机器视觉

LS22系列高速线激光轮廓仪

LS22 Series High-Speed 3D Laser Profiler

知它视觉 ZT VISION TECH



面向工业在线检测的高性能三维测量传感器，适用于高度、轮廓、台阶、间隙、面差、胶路及焊缝等检测场景。

A high-performance 3D laser profiler designed for industrial inline inspection, suitable for height, profile, step, gap, flushness, glue bead and weld seam inspection.

产品特点

高速高密度轮廓采集

High-Speed & High-Density Profile Output

最高8000Hz扫描频率，单条轮廓最高2048点输出，适用于高速连续产线检测。
Up to 8000Hz scan rate and 2048 points per profile for high-speed inline inspection.

微米级高度测量能力

Micron-Level Height Measurement

Z向重复精度低至0.2 μm，适用于高度差、台阶、平面度及微小形貌检测。
Z repeatability as fine as 0.2 μm for precise height, step, flatness and surface profile inspection.

405nm短波长激光成像

405nm Short-Wavelength Laser

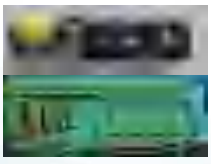
405nm短波长激光，线宽更细、边缘更清晰，有利于提升细节识别能力。
405nm short-wavelength laser delivers a fine laser line and sharper profile edges.

易集成工业结构

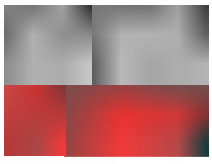
Compact Industrial Design

紧凑结构设计，适用于机器人、运动平台及自动化检测系统集成。
Compact industrial design for integration into robots, motion stages and automated inspection systems.

应用场景



焊接线材检验
Welding Wire Inspection



高度/平面度
Height & Flatness



pin针高度和歪斜检测
Pin Height And Skew Detection



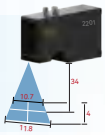
PCB高度判断
Pcb Height Detection

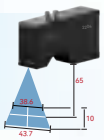
检测结果展示

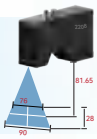
检测结果能力展示：
1. 实时轮廓曲线：高度差、宽度、面积、偏移量。
2. 胶路/焊缝截面：OK/NG判定与缺陷区域标注。
3. 高度图或点云：展示三维重建与表面形貌。

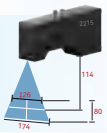
Inspection results can include profile curve, glue/weld cross-section with OK/NG, height map and point cloud display.

产品系列

LS2201 

LS2204 

LS2208 

LS2215 

产品参数

技术参数 Technical Data	LS2201	LS2204	LS2208	LS2215
测试范围-Z(mm) Measurement Range(Z-axis)	±2	±5	±14	±40
视场(近/中/远)(mm) FOV(Nea|Mid|Far)	10.7|11.3|11.8	38.6|41.1|43.7	76|83|90	126|155|174
分辨率-X轴(μm) Lateral Resolution (X-axis)	5.5	16	40	73
Z轴重复性(μm) Z-Repeatability	0.2	0.5	0.8	2.5
Z轴线性度 Z-Linearity	0.015%of F.S	0.012%of F.S	0.018%of F.S	0.012%of F.S
采样率(Hz) Scan Rate	1400-8000			
波长(nm) Laser Wavelength	405			
最大点数(Pts) Maximum Points	2048			
工作距离(mm) Working Distance	34	65	81.65	114
重量(g) Weight	1130	1140	1180	1260
产品尺寸(mm) Size(LxWxT)	175*100*52	200*105*52	187*108*52	241*108*52
防护等级 Enclosure Rating	IP67, IEC 60529-2013			
冲击 Shock(3Axis)	15G, IEC 60068-2-27			
振动 Vibration	2G, 20-500Hz, IEC 60068-2-6			
工作温度 Operating Temperature	0-45℃			
工作湿度 Operating Humidity	10-85%RH			
电器安全标准 Electrical Safety	EN61010-1			
环境光 Maximum Ambient Light	10,000 lx			

注：扫描频率取决于型号、ROI、曝光时间及输出点数；如需满点高速输出，请以实际测试和选型确认结果为准。
Note: Scan rate depends on model, ROI, exposure time and output points. Full-point high-speed output should be confirmed by application testing.

数据输出与系统集成

数据输出 Data Output	软件开发 Software SDK	工业集成 Industrial Integration
轮廓数据 Profile Data 点云数据 Point Cloud 16-bit TIFF / CSV	C++ / C# / LabVIEW SDK 客户上位机二次开发 HALCON / VisionPro 数据对接	GigE Vision / GenICam PLC OK/NG结果输出

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