

# FQSS 266-Q

Diode Pumped Passively Q-Switched Solid State Laser

- 266 nm
- Pulsed ( $\leq 1.0$  ns)
- Up to 12  $\mu$ J
- Up to 20 kHz
- External and Internal Trigger
- Free Beam
- Single Pulse Operation



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| Optical Data    |  | FQSS266-Q1                 | FQSS266-Q2            | FQSS266-Q3            | FQSS266-Q4_1k         |
|-----------------|--|----------------------------|-----------------------|-----------------------|-----------------------|
|                 | Wavelength   | 266 nm                     |                       |                       |                       |
|                 | Pulse Energy   | > 0.3 $\mu$ J @15kHz       | > 0.8 $\mu$ J @10kHz  | > 6 $\mu$ J @1kHz     | > 12 $\mu$ J @1kHz    |
|                 | Peak Power   | > 0.3 kW @15kHz            | > 0.8 kW @10kHz       | > 6 kW @1kHz          | > 12 kW @1kHz         |
|                 | Pulse Repetition Rate  | $\leq 20$ kHz              | $\leq 10$ kHz         | $\leq 2.5$ kHz        | $\leq 1$ kHz          |
|                 | Pulse Width, FWHM  | $\leq 1.0$ ns              |                       |                       |                       |
|                 | Polarization Ratio   | > 100:1 vertical           |                       |                       |                       |
|                 | Pulse Energy Drift <sup>1)</sup>   | < $\pm 5$ %                | < $\pm 5$ %           | < $\pm 5$ %           | < $\pm 5$ %           |
|                 | Pulse-To-Pulse RMS <sup>2)</sup>   | < 3% @15kHz                | < 2% @10kHz           | < 2% @1kHz            | < 2% @1kHz            |
|                 | Laser Classification   | 4 / IV                     |                       |                       |                       |
| Optical Output  | Spatial Mode   | TEM <sub>00</sub>          |                       |                       |                       |
|                 | Beam Divergence, 2 $\Theta$  | < 2 mrad                   | < 2 mrad              | < 2 mrad              | < 2mrad               |
|                 | Beam Diameter  | 800 $\pm$ 200 $\mu$ m      | 800 $\pm$ 200 $\mu$ m | 800 $\pm$ 200 $\mu$ m | 900 $\pm$ 200 $\mu$ m |
| Electrical Data | Power Consumption  | 15 W (max.40 W)            | 17 W (max.40 W)       | 20 W (max.70 W)       | 40 W (max.70 W)       |
|                 | Operating Voltage  | 12 V DC                    |                       |                       |                       |
|                 | Line Voltage   | 90 - 265 V AC (50 – 60 Hz) |                       |                       |                       |
|                 | Marking  | CE                         |                       |                       |                       |
| Interfaces      | RS 232, USB  |                            |                       |                       |                       |
|                 | External Trigger (TTL, rising edge) single shot (pulse on demand) – max. repetition rate |                            |                       |                       |                       |
|                 | Interface for TTL-control and power monitor  |                            |                       |                       |                       |
| Miscellaneous   | Warm-up Time   | < 5 min                    |                       |                       |                       |
|                 | Operating Temperature  | 18 - 38 °C                 |                       |                       |                       |
| Options         | Stand-Alone system (incl. key-switch, heat-sink and manual shutter; CDRH compliant)      |                            |                       |                       |                       |
|                 | Synchronization signal output (rise time < 2 ns)   |                            |                       |                       |                       |
|                 | External beam expander (e.g. 3x)   |                            |                       |                       |                       |
|                 | Manual shutter or electrical beam blocker  |                            |                       |                       |                       |
|                 | Manual or electrical driven wavelength switch 266 / 532 nm                               |                            |                       |                       |                       |
|                 | Manual or electrical attenuator  |                            |                       |                       |                       |
|                 | Closed loop operation for pulse energy on request  |                            |                       |                       |                       |

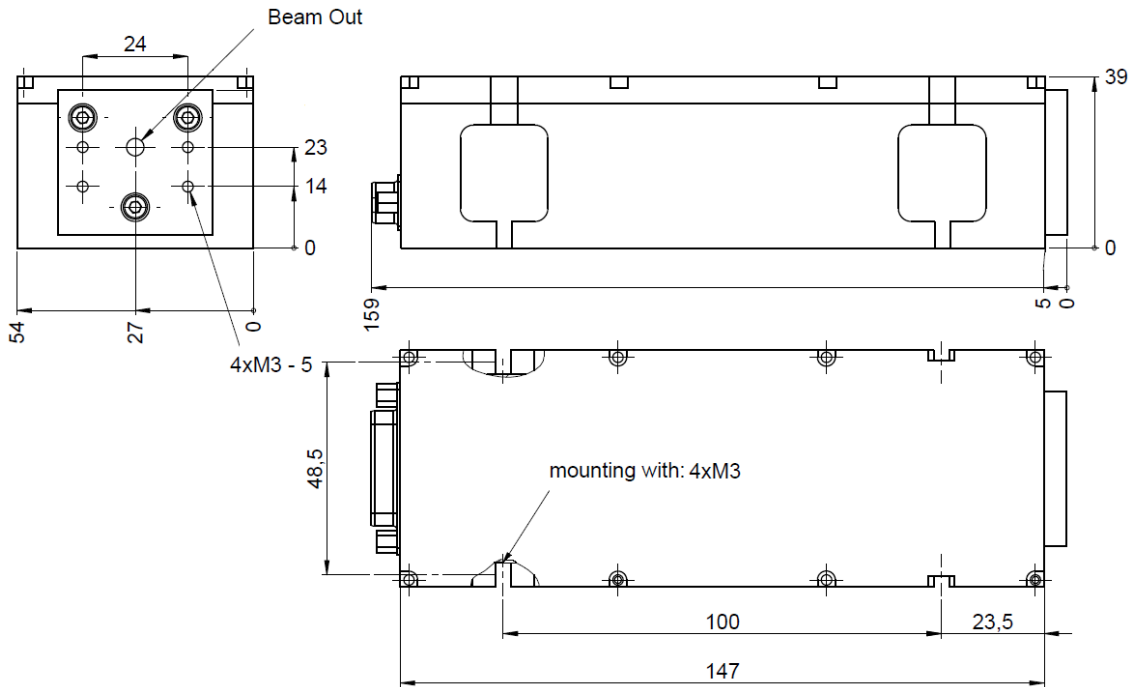
<sup>1)</sup> Drift over 6 hours, energy averaged over 10 sec after 5 min of continuous operation, temperature variation  $\pm 3$  °C and < 3 °C/hour.

<sup>2)</sup> RMS over 1000 pulses after 5 min of continuous operation.

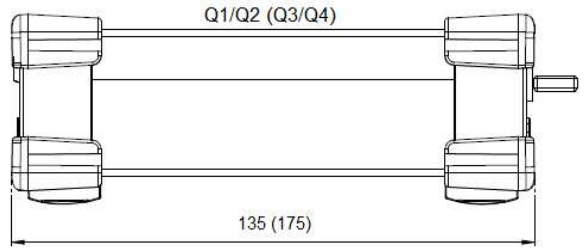
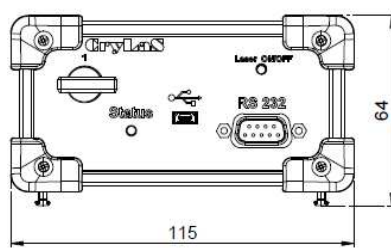
## Dimensions

Laser Head:

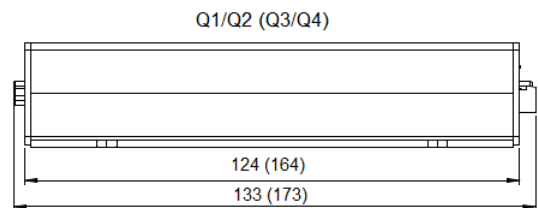
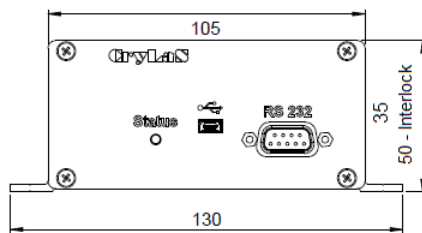
159 x 54 x 39 mm



Controller Stand-Alone: Q1, Q2: 135 x 115 x 64 mm; Q3, Q4: 175 x 115 x 64 mm



Controller OEM: Q1, Q2: 133 x 130 x 35/50 mm; Q3, Q4: 173 x 130 x 35/50 mm



## Laser Safety Label

The FQSS266-Q lasers are class 4/ IV according to IEC 60825-1:2007

|  |  |  |  |   |
|--|--|--|--|---|
| <p>wavelength: 266 nm<br/> max. output: 1 µJ<br/> pulse duration: &lt; 1.0 ns<br/> max. repetition rate: 20 kHz</p> <p>Complies with IEC 60825-1:2007<br/> Complies with 21 CFR 1040.10 and 1040.11<br/> except for deviations pursuant to<br/> Laser Notice Nr. 50, dated July 26, 2001</p> | <p>wavelength: 266 nm<br/> max. output: 2.5 µJ<br/> pulse duration: &lt; 1.0 ns<br/> max. repetition rate: 10 kHz</p> <p>Complies with IEC 60825-1:2007<br/> Complies with 21 CFR 1040.10 and 1040.11<br/> except for deviations pursuant to<br/> Laser Notice Nr. 50, dated July 26, 2001</p> | <p>wavelength: 266 nm<br/> max. output: 30 µJ<br/> pulse duration: &lt; 1.0 ns<br/> max. repetition rate: 2.5 kHz</p> <p>Complies with IEC 60825-1:2007<br/> Complies with 21 CFR 1040.10 and 1040.11<br/> except for deviations pursuant to<br/> Laser Notice Nr. 50, dated July 26, 2001</p> | <p>wavelength: 266 nm<br/> max. output: 40 µJ<br/> pulse duration: &lt; 1.0 ns<br/> max. repetition rate: 1.2 kHz</p> <p>Complies with IEC 60825-1:2007<br/> Complies with 21 CFR 1040.10 and 1040.11<br/> except for deviations pursuant to<br/> Laser Notice Nr. 50, dated July 26, 2001</p> | <p><b>INVISIBLE</b><br/> <b>LASER RADIATION</b><br/> <b>AVOID EYE OR SKIN</b><br/> <b>EXPOSURE TO DIRECT OR</b><br/> <b>SCATTERED RADIATION</b><br/> <b>CLASS 4 LASER PRODUCT</b></p> |
|--|--|--|--|---|

Q1 series

Q2 series

Q3 series

Q4 series

