DATASHEET

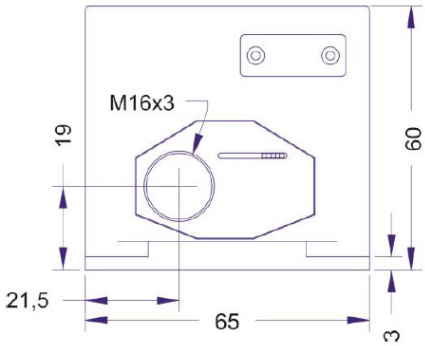
01/2017

QuixX

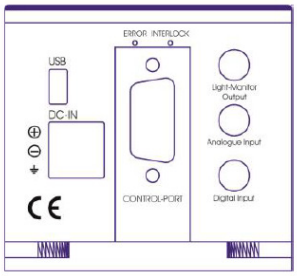
Versatile “two-in-one” picosecond-pulsed / CW diode lasers

The new laser series QuixX® can be pulsed in the picosecond range, as well as being operated in “continuous wave” (CW) and modulated mode. With completely integrated driver electronics, high precision temperature regulation, internally programmable frequency generator, beam shaping optics with astigmatism correction and a high resolution SYNC delay-generator, the lasers can emit ultrashort pulses down to 50 ps pulses with with up to 100MHz repetition rate. Diodes with up to 500 milliwatt CW optical output power and wavelengths between 375 and 2090nm can be used in the QuixX systems. The light output can be either free-space or fibre-coupled. CW operation is possible with up to 200kHz digital full ON/OFF modulation as well as up to 3 MHz analogue intensity modulation.
Typical applications are microscopy, TCSPC, spectroscopy, fluorescence analysis and usage as seed or pump laser.

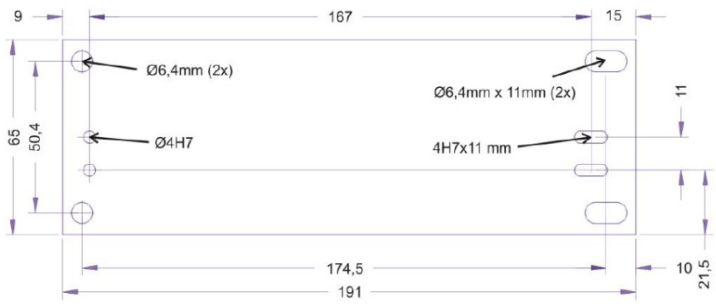
Dimensions (free-space version):



front view

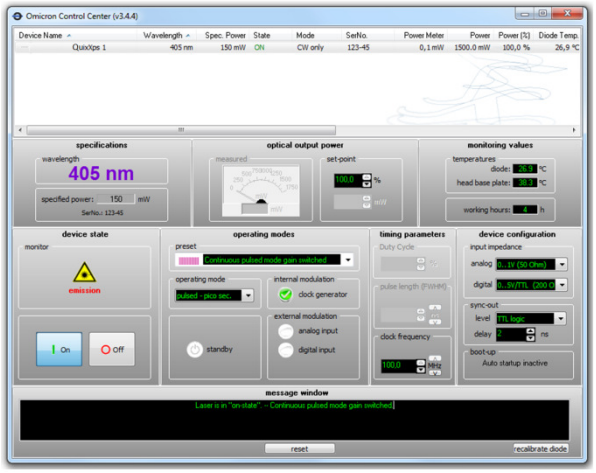


rear view



bottom view

Control Software:



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Specifications QuixX Diode Laser Series

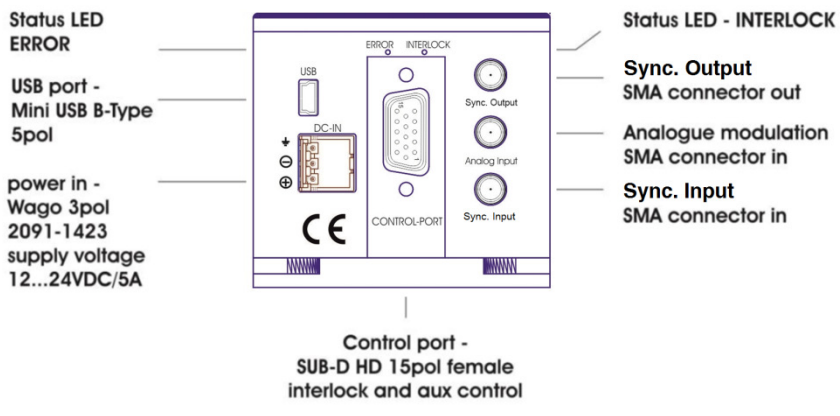
	Modell	Wavelength/ Power (CW)	Pulse width (min.) LP / HP	Peak power ps-operation LP / HP
Wavelengths & Powers (other wavelengths and powers on request) **"LP" = narrow pulse** **"HP" = wide pulse** *TBD = Values available soon	QuixX® 405-120PS	405nm / 120mW	TBD*	TBD
	QuixX® 405-300PS	405nm / 300mW	TBD*	TBD
	QuixX® 445-100PS	445m / 100mW	TBD*	TBD
	QuixX® 473-100PS	473nm / 100mW	<90ps <700ps	0.75mW 4.0mW
	QuixX® 488-60PS	488nm / 60mW	TBD*	TBD
	QuixX® 488-200PS	488nm / 200mW	110ps <550ps	1.3mW 4.1mW
	QuixX® 515-80PS	515nm / 80mW	TBD*	TBD
	QuixX® 642-140PS	642nm / 140mW	<100ps <1000ps	2.8mW 10mW

Polarization	>100:1 vertical
Long term power stability	<1% / 8h
RMS Noise 20Hz...10MHz **10MHz...500MHz**	<0.5% (CW) <0.5% (CW)
Operation Modes	CW operation (ACC - Automatic Constant Current) CW operation (APC - Automatic Power Control) CW operation with analogue and digital modulation picosecond pulsed operation with external triggering picosecond pulsed operation with internal triggering picosecond pulsed operation with int. or ext. triggering and analogue modulation
SYNC Input **Input signal type**	0...1V / 50 Ohm 0..5V / 200 Ohm NIM - Low: -0,2V...+1V; High: -1,8V...-0,6V / 50 Ohm -0.5V...+0.5V / 50 Ohm (user selectable via software)
SYNC-Output **Output signal type**	0...1V / 50 Ohm LV-TTL 0..3.3V / 200 Ohm NIM - Low: -0,2V...+1V; High: -1,8V...-0,6V / 50 Ohm -0.5V...+0.5V / 50 Ohm (user selectable via software)
Analogue modulation **Input signal type**	>3 MHz 0...5V / 1,2kOhm or 0...1V / 50 Ohm (user selectable via software)
Laser Enable (electronic shutter) **Input signal type**	>200kHz (full ON/OFF) TTL (2kOhm)
Internal Frequency Generator	0...500kHz in 1 Hz steps 500kHz to 100MHz in 500kHz steps programmable via software
Internal Delay Generator for SYNC-Output	0...28.4ns pulse-to sync delay in 10ps steps
Rise- and falltime in CW operation	Analogue: < 50ns Digital: < 500ns Laser Enable: < 1µs
Extinction ratio in	Analogue: >1000 : 1 Digital: >1000 : 1 Laser Enable: infinite (full ON/OFF)
Supply voltage	15 ... 24 VDC nominal (14.0 ... 25VDC max.)
Control interface	RS-232 and USB 2.0
Dimensions laser head	191 x 65 x 60 mm (l x w x h)
Options & Accessories	BRIXX.PSU World-wide power supply unit for BrixX and QuixX series lasers XX.CDRH remote control box with key switch and emission LED for CDRH compliant operation

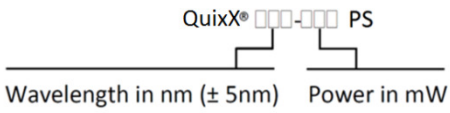
Laser Safety classification:

Class 3B
400-700nm:

Control interface:



Ordering code:



TÜV SÜD ISO 9001