# ML6600

*cloud-powered laser solution platform*

modulight

ML6600 is an established product platform, originally launched in 2013. ML6600 can host different laser technologies (diode, fiber, DPSS). Wavelength can be tailored from UV up to 2+ µm to your application.

## Easy-to-integrate laser light source

ML6600 is a compact, easy-to-integrate laser subsystem which can be flexibly tailored to various applications, such as Flow Cytometry, Semiconductor Metrology, Quantum Computing, Diagnostics, Genetics, and various medical applications.

It's well suited for medical system integrators, as it's designed in accordance to IEC 60601-1 norm. This will speed up the certification process. The lasers and the system are manufactured in ISO13485 certified fab.

The platform supports preventive maintenance with predictive analytics and machine learning algorithms, powered by Modulight Cloud. The network connection can be established via Wi-Fi, Ethernet or cellular connection.

## Applications

• Flow Cytometry • Semiconductor Metrology • Quantum computing • Diagnostics • Genetics •

## Wavelength range and optical output power and laser types

ML6600 supports Modulight's wavelength range from UV to 2000+ nm, and optical output powers up to 100 W, depending on the wavelength and laser type.

ML6600 platform can host multiple lasers of different wavelengths, or simply just one wavelength. When ordering, you may request any combination of wavelengths from the below tables, or ask Modulight sales team for more options.

## Multimode: Visible wavelengths

| Wavelength | 405 nm | 425 nm | 445 nm | 450 nm | 488 nm | 520 nm | 532 nm | 561 nm | 577 nm |
|---|---|---|---|---|---|---|---|---|---|
| Optical Output Power | 1.5 W | 250 mW | 3 W | 3 W | 4.5 W | 1.5 W | 3 W | 2 W | 1 W |

| Wavelength | 630 nm | 635 nm | 638 nm | 652 nm | 658 nm | 662 nm | 665 nm | 670 nm | 680 nm | 689 nm |
|---|---|---|---|---|---|---|---|---|---|---|
| Optical Output Power | 3 W | 4 W | 6 W | 5 W | 6 W | 6 W | 6 W | 6 W | 6 W | 6 W |

## Multimode: Infrared wavelengths

| Wavelength | 753 nm | 810 nm | 915 nm | 980 nm | 1064 nm | 1122 nm | 1375 nm | 1470 nm | 1550 nm | 1927 nm |
|---|---|---|---|---|---|---|---|---|---|---|
| Optical Output Power | 10 W | 20 W | 50 W | 20…100 W | 20 W | 20 W | 30 W | 15 W | 20 W | 20 W |

## Single-mode: Ultraviolet wavelengths

| Wavelength | 266 nm | 281 nm | 290 nm | 302 nm | 355 nm | 357 nm | 395 nm | 399 nm |
|---|---|---|---|---|---|---|---|---|
| Optical Output Power | 10 mW | 50 mW | 70 mW | 70 mW | 100 mW | 100 mW | 100 mW | 100 mW |

## Single-mode: Visible wavelengths

| Wavelength | 405 nm | 423 nm | 445 nm | 455 nm | 459 nm | 488 nm | 532 nm | 556 nm | 632,8 nm | 640 nm | 650 nm | 660 nm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Optical Output Power | 100 mW | 100 mW | 100 mW | 100 mW | 100 mW | 100 mW | Up to 1 W | 500 mW | 100 mW | 100 mW | 100 mW | 100 mW |

## Single-mode: Infrared wavelengths

| Wavelength | 760 nm | 780,24 nm | 784 nm | 935 nm | 976 nm | 1040 nm | 1131 nm |
|---|---|---|---|---|---|---|---|
| Optical Output Power | 300 mW | 300 mW | 300 mW | 300 mW | Up to 1 W | 2 W | 100 mW |

| Wavelength | 1310 nm | 1500 nm | 1550 nm | 1650 nm | 1762 nm | 1930 nm |
|---|---|---|---|---|---|---|
| Optical Output Power | 100 mW | 100 mW | 2 W | 30 mW | 2 W | 2 W |

## Package information

The mechanics of the ML6600 platform can be tailored to host various laser technologies, but also to enable drop-in replacement of existing laser sources. A couple of examples with a footprint 150x150 mm$^2$ and 220x220 mm$^2$ are shown here. Contact sales@modulight.com for detailed drawings and 3D-models.



## Accessories

**Compliance management –** Modulight can assist the customer in compiling a sufficient design and manufacturing environment information to support in pursuing filing and approval for CE mark or other approvals for the system with ML6600 product incorporated. The ML6600 product is designed to comply with IEC60825 requirements, but it needs an additional STOP button and certification as a part of the final system.



**Calibration service –** The ML6600 devices are factory calibrated using NIST traceable calibration methods. Modulight recommends a 12-month calibration interval for the laser modules to verify and possibly adjust the output power of the laser module.

**Power supply –** The ML6600 devices are powered by supplying a DC voltage for the control electronics of the ML6600 unit. Modulight supplies compatible accessory DC power supplies that match the voltage and power requirements of each device.
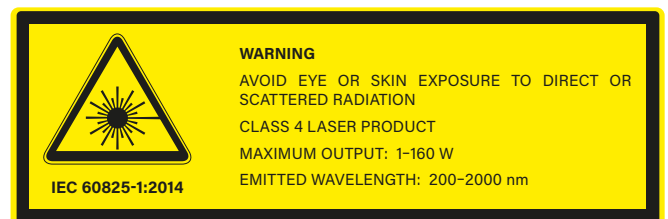
**PC control software –** For system integrators ML6600 is available as a subsystem which can be directly controlled with digital control signals through RS422, RS232 or Ethernet. Analog trigger signals are optionally available. ML6600 can also act as a stand-alone version, which comes with a PC software with elegant graphic UI.

## Safety information

The laser light emitted from this laser device is visible or invisible, and it can be harmful to the human eye. Avoid eye and skin exposure to the beam, both direct and reflected.

Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload.  Please ensure ESD protection prior to handling the products.

These Modulight products are not intended for use in systems where product malfunction can reasonably be expected to result in personal injury.



**WARNING**

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

CLASS 4 LASER PRODUCT

MAXIMUM OUTPUT: 1–160 W

EMITTED WAVELENGTH:  200–2000 nm

IEC 60825-1:2014

## Liability note