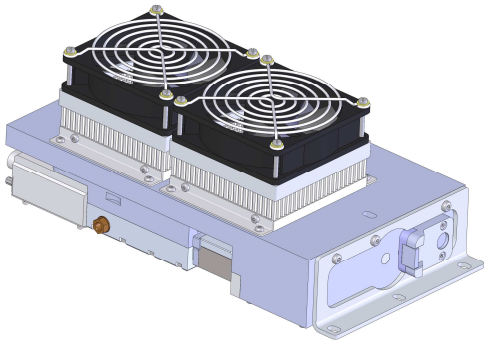
For your application, find your pulsed laser solution

teem photonics™

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 µm to nm scale layers
  - Soft black marking on metals
  - Copper ablation
- Health Science
  - Microsurgery
- Instrumentation
  - Super-continuum generation
  - Imaging
  - Fluorescence

Technical specifications:

	XNP-130F-100(6)	XNV-130F-000(6)
Wavelength	1064nm	355nm
Repetition Rate	>130kHz	>130kHz
Constant Pulse width range (FWHM) (1)	<1.4ns	<0.8ns
Output power(2)	>3.5W	>0.65W
Output energy	>25µJ	>5µJ
Short term (30min) power stability(3)	<1.5% rms	<3% rms
Long term (6 hrs) power stability (3)	<2.5% rms	<5% rms
Beam profile	Gaussian TEM00	Gaussian TEM00
Beam diameter at output	1.35mm±0.15mm	0.9mm±0.1mm
Full angle divergence @1/e²		
Horizontal	<2 mrad	<2 mrad
Vertical	<2 mrad	<2 mrad
M^2(4)	<1.2	<1.2
Beam ellipticity(5)	<1.2	<1.2
Polarization	Linear PER>20dB	Linear PER>20dB
Energy control function	RS232, Analog 0-5V	RS232, Analog 0-5V
Gating function	TTL 0-5V	TTL 0-5V
Options included (page 3)	S	S

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

Complementary information & options:

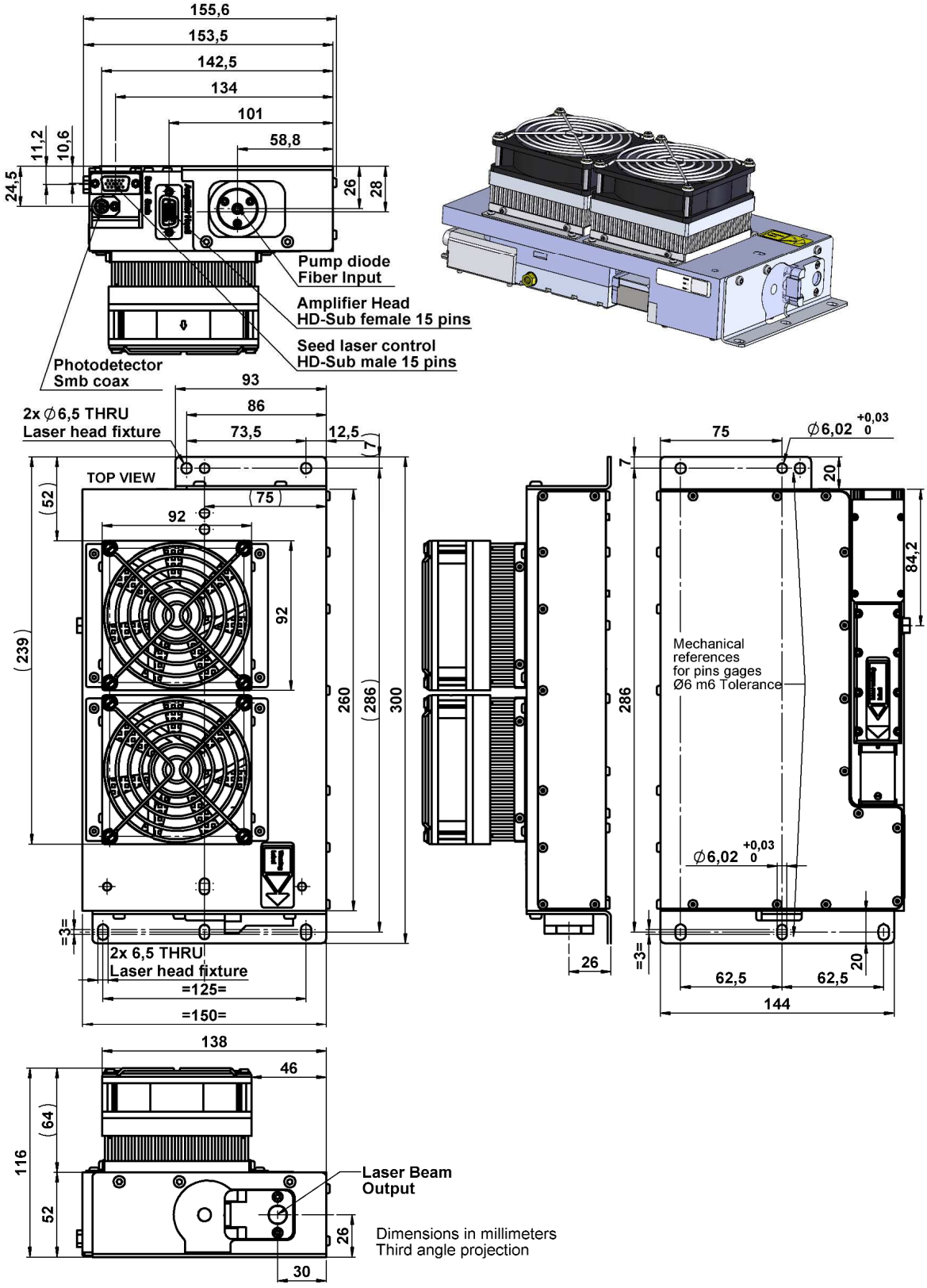
Environment Parameters	
Operating Temperature Range	20-35°C
Maximum Power Consumption	<150W
Storage Temperature	0-50°C
Shock of 11ms according to IEC 68-2-27, non operating	25g
Vibration 5Hz to 500Hz sinusoïdal according to IEC 68-2-6	2g

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

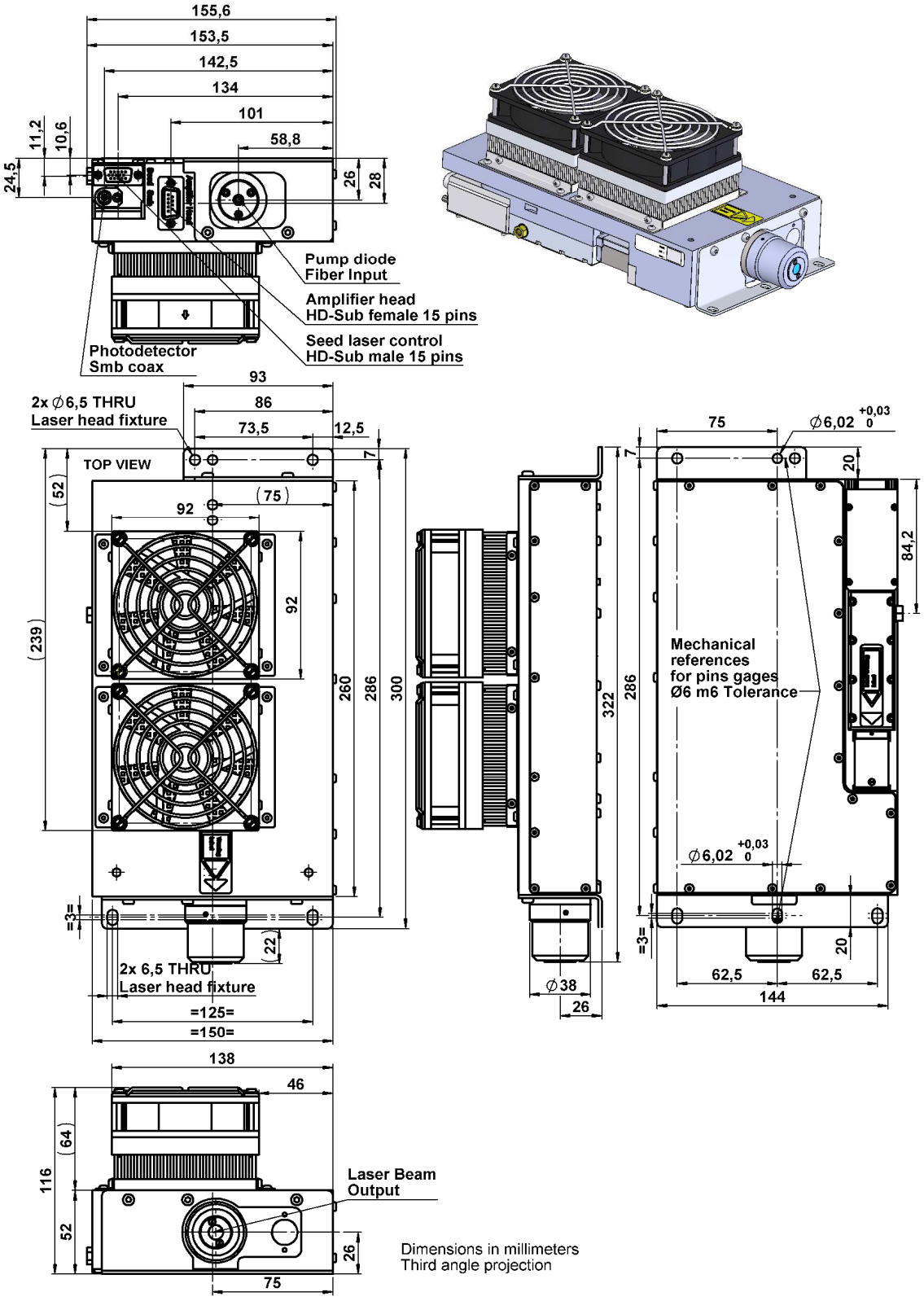
Package	
Laser Head dimensions, LxWxH(7)	300x156x116mm
Laser Head weight	4kgs
Cable length between head and controller	2m
Controller dimensions, LxWxH	284x332x73mm
Controller weight	4kgs

Options	
Synchronization output (S)	TTL compatible output signal for synchronization/monitoring

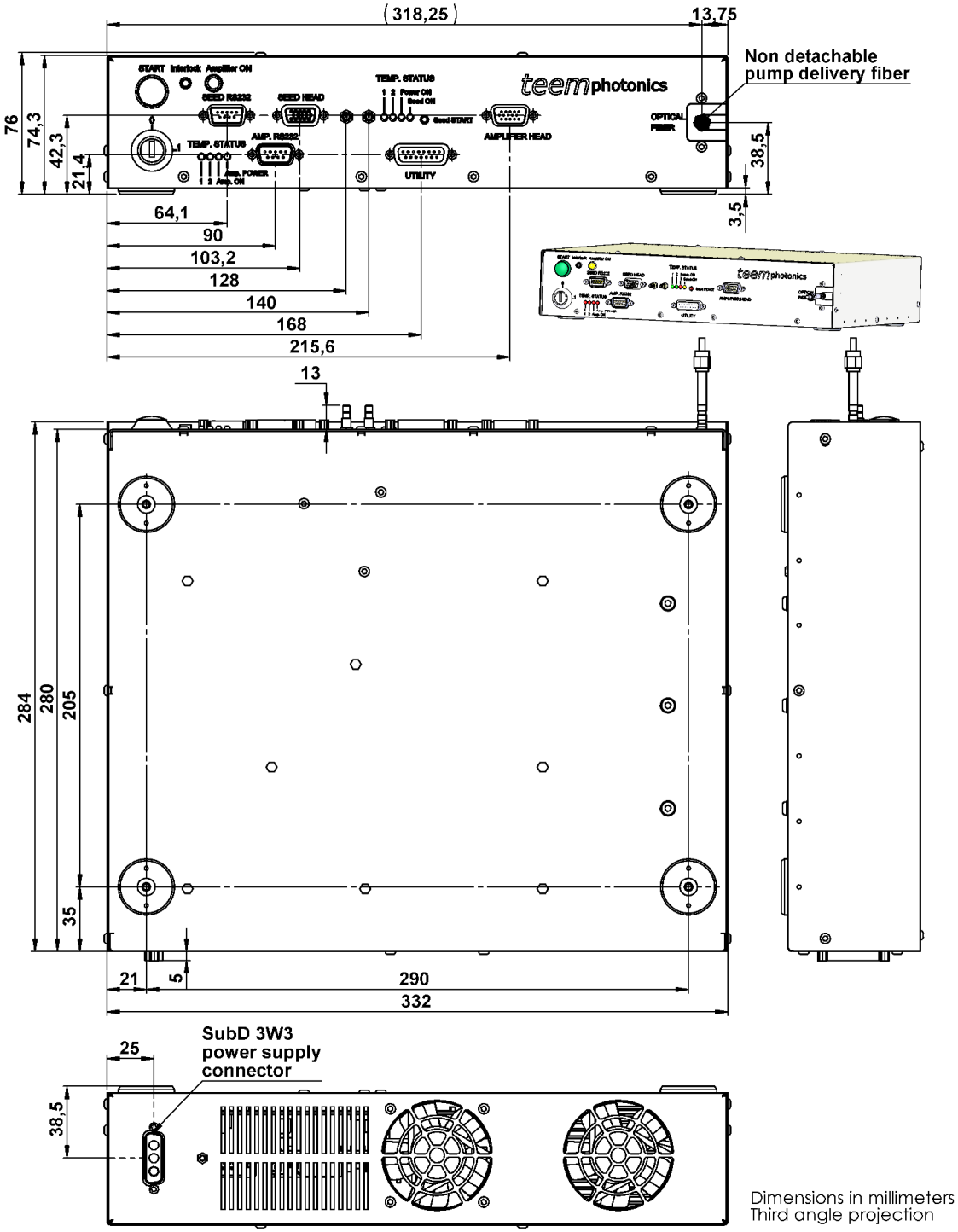
CDRH Compliant Laser Head Mechanical Drawings: XNP-130F-100



Laser Head Mechanical Drawings: XNV-130F-000



12VDC Controller Mechanical Drawings



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