



**SHENZHEN ZHUOMAO TECHNOLOGY CO., LTD**

Address: 10 Building , Huaide Cuihai Industrial Park , Fuyong Street , Bao'an ,Shenzhen, China.

[Http://www.seamarkxray.com](http://www.seamarkxray.com)

Tel: +8618779975930

Fax: 0755-29929953

Email: [sales25@zhuomao.com.cn](mailto:sales25@zhuomao.com.cn)

## SMD Reel Counters, Why use MES X ray Counter

Website: [www.seamarkxray.com](http://www.seamarkxray.com)

### Xcounting X1000 – the booster for modern pick and place applications

Today, mass-market electronics are manufactured almost exclusively on high-performance assembly machines. Time is literally money. Therefore, two aspects are of particular importance: maximum throughput and minimum changeover time. When it comes to the necessity of counting components before or after the assembly progress most manufacturers are still using the old-fashioned approach of manual counting devices. Seamark ZM, as a specialist for X-ray systems and automation, developed the Xcounting X1000 in order to speed up this time consuming process.

The counting results are directly transferred to MES or ERP systems. Common solutions, like FUJI Trax, Nexim, Cogiscan, SAP, BaaN, Foxconn and many more are already pre-implemented, while custom systems can be easily connected through an open database interface. This leads to a further process safety and efficiency increase. The Xcounting X1000 is Industry 4.0 ready and can be integrated to traceability systems. That allows to monitor critical KPI's for quality management purposes.

**SMD Component Counter**

**X-Ray SMD Component Counter With AI**

**VS**

**Traditional Digital SMD Component Counter**

*High Reliability & Accuracy*  
*Less manpower cost*  
*Unknow Component Auto Counting*

*Lower Speed*  
*More manpower cost*  
*Less accuracy*

### Why is it necessary to count?

In times of decreasing margins manufacturers have to streamline their production. This includes the avoidance of inventory overhead and a reliable just-in time order strategy. An uncertainty in the component stock results in safety overheads up to 30%. Obvious



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consequences are a lot of bound capital, wasted material and loss of precious stock space. With accurate inventory knowledge it is possible to do an exact feeder pre-planning and less production-line stops. Every time a reel is used the uncertainty increases if no counting is performed.

**Youtube Demo:** <https://www.youtube.com/watch?v=gfXMi7MsZRU>

### **Industry 4.0: The Counting Cloud**

To maintain flexibility and increase utilization Seamark ZM developed the online Counting Cloud. Therefore, new component types don't have to be trained locally by engineers. Instead the new reels are directly submitted to our development team. Every system receives an automatic update on a regular basis. The extensive type database is continuously growing through a huge installed base of units worldwide. This leads to a constant improvement of the internal artificial intelligence and accuracy. This service also delivers new software updates and is completely free of charge.

### **Simplicity is the key - time is money**

A huge advantage of the Xcounting X1000 is the simple operation principle. The operator just has to place a reel in the drawer and presses one button. The result will be shown immediately. A sophisticated validation scheme delivers a warning in the unlikely case of

an uncountable reel. These reels can either be counted manually or submitted to the Counting Cloud. Therefore, this system does not need any regular engineer support and is maintenance free. Operators can be trained in a few minutes due to the simplicity.

The system has an average cycle time of 10 seconds including handling compared to several minutes with manual counters. Noteworthy is also that the counting time does not scale with the number of components – 50.000 components just take slightly longer than 5.000. Seamark ZM developed the first automated component estimation system based on an Artificial Intelligence (AI). This makes a prior type selection and a maintained type database obsolete. saving time and manpower cost. Even on new types the system will just detect the similarity and automatically use the best solution. In case of a completely new type a warning is shown and the reel can be submitted to the Counting Cloud. With every new type the system efficiency increases.

### **Basic principles - compact footprint**

The Xcounting X1000 is capable to process reels up to a diameter of 400mm and a height of 100mm. All common component types from small 01005 up to big connectors can be counted with an accuracy over 99%. Even sensitive components in antistatic or moisture



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bags can be counted with high accuracy. The cabinet itself has a small footprint of 1.25m x 0.85m and a height of 2.2m. To fulfill the demanding German safety standards, the system is certified by the German TÜV and has a CE certification. Barcode scanners, label printers, smart cameras and local networks can be easily connected.

### Specification:

Electrical connection	220 V, 50 Hz
System size (L x W x H)	1200 x 850 x 1900 mm
System weight	600 kg
Cycle time	< 12 seconds
Max. reel diameter	400 mm
Max. reel height	100 mm
Mean Accuracy	99%

### Highlights

- Fast Plug and Play setup in less than an hour
- Scan reels in moisture or ESD packaging
- Coverage of small component types like 01005
- Tray & Stick counting available
- Compact footprint and easy handling
- Integration of scanners and label printers
- Open warehouse-system interface
- Ergonomic touch-panel operation
- Short Return of Investment (ROI)
- Global online component database
- Designed and produced in Germany
- Trained first-line service worldwide
- Many successful installations globally
- Industry 4.0 solution for lean production
- Replaces old fashioned manual counters

### About Seamark ZM

Seamark ZM is a family owned company located in Shenzhen, China, and is a specialist for customized and standard X-ray systems and Chip BGA rework station. All our products are developed and produced locally and delivered as turn-key solutions. This leads to cutting edge performance and a high flexibility. Our goal is to solve our customers' problems with tailored systems and guarantee a premium post-sales service.

More than 14 years of expertise in classic like electronic and many more lead to an unmatched experience in X-ray technology and result in a superior global service network.



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Joy Rong

WhatsApp/wechat/Skype: +86 18779975930

Email: joyrongzhuomao@outlook.com

Email: sales25@zhuomao.com.cn

Web: [www.seamarkxray.com](http://www.seamarkxray.com)

LinkindIn: Rong Joy SMT X ray