

# 1.03 $\mu\text{m}$ , 35 ps lasers: Linearly polarized PM-1.03-35<sup>TM</sup> and randomly polarized SM-1.03-35<sup>TM</sup>



PM-1.03-25<sup>TM</sup> and SM-1.03-25<sup>TM</sup> picosecond lasers are computer-controlled via RS-232 and DB25 interfaces and SCANLAB compatible. The lasers are capable of operating in burst mode with up to 16 pulses per burst. Power, pulse duration, burst repetition rate, number of pulses per burst, and pulse energy are programmable. The PM and SM versions of the laser generate up to 10  $\mu\text{J}$  and 20  $\mu\text{J}$  of energy per pulse, respectively. The rest of the specifications for the two models are the same.

## Specifications

|   |   |
|---|---|
| <b>Center wavelength</b>                            | <b>1.03 <math>\mu\text{m}</math></b>  |
| <b>Maximum average power*</b>                       | <b>10 W</b>   |
| <b>Pulse duration</b>                               | <b>Tunable, &lt;35 ps – 1 ns</b>  |
| <b>Maximum energy per pulse**</b>                   | <b>10 <math>\mu\text{J}</math> (PM, linearly polarized version), 20 <math>\mu\text{J}</math> (SM, randomly polarized version)</b> |
| <b>Burst mode</b>                                   | <b>Tunable 1 – 16 pulses per burst</b>  |
| <b>Burst repetition rate</b>                        | <b>Tunable 50 kHz – 350 kHz</b>   |
| <b>Pulse repetition rate within burst</b>           | <b>10 MHz</b>   |
| <b>Beam delivery</b>                                | <b>Free space, optically isolated</b>   |
| <b>Output beam diameter (<math>1/e^2</math>)***</b> | <b>1.0 mm</b>   |
| <b>Beam quality</b>                                 | <b><math>M^2 = 1.2</math></b>   |
| <b>Polarization</b>                                 | <b>Linearly (PM) or randomly (SM) polarized</b>   |
| <b>Size</b>   | <b>400 × 200 × 150 mm</b>   |
| <b>Weight (with cooler)</b>                         | <b>8 kg</b>   |
| <b>Power consumption</b>                            | <b>100 W</b>  |
| <b>Cooling</b>                                      | <b>Air cooled</b>   |
| <b>Operating temperature</b>                        | <b>10° C - 40° C</b>  |
| <b>Control</b>                                      | <b>RS-232 and DB25, SCANLAB compatible</b>  |

\* 10 W is the maximum average power given that the pulse energy is at or below 10  $\mu\text{J}$  (PM version) or 20  $\mu\text{J}$  (SM version).  
For example, for the SM version, the maximum average power is 7.5 W for the 75 kHz burst rate and 5 pulses per burst.

\*\* Maximum pulse energy of every pulse within the burst. Maximum total energy per burst is 160  $\mu\text{J}$  (PM version) and 320  $\mu\text{J}$  (SM version).

\*\*\* Measured immediately at the output from the laser.