

AIRTRAC



Areté Associates

We know systems... we know lasers



0.43 lbs.

6.5 cu. in.

8 mm*mRad D86 BPP

>40 mJ pulse energy

0-30 Hz rep rate

<30W wall power

6ns pulse FWHM

1064nm DPSS

Ruggedized

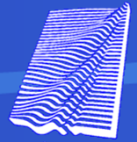
Areté offers a new DPSS laser which utilizes several key innovations to afford a dramatic reduction in SWaP, lower cost, and robust performance over environmental conditions.

Design is scalable, enabling higher energies and the addition of nonlinear optics to reach eyesafe wavelengths and YAG harmonics in custom iterations

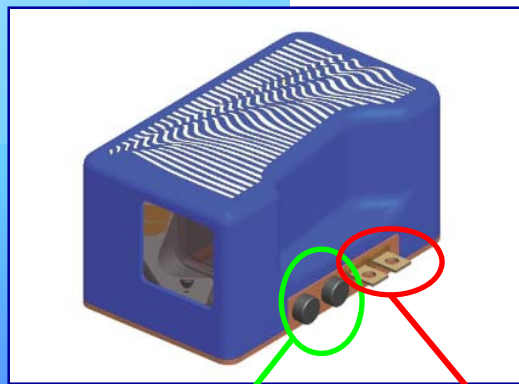
AIRTRAC's signature feature is a resonator design which despite its ultra-compact size, promotes a highly uniform beam and advantageous pulse lengths. It is built on a fundamentally athermal gain module which Areté has refined over several years of development. The design is mindful of manufacturability and stability throughout, and takes advantage of new and creative manufacturing techniques to deliver a wholly innovative product.

Contents approved by DOD OSR for Public Release 3.4.13

For more information email arete@rpmclasers.com or call 636-272-7227



Electrical Interface



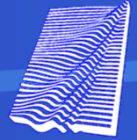
Pockels Cell Driver Requirements

Load	<30pf (10 pf typical)
Drive Voltage	<2,000V (1,800 typical)
Rise Time	<20ns
Pulse Width	>100ns
Connection	Reynolds 'Pee-Wee' HV Receptacle (P/N 178-6544). Example mating connector: Reynolds 178-8425

Diode Driver Requirements

Compliance Voltage	<25V (24V typical)
Diode Current	200A
Pulse Width	0-200 μ s
Rise/Fall Time	<10 μ s
Repetition Rate	0-30Hz
Connection	#2 thru hole Cu terminals (for ring lug connection)

AIRTRAC

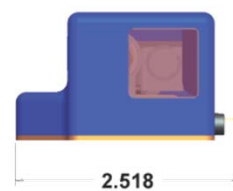
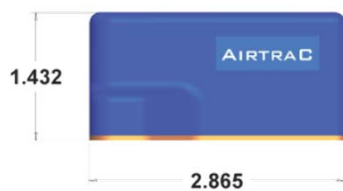
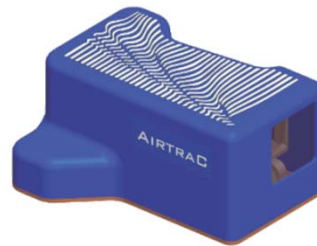


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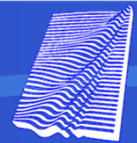
Size and Dimensions



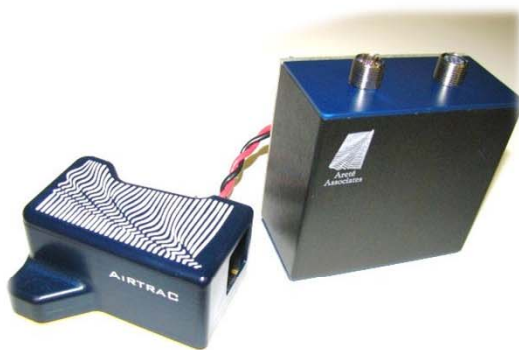
Physical Characteristics

Weight	0.43 lbs.
Volume	<6.5 in ³
Cooling Method	Conduction
Operating Temp	-40 to +60°C

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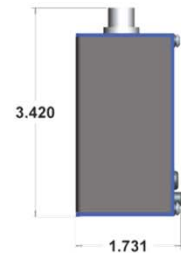
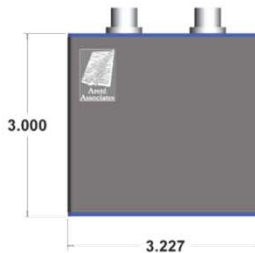


OEM Drive Electronics for Development



Electrical Connections

Control:	'Mighty Mouse' 800 series receptacle. Glenair P/N 800-012-07M7-10SN Mating connector: 800-009-06M7-10PN
Power:	'Mighty Mouse' 800 series receptacle. Glenair P/N 800-012-07M7-10PN Mating connector: 800-009-06M7-10SN



Areté Integrated Electronics Package:

Power Requirements	Input voltage	18 – 28 VDC
	Input power	<30W
Control Inputs	Enable	RS-422/485 or TTL (Must be present 15 ms before trigger input)
	Trigger	RS-422/485 or TTL
	Q-Switch	TTL
	Tx Level	0 - 2 V control of diode current
	Interlock	Contact closure
Trigger Operating Modes	Internal control	Single trigger fires diodes for predefined duration
	External control	Trigger defines diode pulse duration (200 μs pulse = 200μs diode drive)
Q-switch modes	Internal control	Automatic Q-switch at end of diode drive (falling edge)
	External Control	Trigger required to fire Q-switch
Tx Level modes	Internal control:	Diode drive current defined by potentiometer adjustment
	External Control:	Diode drive current defined by external voltage (0 – 2VDC)