



INTELLIGENT
TUNNEL
SYSTEM
SOLUTION



Vigor Technology

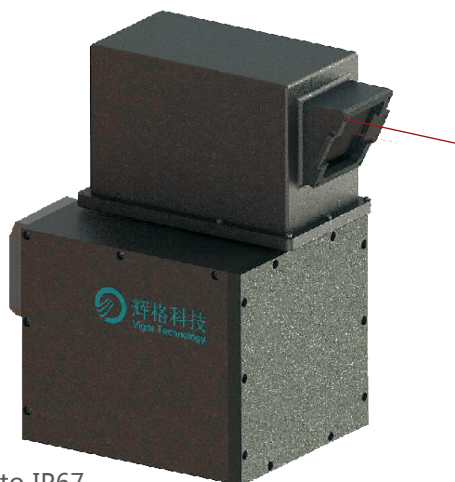
SSH0802 series 3D Laser Scanner for Tunnel

Function description

- Special structure designed for tunnel scanning measurement;
- Construction machinery grade anti-seismic, waterproof and dust-proof design, can be directly installed on the platform of construction vehicle to ensure the working ability in engineering environment;
- Large spot infrared ranging combined with coaxial red light direction can meet the requirements of high dust, high humidity measurement and high precision positioning in construction environment;
- Independent and modular products, with versatility, suitable for system integration requirements;
- Self-positioning function, with the control point to achieve equipment self-positioning and orientation, to ensure data consistency;
- Self-calibration function, simple on-site calibration function to ensure measurement accuracy;
- Optional manual operator or upper computer operating mode, which can provide enough operation convenience for engineering environment;
- Real-time data acquisition and processing capabilities to provide feasibility for real-time data applications;
- Universal and convenient data interface, easy to be embedded in any workflow, real-time data interaction with upper-level vehicle control system and monitoring platform system;
- Meet the needs of long-term use.

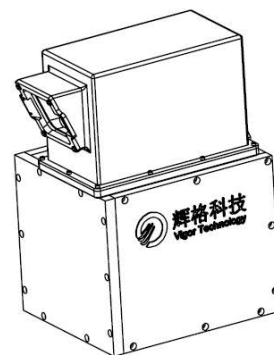
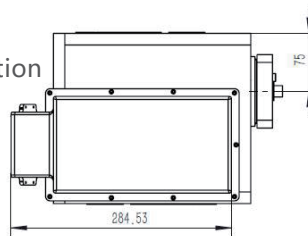
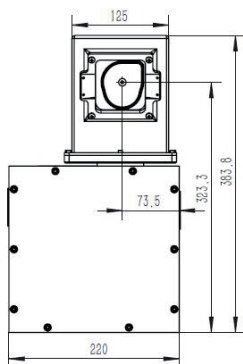
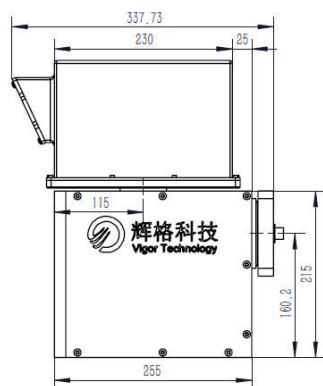
Product description

- Non-contact measurement;
- The measurement distance up to 60m;
- Relative measurement accuracy ≤ 2 mm;
- Absolute positioning accuracy ≤ 3 cm;
- Dual-axis rotation angle $\pm 170^\circ$;
- Industrial Ethernet port;
- Convenient and easy to install;
- Easy-to-use interface;
- Plug and play design;
- Reinforcement design of the whole machine with high strength aluminium alloy material
- Good sealing design, protection level can be upgraded to IP67.



Typical applications

- Intelligent application of wet spraying machine for tunnel
- Intelligent application of drilling jumbo for tunnel
- Vehicle location and digital application in tunnel Construction



SSH0802 series 3D Laser Scanner for Tunnel

	Parameter	Specific index
Equipment overall	3D scanning	Measuring distance : 60m ; Infrared ranging : resolution 0.1mm, repeatability $\leq \pm 3\text{mm}$; Measurement error : 2mm ; Scanning mode : vertical equidistant step ; Ranging time : 0.5ms ; Goniometer time : 0.5ms ; Spot diameter : 23cm@30m ; Data interface : Ethernet ; Output data : 3D point cloud and surface model (Standard) Applied data analysis results (Optional)
	Positioning accuracy	Absolute accuracy 3cm
	Protection level	IP66
	Operation temperature	-20~70°C
	Power consumption	24VDC , max power 125W
	Shock	100g@0.5ms , three-axis (half-sine)
	Vibration	4grms , 20 ~ 2000Hz
	Dimensions	220*346*384 mm
	Protection	With anti-polarity power supply protection, over-current self-recovery protection, automatic lock-in protection after power failure, position memory
Biaxial characteristics	Principal axis rotation angle range	$\pm 170^\circ$
	Small axis rotation angle range	$\pm 170^\circ$
	Principal axis rotation speed	$\geq 10^\circ/\text{s}$
	Small axis rotation speed	$\leq 60^\circ/\text{s}$
	Angular acceleration	$\geq 30^\circ/\text{s}^2$
	Absolute encoder	22-bit single-loop absolute value
Ranging laser	Laser grade	class 1
	Spot diameter	230mm @ 30m distance
Indicator laser	Laser wavelength	660nm , Visible red light
	Laser class	class 2
	Spot diameter	40mm @ 30m distance
Vibration	Random vibration test according to GB/T 2423.56. Qualified by random vibration test of third-party professional verification institution in the working mode of GB/T 28046.1.	

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