

ALS300 LASER TRIMMER



ALS series lasers from Aurel can be used for various front and back end applications on ceramic, glass, silicon, plastic and PCB substrates. We offer anything from Ohmic trimming of chip resistor networks to active and functional trimming of hybrids, digital and RF circuits.

Sensor elements for automotive and industrial applications can be trimmed and marked in ALS series complemented by pressure and temperature chambers for their response calibration, or by special modules for luminous flux, proximity, and other values adjustment.

ALS lasers are offered either as a basic system, or with optional handling modules for integration into a customer's production line. Supported by process development and customized toolings, ALS lasers are a vital part of Aurel Turn-key Manufacturing Solutions. Overall versatility, in-field upgrades and lifetime support program make them the right choice for the industry.

APPLICATIONS

- Thick and Thin Film Hybrids and Resistors Trimming
- Functional Trimming of SMD chip resistor
- Ohmic and Functional Trimming of RF and ASICs modules
- LTCC/HTCC Through Holes Drilling and Green Tape Routing
- Laser Marking on Ceramics, Metals and Plastics

LASER SOURCES

- 1064 nm Diode pumped 6 ÷ 12 W
- 532 nm Diode pumped 3 ÷ 6 W
- 355 nm Diode pumped 1 ÷ 3 W
- 1064 nm Lamp pumped 50 W



DIODE PUMPED GENERATOR
INFRARED (1064 nm) or GREEN (532 nm)

BEAM POSITIONING SYSTEMS

- X / Y Linear Drive Beam Positioning
- Galvanometer Beam Positioning

PROBING SYSTEMS

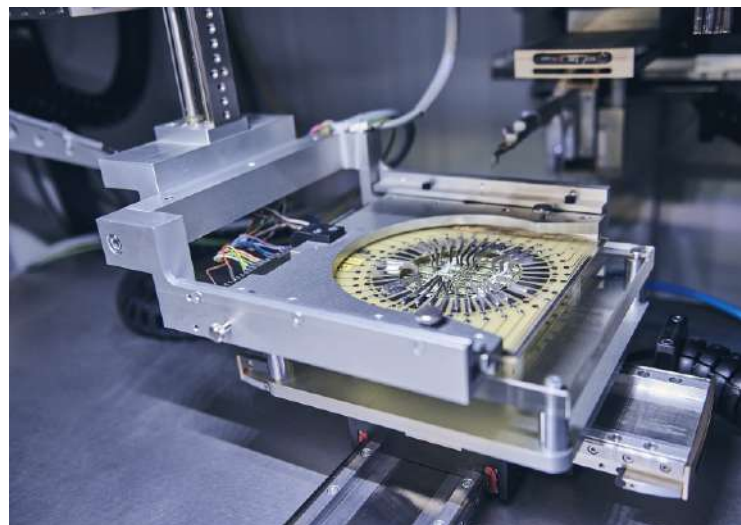
- Flying Probe Holder, 3-point measurement with active pin guard mode (optional)
- Probe Card Holder, standard holder for Aurel Probe Card, optional holder for Third Party Probe Cards
- Dual Probing System (flying probes and probe card combined in one system)



EXAMPLE OF PROBING SYSTEM WITH 3 FLYING PROBES
(WITH ACTIVE PIN GUARD MODE)

CONTROL SYSTEMS

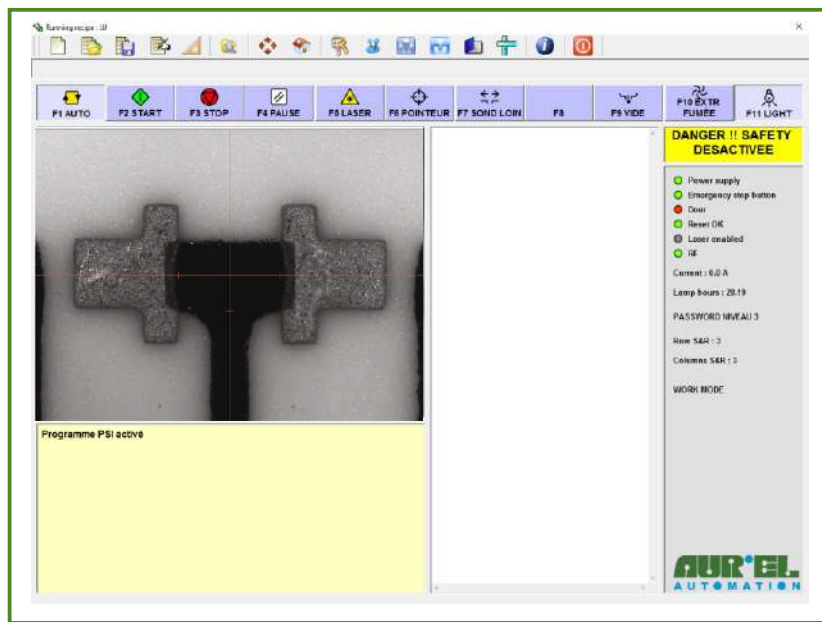
- Windows © Operation System
- Wide Screen Monitor and Industrial Keyboard
- Aurel OC Operator Environment
- Pattern Recognition plug-in
- I/O ports for in-line integration and handling modules
- IEEE488, USB and Serial port Interfaces for external instruments connection
- PSI Advanced Trim Sequence Program mode
- Resistors Map Import from CAD files (.dxf, .dwg)
- Machine hood & lifting and locking safety switches
- Work recipes storing and data logging



AUREL PROBE CARD FOR HYBRID CIRCUITS

TRIMMING MODES

- Programmable work parameters: laser power, frequency, cut speed
- Geometry cut shapes (I, L, Double, Serpentine, Multiple shave cut)
- Resistor: target value, tolerance (end test), acceptance value (pre test), pre-stop, turn value (for double cut and L cut), ratio value trimming, execution list
- Blast & measure



ALS OPERATOR INTERFACE WITH PRS OR CRS PATTERN RECOGNITION SYSTEM FOR AUTOMATIC ALIGNMENT

OPTIONS

- Data logging and SPC Statistical Process Control software module
- Data transfer and interconnection to the company network (Industry 4.0)
- Additional 100 x 100 mm (4" x 4") Field of View CCTV camera
- Software for alpha-numeric Marking
- Automatic opening of the door
- Motorized Focus Adjustment
- Probe card assembly station
- Motorized Z-axis for Product Height adjustment
- Step and Repeat table with Linear motors
- Laser power read out with portable Power Meter
- Water chiller (only for lamp pumped source)
- Exhaust aspirator and filtering
- Optical attenuation Filters and lenses for Thin Film trimming





ALS300 with automatic Loading/Unloading



AUTOMATIC LOADING/UNLOADING



AUTOMATIC HANDLING

- In-field Upgrades of stand-alone ALS to an automatic line
- Product / carrier size up to 150 x 150 mm (6" x 6")
- Aurel AH150C Handlers from cassette-to-cassette operation
- Aurel AH150S Handlers from stack-to-stack operation
- Aurel Conveyor modules for in-line Integration

LASER SOURCE

	DIODE PUMPED	LAMP PUMPED
Type	Q-Switched	Q-Switched
Nominal power	3 ÷ 12 W	50 W
Wave length	532 nm, 1064 nm	1064 nm
Gain medium	Nd:YVO ₄	Nd:YAG
Pulse frequency	1 ÷ 200 kHz	0,1 ÷ 20 kHz
Depth of focus	0.4 mm	0.4 mm
Cooling system	Air	Water

BEAM POSITIONING SYSTEMS

	X-Y STAGE SYSTEM	GALVANOMETER SYSTEM
Resolution	3 µm	1.7 µm
Repeatability	20 µm	3.5 µm
Max positioning speed	400 mm/sec	80000 mm/sec
Cut speed	0.001 ÷ 100 mm/sec	0.4 ÷ 200 mm/sec
Spot size	20 ÷ 80 µm	45 ÷ 80 µm
Field size	200 x 300 mm	110 x 110 mm or 160 x 160 mm

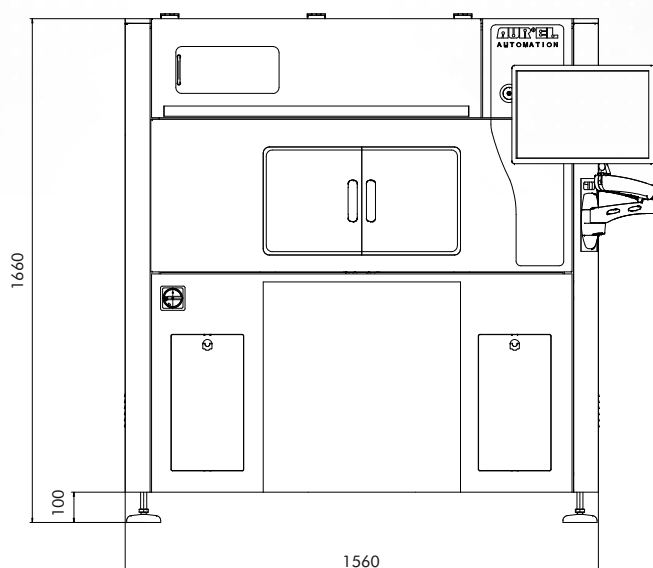
AUTOMATION

Basic version with manual loading
In-Field upgrade to auto handling
Substrate/Carrier handling modules
Conveyor modules for line integration

DIMENSIONS & UTILITIES

Dimensions	1000W x 1560L x 1660H mm (plus monitor on adjustable arm holder)
Outside weight	Approx. 850 kg
Compressed air supply	Consumption < 5 ate 50 NI/min
Power supply	230V / 1ph / 50-60 Hz (Diode pumped) 400V / 3ph / 50-60 Hz (Lamp pumped)

FRONT VIEW



SIDE VIEW

