LTB LASERTECHNIK BERLIN

LIGHT. PRECISION. ANALYTICS

Wavelength: **336 nm / 355 mn**

Pulse Energy: **Up to 300 µJ**

Switch: **Active Q-Switch**

Repetition Rate: **1 kHz down to single pulse**

MALDI-Imaging
Imaging method for analysing chemical compounds and their spatial distribution.

TR-FRET / TRF
Molecular interaction studies in cell biology and drug discovery.

MALDI-TOF MS
Efficient ionization for mass spectrometry in proteomics and biochemical research.

Laser-Induced Fluorescence (LIF)
Sensitive detection of organic and biochemical compounds.

qMNL 1000 - DPSS Laser

Next generation compact **ACTIVELY Q-SWITCHED** laser

Precision on a new level:

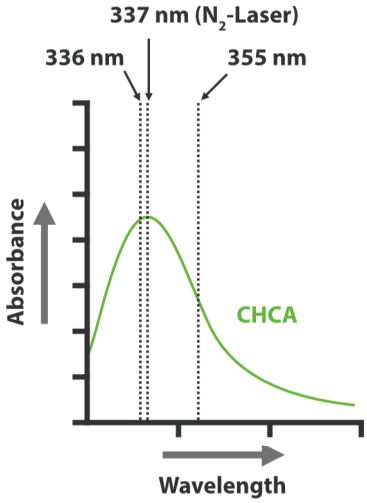
Experience the future of laser technology with the LTB qMNL 1000, our newest series of long-life lasers, designed for unparalleled performance in MALDI-TOF MS and fluorescence applications. Moving beyond our renowned nitrogen lasers, the qMNL series represents a significant leap forward. These devices are actively Q-switched DPSS lasers, offering superior control of laser parameters, such as power and precision, critical for demanding applications.

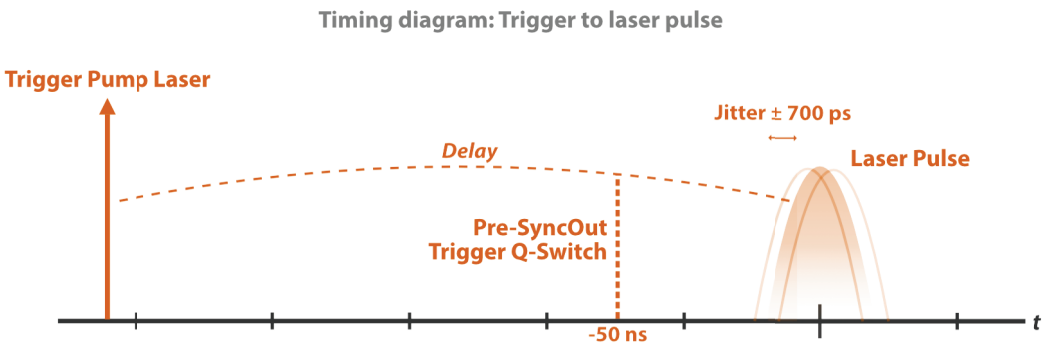
Versatile and efficient:

With standard wavelengths of 336 nm or 355 nm, combined with an active Q-switch, the qMNL is an ideal ignition source for a wide range of time-critical applications. The 336 nm wavelength is specifically chosen to operate within the optimum absorption range of common MALDI-TOF MS matrices, for instance CHCA & DHB, ensuring very efficient and reliable results.

Quick and easy integration:

The qMNL 1000 boasts a compact size and an integrated laser controller, making it incredibly easy to integrate into your OEM applications. Plus, by utilising the same robust housing as our popular MNL models, developing new device generations requires minimal adaptation effort, streamlining your product development process.





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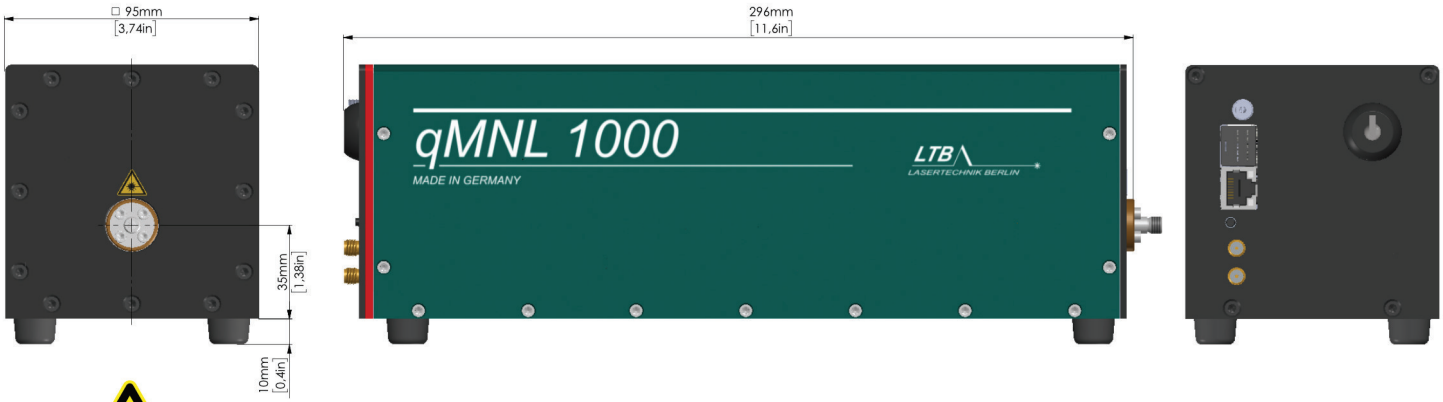
Specifications

			qMNL 1000 - 355	qMNL 1000 - 336
Optical	Wavelength [1]	nm	355	335.5
	Pulse energy	µJ	300	100
	Pulse power	kW	85	22
	Pulse width FWHM typ.	ns	3.5	4.5
	Repetition rate (up to)	Hz	1000	500 [2]
	Pulse-to-pulse stability typ.	% rms	2	5
	Beam diameter	mm	< 1	
	Beam divergence typ.	mrad	< 3	
	Beam quality M^2 typ.		3	
	Polarization [3]		linear (horizontal)	
Electrical	Power consumption average (max.) [4]	W	35 (120)	
	Operating voltage	V DC	24	
	Trigger Pump Laser In / Q-Switch In		TTL	
	Trigger mode		external (SMA) or internal with Pre-Sync Out signal	
	Jitter: trigger Q-Switch - Laser pulse	ps	± 700	
	Pulse delay: trigger Pump Laser - Laser pulse	µs	165 (variable)	
	Pulse delay: trigger Q-Switch - Laser pulse, typ.	ns	50	
	Warm-up time, typ.	min	< 5	
Environment and conditions of use	Operating temperature	°C	+ 15 ... + 38	
	Storage temperature	°C	- 10 ... + 60	
	Max. relative humidity (non-condensing)	%	85	
	Cooling requirements		air cooled	
General	Laser class		4	
	Dimensions (L x W x H)	mm	296 x 95 x 95	
	Weight	kg	4	
	Control		integrated	
	Control interface (integrated in housing)		UART, Ethernet, Web-Socket protocol, html-based GUI	

[1] Wavelength on request: 1342 nm, 1064 nm, 671 nm, 532 nm
[2] Burst mode with higher rep. rates on request
[3] Other polarization orientation on request
[4] Via external wide-range power supply (100 ... 240 V AC) - (optional part of the delivery)

Subject to technical changes.



Laser Class 4

State: 1.02.2026

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