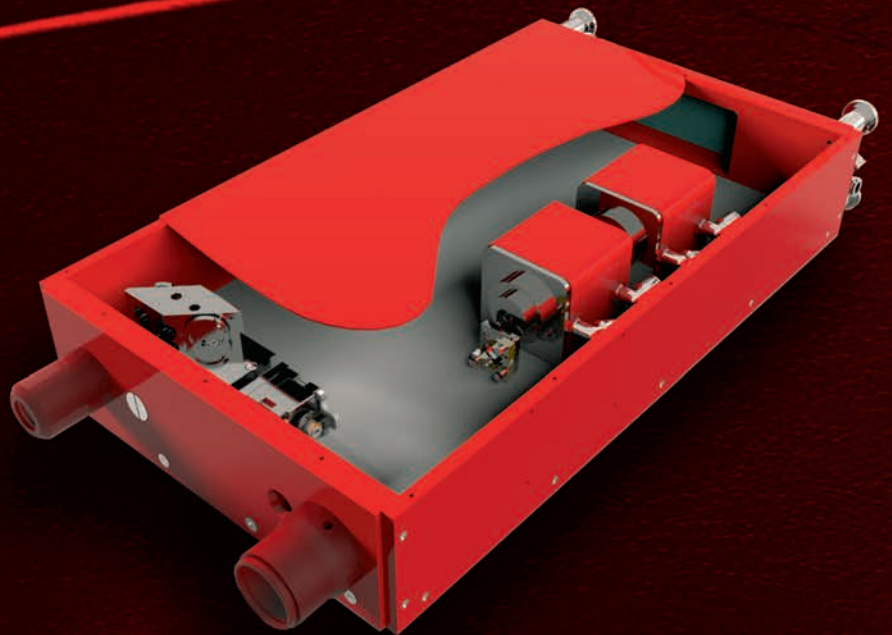


CATALOGUE OF LASER SYSTEMS AND COMPONENTS



LASER SYSTEMS
GAIN MODULES
MODULATORS
DRIVERS
OPTOMECHANICAL COMPONENTS
ELECTRONIC COMPONENTS
SERIAL AND CUSTOM DESIGN

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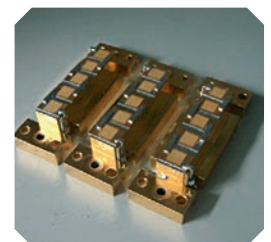
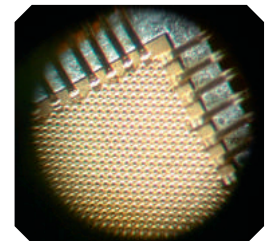
LASER TECHNOLOGY BY MELSYTECH

Melsytech Ltd. (Nizhny Novgorod Region, Russia) is an international developer, manufacturer and supplier of high power laser systems and components. MELSYTECH Ltd. develops and manufactures all well-known laser types - Nd:Yag, diode, KTP, Erbium, Holmium, Thulium, Q-switched and picosecond lasers - for such applications as cosmetology, aesthetic medicine and industrial processing/cutting/engraving of metals and other materials.



The enterprise was founded in 2010 and completely shifted to diode-pumping technology. The diode pumping technology offers higher efficiency, improved reliability and provides various technical capabilities. The company has in-house production of laser and optical components, modules, and accessories that provide for full cycle manufacturing of laser systems. Melsytech Ltd. will also start in-house production of VCSEL, diodes and diodes bars in 2018.

	Flash-lamp pumping	Diode pumping
Technology	Conventional	Advanced
Laser source life time	Flash lamp, up to a year	Diode, five years minimum
Optical power and energy	High	High
Maintenance	Third-party, high costs	User, low costs
Pulse repetition rate	1-15Hz	1-100Hz
Emission efficiency	<5%	~50%
Power consumption	High	Low
Cost of ownership	High	Low



Melsytech Ltd. today:

-  A leading company on the Russian and CIS market for innovations and production research in laser technologies for medical and industrial application.
-  A large network of distribution in Russia and partnerships overseas.
-  A holder of patents for unique proprietary technologies.
-  A team of qualified professionals, including medical advisers, and engineers of doctorate and highest academic degree.
-  Quality, reliability, efficiency of laser systems.
-  Full in-house production cycle - design and development, manufacturing of components, assembly.

DIODE-PUMPED LASER SYSTEMS

CW Diode-Pumped Laser Systems, Nd:YAG and KTP

Serial

PRODUCT NUMBER

Three-wave systems

C100F-NDYAGKTP-TA

C50F-NDYAGKTP-TA

Two-wave systems

C700G-NDYAGKTP-TA

C100F-NDYAG-TA

C50F-NDYAG-TA

Single wave systems

C700G-NDYAG-0A

DESCRIPTION

A solid state quasi-continuous laser system with 808nm diode pumping of Nd:YAG rod (1064nm) and second harmonic generation based on KTP rod (532nm) and Q-switched modes at both 1064 and 532nm wavelengths.

Cosmetology / Aesthetic Medicine

Industrial - Engraving/ Cutting/ Marking

FEATURES

- solid aluminum case
- 808nm diode pumping
- active rods Nd:YAG (1064nm) and KTP (532nm)
- optomechanical wavelength switching inside the module
- continuous and quasicontinuous laser emission
- air or water closed-circuit cooling system
- Peltier elements to ensure selected temperature for components of the system
- temperature sensor outputs inside the module
- step motor outputs
- encoders for exact position control of optomechanical components
- optical connection for a 600micron optical fiber or open aperture 5-15mm



CONFIGURATION

- Optical module
- Acoustooptical modulator
- Acoustooptical modulator driver
- Laser diode
- Laser diode driver
- System power supply units
- Controller
- Cooling system

SUPPLY OPTIONS

- laser system + RS485/USB master controller + laser diode driver
- laser system only (laser diode power and control, thermal stabilization, wavelength switching is ensured by Customer)
- water or air cooling system
- fiber or optical output connection
- customized design

CW Diode-Pumped Laser Systems, Nd:YAG and KTP

Serial

THREE-WAVE SYSTEMS

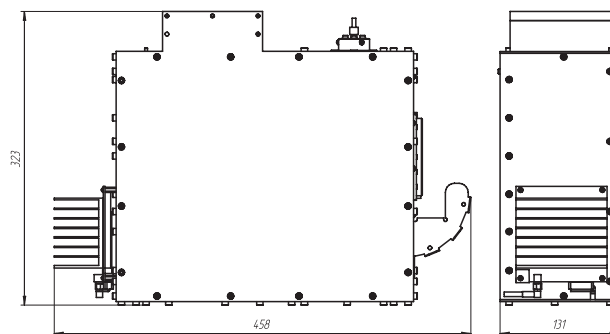
Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Average output, W	Pumping power, W
C100F-NDYAGKTP-TA	808	Continuous	≥ 90	≥ 10 ms	No less than 50	90	100
	1064	Q-Switch	1	20-200	30,000	30	
	532	Q-Switch	1	20-200	15,000	15	
C50F-NDYAGKTP-TA	808	Continuous	≥ 45	≥ 10 ms	No less than 50	45	50
	1064	Q-Switch	0.5	20-200	30,000	15	
	532	Q-Switch	0.5	20-200	15,000	7	

TWO-WAVE SYSTEMS

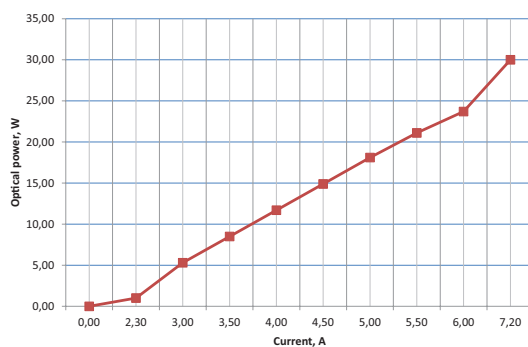
Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Average output, W	Pumping power, W
C700G-NDYAGKTP-TA	1064	Q-Switch	33	10-50	6,000	200	700
	532	Q-Switch	13	10-50	6,000	80	
C100F-NDYAG-TA	1064	Q-Switch	1	20-200	30,000	30	
	532	Q-Switch	1	20-200	15,000	15	
C50F-NDYAG-TA	808	Continuous	≥ 45	≥ 10 ms	No less than 50	45	50
	1064	Q-Switch	0.5	20-200	30,000	30	

SINGLE WAVE SYSTEMS

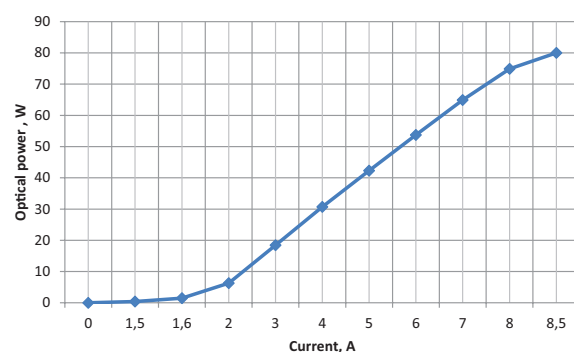
Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Average output, W	Pumping power, W
C700G-NDYAG-0A	1064	Q-Switch	33	20-200	6,000	200	700



Power 1064nm



Power 808nm



Pulsed Diode-Pumped Laser Systems, Nd:YAG and KTP

Serial

PRODUCT NUMBER

Two-wave systems

I20kG-NDYAGKTP-TA
I7kG-NDYAGKTP-TA
I3.5kG-NDYAGKTP-TA
I3.5kG-NDYAGKTP-TP

Single wave systems

I14kG-NDYAG
I10kG-NDYAG
I3.5kG-NDYAG

DESCRIPTION

A solid state quasi-continuous laser system with 808nm diode pumping of Nd:YAG rod (1064nm) and second harmonic generation based on KTP rod (532nm) and Q-switched modes at both 1064nm and 532nm wavelengths.

Cosmetology / Aesthetic Medicine

Industrial - Engraving/ Cutting/ Marking



FEATURES

- solid aluminum case
- VCSEL diode pumping
- active rods Nd:YAG (1064nm) and KTP (532nm)
- optomechanical wavelength switching inside the module
- pulsed and quasicontinuous laser emission
- active Q-switch
- closed-circuit water cooling system
- Peltier elements to ensure selected temperature for components of the system
- temperature sensor outputs inside the module
- step motor outputs
- encoders for exact position control of lenses
- two optical outputs: 1mm optical fiber and open aperture 10-20mm

CONFIGURATION

- Optical module complete with an electrooptical modulator driver
- Laser diode driver
- System power supply units
- Controller
- Cooling system

SUPPLY OPTIONS

- laser system + RS485/USB master controller + laser diode driver
- laser system only (laser diode power and control, thermal stabilization, wavelength switching is ensured by Customer)
- fiber and free optical output connection
- customized design

Pulsed Diode-Pumped Laser Systems, Nd:YAG and KTP

Serial

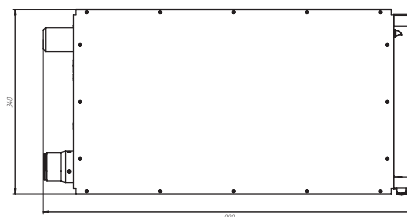
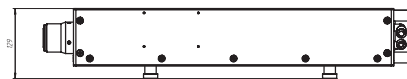
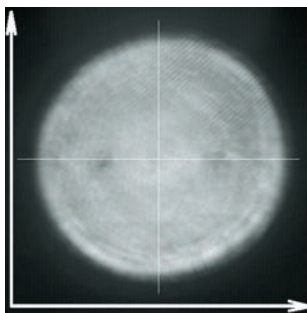
TWO-WAVE SYSTEMS

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Pumping power, W
120kG-NDYAGKTP-TA	1064	Free running	20J	≤40ms	≤100	20,000
	1064	Q-Switch	1.1J	7	≤100	20,000
	532	Q-Switch	0.5J	7	≤100	
17kG-NDYAGKTP-TA	1064	Free running	10J	≤40ms	≤100	7,000
	1064	Q-Switch	300	7	≤100	7,000
	532	Q-Switch	200	7	≤100	
13.5kG-NDYAGKTP-TA	1064	Free running	5J	≤40ms	≤100	3,500
	1064	Q-Switch	150	7	≤100	3,500
	532	Q-Switch	80	7	≤100	
13.5kG-NDYAGKTP-TP	1064	Free running	6J	≤40ms	≤100	3,500
	1064	Q-Switch	200	25-40	≤100	3,500
	532	Q-Switch	100	25-40	≤100	

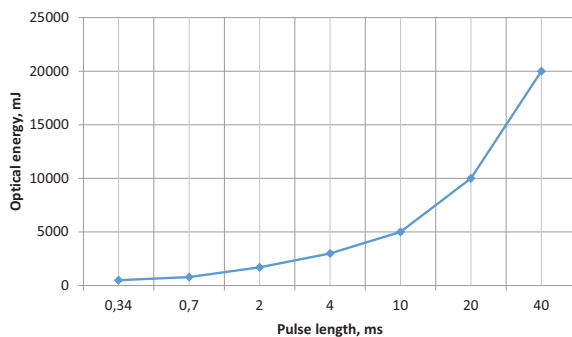
SINGLE WAVE SYSTEMS

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ms	Pulse repetition rate, Hz	Pumping power, W
114kG-NDYAG	1064	Free running	70J	≤50ms	≤100	14,000
110kG-NDYAG	1064	Free running	50J	≤50ms	≤100	10,000
13.5kG-NDYAG	1064	Free running	17J	≤50ms	≤100	3,500

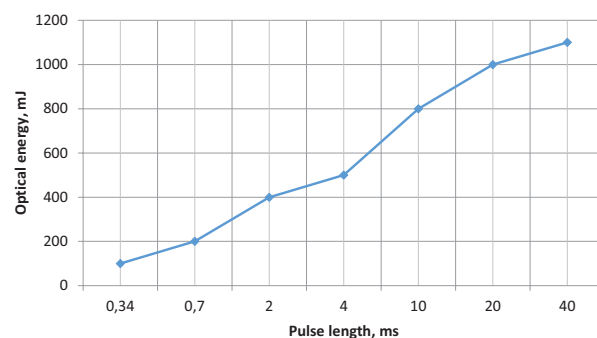
Flat top profile



Power 1064nm



Power 532nm



CW Diode-Pumped Laser Systems, Tm/Ho

Serial

PRODUCT NUMBER

Two-wave systems

C2.7kG-TMYAPHO
C900G-TMYLFHO
C1.5kG-TMYLFHO

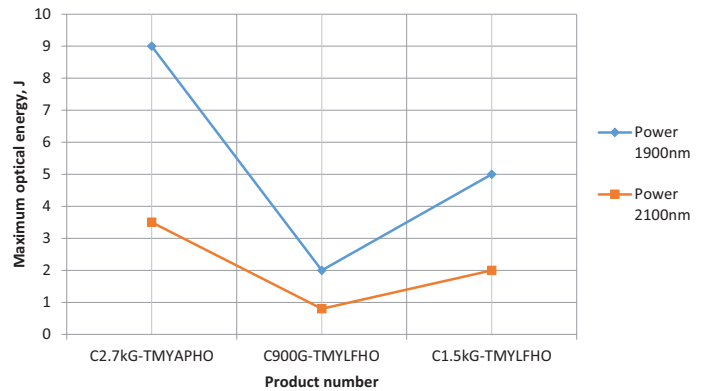
Single wave systems

C2.7kG-TMYAP
C900G-TMYLF
C1.5kG-TMYLF

DESCRIPTION

A solid state CW laser system with Tm:YAP (Tm:YLF) and Ho:YAG.

Aesthetic medicine / Surgery / Cosmetology



FEATURES

- solid aluminum case
- diode pumping
- active rods Tm:YLF (1910nm) or Tm:YAP (1935nm) and Ho:YAG (2100nm)
- optomechanical wavelength switching inside the module
- flowing water cooling system
- Peltier elements to ensure selected temperature for components of the system
- temperature sensor outputs inside the module
- step motor outputs
- encoders for exact position control of lenses
- optical connection for a 600/1,000micron optical fiber or open aperture 10-20mm

SUPPLY OPTIONS

- laser system + RS485/USB master controller + laser diode driver
- laser system only (laser diode power and control, thermal stabilization, wavelength switching is ensured by Customer)
- fiber or free optical output connection
- customized design

CONFIGURATION

- Optical module complete with an acoustooptical modulator driver
- Laser diode driver
- System power supply units
- Controller
- Cooling system

TWO-WAVE SYSTEMS

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Pumping power, W
C2.7kG-TMYAPHO	1935	Free running	9J	≤40ms	≤100	2,700
	2100	Free running	3.5J	≤40ms	≤100	
C900G-TMYLFHO	1910	Free running	2J	≤40ms	≤100	900
	2100	Free running	0.8J	≤40ms	≤100	
C1.5kG-TMYLFHO	1910	Free running	5J	≤40ms	≤100	1,500
	2100	Free running	2J	≤40ms	≤100	

SINGLE WAVE SYSTEMS

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Pumping power, W
C2.7kG-TMYAP	1935	Free running	9J	≤40ms	≤100	2,700
C900G-TMYLF	1910	Free running	2J	≤40ms	≤100	900
C1.5kG-TMYLF	1910	Free running	5J	≤40ms	≤100	500

Pulsed Diode-Pumped Laser Systems, Tm/Ho

Serial

PRODUCT NUMBER

Two-wave systems

I2.7kG-TMYAPHO-TA

I1.5kG-TMYLFHO-TA

I1.5kG-TMYAPHO-TA

Single wave systems

I10kG-TMYAP

I10kG-TMYLF

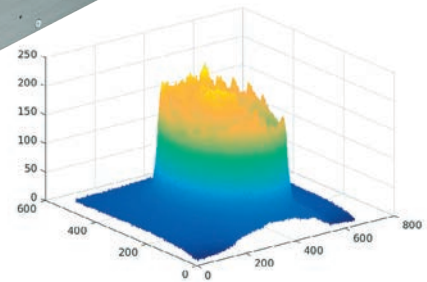
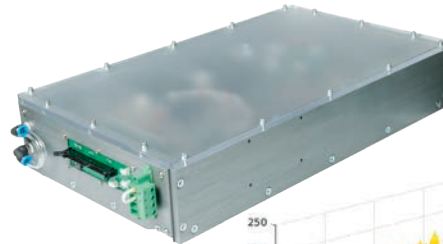
I900G-TMYLF

I1.5kG-TMYLF

DESCRIPTION

A solid state pulsed laser system with Tm:YAP (Tm:YLF) and Ho:YAG.

Aesthetic medicine / Surgery



FEATURES

- solid aluminum case
- diode pumping
- active rods Tm:YLF (1910nm) or Tm:YAP (1935nm) and Ho:YAG (2100nm)
- optomechanical wavelength switching inside the module
- flowing water cooling system
- Peltier elements to ensure selected temperature for components of the system
- temperature sensor outputs inside the module
- step motor outputs
- encoders for exact position control of lenses
- optical connection for a 600/1,000micron optical fiber or open aperture 10-20mm

CONFIGURATION

- Optical module
- Electrooptical modulator driver
- Laser diode driver
- System power supply units
- Controller

SUPPLY OPTIONS

- laser system + RS485/USB master controller + laser diode driver
- laser system only (laser diode power and control, thermal stabilization, wavelength switching is ensured by Customer)
- fiber or optical output connection
- customized design

TWO-WAVE SYSTEMS

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Pumping power, W
I2.7kG-TMYAPHO-TA	1935	Free running	6J	≤40ms	≤15	2,700
	2100	Q-Switch	200mJ	25-40ns	≤3000	
I1.5kG-TMYLFHO-TA	1910	Free running	6J	≤40ms	≤100	1,500
	2100	Q-Switch	200mJ	25-40ns	≤100	
I1.5kG-TMYAPHO-TA	1935	Free running	6J	≤20ms	≤100	1,500
	2100	Q-Switch	200mJ	25-40ns	≤3000	

SINGLE WAVE SYSTEMS

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ns	Pulse repetition rate, Hz	Pumping power, W
I10kG-TMYAP	1935	Free running	10J	≤4ms	≤15	10,000
I10kG-TMYLF	1910	Free running	10J	≤14ms	≤10	10,000
I900G-TMYLF	1910	Free running	1J	≤4ms	≤15	900
I1.5kG-TMYLF	1910	Free running	1.5J	≤14ms	≤10	1,500

LASER GAIN MODULES

Pulsed Laser Gain Module Nd:YAG

Serial

PRODUCT NUMBER

I2D-140-40YAG	I2D-110-50YAG
I2D-140-50YAG	I18-70-80YAG
I2D-110-60YAG	I41-120-90YAG

DESCRIPTION

A pulsed diode-pumped Nd:YAG laser gain module. The gain module is used in solid state laser systems configurations for various applications. Gain module cooling - water cooling.

FEATURES

- safe and rigid housing
- VCSEL diode pumping
- flat top beam profile

CONFIGURATION

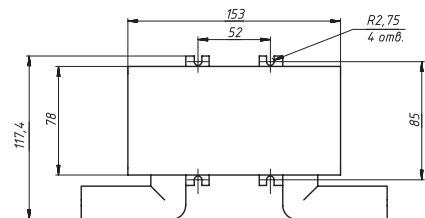
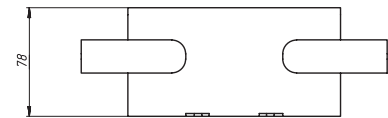
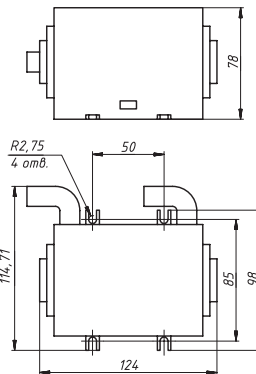
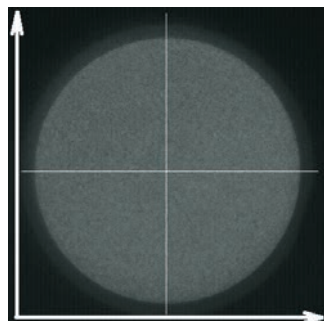
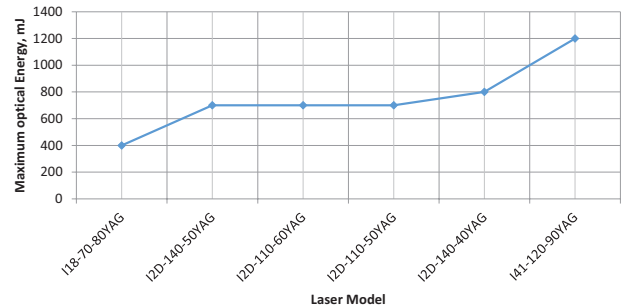
- a laser gain module
- a crystal rod
- a driver

SUPPLY OPTIONS

- laser gain module + laser diode driver
- laser gain module only (driver is provided by Customer)
- customized design



Maximum Energy mJ



UPON REQUEST

Wave length, nm	Operation mode	Pulse energy, mJ (300µs)	Pumping power, W	Rod type	Rod diameter x length, mm
1064	Pulsed	80 - 5,000	1,000 – 30,000	Nd:YAG	Diameter 3 to 15mm

CW Laser Gain Module Nd:YAG

Serial

PRODUCT NUMBER

C18-60-80YAG



DESCRIPTION

A Continuous wave diode-pumped Nd:YAG laser gain module. The gain module is used in solid state laser systems configurations for various applications. Gain module cooling - water cooling.

FEATURES

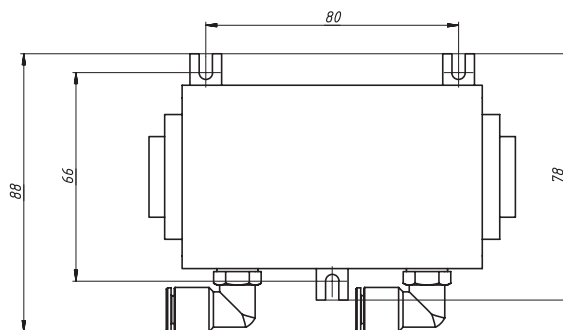
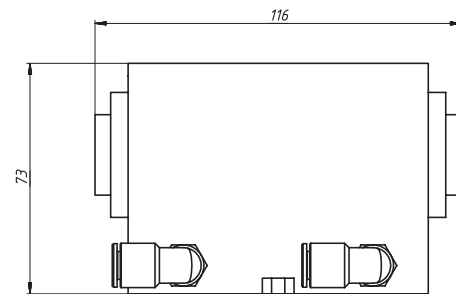
- safe and rigid housing
- optimized for long service life performance
- diode pumping

CONFIGURATION

- a laser gain module
- a crystal rod
- a driver

SUPPLY OPTIONS

- laser gain module + laser diode driver
- laser gain module only (driver is provided by Customer)
- customized design



SPECIFICATION

Product number	Wave length, nm	Operation mode	Output, W	Pumping power, W	Rod type	Rod diameter x length, mm
C18-60-80YAG	1064	Continuous	230	700	Nd:YAG	6x80

UPON REQUEST

Wave length, nm	Operation mode	Output, W	Pumping power, W	Rod type	Rod diameter x length, mm
1064	Continuous	40 - 400	120 - 1,400	Nd:YAG	Diameter 3 to 15mm

CW/Pulsed/Long-pulsed Laser Gain Module Tm:YAP/Tm:YLF

Serial




PRODUCT NUMBER

C18-60-60TYAP
I18-30-40TYLF
I2D-50-30TYLF
I2D-50-30TYAP




DESCRIPTION

A solid state Tm:YAP/Tm:YLF laser gain module with continuous/pulsed/long-pulsed diode pumping. The gain module is used in solid state laser systems configurations for various applications. Gain module cooling - water cooling.




FEATURES

-  safe and rigid housing
-  diode pumping
-  extended service life design

CONFIGURATION

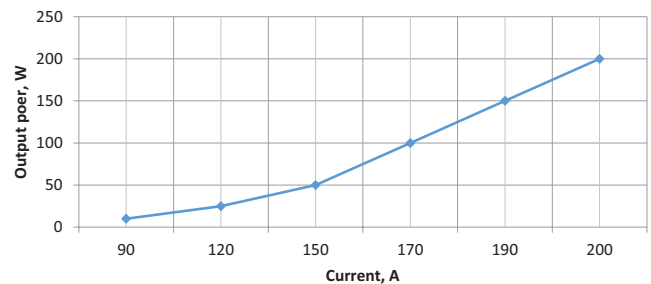
-  a laser gain module
-  a crystal rod
-  a driver

SUPPLY OPTIONS

-  laser gain module + laser diode driver
-  laser gain module only (driver is provided by Customer)
-  customized design



WA characteristics



SPECIFICATION

Product number	Wave length, nm	Operation mode	Pulse energy, mJ	Pulse length, ms	Output power, W (for continuous wave modules)	Pumping power, W	Rod type	Rod diameter x length, mm
C18-60-60TYAP	1935	Continuous		0.4	125	800	Tm:YAP	6x60
I18-30-40TYLF	1910	Pulsed	1	0.7	40	900	Tm:YLF	3x40
I2D-50-30TYLF	1910	Long pulsed	6	20		1,500	Tm:YLF	3x40
I2D-50-30TYAP	1935	Continuous			200	2,500	Tm:YAP	3x50

ELECTRONIC COMPONENTS

Acoustooptical Modulator

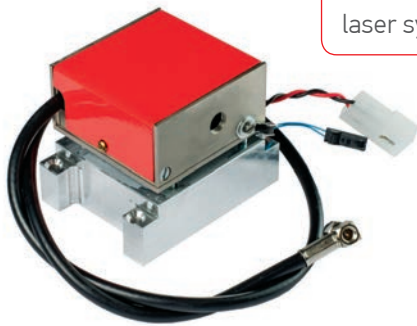
Serial

PRODUCT NUMBER

AOM-80/40-1.5

DESCRIPTION

Acoustooptical switch is used in quasi-continuous laser systems.



FEATURES

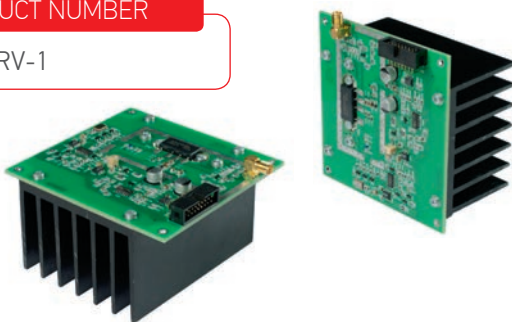
- Wavelength – 1064nm
- Laser polarization – linear, normal to mounting surface.
- Average laser power output is no more than 40W
- Anti-reflection at 1064nm (residual reflection $\rho < 0.03\%$)
- Diffraction efficiency - min 70%
- Material - glass, rod length - 45mm
- Aperture - 2mm
- Length - 40mm
- Control signal - 80MHz, power - min 10W

Acoustooptical Modulator Driver

Serial

PRODUCT NUMBER

AOMDRV-1



DESCRIPTION

The acoustooptical modulator driver is designed to feed an acoustooptical modulator (AOM) type AOM-80/40-1.5 (or similar) with high frequency voltage with dual amplitude modulation (on, off) binary signal.

High stability of the carrier wave is secured via an integrated master frequency generator with crystal control.

The driver features an integrated protection from overheating and load mismatch.

The driver connects to an external regulated DC power supply.

SPECIFICATION

DC power supply voltage, V	14 ±10%	
Max consumption current, A	2	under rated load resistance and supply voltage 14V
Min output power, W	10	
Carrier frequency, MHz	80 ± 0.005%	
Load resistance rating, Ohm	50	
Modulation type	amplitude	
Modulating input signal	binary TTL	1 – ON 0 – OFF;
Max carrier voltage rise and fall time at output, μ s	0.04	
Min carrier suppression at output under zero modulating signal, dB	60	
Overheat protection operating threshold, °C	60	protection with self-recovery after cooling
Overheat protection recovery threshold, °C	45	
Max load resistance before load mismatch protection is activated, Ohm	75	protection without self-recovery
Min load resistance before load mismatch protection is activated, Ohm	33	
Operating ambient temperature range, °C	0 to +40	

Electrooptical Modulator Driver

Serial




PRODUCT NUMBER

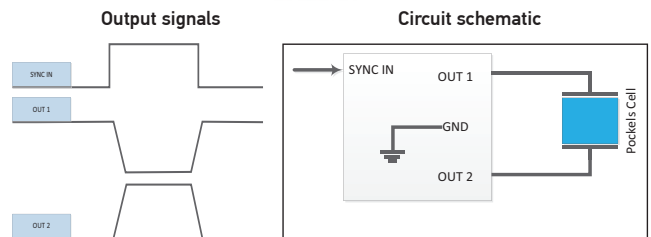
EOMDRV-1

DESCRIPTION

The electrooptical modulator driver is designed to control DKDP Pockels cells.

FEATURES

-  High voltage output for cell control 6kV
-  Max frequency 10kHz
-  Control pulse fall time 15ns



Temperature Controller/ Thermal Stabilization Unit

Serial

PRODUCT NUMBER

TCM3/1

DESCRIPTION

The unit is designed for thermal stabilization using Peltier elements. The thermal stabilization is done through pulse-length modulation. The device has 2 channels configured for cooling and 1 channel configured for heating.



SPECIFICATION

Max fundamental permissible error	± 1%
Thermal sensor type	EPCOS NTC thermistor, R/T char. 8016
Polling interval for input signals	100ms
Active transistor output (cooling)	
Output voltage	12V
Maximum load current	6A
Active transistor output (heating)	
Output voltage	12V
Maximum load current	3A
Output signal type	Pulse-length modulation
Additional input/output signals	
Fan control output (3 indep channels), load current	Max 300mA
Fan tachometer input (4 channels)	

Note. Cooling outputs are designed for Peltier element connection, 12V voltage rating. Heating channel requires a resistor. See typical connection diagram.

RS-485	
Transmission protocol	MODBUS-RTU
Transmission rate	9,600 bit/s
The number of transmitters-receivers in line	256
Galvanic insulation voltage	2kV
General	
Supply voltage	90 ÷ 250V
Wattage	300VA
Max outline dimensions	260×180×105mm
Weight, max	2kg
Ambient air temperature	10...45 °C
Average lifetime	10 years

LASER DIODE DRIVERS

Serial

PWDRC series

PRODUCT NUMBER

PWDRC-400/012
 PWDRC-200/015
 PWDRC-025/080
 PWDRC-400/100
 PWDRC-600/100

DESCRIPTION

PWDRC Series laser diode drivers (LDD) are designed to feed laser diodes with desired stable current and control the light emission output in CW (continuous wave) mode through proportional variation of the output current and voltage at the IPROG control input.

The LDD connects to DC power supply. LDD output circuits, test and control circuits are galvanically isolated from the power supply line.

SPECIFICATION

Product number	Supply voltage rating, VDC	Max output voltage, V	Max output current, A	Max output current rise and fall at 10% and 90%, μ s
PWDRC-400/012	48	40	12	300
PWDRC-200/015	24	20	15	300
PWDRC-025/080	12	3	80	250
PWDRC-400/100	72	40	100	250
PWDRC-600/100	72	60	100	300

PWDRCI series

SERIAL

PWDRCI-150/150C1
 PWDRCI-150/150C2
 PWDRCI-200/150C1
 PWDRCI-200/150C2

DESCRIPTION

PWDRCI series laser diode driver (LDD) is designed to feed a semiconductor laser emitter with a desired pulsed current (QCW mode). The unit is used in pulsed diode-pumped laser systems.

SPECIFICATION

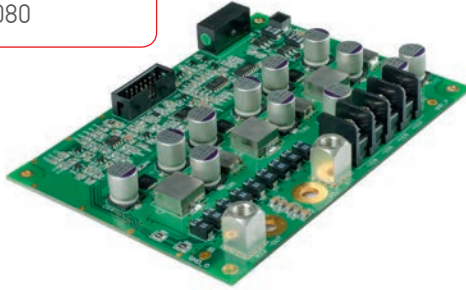
Product number	Max output voltage, V	Short pulsed mode			Long pulsed mode		
		Max output current, A	Pulse length, μ s	Pulse repetition rate, Hz	Max output current, A	Pulse length, ms	Pulse repetition rate, Hz
PWDRCI-150/150C1	150	150	500	100	50	40	1
PWDRCI-150/150C2	150	150	500	100	70	70	1
PWDRCI-200/150C1	200	150	500	100	50	40	1
PWDRCI-200/150C2	200	150	500	100	70	40	1

2.5V, 80A CW Laser Diode Driver

Serial

PRODUCT NUMBER

PWDRC-025/080



DESCRIPTION

The laser diode driver (LDD) is designed to feed laser diodes with desired stable current and control the light emission output in CW (continuous wave) mode through proportional variation of the output current and voltage at the IPROG control input.

The CPU connects to AC power supply, 220V, 50Hz. CPU output circuits, test and control circuits are galvanically isolated from the power line.

SPECIFICATION

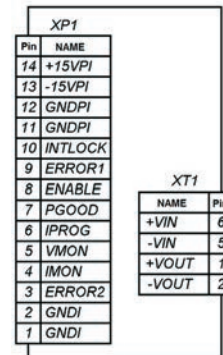
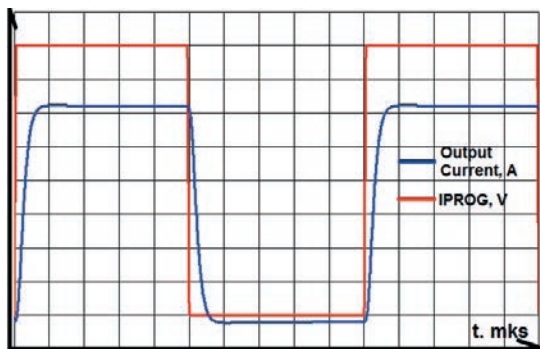
Max output current, A	80	With forced cooling air circulation
Output voltage limiting threshold, V	3±0.06	
Operating range of alternating supply voltage, V	90 to 264	
Operating range of alternating supply voltage frequency, Hz	47 to 63	Depends on characteristics of the AC/DC Mean Well RPS-300-12 module integrated in the CPU.
Insulation strength between output circuits and mains supply circuits, kV	4	
Min efficiency factor at highest output current and voltage, %	80	Depends on characteristics of the AC/DC Mean Well RPS-300-12 module integrated in the CPU.
Operating ambient temperature range, °C	0 to +40	
Max output current rise and fall at 10% and 90% levels at an incremental change of the control voltage at IPROG input, mks	250	Under 30mOhm resistance load (see operation manual)
Max reduced error of the output voltage setting, %	±0.5	Output current deviation from the UIPROG*KIPROG value (see operation manual)
Max reduced error of the output current control, %	±0.5	Voltage deviation at IMON testing output from the IΦ/KIMON value (see operation manual)
Max reduced error of the output voltage control, %	±2	Voltage deviation at VMON testing output from the value UΦ/KVMON (see operation manual)

INTEGRATED IN THE FOLLOWING SYSTEMS

- 🔴 C50F-NDYAGKTP-TA
- 🔴 C50F-NDYAG-TA
- 🔴 C700G-NDYAG-0A

SUPPLY OPTIONS

- 🔴 laser diode driver complete with AC power supply system
- 🔴 laser diode driver complete with DC power supply system
- 🔴 rack mounted version



40V, 15A CW Laser Diode Driver

Serial

PRODUCT NUMBER

PWDRC-400/012



DESCRIPTION




The laser diode driver (LDD) is designed to feed laser diodes with desired stable current and control the light emission output in CW (continuous wave) mode through proportional variation of the output current and voltage at the IPROG control input.

The CPU connects to AC power supply, 220V nominal rating, 50Hz. CPU output circuits, test and control circuits are galvanically isolated from the power line.




SPECIFICATION

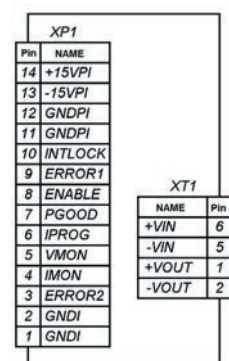
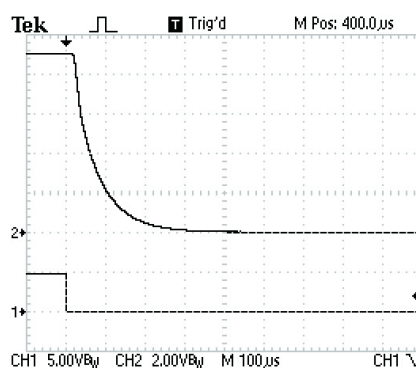
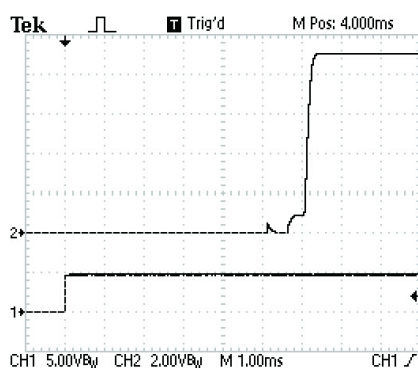
Max output current, A	Up to 15 *	Subject to forced cooling air circulation
Supply voltage rating, V	24 or 48 *	Direct current
Max output voltage at operating supply voltage, no less, V	20 or 40 *	
Efficiency factor at max output current and voltage values, no less, %	94	
Operating ambient temperature range, °C	0 to +40	
Max output current rise and fall at 10 % and 90 % levels at an incremental change of the control voltage at IPROG input, µs	300	Under 10hm resistance load
Max reduced error of the output voltage setting, %	±	Output current deviation from $U_{IPROG} \cdot K_{IPROG}$ value
Max reduced error of the output current control, %	±	Voltage deviation at VMON testing output from the U_{ϕ}/K_{VMON} value
Max reduced error of the output voltage control, %	±	Voltage deviation at VMON testing output from the U_{ϕ}/K_{VMON} value

INTEGRATED IN THE FOLLOWING SYSTEMS

-  C100F-NDYAGKTP-TA
-  C700G-NDYAGKTP-TA
-  C100F-NDYAG-TA

SUPPLY OPTIONS

-  laser diode driver complete with AC power supply system
-  laser diode driver complete with DC power supply system
-  rack mounted version



70V, 200A CW Laser Diode Driver

Serial

PRODUCT NUMBER

PWDRC-500/100



DESCRIPTION




The laser diode driver (LDD) is designed to feed laser diodes with desired stable current and control the light emission output in CW (continuous wave) mode through proportional variation of the output current and voltage at the IPROG control input.

The CPU connects to AC power supply, 220V nominal rating, 50Hz, or DC power supply. LDD output circuits, test and control circuits are galvanically isolated from the power supply line.




SPECIFICATION

Max output current, A	Up to 40 Up to 100A	In CW mode In pulsed-periodic mode up to 50ms, filling ratio no more than 10%
Supply voltage rating, V	24, 48, or 55	Direct current
Max output voltage at operating supply voltage, no less, V	20, 40, or 50	
Efficiency factor at max output current and voltage values, no less, %	94	
Operating ambient temperature range, °C	0 to +40	
Max output current rise and fall at 10 % and 90 % levels at an incremental change of the control voltage at IPROG input, mks	300	Under 10hm resistance load
Max reduced error of the output voltage setting, %	1	Output current deviation from $U_{IPROG} * K_{IPROG}$ value
Max reduced error of the output current control, %	1	Voltage deviation at VMON testing output from the U_{\oplus} / K_{VMON} value
Max reduced error of the output voltage control, %	2	Voltage deviation at VMON testing output from the U_{\oplus} / K_{VMON} value

INTEGRATED IN THE FOLLOWING SYSTEMS

-  C100F-NDYAGKTP-TA
-  C700G-NDYAGKTP-TA
-  C100F-NDYAG-TA

SUPPLY OPTIONS

-  laser diode driver complete with AC power supply system
-  laser diode driver complete with DC power supply system
-  rack mounted version

Pulsed Laser Diode Driver

Serial

PRODUCT NUMBER

PWDRCI-150/150C1



DESCRIPTION

The laser diode driver (LDD) is designed to feed a semiconductor laser emitter with a desired pulsed current (QCW mode). The unit is used in pulsed diode-pumped laser systems.

SPECIFICATION

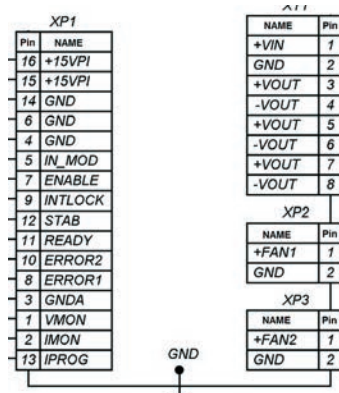
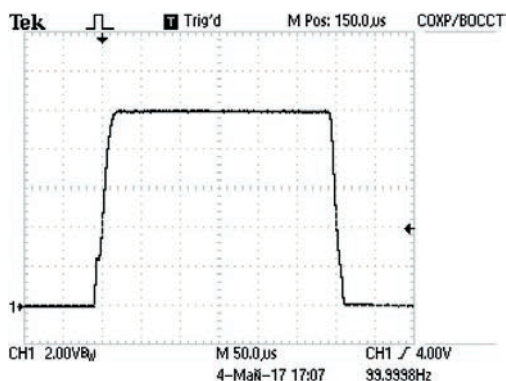
Pumping pulse repetition rate	0.1 - 500Hz
Pumping pulse length	50µs (500Hz) 50 - 300µs (300Hz) 300 - 5000µs (10Hz) 5000 - 50,000µs (1Hz)
Maximum output current per pulse @ up to 300µs pulse length	Maximum current - 150A
Maximum output current per pulse @ up to 5000µs pulse length	Maximum current - 90A
Current rise	From 7 to 12µs
Deviation of actual pulse current value from set value	Max ±1A
Max output voltage per pulse	200V
Power supply	DC 200V
Operating ambient air temperature range	0 to +40 °C

INTEGRATED IN THE FOLLOWING SYSTEMS

- 🔴 I2D-140-40YAG
- 🔴 I2D-110-50YAG
- 🔴 I2D-140-50YAG
- 🔴 I18-70-80YAG
- 🔴 I2D-110-60YAG
- 🔴 I41-120- 90YAG

SUPPLY OPTIONS

- 🔴 laser diode driver complete with AC power supply system
- 🔴 laser diode driver complete with DC power supply system
- 🔴 rack mounted version



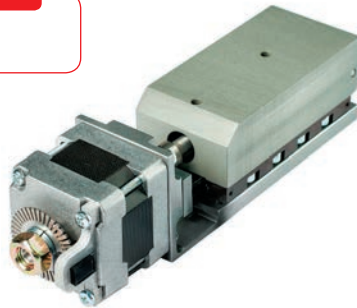
OPTOMECHANICAL COMPONENTS

Motorized Linear Stage

Serial

PRODUCT NUMBER

MTS-40/32ENC-M



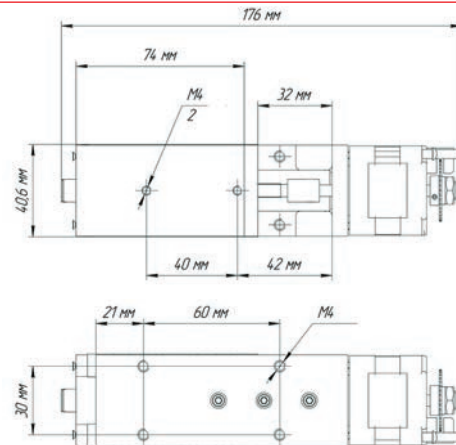
FEATURES

- Width 40.6mm
- Ultra small footprint
- High accuracy of the guiding element
- 0.5mm pitch of the driving screw
- 32mm positioning range
- Equipped with an encoder
- Incremental by 2.5µm
- Payload weight up to 250g
- Maximum speed 5 mm/sec

DESCRIPTION

The motorized linear stage features a screw drive with 0.5mm pitch, and a small footprint, but reliable design. The base and moving platform of the stage are made of anodized aluminum, while the working parts are made of hardened steel.

The stage is fitted with an encoder to allow for position control and jamming detection. The reference position is set by the end stops. The motor's position can be set with the accuracy of a single increment via the encoder's readings with the accuracy of 5 increments of the motor.

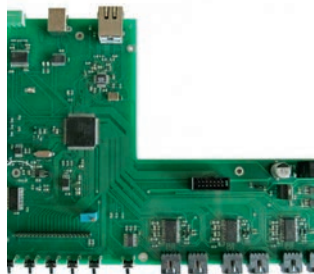


Step Motor Driver

Serial

PRODUCT NUMBER

DRVSPM-3CH



DESCRIPTION

The driver is designed to offer:

- manual control of step motors
- manual control of motorized stages and encoder pulse counting
- programmable control of step motors and stages.

SPECIFICATION

Encoder signal (optically coupled)	Open collector type
Polling frequency for discrete signals	2kHz
Bridged output	
Output voltage	12V
Maximum current	1A
RS-485	
Transmission protocol	MODBUS-RTU
Transmission rate	9,600-115,200 bit/s
The number of transmitters-receivers in line	256
Galvanic insulation voltage	2kV
USB	
virtual COM-port, FT-232 based	
ETHERNET	
Transmission rate protocols	10/100 Mbit/s
Supply voltage	TCP/IP, HTTP(Server)
Max wattage	90 - 250V
Max outline dimensions	60VA
Weight, max	260×180×105mm
Ambient air temperature	2kg
Average lifetime	10 ... 45°C
	10 years

Kinematic Mirror Holder

Serial

PRODUCT NUMBER

34M2P-1/2M



FEATURES

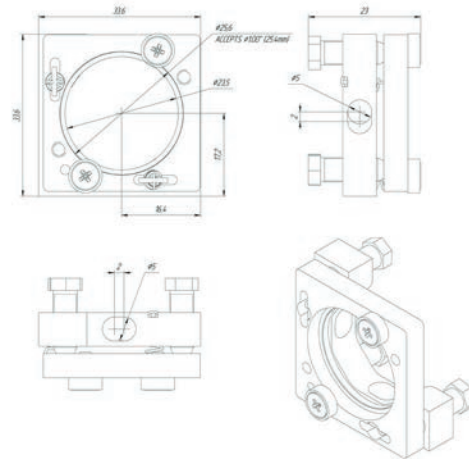
- Designed for optical elements with diameters up to 25mm
- Allows for fine angle adjustment in two orthogonal planes
- Stable vertical mount
- Alignment within 6° and 3mm
- Sensitivity within 2 angular seconds and 1µm
- High stability
- Weight – 50g
- Material: Aluminum, stainless steel

DESCRIPTION

Ultra-small kinematic mirror holder for angular and linear fine-tuning of various optical elements. The item comes with 3 screws.

There is a 5 mm hole for any screws of your choice at the base of the holder. The one-inch holder features a clear aperture of 23.5mm.

The mounting plate can be installed in various positions.



Lens/Septum Mount

Serial

PRODUCT NUMBER

40LP3P-1M

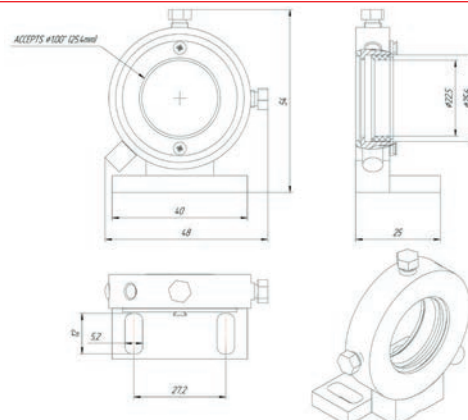


FEATURES

- Sensitivity - 2µm
- Designed for thin optical elements with diameters up to 25mm
- Alignment by 2 coordinates within 4mm range
- High stability
- Weight – 50g
- Material: Aluminum, stainless steel, brass

DESCRIPTION

Ultra-small mount is designed for accurate positioning of optical elements in a plane perpendicular to the optical axis. It is ideal for field lenses in microscopes, laser systems configuration, fiber fixtures and diode lasers. The mount provides positioning of a target element within a range of 4mm and accuracy of 2µm. The positioning is ensured by two adjusting screws. The mount plate comes with screws in a standard assembly. Customized plates for easier mounting and positioning are available.



Heat Radiators for Crystal Rods

Serial

PRODUCT NUMBER

RACL-1-00

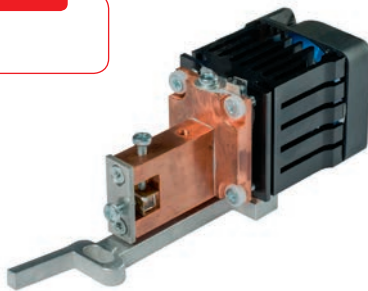


DESCRIPTION

The heat radiator is designed for installation of crystal rods of 3 to 8mm in diameter and 10 to 50mm long. The heat radiator removes the heat from thermally loaded crystal rods. The radiator has a hole for mounting thermal resistance, and a polished surface designed for mounting a 40x40mm Peltier element. Radiators are designed for use in solid-state (e.g. Nd, Tm, Ho rods) longitudinally-pumped laser systems. Radiator is made of copper.

PRODUCT NUMBER

RACL-1-00



DESCRIPTION

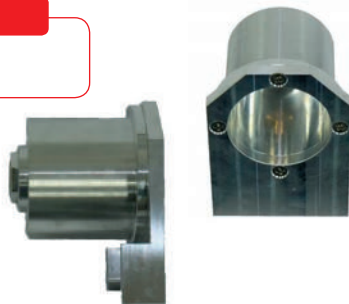
The heat radiator is designed for installation of rectangular crystals. The heat radiator removes the heat from thermally loaded crystal rods. The radiator is fitted with a polished surface designed for mounting a 20x40mm Peltier element, a cooling radiator with a fan for the Peltier element, and thermal resistance for temperature control. The radiators are designed for use in solid-state laser systems (for example, second harmonic generation by KTP). The heat radiator is fitted with a mounting plate for installation on the platform and alignment by a single axis. Radiator is made of copper.

Collimator

Serial

PRODUCT NUMBER

CL-1M-SMA905



DESCRIPTION

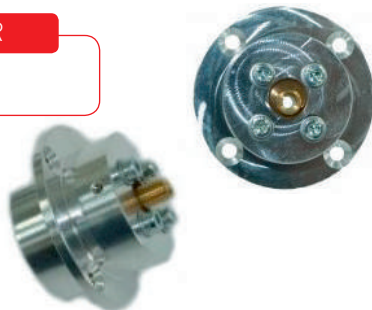
The holder/adaptor is designed for laser-into-fiber input systems. The adapter features a SMA-905 connector for fiber connection. The SMA-905 connector allows for axial positioning range within 5mm. The adaptor is furnished with holes in the base to be fixed on a mounting plate or optical table. Material: Aluminum, duralumin.

Condenser

Serial

PRODUCT NUMBER

CND-1M-SMA905



DESCRIPTION

The condenser is designed for laser-out-of-fiber settings systems. It is fitted with a SMA-905 connector adjustable by 2 axes. The condenser has a hole with a retaining ring to attach 1/2 inch lenses.

Material: Aluminum, duralumin





Diode-pumped lasers systems
and components

Serial and custom design

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