

LASER ENGRAVING MODULE GEN 2

The laser engraving module system utilizes the latest in engraving technology to deliver high-speed, high-quality laser imaging of cards. It is capable of engraving variable-sized photos, alphanumeric text, bar codes, black-and-white logos and other graphical elements with exceptional quality.

- State-of-the-art, grayscale laser technology produces high-quality engraved tonal images
- Engraves both the front and back of the card in a single module
- Scalable laser solution integrates multiple modules to meet higher throughput demands
- Supports CLI (vertical tilted engraving) and MLI (horizontal tilted engraving) for enhanced visual security
- Optional vision registration allows precise alignment between engraved elements and preprinted cards
- The air cooled fiber laser provides powerful technology within a compact module, does not require an external power or cooling unit

Laser Engraving Module Gen 2 Specifications	
Module Functionality	Engraves text, photos, bar codes and other images on the card surface using laser technology
Engraving Technology	Air cooled fiber laser; Class 1 Laser Product
Engraving Capabilities	<ul style="list-style-type: none"> • Pixel engraving: text, photos, bar codes and other digitized images • Vector engraving: text • Micro-engraving • Tilted image engraving: CLI, MLI, 3D photo
Resolution	Greater than 400 dpi; grayscale
Laser Engravable Elements	Photos, alphanumeric text, vector text, bar codes, signature, fingerprint, black-and-white logos, graphic images, scrambled indicia, tilted images, ghost images, micro-engraving
Text Formats	Scalable fonts including TrueType fonts for Microsoft® Windows® operating systems
Bar Code Formats	<ul style="list-style-type: none"> • One-dimensional (1D): EAN13, Code 39, Code 3 of 9, Code 128, Interleaved 2 of 5 • Two-dimensional (2D): PDF417
Image Formats	JPEG (.jpg), TIFF (.tif), Bitmap (.bmp), PNG (.png)
Laser Engraving Placement	<ul style="list-style-type: none"> • Front and back of the card • 0.10 in. (2.54 mm) from the top or bottom edge of the card • 0.02 in. (0.50 mm) from the left or right edge of the card • Laser engraving rotation between 0° and 359°
Laser Engraving Accuracy	±0.004 in. (±0.1 mm) in both X and Y axes
Laser Light Source Expected Life	Over 100,000 hours
Micro-Engraving Feature	400-800µm in height
Tilted Engraving Feature	<ul style="list-style-type: none"> • Tilted laser range: Vertical axis ± 30° Horizontal axis ± 20° 3D image ± 10° (either vertical or horizontal axis may be used) • Engraving can be placed 0.315 in. (8.0 mm) from any edge on the card
Vision Registration Feature	Optional feature Tolerance: 0.006 in. (0.015 cm) with respect to the vision mark
Card Types Supported	ISO/IEC 7810 ID-1 Size: 30 mil (±10%) Alternative card thicknesses can be made available upon request
Card Materials Supported	Laser engraving recommended only for polycarbonate, composite or PVC cards with a special laser layer

Optional Fume Extraction System	
Recommended Usage	<ul style="list-style-type: none"> • PVC cards • One extraction system for every 2 laser modules
Dimensions	45.6 in. H x 18.0 in. W x 19.0 in. D (118.1 cm x 45.5 cm x 48.0 cm)
Weight	156.0 lbs (71.0 kg)
Voltage	230V ± 10%
Max Flowrate	460m³/h
Wattage	1.2 kW
Frequency	50 Hz

Laser Engraving Module Gen 2 Supported Systems			
Available Systems	MX8100™ System	MX6100™ System	MX2100™ System
Rated Speed	Up to 2,000 CPH (Actual throughput dependent on the card layout, material and number of modules)	Up to 1,800 CPH (Actual throughput dependent on the card layout, material and number of modules)	Not available
Allowed Quantity	Up to 5 modules per system	Up to 4 modules per system	
Configurations	Cards must be laser engraved before any type of laminate or topcoat is applied	Cards must be laser engraved before any type of laminate or topcoat is applied	
Module Dimensions	50.1 in. H x 10.0 in. W x 27.0 in. D (127.3 cm x 25.4 cm x 68.6 cm)	50.1 in. H x 10.0 in. W x 27.0 in. D (127.3 cm x 25.4 cm x 68.6 cm)	
Weight	155.0 lbs (71.0 kg)	155.0 lbs (71.0 kg)	
Current Draw	1.29 Amps at 230V	1.29 Amps at 230V	
Heat Output	Average of 942 BTUs per hour	Average of 942 BTUs per hour	

Learn more about the unmatched selection of innovative card personalization capabilities of the MX Series at datacard.com.

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