VLESS

Scanning Laser Doppler Vibrometer

VLESS TP-LSV-400
Scanning Laser Vibrometer
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Laser Doppler Vibrometer

Product Introduction

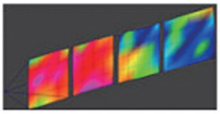
The scanning laser vibrometer adopts non-contact measurement, which can not only accurately measure the vibration, displacement, and acceleration of various objects, but also perform ODS and modal analysis. This product can be widely used in NVH, structural mechanics analysis, acoustic testing, ultrasonic, automotive and other application fields.

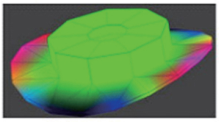
Key Features and Benefits

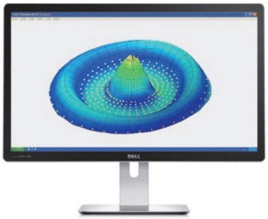
- Modular design, a variety of decoders can be selected, and a wide range of applications.
- Frequency range up to 100kHz (expandable to 3MHz)
- ODS and modal analysis possible
- Non-contact measurement of vibration of the measured object.
- Auto focus possible.

Decoder					
Velocity Decoder	**Description**	**Bandwidt**	**Range**	**Measure Maximum Velocity**	**Best Velocity Resolution**
VS-03	Intermediate Frequency Velocity Decoder	0.5Hz-50kHz	3	±500mm/s	0.1μm/s/√Hz
VD-16	Wideband Digital velocity decoder	0-3MHz	16	±10m/s	0.01μm/s/√Hz
Displacement Decoder	**Description**	**Bandwidt**	**Range**	**Measure Maximum Velocity**	**Best displacement resolution**
DD-21	Wideband Digital Displacement Decoder	0-3MHz	21	±2m	1pm
DD-16-25M	UltraWideband Digital Displacement Decoder	30kHz-25MHz	16	±500μm	15pm

Software Function	
Professional Distribution	Arbitrarily defined scan points
Model Building	Support rule model layout function Support custom model layout function Combination function、zoom in、 zoom out、rotate、Multiple fill modes
High Resolution Scan	Up to 512*512 scanning point density, extremely high spatial resolution
Fast Sweep	Fast sweep, typically used to analyze the response of a structure at a single frequency
Rescan function	For measuring points with poor signal quality, you can choose to rescan
Demonstration Animation	Acquire time domain data throughout the scan，demonstration animation Can display mode shape animation in different frequency domains Can display mode shape animation at different orders Support custom adjustment of animation amplitude ratio and playback speed
Extended FFT Lines	Various options to extend the number of FFT lines to 819200
Data	Support data import and export functions







Technical Data

TP-LSV-400 Optical head parameters

Size（L*W*H)	399mm x 223mm x 166mm
Weight	11.5KG
Measuring Laser	632.8nm
Laser Power	＜1mW ClassII
Working Distance*	0.2-20m（Depends on the surface of the test object)
Scan Angle	40°x50°
Scan Parameters	Angular resolution＜0.001°,Angular stability＜0.001°/h,Max 30 points/sec
Camera360	360x focus(30x optical zoom*12x digital zoom)
Mechanical Interface	1 1/4-20 thread(For attaching a tripod),4M6thread Class II

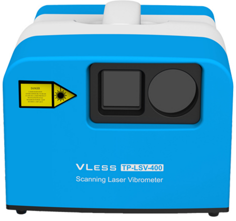
*Customized services according to customer requirements to achieve different working distances

TP-LSV-400 Control box parameters

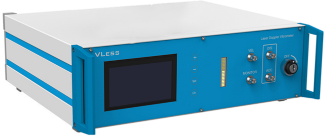
Size（L*W*H)	450mm x 421mm x 149mm
Weight	10.5KG
Analog Output	BNC interface output
Digital Output	Rj45 Gigabit Ethernet port
Maximum Bandwidth	100kHz（3M Can be expanded to 3M according to customer needs)
Maximum Velocity	±10m/s
Filter Settings	High pass filter、Low pass filtering，Tracking filter
Maximum Linearity Error	1.0%
Displacement Resolution	1pm
Velocity Decoder	VD-16 Wideband Digital velocity Decoder
Displacement Decoder	DD-21Wideband Digital displacement Decoder
Power Supply	100 VAC ... 240 VAC±10%，50/60 Hz

Environmental Conditions	Operating temperature: +5°C...+40°C（41°F...104°F） Storage temperature: -10°C...+65°C（14°F...149°F） Relative humidity：Max 80% condensation

Scanning laser Doppler vibrometer



Scanning Optical Head



Scan control box

Optional Accessories

Instrument Case

Workbench

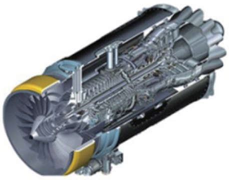
Vibration isolation table

Fixed accessories

Tripod

Benefits for Challenging Applications

Machine tool industry

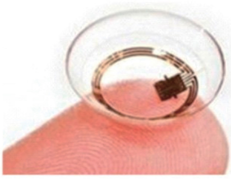


Aerospace

Appliance industry

Automobile industry

Data storage



MEMS

Ultrasound industry

New material