

# ultraLDV™

## An ultra-stable Laser Doppler Velocimeter

The ultraLDV is ideal for applications where extreme stability and extreme precision is required. The ultraLDV is an integrated system with the laser source, ultra stable frequency shifting, and processing electronics housed in one enclosure. The ultraLDV requires no alignment or calibration by the user.



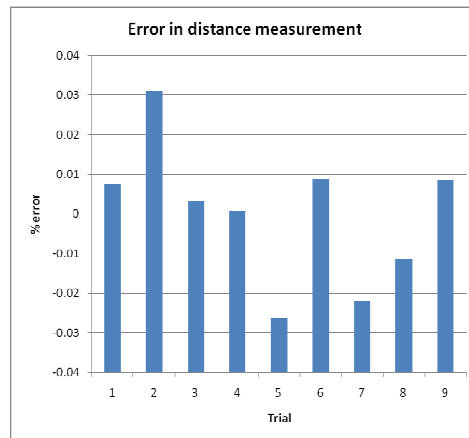
*The ultraLDV probe, the size of a small shoebox, is self-contained and permanently aligned; no calibration required by the user. The probe contains a laser, transmitting and receiving optics, and processing engine.*

### ADVANTAGES OF THE ULTRA LDV:

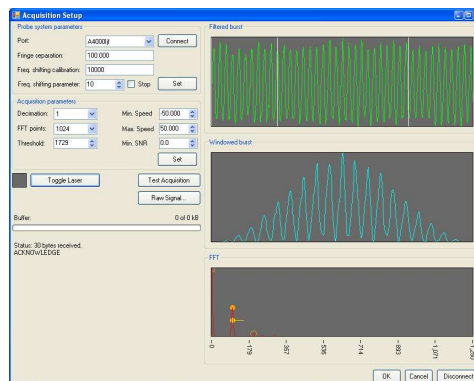
- Non-intrusive fluid and solid velocity measurements.
- Optimized to achieve high precision measurements of low velocities (mm/s to m/s)
- Frequency shifting feature allows measurement of direction along with speed.
- Works with all type of fluids
- Laser source, optics, frequency shifting, processing engine, integrated in one enclosure.
- No moving parts makes it suitable for onboard instrumentation.
- No alignment needed.
- No calibration needed.
- Computer controlled traversing system optional.
- Software controlled automated profile measurement.
- Waterproof and temperature resistant housing option.

### APPLICATIONS INCLUDE:

- Steady or oscillatory flows in laminar or turbulent regimes.
- Laboratory experiments and onboard instrumentation with limited space.
- Particularly suited for low speed flows (mm/s to m/s).
- Wind, water, oil tunnels or channels



*Extremely high precision, even in integrated measurements.*



*The user-friendly interface of the Burst Processor software complements the probe's ease of setup.*

| MEASUREMENT SPECIFICATIONS |                 |
|----------------------------|-----------------|
| Velocity range             | -8 to 100 m/s*  |
| Repeatability              | TBD             |
| Accuracy                   | 99.8% or better |

| PROBE VOLUME             |  |
|--------------------------|--|
| Size (air) (x by y by z) | 70 by 70 by 500 $\mu$ m (depends on standoff distance) |
| Standoff distance (air)  | 100, 300, 400 mm*                                      |

| PROBE SPECIFICATIONS |  |
|----------------------|--|
| Weight               | 10 lb (5 Kg)                               |
| Dimensions           | 13.5 x 5.0 x 9 inches (340 x 130 x 225 mm) |

| LASER SPECIFICATIONS |            |
|----------------------|------------|
| Laser power          | 110 mW     |
| Wavelength           | 658 nm*    |
| Laser type           | Class IIIb |

| OPERATING PARAMETERS |                                 |
|----------------------|---------------------------------|
| Temperature          | 0 to 65°C                       |
| Pressure             | Atmospheric                     |
| Computer             | Laptop or PC for data recording |

| OPTIONAL FEATURES   |  |
|---|--|
| Software controlled traversing stage for profile measurements |  |
| Battery operated  |  |

| POWER SUPPLY |  |
|--------------|--|
| 12 Volt DC   |  |

\* Please specify the desired velocity range, standoff distance and laser wavelength

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