of showing different colour patterns in the image because multiple LEDs will not have always have the same focus
- different LEDs will have a different lifetime, so when one LED fails then the whole device fails.

Q Can you extend the spectral range?

Yes, this is possible. FiberLight® L₃ currently has the spectral range 250 - 490nm and we have carefully matched the Phosphor output with the LED.

We could develop different LED and Phosphor combinations to cover different spectral ranges, and this would be dependent of customer demand.

Q How much does it cost?

We are really pleased you are interested in FiberLight® L₃ and would be happy to discuss your individual needs. Please get in touch with your local Heraeus Noblelight sales office for further details.



Did you miss the webinar?

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Enabling Mobile Spectroscopy - FiberLight® L₃

Discover a new world of possibilities for mobile analytical equipment

Environmental field based analysis has never been easy. Current on-site measurement methods are restricted by the mobility and limited battery life of the measurement device. Typically, a sample is taken in the field and then shipped to the laboratory for analysis. A very time consuming and logistically complex method

Introducing the ideal light source for portable measurement devices FiberLight® L₃

FiberLight® L₃ is a unique and innovative light source module, which combines the features of LED technology, such as long lifetime and low power consumption with a broadband UV-spectrum for the first time. Following the trend to smaller devices, the compact FiberLight® L₃ requires only a very small space in the instrument.

With its low power consumption, fiber connection and compact size, the module integrates easily into battery operated portable and handheld devices. The plug and play feature ensures easy integration and mobile usage to reduce integration costs and time per measurement.

For further details please go to www.heraeus-noblelight.com/FLL3

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