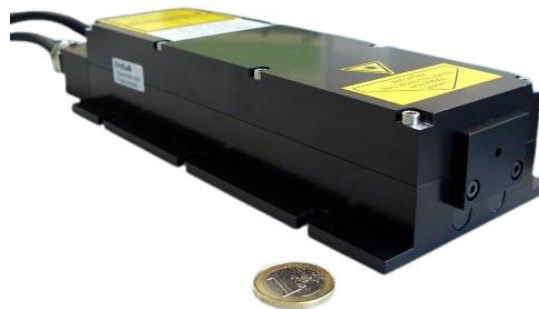


# DSS 1064-3000

Diode pumped passively Q-switched solid state laser

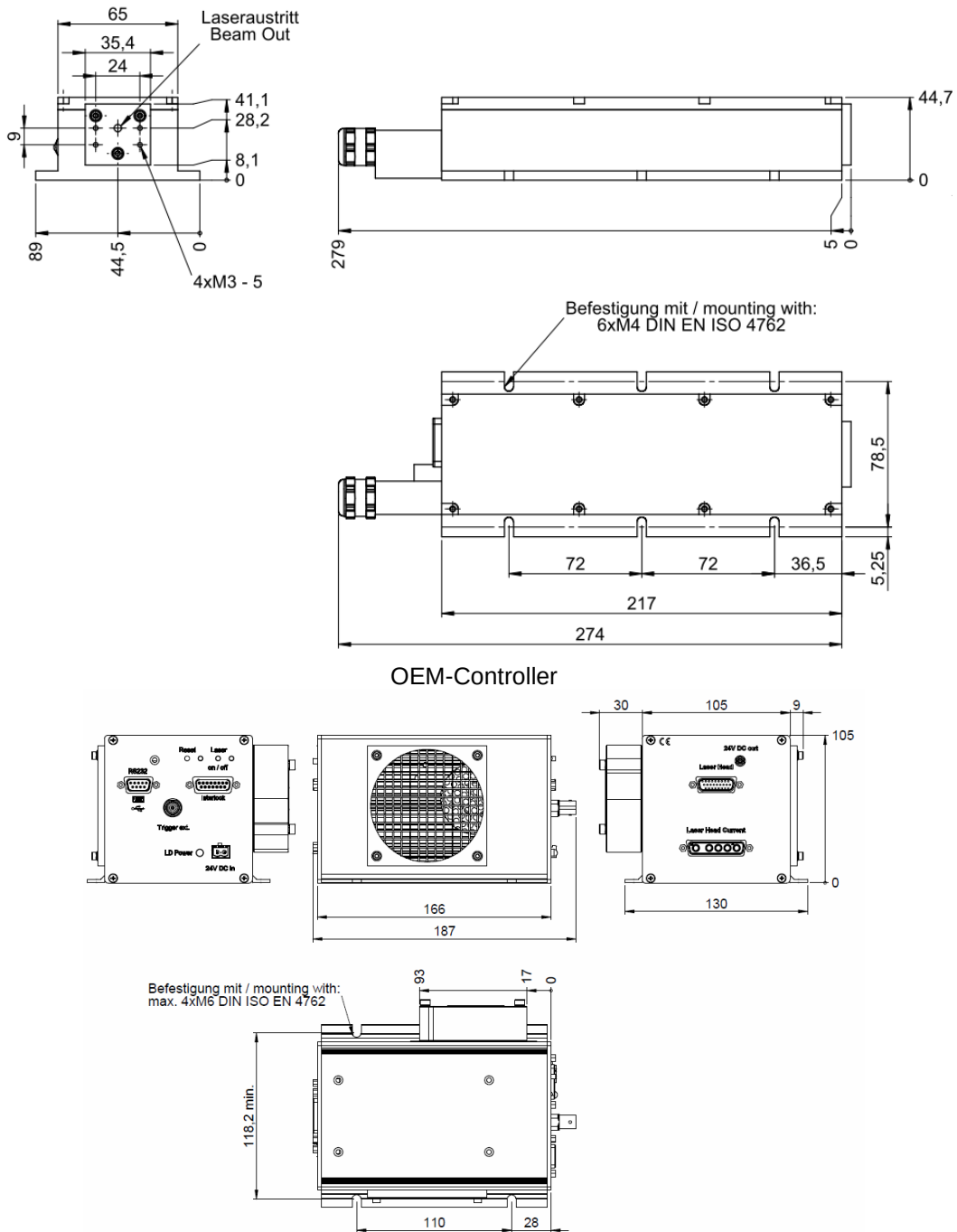
- 1064 nm
- single pulse
- < 2.5 ns
- 1 – 80 Hz
- > 2500  $\mu$ J



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|                                                                                                                                       |                                                                                  |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------|
| Optical Data                                                                                                                          | Wavelength                                                                       | 1064 nm                                                        |
|                                                                                                                                       | Spatial Mode                                                                     | TEM <sub>00</sub>                                              |
|                                                                                                                                       | Beam Divergence (full angle)                                                     | < 9 mrad                                                       |
|                                                                                                                                       | Beam Ellipticity                                                                 | < 2:1                                                          |
|                                                                                                                                       | Waist Diameter                                                                   | 600 ± 150 μm<br>(located at about 110mm inside the laser head) |
|                                                                                                                                       | Beam Diameter                                                                    | 1200 ± 400 μm (at laser exit)                                  |
|                                                                                                                                       | Peak Power                                                                       | > 1250 kW @ 20 Hz                                              |
|                                                                                                                                       | Pulse Energy                                                                     | > 2500 μJ @ 20 Hz                                              |
|                                                                                                                                       | Pulse Repetition Rate (with external trigger)                                    | 1 - 80 Hz                                                      |
|                                                                                                                                       | Pulse Width (FWHM)                                                               | < 2.5 ns                                                       |
|                                                                                                                                       | Polarization Ratio                                                               | > 50:1, vertical                                               |
|                                                                                                                                       | Long term pulse energy stability (6 hours) <sup>1)</sup>                         | < ± 6 %                                                        |
|                                                                                                                                       | Pulse-To-Pulse Stability <sup>2)</sup>                                           | < 5 % rms                                                      |
|                                                                                                                                       | Laser Classification                                                             | 3B / IIIb                                                      |
|                                                                                                                                       |                                                                                  |                                                                |
|                                                                                                                                       |                                                                                  |                                                                |
| Optical Output                                                                                                                        | Free Beam                                                                        |                                                                |
| Electrical Data                                                                                                                       | Electrical Power Consumption                                                     | < 150 W                                                        |
|                                                                                                                                       | Line Voltage                                                                     | 100 - 240 V AC (50-60 Hz) or 24 V DC                           |
| Interface                                                                                                                             | RS 232, USB                                                                      |                                                                |
| Miscellaneous                                                                                                                         | Warm-up Time                                                                     | < 15 min                                                       |
|                                                                                                                                       | Operating Temperature                                                            | 18 - 38 °C                                                     |
|                                                                                                                                       | Laser Head Size                                                                  | 217 x 65 x 45 mm (core dimensions)                             |
| Options                                                                                                                               | SMA-connector for fiber with core diameter ≥ 600 μm                              |                                                                |
|                                                                                                                                       | Synchronization signal output (rise time < 2 ns)                                 |                                                                |
|                                                                                                                                       | Manual shutter or electrical beam blocker                                        |                                                                |
|                                                                                                                                       | Manual or electrical attenuator                                                  |                                                                |
|                                                                                                                                       | Stand Alone System (incl. key-switch, heat sink, manual shutter; CDRH compliant) |                                                                |
|                                                                                                                                       | Heat sink with fan (recommended for repetition rates > 20 Hz)                    |                                                                |
| <sup>1)</sup> Drift over 6 hours, energy averaged over 10 sec after 5 min of continuous operation, temperature variation < 3 °C/hour. |                                                                                  |                                                                |
| <sup>2)</sup> RMS over 1000 pulses after 5 min of continuous operation.                                                               |                                                                                  |                                                                |

## Laser Head and Controller



## Laser Safety Labels

The DSS1064-3000 lasers are class 3B / IIIB according to IEC 60825-1:2014

|                                                                                                                                                                                                                                                                                             |                                                                                                                                   |                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <p>wavelength: 1064 nm<br/> max. output: 4 mJ<br/> pulse duration: &lt; 2.5 ns<br/> max. repetition rate: 80 Hz</p> <p>Complies with IEC 60825-1:2014<br/> Complies with 21CFR 1040.10 and 1040.11<br/> except for deviations pursuant to<br/> Laser Notice No. 50, dated July 28, 2001</p> | <p><b>WARNING - INVISIBLE<br/> LASER RADIATION<br/> AVOID EXPOSURE<br/> TO BEAM</b></p> <p><b>CLASS 3B<br/> LASER PRODUCT</b></p> | <p><b>LASER<br/> RADIATION<br/> IS EMITTED FROM THIS<br/> APERTURE</b></p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|

