

TEM₀₀ beam profile, air cooled, Q-switched solid-state laser Wavelengths 532 nm and 355 nm



General Description

The INCA-series are high repetition rate solid-state diode pumped Q-switched lasers with emission wavelengths of 532 nm or 355 nm. Their precise TEM₀₀-mode laser beam is well suited for micro-machining such as semi-conductor- or display repair and trimming systems. All lasers deliver < 12 ns short pulses with a superior beam quality of $M^2 < 1.6$. Due to their high pulse-to-pulse stability of $\sigma < 2\%$ and their sealed housing they are well suited for industrial use. A motorized laser beam attenuator is available as an option. It is built inside the INCA housing and allows the variation of the laser output power without any change in the beam characteristic. The high repetition rate of up to 50 kHz provides a high throughput. The laser head

works without recirculation cooler or additional heat sink. The laser system is completely computer controlled via a RS-232 interface. Different trigger control modes are available. The system operates autoranging from 90-240 VAC, 47-63 Hz.

Applications

- Rapid prototyping
- Wavelength sensitive processes
- Stereo-lithography
- Display repair
- Micro-machining

Features

- Diode laser pumped
- Sealed housing
- Slot mounted laser diode
- Excellent beam profile
- Motorized variable attenuator (optional)
- High pulse power
- Low pulse-to-pulse fluctuation
- RS-232
- Maintenance-free thermo-electrical heat management
- 19"-rack power supply

Product Specifications

model	INCA-532-Q	INCA-355-Q
wavelength	532 nm	355 nm
average power	3.0 W	0.30 W
pulse duration	< 12 ns	< 12 ns
energy per pulse	300 µJ	20 µJ
repetition rate	0.1-50 kHz	0.1-50 kHz
M ²	< 1.5	< 1.6

System Dimensions (L x W x H), weight

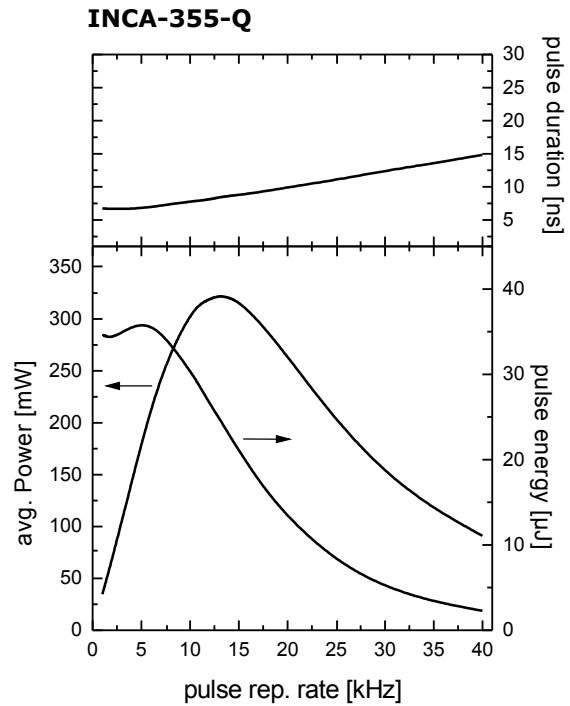
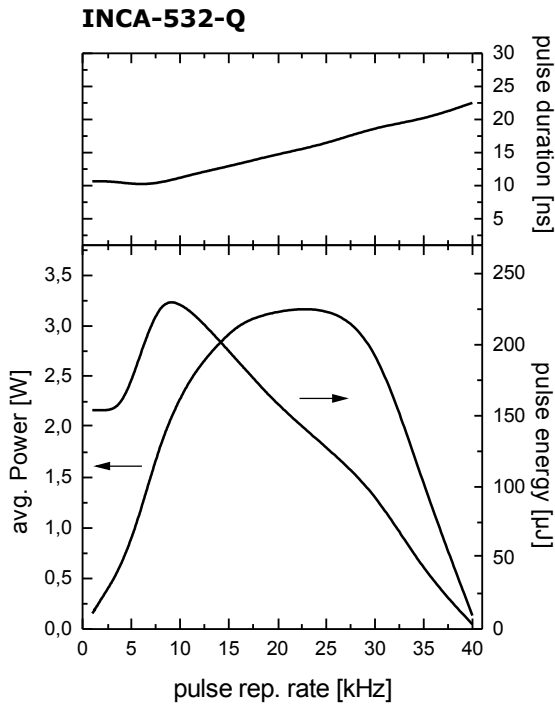
Laser head	222 x 214 x 70 mm ³	4 kg
Power supply	446 x 440 x 134 mm ³	23.5 kg

Electrical Characteristics

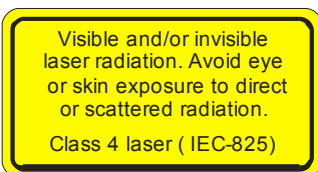
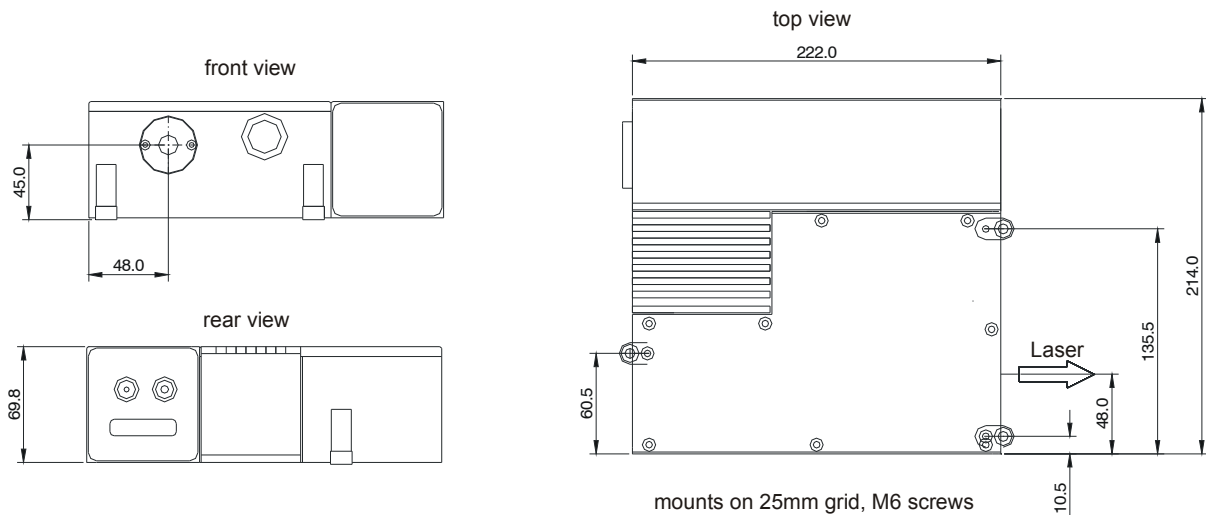
Operating voltage	85-264 VAC
Frequency	47 – 63 Hz
Power consumption	600 W max., 250 W typ.

Specifications are subject to change without notice due to product improvement.

Typical Performance



Dimensions Laser Head



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