

# FQSS 213-50

Diode pumped passively Q-switched solid state laser

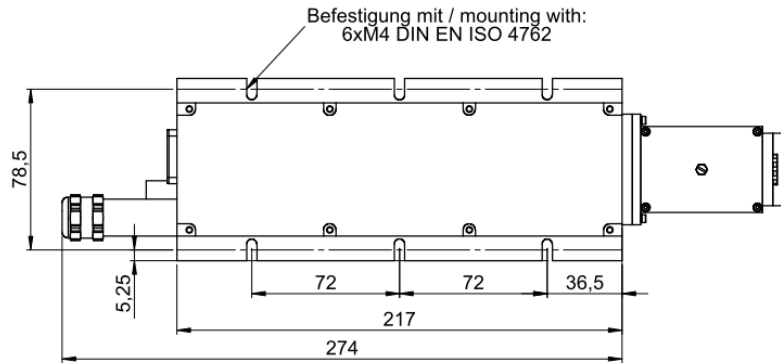
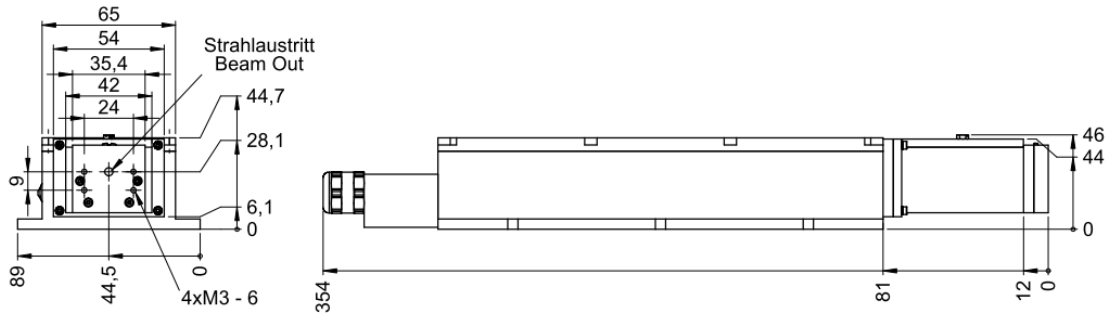
- 213 nm
- single pulse
- < 1.3 ns
- 1 – 60 Hz
- > 50 µJ



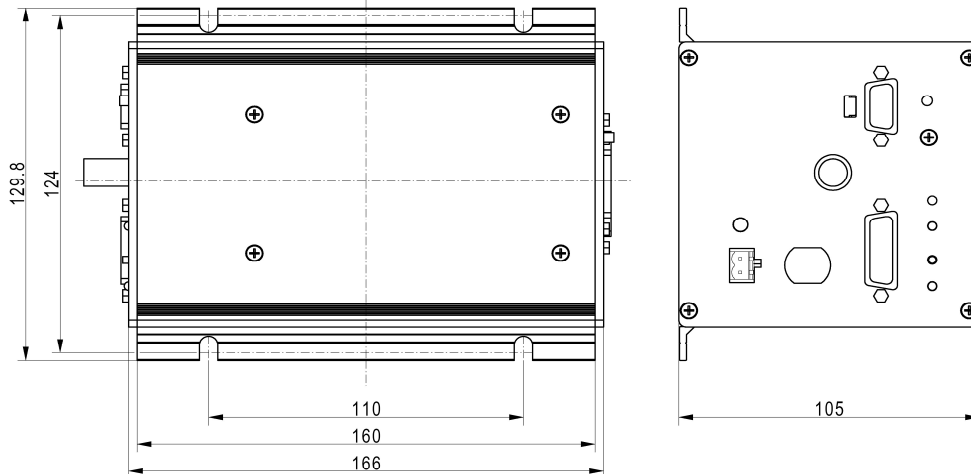
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|                        |   |                                     |
|------------------------|---|-------------------------------------|
| <b>Optical Data</b>    | Wavelength  | 213 nm                              |
|                        | Beam Divergence (full angle)  | < 3.0 mrad                          |
|                        | Beam Ellipticity  | < 2:1                               |
|                        | Beam Diameter   | 450 ± 150 µm (at laser exit)        |
|                        | Peak Power  | 40 kW @ 1 - 60 Hz                   |
|                        | Pulse Energy  | > 50 µJ @ 1 - 60 Hz                 |
|                        | Pulse Repetition Rate (with external trigger)   | 1 - 60 Hz                           |
|                        | Pulse Width (FWHM)  | < 1.3 ns                            |
|                        | Polarization Ratio  | > 100:1, horizontal                 |
|                        | Long Term Pulse Energy Stability (6 hrs)  | < ± 5 %                             |
|                        | Pulse-To-Pulse Stability  | < 2% rms (of pulse energy)          |
|                        | Laser Classification  | 4 / IV                              |
|                        | Residual 266nm, 532nm, 1064nm Emission  | < 0.7 µJ of output pulse energy     |
|                        | <b>Optical Output</b>   | Free Beam                           |
| <b>Electrical Data</b> | Electrical Power Consumption  | < 90 W                              |
|                        | Line Voltage  | 90 - 265 V AC (50-60 Hz) or 24 V DC |
| <b>Interface</b>       | RS 232, USB   |                                     |
| <b>Miscellaneous</b>   | Warm-up Time  | < 10 min                            |
|                        | Operating Temperature   | 18 - 38 °C                          |
|                        | Laser Head Size   | 298 x 65 x 46 mm (core dimensions)  |
| <b>Options</b>         | Manual Shutter or Electrical Beam Blocker   |                                     |
|                        | External Telescope (e.g. M=5)   |                                     |
|                        | Stand alone system (CDRH compliant; incl. key switch, heat sink, manual beam shutter) |                                     |
|                        |   |                                     |

## Laser Head and Controller



### OEM-Controller



## Laser Safety Labels

The FQSS213-50 lasers is class 4 according to IEC 60825-1:2007

|  |   |
|--|---|
| <p>wavelength: 213 nm<br/> max. output: 100 μJ<br/> pulse duration: &lt; 1.3 ns<br/> max. repetition rate: 60 Hz</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/> LaserNotice Nr. 50, dated July 26, 2001</p> | <p><b>INVISIBLE</b></p> <p><b>LASER RADIATION</b></p> <p><b>AVOID EYE OR SKIN</b></p> <p><b>EXPOSURE TO DIRECT OR</b></p> <p><b>SCATTERED RADIATION</b></p> <p><b>CLASS 4 LASER PRODUCT</b></p> |
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