ViSense Corporation
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MiniLDV™ Product Specifications

Product ID:	**1D MiniLDV-50™ Probe with VioBP-1™ Burst processor**
Description:	miniature laser Doppler velocimeter system
Measurement:	velocity component U, perpendicular to fringes
Principle of operation:	Doppler effect
Laser:	laser diode
	wavelength: 785 nm
	power: 30 mw
	cable length: 15', other lengths available
Probe volume:	size, d_x x d_y x d_z: 200 x 30 x 60 um, typical
	standoff distance in air, D: 50 mm, typical
	fringe spacing: 4.6 um, typical
	beam separation: 7.6 mm, typical
Photodector dynamic range:	DC - 10 MHz, 4kHz - 100 MHz also available
Digitizer:	sampling rate: 100 MS/s
	bandwidth: 100 MHz
	timestamp resolution: 2 ns
	max. output data rate: 10 kHz
	input buffer size: 16 MB, 32 MB also available
Velocity:	range: 0.004 - 46 m/s, .018 - 460 m/s also available)
	resolution: .1%, typical
	accuracy: .3%, typical, depends on SNR
Software:	National Instruments LabVIEW(R) runtime
	Outputs: $U_{i,\ i = 1, N}$, U_{bar}, U_{rms}
	U_{bar} (x,y,z), U_{rms}(x,y,z), using optional traverse
PC requirements:	PCI bus, Windows 2000(R), Intel Pentium4(R) recommended
Power:	110 v. AC/ 5 amps, DC and 220 v. AC versions, available
Operating temperature range:	0 - 40 ^{0}C
Probe:	size: 38 mm (diameter) x 100 mm (length)
	weight: 200 g

Product ID:	**1D MiniLDV-100™ Probe with VioBP-1™ Burst processor**
All specifications same as MiniLDV- 50™	*Probe with VioBP-1™ Burst processor, except:*
Probe volume:	size, d_x x d_y x d_z: 400 x 60 x 120 um, typical
	standoff distance in air, D: 100 mm, typical
	fringe spacing: 9.3 um, typical
Velocity:	range: 0.008 - 92 m/s, .036 - 930 m/s available

Product ID:	**1D MiniLDV-150™ Probe with VioBP-1™ Burst processor**
All specifications same as MiniLDV- 50™	*Probe with VioBP-1™ Burst processor, except:*
Probe volume:	size, d_x x d_y x d_z: 600 x 100 x 200 um, typical
	standoff distance in air, D: 150 mm, typical
	fringe spacing: 14.0 um, typical

Velocity: range: 0.012 - 140 m/s, .054 - 1,400 m/s available

Product ID: **1D MiniLDV-200™ Probe with VioBP-1™ Burst processor**

All specifications same as MiniLDV- 50™ Probe with VioBP-1™ Burst processor, except:

Probe volume: size, d_x x d_y x d_z: 1,600 x 150 x 250 um, typical
standoff distance in air, D: 200 mm, typical
fringe spacing: 20 um, typical

Velocity: range: 0.020 - 200 m/s, typical

Product ID: **1D MiniLDV-250™ Probe with VioBP-1™ Burst processor**

All specifications same as MiniLDV- 50™ Probe with VioBP-1™ Burst processor, except:

Probe volume: size, d_x x d_y x d_z: 3,000 x 170 x 260 um, typical
standoff distance in air, D: 250 mm, typical
fringe spacing: 27 um, typical

Velocity: range: 0.020 - 230 m/s, typical

Product ID: **2D MiniLDV-fs-500™- Probe with VioBP-2™ Burst processor**

All specifications same as MiniLDV- 50™ Probe with VioBP-1™ Burst processor, except:

Measurement: velocity component U, V perpendicular to fringes

Laser: wavelength: 785 nm, 660 nm
power: 30 mw, 25 mw, respectively, typical

Probe volume: size, d_x x d_y x d_z: 3,000 x 200 x 300 um, typical
standoff distance in air, D: 500 mm, typical
fringe spacing: 30 um, typical

Velocity: number of components: 2
range (both components): -60 to 240 m/s, typical
resolution: 30 mm/s, typical

Software: Outputs: $U_{i,\ i = 1,\ N}$, U_{bar}, $U_{rms,}$ $V_{i,\ i = 1,\ N,}$ $V_{bar,}$ $V_{rms,}$ uv_{bar}
U_{bar} (x,y,z), U_{rms}(x,y,z), using optional traverse
V_{bar} (x,y,z), V_{rms}(x,y,z), uv_{bar} (x,y,z) using traverse