



ULTIMA PRE-STATION /BENCH-TOP

UV LASER WIRE
MARKING
SOLUTIONS

komax

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

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 settings
- Pattern content and specifications
- Laser parameters
- Cable specifications

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



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.

Marking specifications

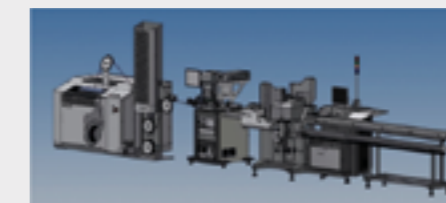
- Logo feature: compatible with both vector DXF or HPGL and bitmap/png formats.
- Barcode feature: 1D (Code 39 / Code 128)
- Blockmark feature : specific program feature that is designed to statically mark blocks with different marking parameters.
- Incremental feature : special feature that allows for incremental marking by defining a sub-pattern of characters.

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



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

- "Ruler" feature: ruler patterns are repeated
- Other customizable features:
 - date
 - batch number

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 in)
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 in (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 in
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 in)	
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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Komax – leading the field now and in the future

As a pioneer and market leader in the field of automated wire processing, Komax provides its customers with innovative and sustainable solutions for any situation that calls for precise contact connections. Komax manufactures series and customer-specific machinery for various industries, catering to every degree of automation and customization. Its range of quality tools, test systems, and intelligent networking solutions complete the portfolio, and ensure safe and efficient production. Komax is a globally active Swiss company with development and production facilities on several continents. Komax uses its extensive distribution and service network, which includes local companies and their employees, to support customers across the world on site, thus ensuring the availability and value of their investments after equipment commissioning through standardized service processes.

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