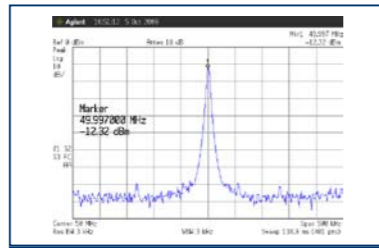
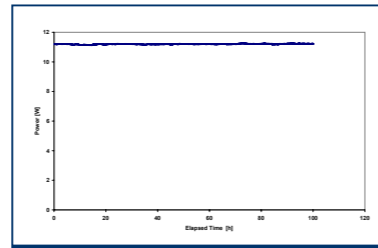


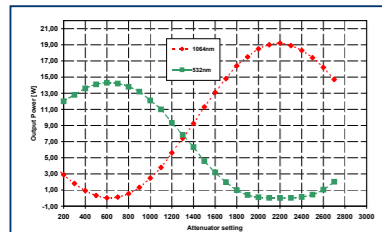
Typical Intensity Autocorrelation
Autocorr. duration 10.6 ps
Pulse duration 6.9 ps



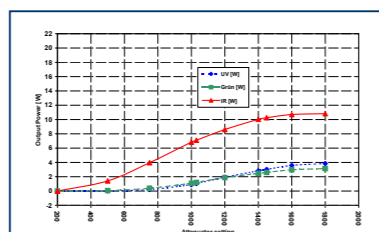
Typical Electrical RF Spectrum
Span 500 kHz, Resolution 3 kHz
Side-band suppression > 70 dB



Typical Power Stability
picoTRAIN IC-10000
Measurement duration 100h
Mean 11.2 W, RMS 0.23 %



Typical Power Tuning Curve
picoTRAIN 25 W + green module
with motorized attenuator
Power: >18W@1064nm, >12W@532nm



Typical Power Tuning Curve
picoTRAIN 10 W + harmonics module
with motorized attenuator
Power: >10W@1064nm, >3W@355nm

Technical Data

Lasers material	Nd:Vanadate (Nd:YVO ₄)			
Power stability, typical	< 1 % RMS (12 h)			
Beam quality	TEM ₀₀ ; M ² ≤ 1.2 (M ² ≤ 1.5 with power amplifier module)			
Polarization	horizontal / vertical (TBD)			
Power supply	90 VAC - 240 VAC, 50/60 Hz, < 300 W (< 500 W with power amplifier module)			
Laser head size	Housing A	Housing AB	Housing AC	Housing ABC
	480 x 200 x 101.6 mm ³	780 x 200 x 101.6 mm ³	770 x 200 x 101.6 mm ³	1040 x 200 x 101.6 mm ²
Beam height	76.2 mm (3"), not including pedestals			
Controller size*	19" rack, 600 x 550 x 400 mm ³ (l x w x h), chiller included			
Operation ambient temperature	18 °C to 30 °C			

* Controller size for high-power versions: 600 x 550 x 711 mm³

Applications

- CARS / SRS Imaging
- OPO Pumping (such as **LEVANTE EMERALD** from APE)
- Nano Processing, Material Processing
- Thin Film Structuring, Solar Cell Structuring
- Nonlinear Optics
- Pumping Dye Lasers
- TCSPC, Single Molecule Detection
- Microscopy (e.g. FLIM)

Please Inquire About

- Picosecond OPOs: **picoEMERALD** or **LEVANTE IR**
Tunable output from 230 nm - 14 μm
- Long pulse version up to 300 ps
- Picosecond amplifiers
- Application laboratory for Nano Processing
- Synchronisation "SYNC" option
- OEM and customized models



picoTRAIN™ High-Power

Compact, all-diode-pumped, solid state picosecond oscillator



picoTRAIN™	IC-1064-3000	IC-1064-10000	IC-1064-25000	IC-1064-50000
		Basic Oscillator	Basic Oscillator with Power Amplifier	
Wavelength ¹⁾	1064 nm			
Pulse width (FWHM), typical ²⁾	7.5 ps			
Average output power	> 3 W	> 10 W	> 25 W	> 50 W
Pulse energy	> 40 nJ	> 125 nJ	310 nJ @ 80MHz > 5 μJ @ 1 MHz ³⁾	> 620 nJ @ 80MHz > 10 μJ @ 1MHz ³⁾
Pulse repetition rate ⁴⁾	76 MHz	80 MHz		

All specifications are typical data and subject to change without notice in order to provide the best product possible.

1) other wavelengths on request, e.g. 1047/1053nm

2) +/- 1.5 ps, other pulse widths on request

3) with integrated pulse picker (optional)

4) +/- 1MHz, other pulse repetition rates on request (10 - 200 MHz)

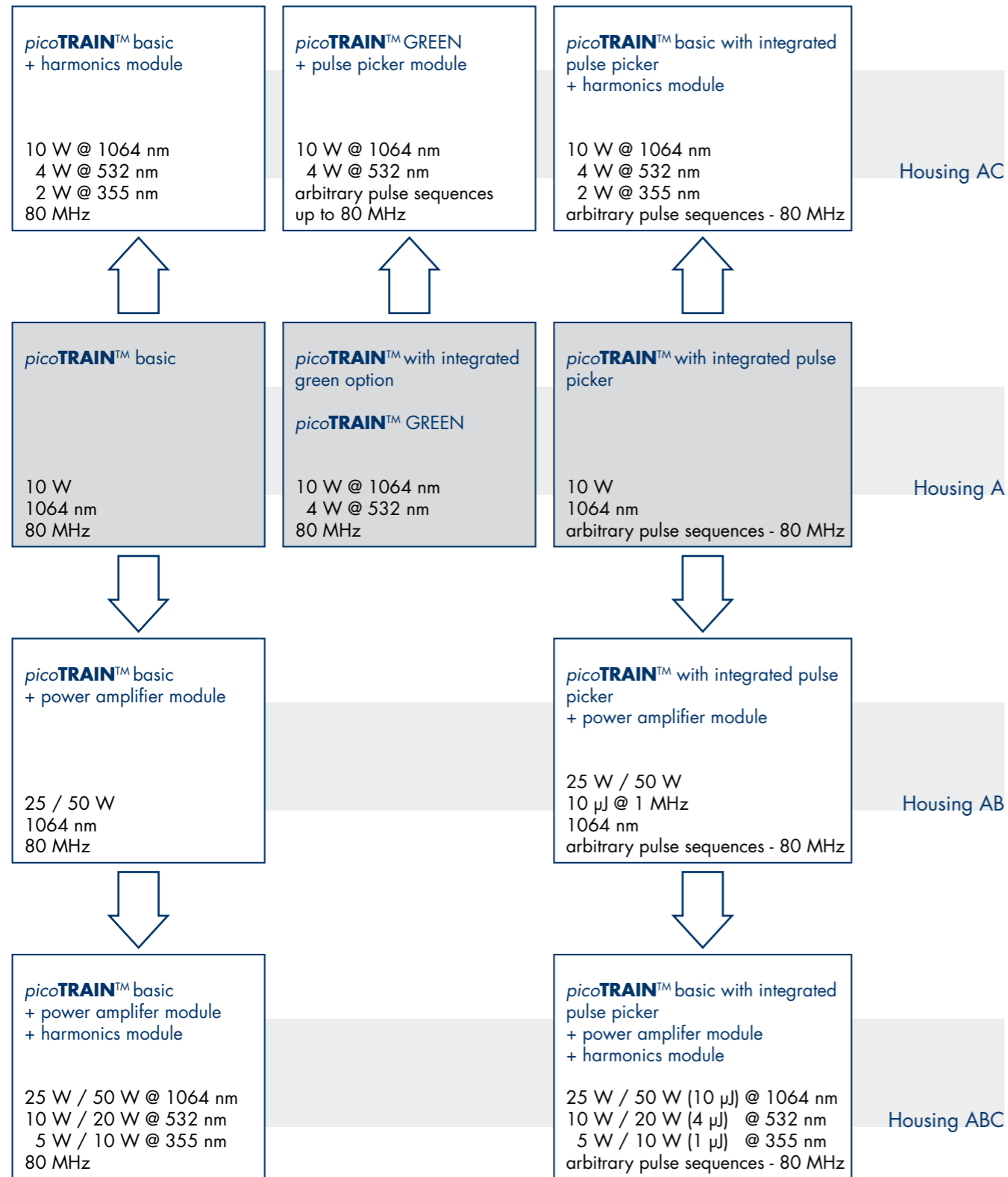
Optional Modules	Customize your laser with the picoTRAIN™ Modules	
Pulse picker module	Integrated in the basic oscillator or as external module	<ul style="list-style-type: none"> • Single pulse to 80 MHz, arbitrary • Pulse sequences and bursts via TTL trigger
Green module	SHG integrated in the basic oscillator or as external module; power control via motorized attenuator	<ul style="list-style-type: none"> • Wavelength: 532 nm • Power: approx. 40 % of IR
Harmonics module	SHG and THG as external module; power control via motorized attenuator	<ul style="list-style-type: none"> • SHG: 532 nm, power 40 % of IR • THG: 355 nm, power 20 % of IR
Power amplifier module	Boosts the power of your basic oscillator up to 25 W or 50 W	

Please turn to next page to see how easily the modules can be combined...

Main Features	Customer benefits
• Passive self-starting modelocking by saturable Bragg reflectors	• High temporal and spatial stability, high beam quality
• Organics-free optical cavity, Sealed-off technology	• USB software remote control (optional via internet)
• FEA optimized industrial mirror mounts	• Hands-free, true turnkey operation
• Internal power monitor	• Compact and modular setup, easy upgrade
• Remote maintenance via internet (optional)	• Synchronised IR, Green or UV beams (optional)
• Active power stabilisation (optional)	• High MTBF and up-time

All specifications are typical data and subject to change without notice in order to provide the best product possible. © 02/2010 spitznar.com

Possible *picoTRAIN*™ module configurations



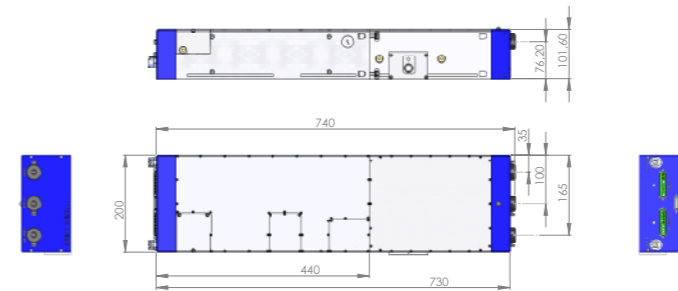
Configuration check-box based on output power

	IC-1064-10000		IC-1064-25000	IC-1064-50000
	10 W	25 W	50 W	
Internal pulse picker	✓	x	✓	✓
Internal second harmonic	x	✓	x	x
Harmonics module	✓	x	✓	✓
External pulse picker	✓	✓	x	x

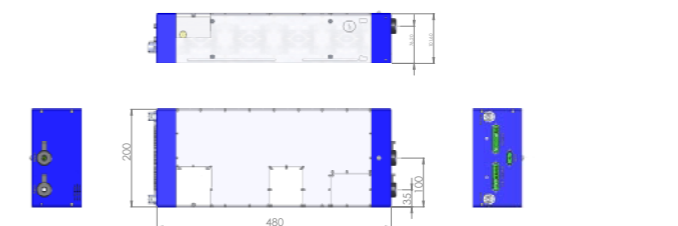
✓ possible, x not possible in this configuration

Laser head sizes / controller size

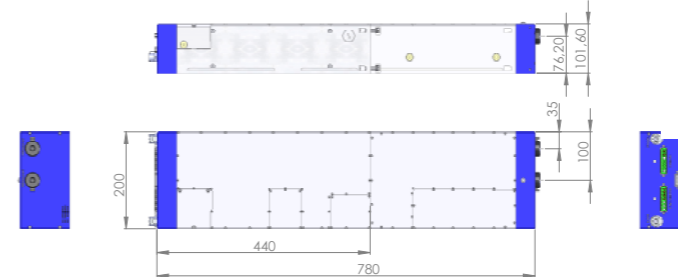
Housing AC



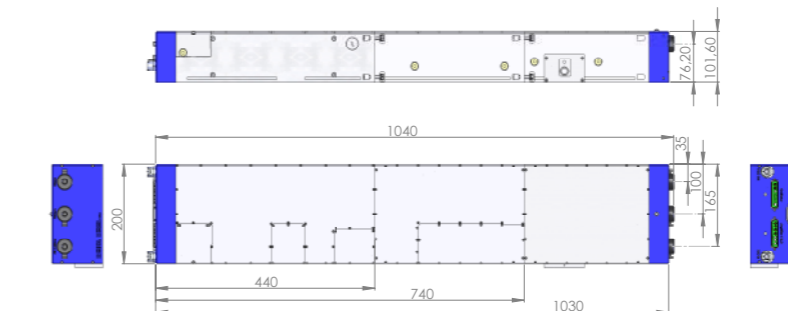
Housing A



Housing AB



Housing ABC



Controller

