rmi | 瑞茂光学

XC-3100

High Precision X-Ray Counting

X-Ray Counting Series Offline X-Ray System, High-speed Counting and Stocktaking

Tape reel, JEDEC reel, IC moisture sensitivity package

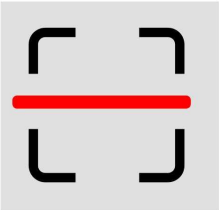
XC-3100 is mainly used for high-speed counting of reel materials in the SMT industry. It can count 7-15 inch Tape Reel/JEDEC reel/IC moisture sensitivity package and other materials. Material types include all resistance and capacitance materials and IC materials. Use X-Ray imaging technology to detect production materials and obtain image information for high-speed counting, and connect equipment data information with the customer's MES system.

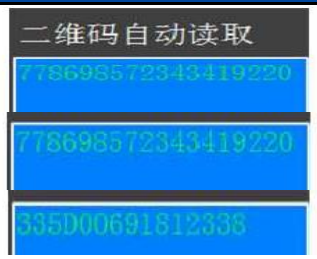
Function Interpretation:

Inductive printing material label function

The inductive printing material label function effectively prevents mislabeling, random labeling, and missing barcode labeling, and improves the accuracy of information input.

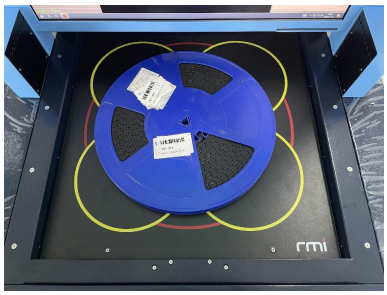
Automatic reading of QR code function (optional)





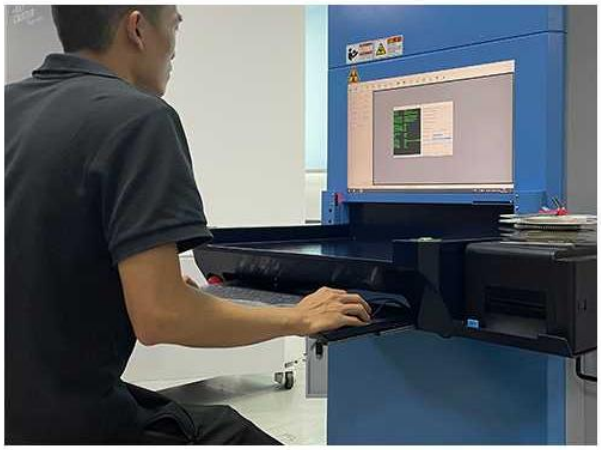
Save time and improve efficiency, automatically read barcodes

Can count multiple materials at once, or single material



Select single / multiple inventory mode according to requirements

Compared with Traditional Counting Machine：



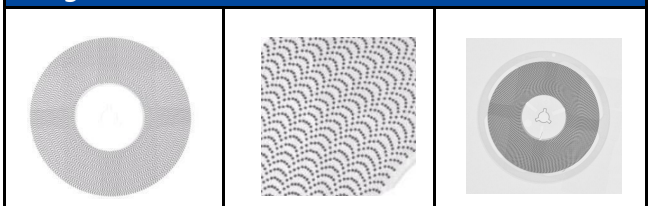
	XC-3100 intelligent counting machine	Traditional counting machine + manual
Counting speed	6-10S/4 reels	80S/reel
Inventory cycle	Fast and efficient: The XC-3100 can handle several days of manual inventory work in a matter of hours. Material label error-proofing mechanism, full induction recognition of material reels, real-time connection with the printer, pick up any reel of materials and instantly print the material information of the reel.	A longer period: It takes a day or more for a document to be filled in, collected, and entered on the keyboard. This forces the production scheduler to set a delivery date for the user based on the inventory information from the previous few days or even a week ago.
Data transfer	To achieve data upload and synchronization: Intelligent cloud control, the pictures of the material reel ordered by each device every day will be automatically stored in the cloud database through the Internet.Engineers will optimize these pictures in the background, and then update the optimized data of various material reels to the database every month to improve the accuracy of material inventory counting. The longer the time, the higher the accuracy of the material reel will be, with an accuracy rate as high as 99.99%. There is no need to spend 3-5 days entering the material reel data in the factory. Users can use it directly, and the accumulated counting database is shared with all machines. With more data, the counting is more reliable and accurate.	Using the manual calculation method: The calculations need to be listed one by one according to the packaging list of the products. When calculating multiple products with semi-finished products nested in the middle, it will be a very cumbersome task, and it is difficult to achieve accurate and timely calculations. And the inventory must be checked before the inventory report can be obtained.
Accuracy	The accuracy rate is higher: (1) Using X-ray imaging technology to detect production materials and obtain image information, and then quickly counting through the image algorithm independently developed by Sxray Raysolution, the actual quantity of materials can be obtained. At the same time, the number of materials can be classified and counted according to categories, and Equipment data information is connected to the customer's MES/ERP system, and data is exchanged in real time, greatly reducing the probability of inventory errors and ensuring accurate data. (2) The operation of the X-ray counting machine is simple and easy to understand, more convenient, and the counted products are neat and orderly. Moreover, the X-ray counting machine automatically counts materials with high precision and zero error. It can work 24 hours a day without resting during work.	Information is prone to errors: (1) When the workload is heavy, manual input often leads to problems such as transcription errors, typing errors, omissions, etc., resulting in a lot of ineffective labor and repeated work. This leads to inaccurate electronic component inventory information and increases corporate inventory. (2) When time is limited, manual counting sometimes fails to place materials in an orderly manner.

Features and Advantages:

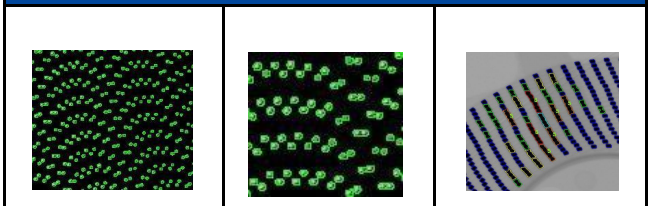
Functions	Inductive printing of material labels
	Can count 4 material reels at once, or one single reel
	Intelligent code reading (optional)
	Data management
Features	0201 as an example, the identification accuracy is as high as 99.99%
	Can count special-shaped materials, bulk materials, or multiple reels
	Auto fluoroscopic imaging, auto analysis, auto counting
	No operating table, equipped with a touch industrial monitor to save space
	Read all labels of the material reel and output to MES
	Connect to MES, and data updated automatically
Advantages	Different material reels can be counted and images can be captured at the same time. Automatic numbering/counting
	6-10 seconds for a quick counting
	Reduce the number of processes, shorten process routes, and improve efficiency
	Comes with its own database and provides query and printing

AI Algorithm Principle:

Original

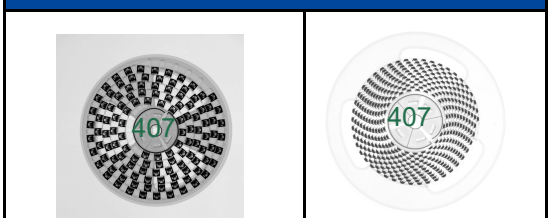


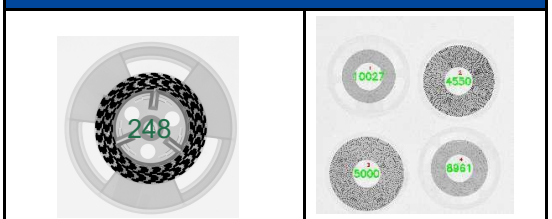
Measured image

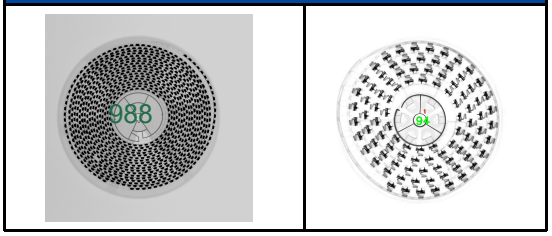


Measured data

Calculation Legend:







Specifications:

	Model	XC-3100
Tube	Tube	Enclosed type
	Spatial resolution	30μm
	Tube voltage	50kV (no more than 80kV)
	Tube current	89uA max
Detector	Image taking type	Flat-panel Digital
	Imaging precision	139μm
	Image size	430*430mm
	Dpi	3072*3072px
	Pixel precision	≤2μm
Code reading camera	Image taking speed	5 EDS/s
	Code reading pixels	20 million / inch
System	Miscalculation rate (0201)	≤0.01%
	Accuracy	99.99% (0201 as an example)
	Minimum part size that can be detected	008004
	Record keeping requirements	Save by day, no capacity limit, TXT.CSV.XLS
	Operating system	WINDOWS 10
	Power supply	AC110-220V50-60HZ
	Power	1200W
	Radiation safety test	<1 uSV/H
	Repeatability test	≥2.0sigma
	CYCLE TIME	≤10s / time
Structure	Material counting speed	6-10 S / 4 reels (CHIP 0201)
	Max diameter of the material reel	415mm (4-15INCH)
	Max height of the material reel	1-80mm
	Max weight of the material reel	≤10kg
	Machine size	730*1460*1960mm(L*W*H)
	Machine size (including printer)	950*1460*1960mm(L*W*H)
	Machine weight	450kg
	Stage movement mode	Auto-mode
Safety	CE Certificate	Yes: STE23112103S
	State immunity	Yes
	Radiation Safety Permit	Yes: Guangdong Environmental Radiation Safety Permit [B0640]