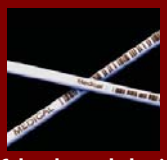
UM-1
Ultra compact Laser Marking Systems

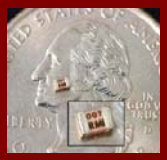
Fast Clean Permanent Marks: The UM-1 Delivers Precision, Non-Impact Marks on a Variety of Materials Including Metals & Plastics

Engraved A2 Hardened Steel Gear


Engraved Steel


Color-changed plastic


Pin stamp vs. Laser Mark


Ceramic Resistor


Engraved Gold

Engraved Titanium


Color-changes plastic


Engraved Steel Tool

APPLICATIONS

Ultra-compact Laser Marking System

UM-1

UM-1 Ultra-Compact Laser Marker
(2 watt, 1064nm) diode pumped Nd: YAG

With the ability to mark linear and elliptical text, barcodes, 2D Data matrices, QR codes, serial numbers, logos, and photo quality graphics, the Ultra-Compact system has the versatility to meet almost any marking application.

Laser Technology
Compared to traditional CO2 and other Nd: Nd:YAG Lasers, UM-1 are more energy efficient. This means that UM-1 can achieve a more precise mark while consuming less power. Lower power consumption eliminates the need for external power supplies and large cooling systems, making our laser marker far smaller than comparable systems. Also this Diode Pumped Nd:YAG laser can achieve a smaller spot size and higher energy density than most competing systems. The UM-1 technology is also is also key in extending the life of our laser diodes to more than 3 years!

Marking
UM-1 Ultra-Compact laser marker is ideal for short run production environments where low maintenance and ease of use are key to productivity.

Desktop Laser Marking
The Ultra-Compact precision laser marker is a turkey system that fits into tight workspaces, or can easily be moved between different production areas. The system requires only 110V/220V outlet to operate and eliminates the use of bulky external chillers and power supplies.

Easy to use
- Intuitive Software
- Targeting & Focusing Lasers
- UID Wizard
- Plug & Play Turnkey System

Hardware Connectivity
- USB

Applications
- Logos
- Sequential Serial Numbers
- UID & 2D data matrix codes
- Barcodes

Graphics & File Formats
- Raster & Vector graphics
- True 508 DPI
- Photo Quality Images
- Graphics/Logos
- True Type fonts

Marker Head	
Laser Source Built-in	Built-In, Diode Pumped Nd:YAG
Wavelength	1064nm
Laser Source Output	0.75 W @ 5kHz
Peak Power	Up to 20 kW
Q-switch pulse width	~8 ns @ 4kHz
60mm F-Theta Lens: Beam Spot Diameter Max Marking Area	 **~50 µm** 1.6 x 1.6” 40 x 40mm
100mm F-Theta Lens Beam Spot Diameter Max Marking Area	 ~70 µm 2.4 x 2.4” 60 x 60mm
163mm F-Theta Lens: Beam Spot Diameter Max Marking Area	 ~90 µm 3.9 x 3.9” 100 x 100mm
Lenses available(back focal length)	60, 100, 163 mm
Dimensions**	9.69 X 5.1 X 7.3" 245 X 130 X 185 mm (without F-theta lens)
Power Supply	
Operational Temp Range*	~ 50–95˚ F~10-35˚ C
Operational Humidity Range*	80% non-condensing
Weight	4.4 lbs 2kg (w/ cables)
Dimensions LxWxH**	9 x 5.5 x 3" L229 x W140 x H76 mm
Power Source	AC 100 - 240V 2A, 50/60Hz
Consumption Power	200 W max

COMPARISON CHART OF LASER MARKING TECHNOLOGIES

SPECIFICATIONS	Nd:YVO_4 (U-10,U-15)	Nd:YVO_4 (U-5G)	CO_2	Nd:YAG (Flash-lamp)	Nd:YAG (Diode-pumped)
Wavelength	1064nm	532nm	10.6µm	1064nm	1064nm
Power (W)	10,15	**6**	10 - 100	50 ~ 100+	3 ~ 20+
Marking Spot (micron)	30-70	**20-40**	300	50-100	50-100
Resolution DPI(Dots Per Inch)	846	**1,270**	84	508-254	508-254
Energy Efficiency	**High**	**High**	Medium	Low	Medium
Cooling Efficiency	**High**	**High**	Medium	Low	High
Peak Power	**High**	**High**	Low	High	High
Operating Cost	**Very Low**	**Very Low**	Medium	High	Low
Maintenance Intervals(hrs)	**30,000+**	**30,000+**	< 5,000	300 -1,000	10,000+
APPLICATIONS					
Metals	•	•		•	•
Metals (High Reflectivity)	•	•			
Silicon		•			
Plastic	•	•		•	•
Composites	•	•			
Ceramics	•	•		•	
Rubber	•	•	•	•	•
Wood/Paper			•		
Glass		•	•		
Leather	•	•	•		

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