SNV/U High Performances UV Microchip Series

KEY FEATURES

- **355 nm and 266 nm**
- **Repetition rate up to 30 kHz**
- **Ultrashort pulses down to 550 ps**
- **Multi-kW peak power**
- **Excellent beam quality**
- **Efficient, air-cooled**
- **Sealed package, extremely long life**

For generating high peak power ultraviolet pulses of a few hundred picoseconds, microchip lasers are economical, compact, and reliable. Micro-joule UV pulses are generated by harmonic conversion of the IR passively Q-switched Nd:YAG engine. Microchips are also easy to operate and service ; controllers can be used with every laser head model and swapped within minutes while conserving constant performances. The SNV and SNU series are designed for high average power, delivering multi-kW peak power at repetition rates up to 30 kHz.

APPLICATIONS

- Semiconductor inspection
- Laser-induced fluorescence (LIF)
- Micro dissection
- Organic compound marking and micromachining
- Biohazard detection
- Time resolved fluorescence
- Laser Induced Breakdown Spectroscopy (LIBS)
- Biophotonics

TECHNICAL SPECIFICATIONS

New!

	SNV-05P-100	SNV-20F-100(7)	SNV-40P-100	SNV-60P-100	SNU-02P-100	SNU-20F-100
Wavelength	355nm	355nm	355nm	355nm	266nm	266nm
Repetition Rate	>5kHz	>19kHz	>19kHz	>29kHz	>6kHz	>19kHz
Pulse duration (FWHM) (1)	<0.6ns	<0.6ns	<0.6ns	<0.6ns	<0.6ns	<0.6ns
Output power(2)	>5mW	>10mW	>40mW	>58mW	>2mW	>10mW
Output energy	>0.5µJ	>0.5µJ	>2µJ	>2µJ	>0.3µJ	>0.5µJ
Peak Power	>0.7kW	0.7kW	> 5 kW	> 5 kW	>0.5kW	>0.7kW
Short term (1min) power stability (3)	<±2%	<±2%	<±2%	<±2%	<±2%	<±2%
Long term (6 hrs) power stability(3)	<±5%	<±5%	<±5%	<±5%	<±5%	<±5%
Beam profile	Gaussian TEM00	Gaussian TEM00	Gaussian TEM00	Gaussian TEM00	See note (5)	See note (5)
Full angle divergence Horizontal@1/e² Vertical@1/e²	8.5±2mrad 6±2mrad	11±2mrad 7±2mrad	11±2mrad 7±2mrad	11±2mrad 7±2mrad	11±2mrad <1.5mm(6)	11.5±2mrad 0.65±0.25mrad
M²(4)	<1.3	<1.3	<1.3	<1.3	<1.3	<1.4
Gaussian fit in far field	N/A	N/A	N/A	N/A	N/A	>85%
Polarization	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB
Package dimensions	180x55x36mm	186x60x36mm	186x60x36mm	186x60x36mm	180x55x36mm	210x60x36mm
Package weight	400g	500g	500g	500g	400g	500g
Options (table p3)	C	C	C	C	C	C
Options included	-	S	S	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 exhibits different profile in horizontal (Gaussian) and vertical ((sin x /x)² in far-field) plan
(6) 5%/95% diameter, at 300mm from laser output
(7) Contact factory for availability

COMPLEMENTARY INFORMATION & OPTIONS

Environment Parameters	
Operating Temperature Range	15-35°C
Maximum Laser Head Baseplate Temperature	<50°C
Maximum Power Consumption	<40W
Laser Head Thermal Dissipation	<15W
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

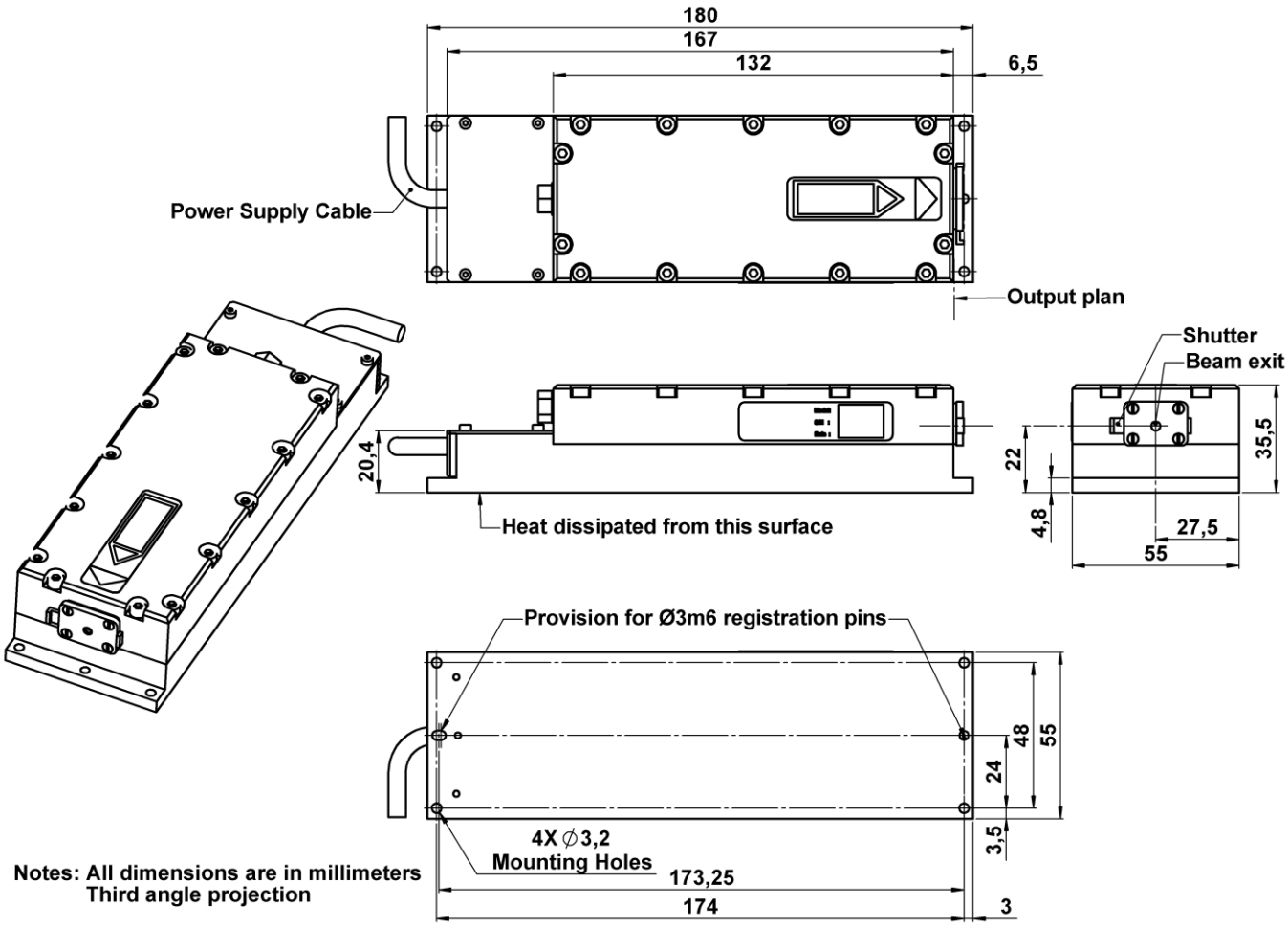
Certification	
Laser classification according to IEC 60825-1:2007	3B for SNV lasers 4 for SNU-02P and SNU-20F
CDRH	Yes, if used with a -DR1 controller
ROHs	Yes

Options	
Collimation (C)	With collimated beam
Synchronization output (S)	TTL compatible output signal for synchronization/monitoring

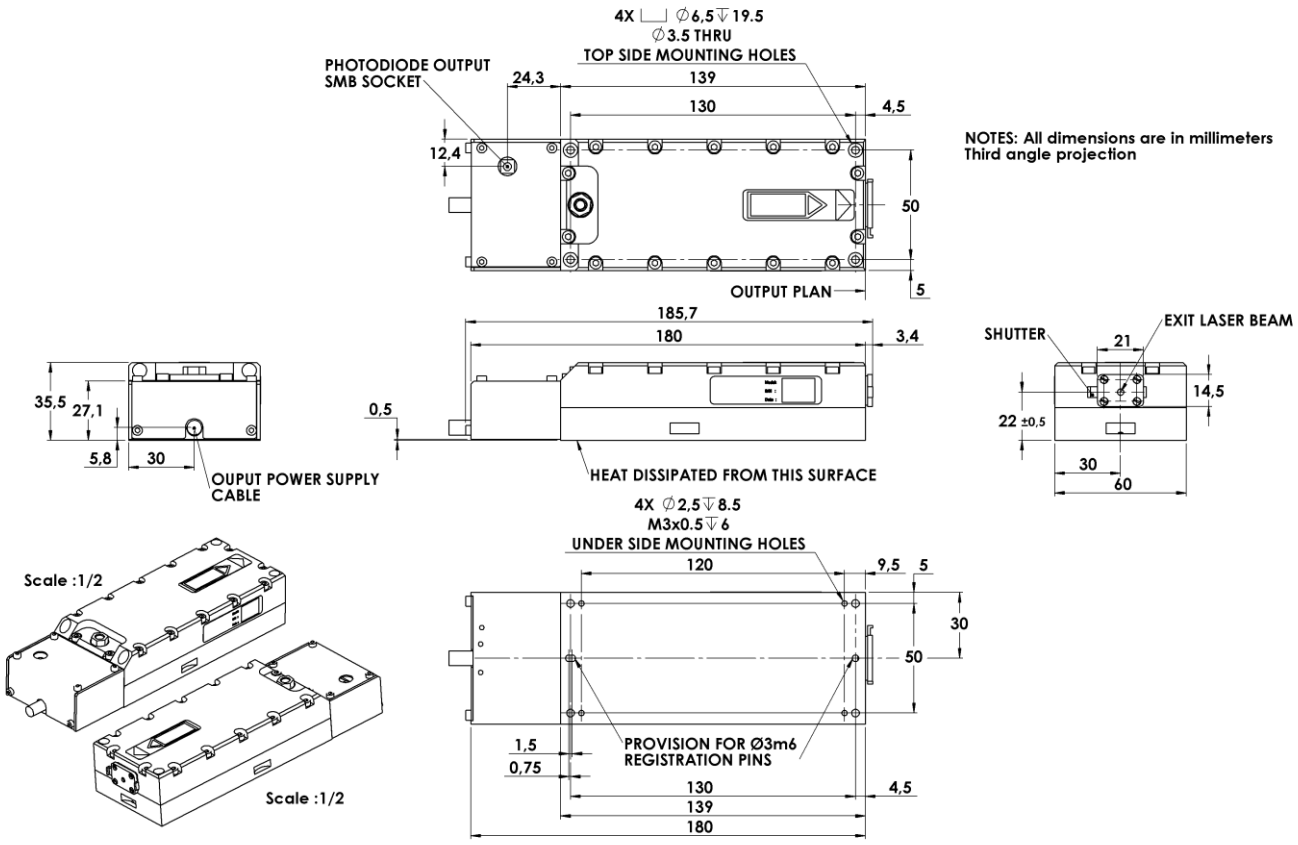
Available Controller Types

Model for the SNV-60-100 laser	Model for the other SNV and SNU lasers	Type	Input Power	CDRH
MLC-05A-DR1	MLC-03A-DR1	Desktop	100-240 V AC	Yes
MLC-05A-MR1	MLC-03A-MR1	Module	12 V DC	No
MLC-05A-BR1	MLC-03A-BR1	Board	12 V DC	No

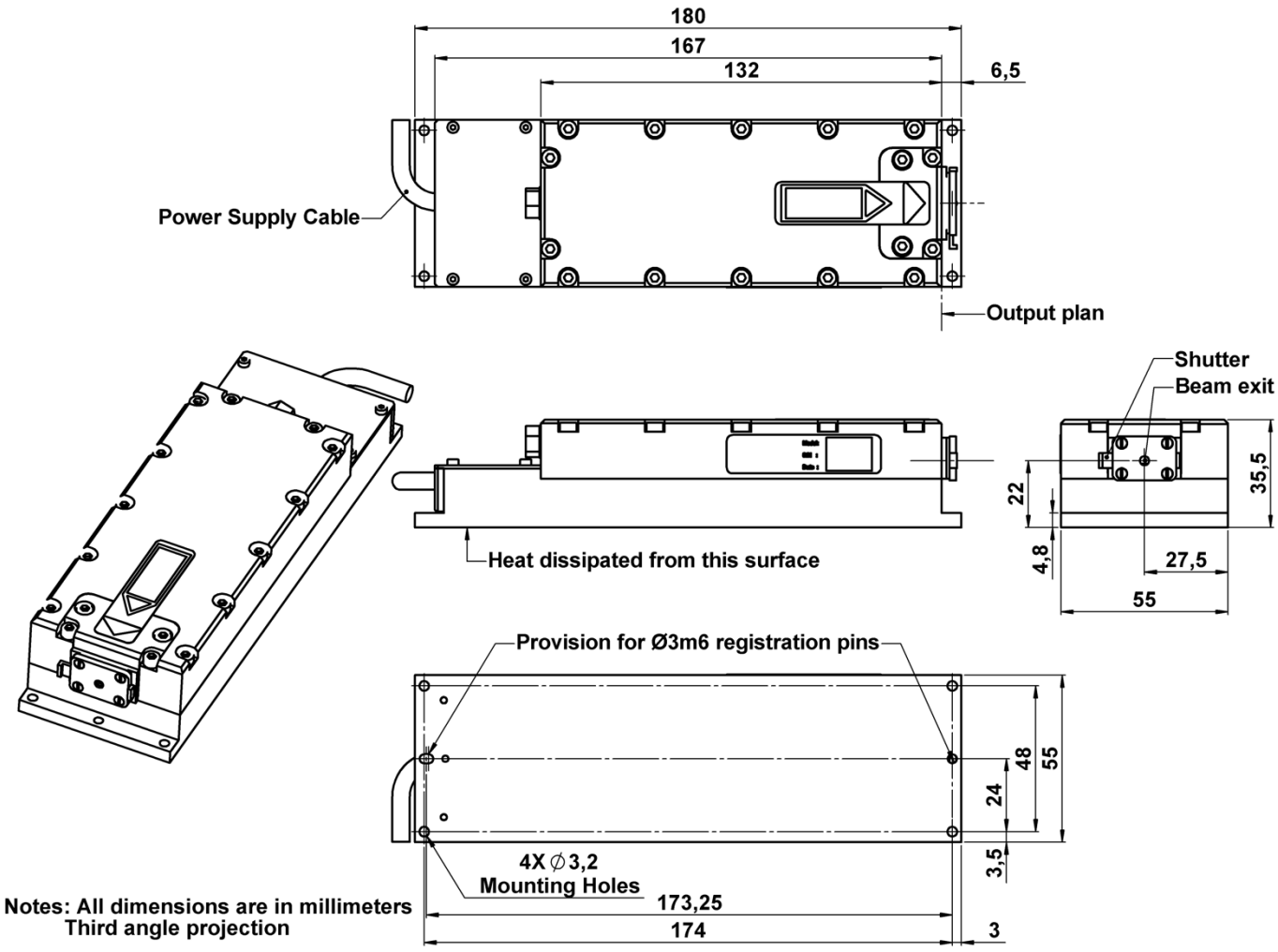
CDRH LASER HEAD MECHANICAL DRAWINGS: SNV-05P-100



CDRH LASER HEAD MECHANICAL DRAWINGS: SNV-20F-100, SNV-40P-100 & SNV-60P-100



CDRH LASER HEAD MECHANICAL DRAWINGS: SNU-02P-100



CDRH LASER HEAD MECHANICAL DRAWINGS: SNU-20F-100