

Packaging Machine Solutions

For Shrink Wrappers and Tray Sealers



*Build faster, more efficient
machinery through
innovative automation*

Costly Challenges

The highest quality shrink wrappers and tray sealers face many inherent technical challenges that can weigh down operating performance and efficiency, and cut into the end user's profitability day in and day out. Some of the primary issues are related to temperature fluctuations, registration quality, and unwieldy data logging solutions.

Working together, Omron can help you alleviate many of these chronic challenges, and make you an even more valuable partner to the customers you serve.



Consistent Temperature

The Problem:

Whether using heat to form the tray, seal the aluminum or plastic cover, blow the shrink wrap, or other aspects of your machine packaging operation, maintaining constant temperature reliably is a constant challenge. Variations in temperature can lead to numerous problems on the line, including improper sealing, product waste, reduced throughput and line downtime.

Your New Solution:

The Sysmac NJ controller scan time of 500 μ s combined with function blocks applying predictive control can accurately control the temperature through software. This is far more accurate than monitoring through standalone temperature controllers. The Sysmac system makes use of these registration inputs and uniquely executes motion and registration corrections at the same fast scan of 500 μ s. In addition, the Sysmac controller simultaneously coordinates every other variable related to forming and wrapping quality, such as tunnel time, conveyor speed, air blowing pressure and more to ensure the highest quality result at each step of the process.

Precise Registration

The Problem:

The relative position of web material and its print can change unpredictably while rolling at high speed and during speed change. Slow synchronization and coordination of servo motion with the registration marks leads to fluctuated placement, imprecise cutting, and incorrect package forming. Over all the result is low quality or low throughput. The result can not only damage a customer's brand, but also provide incomplete information to the customer, which can have other serious implications.

Your New Solution:

The G5 servo drive has 2 built-in high speed registration inputs at 5 μ s and the NX I/O has high speed time stamp to 1 μ s. In addition, the system also maintains extraordinary control of web tension, alleviating stretch or slack, especially during acceleration and deceleration. Further, Omron's unique rotary knife function block saves you programming time, and provides end users with an unprecedented level of coordination between the film roll and the cutting function.

Easy Data Logging

The Problem:

The archiving of manufacturing data is becoming vital for legal, regulatory and quality assurance reasons. Manual methods of data logging are labor intensive and prone to error, and most automated methods require additional PCs with custom-programmed middleware which can be costly and slow down production.

Your New Solution:

The Omron Sysmac NJ controller can feed data directly to an enterprise's existing SQL database without the need for additional computers or software programming. What's more, while middleware solutions typically take 1-2 s to transmit a data log entry, the Sysmac NJ controller can send the same data in about 20 μ s,* so impact on line speed is negligible.

*Notice: Database Type: SQL Server 2012
Server Spec: CPU - Intel Xeon® E31220 @3.10GHz
3.09GHz / Memory: 8.00GB / OS Windows 2008
Standard SP2 64bit
Data Size: 100-column record *NJ percentage of task execution time in the task period: 50%

Innovative Omron Solutions

The difference that can help you quickly develop better machines

ONE Controller

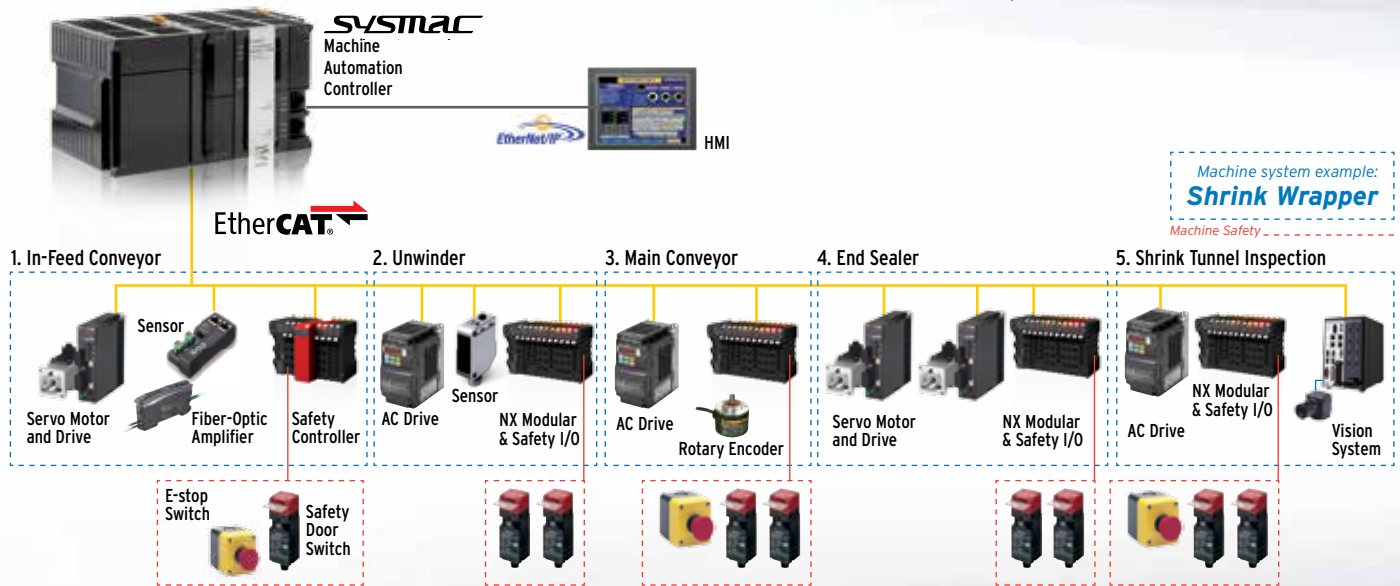
The Sysmac NJ controller tightly controls every aspect of machine performance, including logic, motion, sequencing, vision, safety, data logging and more, all in a single, highly robust unit.

ONE Software

Develop, commission, operate and maintain the machine with Sysmac Studio, an integrated software environment that makes it easy to optimize complete system performance.

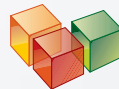
FAST Communication

The Sysmac architecture controls all field devices through the built-in high speed EtherCAT, a high performance, open protocol that delivers the highest throughput speeds possible on the factory floor.



Greater Throughput

The Sysmac NJ controller, advanced software and EtherCAT communication links delivers performance gains and flexibility that allow the end-user to strategically increase operating speed while maintaining accuracy and quality up and down the line. Greater accuracy means less chance for costly rejects which can reduce yield and damage brand equity. Changeovers are fast and easy too, with spreadsheet-based "recipes" readable at a glance.



Increased Modularity/Scalability

The highly flexible Sysmac system allows nearly unlimited room for growth and adaptation. You can scale your machines with different feature sets using the same controller, saving you time and money, increasing profitably and further speeding your time to market. Sophisticated new functions can be added any time with simple changes to the existing program configuration.



Faster Time To Market

Sysmac Studio significantly reduces project time by letting you get a jump on machine program testing, debugging, and simulation, starting the process well before there is final hardware in place. And Omron delivers the widest selection of automation and safety parts available from a single supplier, for fast and easy integration.



More Uptime, Less Scrap

Production problems can be anticipated and automatically stopped before they happen through faster feedback cycles and the superior accuracy of the Sysmac system. The result is less threat of downtime and less chance of wasted products or packaging materials. When there is an issue requiring human intervention the built-in troubleshooting interface provides hardware error codes that are easy to understand and act upon.

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