

XL7800

X-Ray Inline Inspection Equipment

XL7800 is a high-end inline X-ray automatic inspection system with strong penetration capability, high magnification, high resolution, large inspection area, and 2.5D imaging. It allows comprehensive observation of internal defects in products. Featuring open X-ray tube design, its defect inspection capability can reach up to $1\mu\text{m}$. The system is equipped with innovative self-developed intelligent inspection software and AI Inspection algorithms, enabling fast and precise automatic inspection. It is ideal for full inline automatic inspection of automotive power management control components (MCU/ECU/IGBT) and power devices, improving inspection efficiency and ensuring product quality and safety for automotive-grade components.

Product Features

Application Range: Full automatic inline inspection of products like MCU, ECU, IGBT, and power devices.

360° Inspection: 60-degree tilting flat panel / 360-degree parallel rotation, 2.5D imaging.

Compatibility: Strong penetration, high resolution, and large inspection area.

AI Intelligent Inspection: Precisely detects defects such as voids, insufficient soldering, and solder bridging.

Customized Safety Inspection: AI Inspection models can be tailored according to user-specific requirements.

Fast Programming: Guide-style inspection template editing for simple and efficient setup.

Barcode Data Traceability: Associates barcode information with inspection results, supports integration with MES systems.

Data Management: SPC statistical analysis and verification re-checking.

Multiple Safety Protections: Real-time radiation monitoring, safety interlocks, and automatic X-ray source shutoff in idle states.



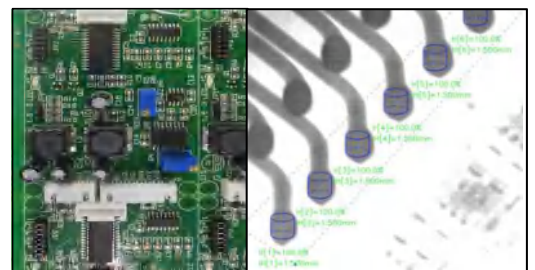
Product Parameters

Model No.		XL7800
X-Ray Tube	X-Ray Tube Type	Open X-ray source
	Tube Voltage	20-160KV
	Tube Current	0-1.0mA
	Maximum Output Power	64W
	Micro Focus Size	0.6-5 μm
Flat Panel Detector	Flat Panel Type	Amorphous Silicon Flat Panel Detector
	Pixel Matrix	1536x1536
	Field of View	130mmx130mm
	Resolution	5.8lp/mm
	Image Frame Rate (1x1)	20fps
	AD Conversion Digits	16bits
Equipment Specifications	Input Power	220V \pm 10% 50-60Hz
	Operation System	Industrial Computer Win10 64 bits
	Dimensions	L1870mm \times W2150mm \times H2300mm
	Net Weight	4430 KG

Inspection Images



Inline Inspection of tin-penetration of automotive power modules



Inline inspection of new energy vehicle control panel

Core Features of the Conveyor System



- ▶ **Wide Adjustable Load Rail Width Range:** The load rail can accommodate products up to 480x500mm in size. The flexibility of the load rail is excellent, as it can move not only left and right, but also forward and backward. Additionally, the conveying direction can be adjusted according to the direction of the production line, allowing for both left-to-right and right-to-left operations.
- ▶ **Load Capacity:** The load rail can support up to 30KG.
- ▶ **High Precision Motion Control:** Ensures precise control of the conveying mechanism.

360° Rotating Observation Mode

- ▶ **Convenient 360° Fixed-point Observation Mode**
- ▶ The system allows for a 360° observation without dead zones for inline inspection.
- ▶ **Large Rotation Angle of the Mechanism:** The device is highly compatible with various applications.
- ▶ **2D/2.5D Imaging**

The system is designed to handle the different components and internal structures of various PCB boards. A single-angle imaging may lead to interference or ghosting, causing false judgments or missed inspections. However, this mechanism can capture and assess images from multiple angles, greatly enhancing the system's inspection capability and compatibility.



Intelligent Micro-focus X-ray Source Technology-
Utilizing the FeinFocus solution, the system achieves a minimum defect resolution of 0.6μm and clear internal structure imaging.

High Resolution and Supports Inline Inspection

High-Resolution & High-Power Target Parameters:

- ◆ 250μm heat dissipation material covered with 2μm tungsten layer. Replaceable and rotatable, extending service life), maximum target power 15W
- ◆ The minimum distance from the focus to the object is 0.25 mm, which can achieve high magnification, high power target and MFT tube. When the target power is <1W, the minimum defect inspection capability is 0.6 μm, which can be used for nano-level defect inspection.
- ◆ Using negative feedback control technology to continuously control the intensity of X-rays
- ◆ Output stable X-ray intensity for a long time
- ◆ Ensures that image quality does not change with external environmental influences

