

## Applications

Ophthalmology

Material microprocess-  
ing

Stainless steel black  
and colour marking

**Volume modification of  
transparent materials**

Optogenetics

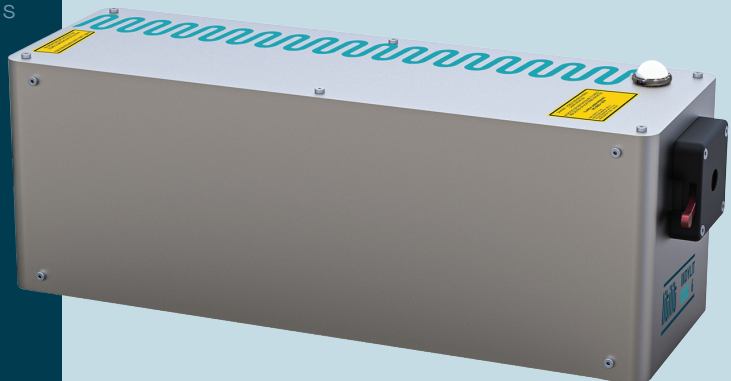
FBG writing

**Scientific research**

litilit

INDYLIT  
6

Femtosecond laser for industrial and medical  
applications 1030nm, 350fs, 6W, 20uJ



## Features

**Very compact and  
efficient**

**Excelent beam quality**

**Maintenance-free &  
turn-key**

**Passively air cooled**

**Adjustable pulse  
duration and power**

**Best value on the market**

## Punching above its weight

For many applications the speed of femtosecond pulse processing is limited not by laser power but by sample constrains. In these cases Indylit 6 laser offers great value - very short (and widely tuneable) femtosecond pulse duration, perfect beam quality, excellent long term stability of optical parameters. All this is delivered in ultracompact passively air cooled fiber platform designed to withstand many years of operation.



info@litilit.com +370 675 39583  
Savanoriu ave 235, LT-02300 Vilnius, Lithuania



litilit.com

## Specifications

|  | Indylit 6                         |
|--|-----------------------------------|
| Central wavelength                         | 1030 ± 2 nm                       |
| Average power                              | >6 W @ 300 kHz                    |
| Max. pulse energy <sup>1)</sup>            | >20 µJ                            |
| Pulse duration                             | <350 fs                           |
| Pulse duration tunability                  | 350 fs – 10 ps                    |
| Pulse repetition rate <sup>2)</sup>        | 10 kHz – 300 kHz                  |
| Pulse picker                               | integrated                        |
| Triggering mode                            | Pulse picker control via TTL gate |
| Burst length                               | 1..10 pulses                      |
| Max. energy in burst                       | >60 µJ                            |
| Power attenuation <sup>3)</sup>            | 100 – 0.1%                        |
| Beam quality                               | M <sup>2</sup> <1.2               |
| Beam circularity <sup>4)</sup>             | >0.9                              |
| Beam diameter (at 1/e <sup>2</sup> level)  | 1.5 ± 0.5 mm                      |
| Beam divergence (full angle)               | < 1 mrad                          |
| Beam pointing (pk-to-pk) <sup>5)</sup>     | < 50 µrad                         |
| Beam pointing vs-temp. (pk-to-pk)          | < 20 µrad/°C                      |
| Pulse Energy Stability (RMS) <sup>6)</sup> | <1.0 %                            |
| Power Stability (RMS) <sup>7)</sup>        | <1.0 %                            |
| Warm-up time (cold start)                  | <10 min                           |

|   |  |
|---|--|
| Warm-up time (warm start)                                 | <1 min                                   |
| Laser control interface                                   | CAN, USB                                 |
| Operating voltage   | 100...240 V AC, 47...63 Hz               |
| Average power consumption (after warm-up)                 | <200 W                                   |
| Operating temperature                                     | 15 – 35 °C                               |
| Humidity  | non condensing                           |
| Transportation/storage temperature                        | -20 – +70 °C                             |
| Dimensions:<br>Laser head (LxWxH)<br>Control unit (WxDxH) | 375 x 130 x 150 mm<br>449 x 368 x 140 mm |
| Umbilical length  | 3 ± 0.3 m                                |
| Colling:<br>Laser head<br>Control unit                    | air (passive)<br>forced air (fans)       |

<sup>1)</sup> Please refer to the power and energy vs. pulse repetition rate curves for typical values.

<sup>2)</sup> Higher repetition rates are available on request

<sup>3)</sup> Attenuation can be controlled by a few different methods: a) via PC user interface, b) by CAN register, c) by analog input (0 1V, real time).

<sup>4)</sup> Defined as the worst case ellipticity along the z-scan ( $\pm 5x_{L_{\text{Rayleigh}}}$ ) of the beam.

<sup>5)</sup> At constant environmental temperature (temperature stability within  $\pm 1^\circ\text{C}$ ) after 30 min. from the start.

<sup>6)</sup> Measured within 10s time interval .

<sup>7)</sup> Measured within a 24h time interval with integration time of <5s. Environment temperature stability should be within  $\pm 2^\circ\text{C}$ .

<sup>8)</sup> Indylit lasers are class 4 laser products. Avoid eye or skin exposure to direct or scattered laser light.

<sup>9)</sup> Technology is protected by international patents: LT6261 (B); JP6276471 (B2); US10038297 (B2); EP3178137; DK3178137 (T3); CN106575849 (B); PL3178137 (T3); LT6639 (B); LT2020 563



info@litilit.com

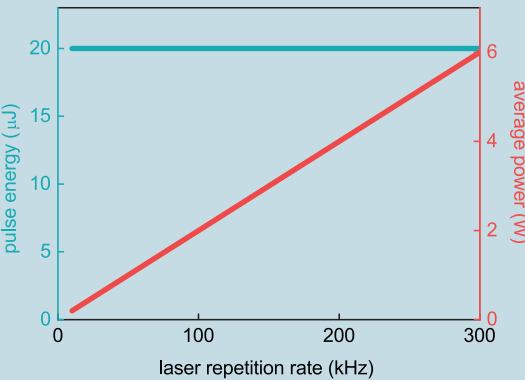
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Performance



Drawings

