

BHL-600

Red and NIR Picosecond Diode Laser Modules

Pulse width down to 50 ps

Average power up to 0.5 mW

Repetition rate 50 MHz

Wavelengths 635 nm to 1300 nm

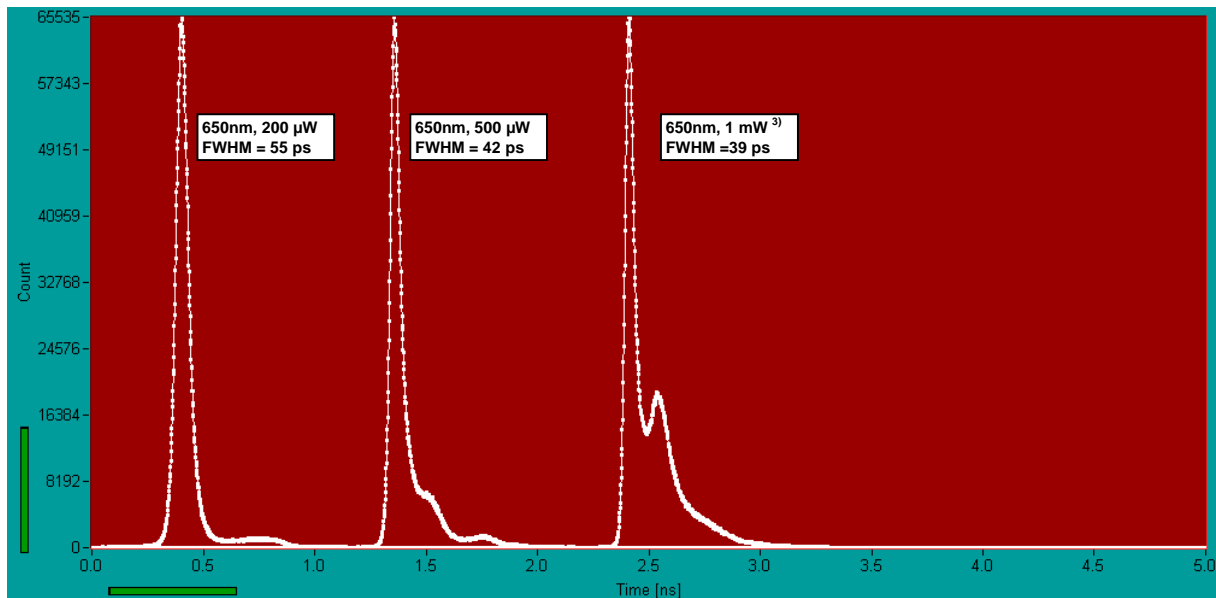
Low skew trigger output

Extremely low RF noise

Simple + 9 V to +12V power supply

Compact design - no external controller unit

Interfaces directly to all bh TCSPC modules



Photon migration experiments
Luminescence lifetime of NIR fluorophores
Fluorescence correlation
Testing of optical detectors
Time-correlated single photon counting experiments



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Optical

Repetition Rate	50 MHz
Wavelength	635, 650, 660, 670, 785, 808, 830, 980, 1300 nm ¹⁾
Average power (adjustable)	0.1 mW to 0.5 mW ²⁾
Maximum CW power	1 mW ³⁾
Average power for best pulse shape (typical value)	0.2 mW
Minimum pulse width (FWHM)	40 ps to 100 ps ⁴⁾
Pulse Width (FWHM, Power 0.5 mW)	<150 ps ⁴⁾
Peak Power	100 mW ^{4,5)}
Stability of Repetition Rate	± 100 ppm
Pulse-to Pulse Jitter	< 10 ps
Power regulation	within 2% ⁵⁾
Collimator focal length	8 mm

Trigger Output

Pulse Amplitude	-100 mV (peak) into 50 Ω
Pulse Width	1 ns
Output Impedance	50 Ω
Connector	SMA
Delay from Trigger to Optical Pulse	< 500 ps
Jitter between Trigger and Optical Pulse	< 10 ps

Power Supply

Power Supply Voltage	+9 V to 12 V
Power Supply Current	100 mA to 200 mA

Mechanical Data

Dimensions	110 mm x 66 mm x 38 mm
Mounting Thread	two M6 holes

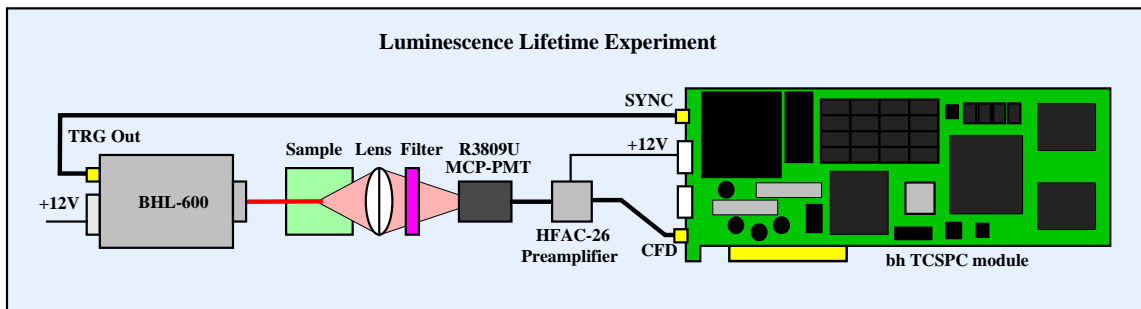
Maximum Values

Power Supply Voltage	0 V to +15 V
Ambient Temperature	0 °C to 30 °C
Maximum CW power	1 mW ³⁾

- 1) Other wavelengths are available, but pulse width may differ from values given
- 2) Recommended power adjust range. Please note that the pulse width changes with the power. Permanent operation above the given range may impair the lifetime of the laser diode.
- 3) Absolute maximum of CW power. It is not guaranteed that all versions actually reach this power.
- 4) Pulse width varies with wavelength version and power. Please contact bh for detailed information.
- 5) Typical value, sample tested only.
- 6) Power is regulated via internal monitor photodiode. Reflecting the beam back or shining other light into the laser diode may impair power stability or even shutdown the laser.



Caution: Class 3R laser product. Avoid direct eye exposure. Light emitted by the device may be harmful to the human eye. Please obey laser safety rules when operating the devices. Complies with US federal laser product performance standards.



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