ULTIMA

PRE-STATION /BENCH-TOP

UV LASER WIRE MARKING SOLUTIONS

EN

laselec
A KOMAX COMPANY

ULTIMA
PRE-STATION /BENCH-TOP

Speed, efficiency and modularity are the three key elements of the ULTIMA Pre-Station and Bench-Top laser marking systems.
ULTIMA is the ideal tool for marking electrical and optical fiber cables on a production line.

UV laser marking has long been the standard reference in terms of cable identification in the aeronautical industry. Today, more industrial sectors such as space, rail electronics and the automotive industry are moving toward laser wire marking for wire identification purposes.

UV laser marking provides a safe, permanent, high contrast identification mark on a large number of insulation types: PTFE (Teflon®), FEP (Teflon®), ETFE (Tefzel®), XL-ETFE (Tefzel®).

The ULTIMA system can mark alphanumeric characters, barcodes and logos of different sizes.

Wire marked with ULTIMA Pre-Station

MODULAR
SOLUTION

The ULTIMA UV laser marking system is a compact unit which can be moved and integrated into different production lines.

Advantages
- Permanent and precise marking
- Zero risk to cable insulation
- Clean marking
- Environmentally friendly
- No post-marking treatment
- No consumables
- Customizable fonts
- Compatible with electrical and optical fiber cables

INNOVATIVE
MARKING PROCESS

The ULTIMA series of machines are equipped with a high -performance vector marking unit.
Vector marking is performed by scanning the laser beam directly on the wire.

Advantages
- High flexibility in the definition and selection of font size
- Reduced maintenance: ULTIMA machines do not require optical consumables.
- Lower operating costs
- Reduced noise level and energy consumption

MARKING

Production files
The software interface provided with the ULTIMA Series machines allows for the creation and the edition of production files. These files are then stored in a database and can be easily duplicated and accessed at a later date.
Production files contain four types of information:
- Pattern repetition settingsr
- Pattern content and specifications
- Laser parameters
- Cable specifications

Marking specifications
- Logo feature: compatible with both vector DXF or HPGL and bitmap/png formats.
- Barcode feature: 1D (Code 39 / Code 128)
- Blockmark feature : specific program feature that is designed to statically mark blocks with different marking parameters.
- Incremental feature : special feature that allows for incremental marking by defining a sub-pattern of characters.
- ”Ruler” feature: ruler patterns are repeated
- Other customizable features:
  - date
  - batch number

AVAILABLE
MODELS

Bench-Top model:
Module designed to be installed on a table or workbench.

ULTIMA-BT03
3 watt laser
Air cooling system
Static marking with manual trigger

Pre-Station Model:
Module designed to be positioned in front of a cutting, stripping and/or crimp to crimp machine (type: Komax Gamma 333 PC, 263 S, Alpha 433H, 35x, Kappa, etc.).

ULTIMA-PS03
3 watt laser
Air cooling system
Static marking with automatic trigger

DESCRIPTION
OF THE ULTIMA PRE-STATION/ BENCH-TOP MODELS:

The ULTIMA Pre-Station and Bench-Top systems include the following:
- 3 watt UV laser marker with air cooling system
- Movable cover equipped with a safety viewing window (in compliance with laser safety standards) and a safety sensor to allow access to the marking zone for the following operations:
  - Guidance system adjustment
  - Wire loading/unloading
  - Cleaning of the marking area
- Cable guide tubes adapted to wire diameter size (3, 6 and 10 mm). Specific dimensions upon request.
- A control cabinet mounted on wheels including : PC, keyboard and screen.

Technical characteristics

Description	ULTIMA-PS03/ ULTIMA-BT03
Laser source	Nanosecond pulsed diode pumped solid state laser
Cooling system	Air cooled
Laser wavelength	355 nm
Maximum optical output - average power	3 watts
Marking spot size	0,1 or 0,2 mm
Wire range (outer diameter)	From 0.8 to 15 mm (larger diameters upon request)
Marking Type	Alphanumeric, Arabic, Asian and Cyrillic characters Bar code 1D (Code 39, Code 128), logos, multiple fonts / dimensions
Maximum length of Individual mark	200 mm (7.9 inches)
Typical marking speed (Pre-Station Model)	Static marking Example: Alpha 356 output, crimp to crimp: 4,000 pcs/hr (1m wire length / start and end marked / marking text 12 characters / 2.4 mm height with overlap of 60%)
Mark position accuracy	0.5%
Input requirements	100 - 230 VAC 50/60 Hz
Power consumption	1 kW
Noise level	<65 dB
Ambient temperature range	+ 15°C to +32°C / 60°F to 90°F
Relative air humidity	Maximum 85%, non-condensing
Fume extraction	Must be connected to a fume extraction exhaust system with suction capacity > 50 m3/hr Hose inner diameter: 60 mm / 2.3 inches (hose not supplied)
Weight of the ULTIMA marking module	60 kg / 132 lbs
Dimensions of the ULTIMA marking module (L x W x H)	780 x 350 x 730 mm
Umbilical Length (from the cabinet output to marker head output)	Approx. 2.5 meters / 100 inches
Laser safety	Class 1 laser product (in operation): appropriate for open workshop environment
Norms	CE Compliant

ULTIMA Pre-Station and Bench-Top comparison table

	ULTIMA-BT03, Bench Top model	ULTIMA-PS03, Pre-Station model
Data input	Directly through ULTIMA PC	
Mechanical installation	Customer provided table or Laselec table option	Strip/crimp machine specific table as a pre-station by Laselec
External interface	N/A	I/O lines for machine trigger and station ready
Marking trigger	Foot pedal	Input by I/O interface “Pre-Station Mode”
Wire guide	Dependent upon wire type and diameter Must be ordered specific to wire characteristics	
Cable positioning	Manual	Automatic
Maximum marking window	200 mm (7.9 inches)	
Machine compatibility	N/A	Komax Gamma 333 PC, 263 S Alpha 433H, 35x, 5xx, Kappa or similar.

Additional features

Options	Description
Air filter/ suction system	The suction system is connected to the marking area and to the back of the machine, it includes the following: – HEPA H13 air filter, removing 99.95% of particles that have a size greater than or equal to 0.3 micrometers – Wide band gas filter (50% activated carbon and 50% Chemisorb)
Light column	Indicates the system status (stand-by, marking ON, fault, maintenance).
Table Bench-Top	Laselec table compatible and specially designed for ULTIMA bench-top model
Input-output option	I/O machine interface cable
Guiding tube	Laselec guiding tubes for specific diameters upon request.

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A Komax Company – leading the field now and in the future

Headquartered in Toulouse, France, Laselec develops laser solutions for stripping and marking wires as well as interactive assembly boards for wire harness manufacturing.

Laselec is one of the leading companies in the world for the development and production of serial production machines and customized solutions for laser wire processing. The company meets all significant international quality standards in the aerospace industry and counts renowned aircraft manufacturers among its customers.

Having strived to be at the forefront of innovation and quality, its unique expertise and experience allows Laselec to manufacture the most efficient equipment available, while providing customers with low maintenance and operating costs.

Laselec has been part of Komax since 2017. The two companies have been working successfully together on various projects since then. Thanks to this partnership, Laselec's solutions have increasingly found their way into other markets, such as the automotive and railway industry.

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Subject to change