



# Coherent

Superior reliability & performance

## Matrix IR



Newsletter - April 2007

## NEW! Matrix? IR

### New "low cost Q-switch" Laser for industrial applications

Dear Customer,

The new MATRIX? IR lasers combine benchmark optical performance with several design and manufacturing innovations, to enable consistency at low cost for OEM integration. The PERMALIGN design and semi-automated manufacturing tooling is based on experience gained in manufacturing of tens of thousands of compact all solid state lasers, and ensures superior reliability. Coherent's proprietary AAA? (Aluminum free active area) pump diodes with their proven track field record guarantee years of maintenance-free industrial performance. Consequently, all MATRIX lasers have a 24 month unlimited hours warranty.



The first three members of the MATRIX platform of Q-switched lasers show outstanding beam quality (typically  $M^2 < 1.2$ ) and low noise, enabling superior results on the work surface. Three models of the MATRIX IR come with various repetition rates, pulse energies and pulse durations for different application segments. A low rep-rate, high peak-power (max.>50kW) model is optimized for engraving plastics, metals and other materials that are problematic for carbon-dioxide lasers. A 30 kHz version is designed for speciality marking & engraving applications, as well as for trimming active and passive circuit components in microelectronics. Last but not least a 350 kHz model combines the high repetition rate and low noise required for precision, high-throughput applications, such as disk texturing or semiconductor scribing.

All models deliver the requested energy from the first to the last pulse, not the least by means of the integrated first pulse correction. Easy to handle interfaces alternatively enable e.g. precise energy variations on a pulse-to-pulse basis, direct triggering, a cw mode or ?digital? step wise adaptation of output power.

OEM integration is facilitated by the all air cooled design, small footprint, and low power requirements.



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## MATRIX? IR - Consistency and Performance at low cost

### Available Versions:

#### 1064-7-10

7 W @ 10 kHz;  
Pulse duration down to 30 ns, Peak Power up to 50 kW;  
**Applications:** Marking, Engraving, Trimming

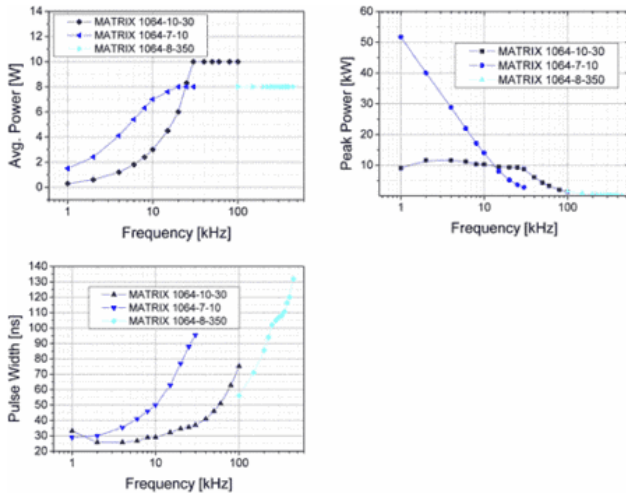
#### 1064-10-30

10 W @ 30 kHz;  
Pulse duration < 40 ns;  
**Applications:** Marking, Trimming, Thin film removal

#### 1064-8-350

8 W @ 350 kHz;  
Pulse duration >100 ns, 100-400 kHz;  
**Applications:** Semiconductor scribing, disk texturing

### MATRIX? 1064 Characteristic Curves:



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For more informations please visit our web sites [www.coherent.com](http://www.coherent.com) and [www.coherent.it](http://www.coherent.it) or contact our Italian office at the address here below.

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