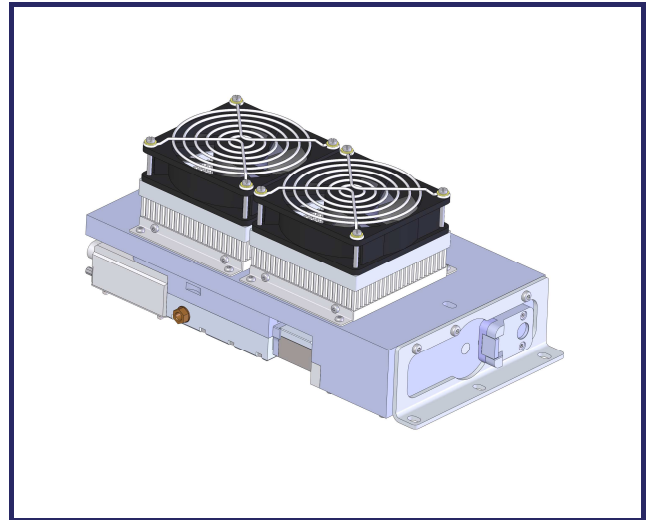


## XNx High Repetition Rate Amplified Microchip Series

### Key features

- ▶ **1064nm and 355nm**
- ▶ **140kHz repetition rate**
- ▶ **Ultra-short pulses down to 700ps**
- ▶ **Excellent beam quality – TEM00**
- ▶ **Efficient, air-cooled**
- ▶ **Compact package**



**The PicoFlash™ series combines ultra-high repetition rate and exceptional pulse characteristics down to 355nm to provide the best price/quality ratio for precise micromachining and biomedical applications.**

**Passively Q-Switched (PQS) microchip laser technology and fiber amplification are brought together, delivering multi-kW pulses train and exceptional beam quality in an air-cooled and compact package.**

**This Master Oscillator Fiber Amplifier (MOFA) architecture notably offers a full control over the pulse energy (or peak power) while leaving unchanged the pulse shape and pulse duration.**

### Applications

- ▶ **Micromachining**
  - Selective ablation of  $\mu\text{m}$  to nm scale layers
  - Soft black marking on metals
  - Copper ablation
- ▶ **Health Science**
  - Microsurgery
- ▶ **Instrumentation**
  - Super-continuum generation
  - Imaging
  - Fluorescence

For your application, find your pulsed laser solution

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**Technical specifications:**

	<b>XNP-130F-100<sup>(6)</sup></b>	<b>XNV-130F-000<sup>(6)</sup></b>
<b>Wavelength</b>	1064nm	355nm
<b>Repetition Rate</b>	>130kHz	>130kHz
<b>Constant Pulse width range (FWHM)<sup>(1)</sup></b>	<1.4ns	<0.8ns
<b>Output power<sup>(2)</sup></b>	>3.5W	>0.65W
<b>Output energy</b>	>25μJ	>5μJ
<b>Short term (30min) power stability<sup>(3)</sup></b>	<1.5% rms	<3% rms
<b>Long term (6 hrs) power stability<sup>(3)</sup></b>	<2.5% rms	<5% rms
<b>Beam profile</b>	Gaussian TEM00	Gaussian TEM00
<b>Beam diameter at output</b>	1.35mm±0.15mm	0.9mm±0.1mm
<b>Full angle divergence @1/e<sup>2</sup></b>		
<b>Horizontal</b>	<2 mrad	<2 mrad
<b>Vertical</b>	<2 mrad	<2 mrad
<b>M<sup>2</sup><sup>(4)</sup></b>	<1.2	<1.2
<b>Beam ellipticity<sup>(5)</sup></b>	<1.2	<1.2
<b>Polarization</b>	Linear PER>20dB	Linear PER>20dB
<b>Energy control function</b>	RS232, Analog 0-5V	RS232, Analog 0-5V
<b>Gating function</b>	TTL 0-5V	TTL 0-5V
<b>Options included (page 3)</b>	S	S

**Notes**

<b>(1)</b>	Measured with 1Ghz photodiode and 1GHz/10GS/s oscilloscope.
<b>(2)</b>	Measurement performed with an OPHIR thermal power sensor (OPHIR 3A-FS-SH)
<b>(3)</b>	For temperature variation < ± 3°C and < 3°C/hour, stability is measured with calorimeter - detector band [DC, 2Hz]
<b>(4)</b>	Mean average value M = √(XY), X and Y being respectively the major and minor axis of the ellipse
<b>(5)</b>	Beam ellipticity is calculated as the ratio of the main axis far field divergence
<b>(6)</b>	Contact factory for availability

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### Complementary information & options:

#### Environment Parameters

<b>Operating Temperature Range</b>	20-35°C
<b>Maximum Power Consumption</b>	<150W
<b>Storage Temperature</b>	0-50°C
<b>Shock of 11ms according to IEC 68-2-27, non operating</b>	25g
<b>Vibration 5Hz to 500Hz sinusoidal according to IEC 68-2-6</b>	2g

#### Certification

<b>Laser classification according to IEC 60825-1:2007</b>	4
<b>CDRH compliance</b>	Yes, except XNV-130F
<b>ROHs</b>	Yes

#### Package

<b>Laser Head dimensions, LxWxH<sup>(7)</sup></b>	300x156x116mm
<b>Laser Head weight</b>	4kgs
<b>Cable length between head and controller</b>	2m
<b>Controller dimensions, LxWxH</b>	284x332x73mm
<b>Controller weight</b>	4kgs

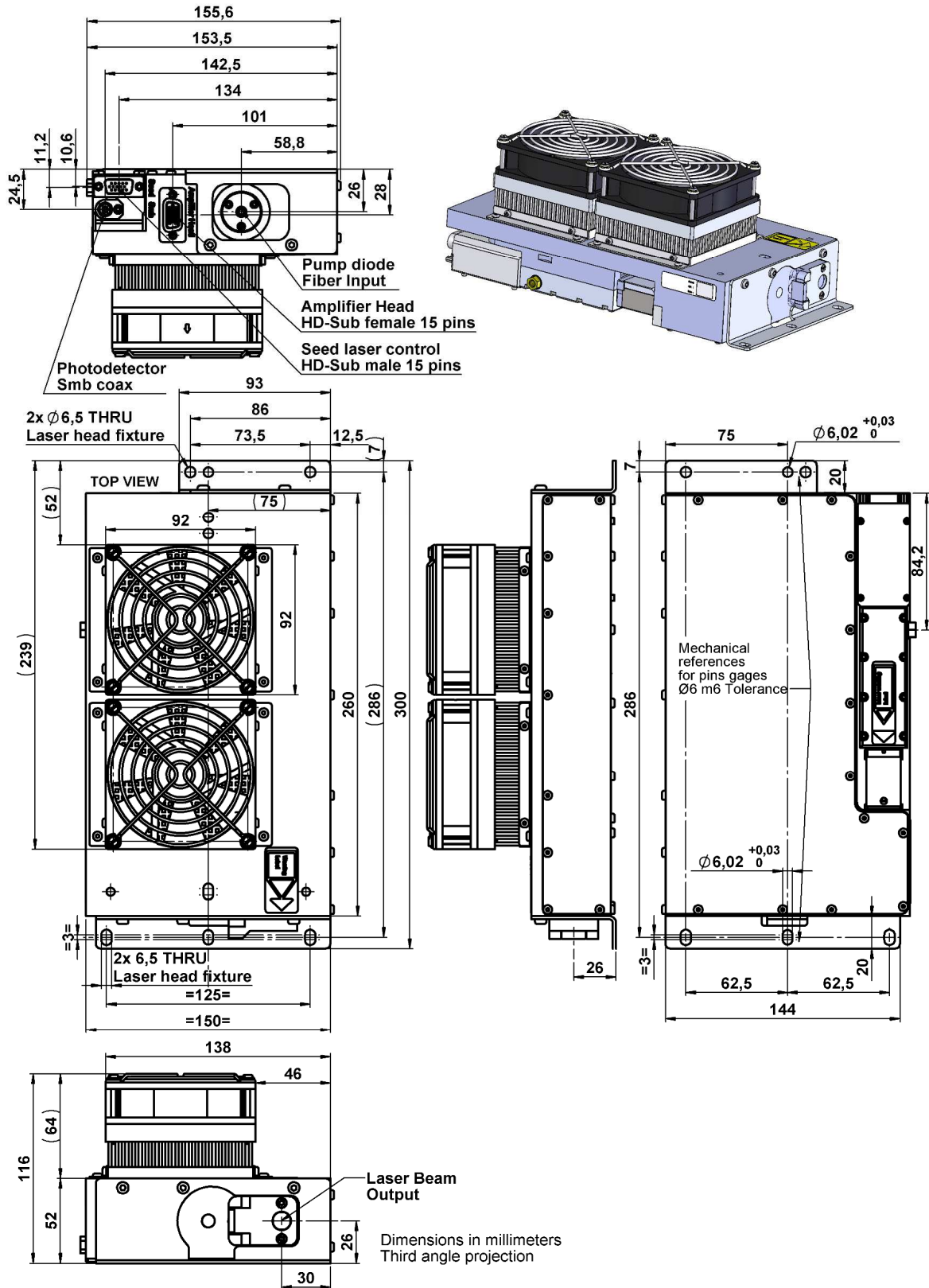
#### Options

<b>Synchronization output (S)</b>	TTL compatible output signal for synchronization/monitoring
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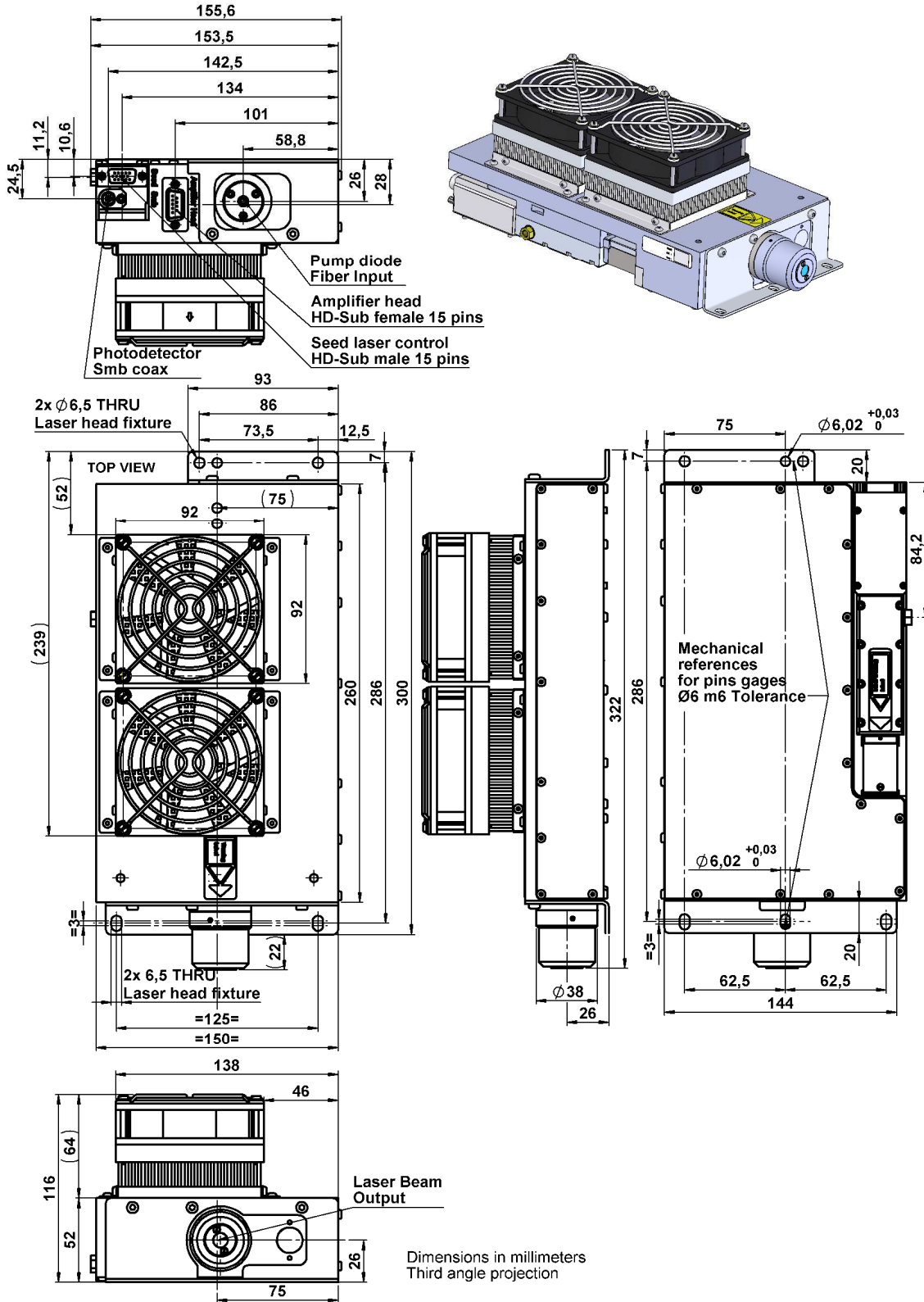
**CDRH Compliant Laser Head Mechanical Drawings: XNP-130F-100**



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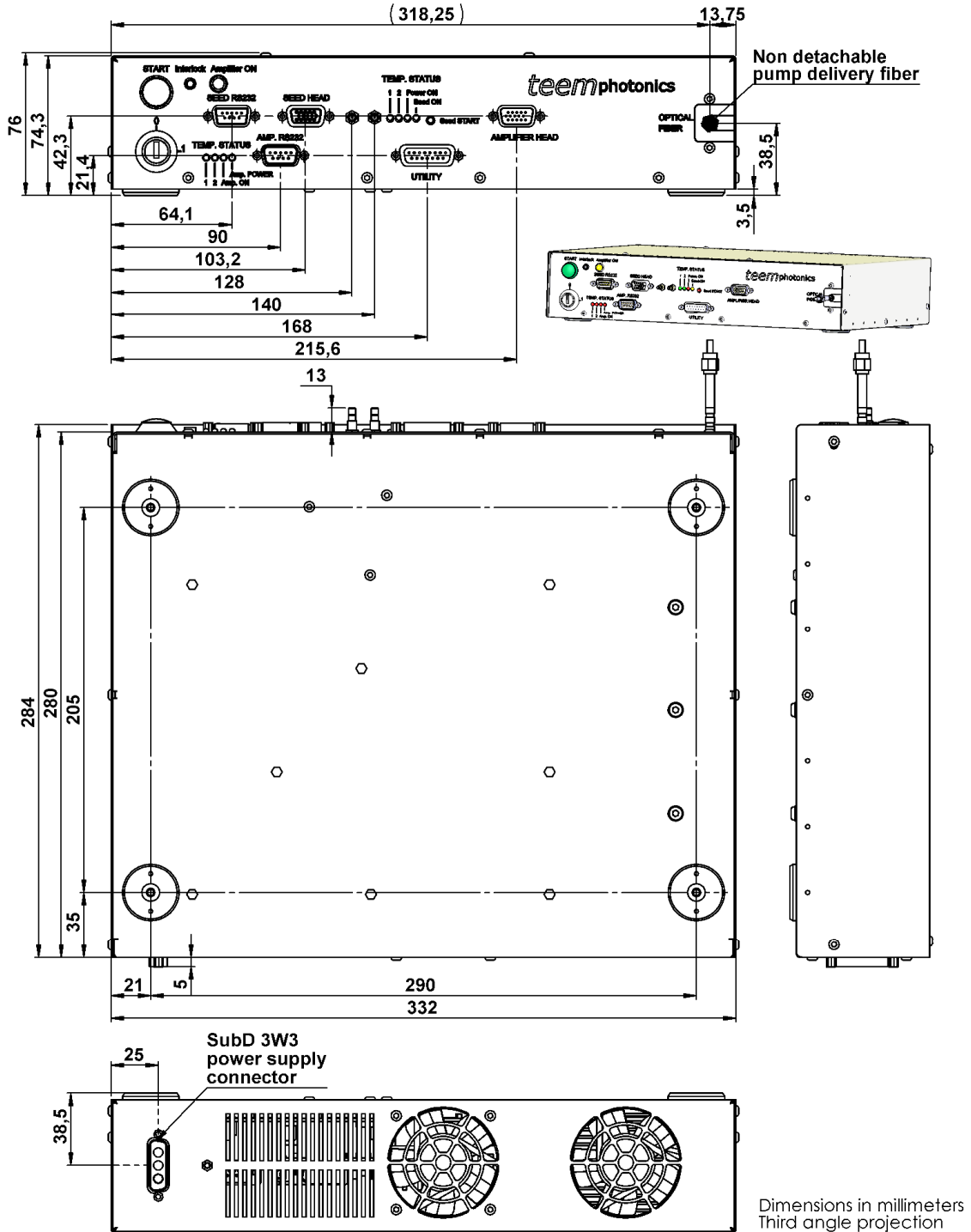
**Laser Head Mechanical Drawings: XNV-130F-000**



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**12VDC Controller Mechanical Drawings**



Dimensions in millimeters  
Third angle projection