

Product Name :
Laser PIV System**Product Code :**
ALABS-A113-006**Description :****Laser PIV System**

- Solid-state air-cooled 200 mW, 660 nm laser diode (Class 3b).
- Standard optics produce a c. 3 mm thick, 45° light sheet (c. 200 mm wide at 250 mm).
- Interchangeable 22° light sheet optic available (item H41-3).
- Pulse separation (?t) of between 100 μ s – 5 s (in steps of 10 μ s).
- Pulse width of between 10 μ s – 32 ms (in steps of 10 μ s).

Camera:

- Super-sensitive VGA CMOS sensor: 640 * 480,

-6.0 μ m pixels (1/3? format);

--50% quantum efficiency at 660 nm;

-75 – 110 dB dynamic range;

-4.8 V/lux·sec sensitivity.

- Trigger input enables image pair acquisition to be synchronised with external events.
- Accepts standard CS- or C-mount lenses (12.5mm f/1.4 lens supplied).
- Camera exposure can be linked to the laser's pulsing, thereby enabling operation in a lit room.

Software Processing:

- Data refresh and recording rate up to 16Hz (dependent on the computer speed, the selected acquisition and PIV analysis parameters and the recording taking place)
- Real-time, or offline, 2-component vector calculation.
- Single pass or adaptive multi-pass cross-correlation with 8, 12, 16, 24, 32 or 64 pixel window sizes.
- 0% or 50% window overlap (i.e. maps of up to 19,000 vectors).
- Optional vector interpolation and filtering based on:

User-supplied velocity limits;

RMS of neighbouring vectors' values.

- Calculation of the following derived scalars:

- Vector angle and magnitude;
- Vorticity and swirl;
- Time-averaged mean velocity;
- RMS and turbulence intensity.
- Where applicable, vector component and statistical sample number are user-defined

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