Mitsubishi Solutions

Labeling Machines

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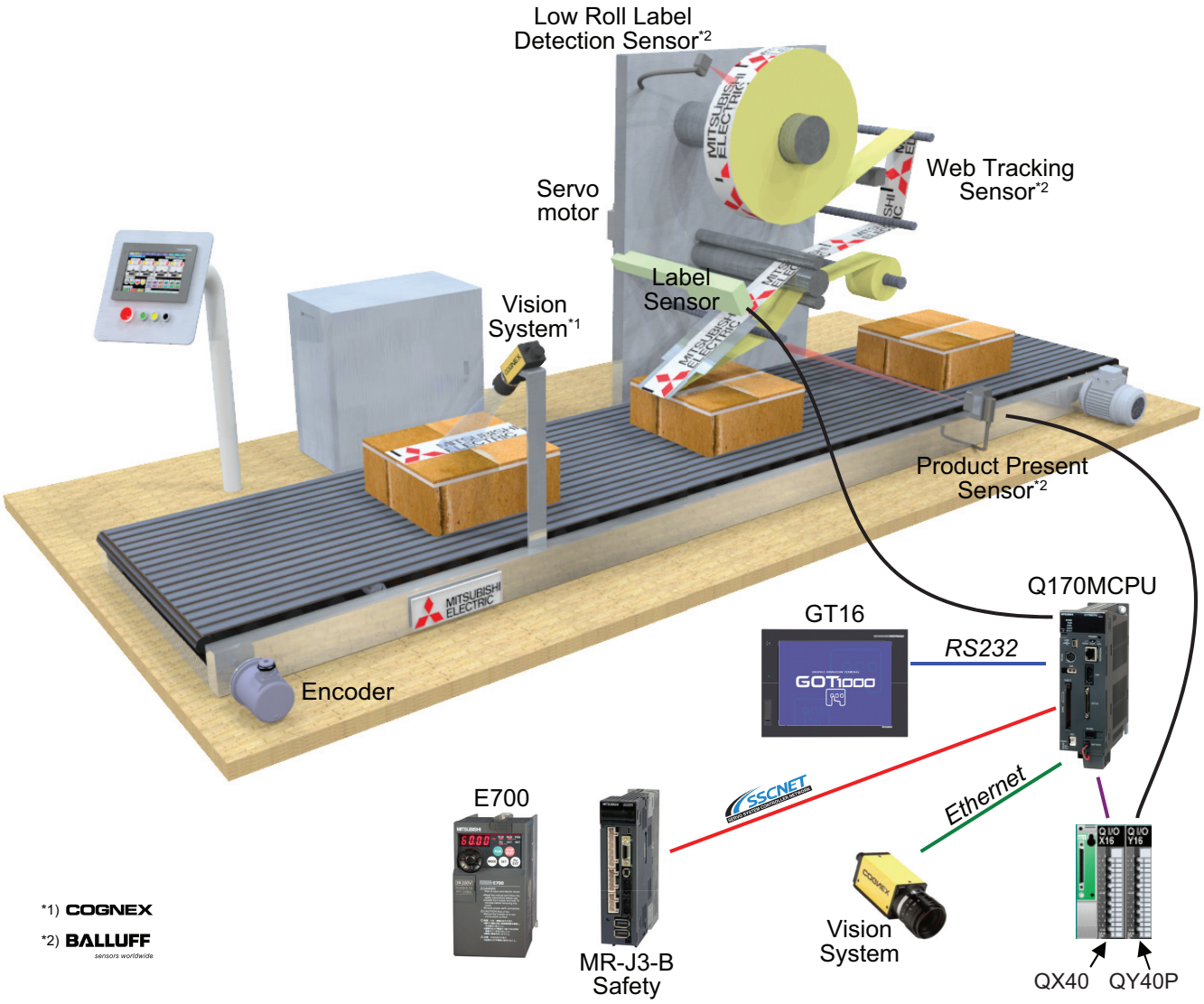
Stand-Alone Motion Controller: **Q170MCPU**
Servomotor: **HF-KP, HF-JP**
Servo Amplifier: **MR-J3-B**
Graphic Operation Terminal: **GOT1000**
VFD: **E700**



Example Applications

Labeling technology is applied to attach labels in a variety of applications including:

- Food & beverage machines
- Pharmaceutical
- Material handling machines
- Mailing
- Bottles and cans
- Stationary goods

Overview

High-speed labeling machines require registration and encoder following in order to accurately position labels at different speeds. In-line labeling systems such as the machine shown above place labels on block shaped products that move in a single direction. Rotary labeling machines place labels on cylindrical products that rotate around a central label head. When more than one label is placed on a product, multiple label heads can be configured with additional servos and sensors. Mitsubishi Electric's Stand Alone motion controller offers the flexibility to add these intelligent axes, and for additional trend analysis and quality control, a vision system can be used to track defective products and monitor label accuracy.

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Features	Advantages and Benefits
Flexible mark detection programming • Up to 32 user defined registration settings per program • Easy set up in software	• Improved machine throughput: Accurate label placement • 10% reduced parts cost: No additional hardware for mark registration • Faster implementation in program
Web advance algorithm: Detect missing labels to advance the label web automatically	• Reduced waste material • Improved machine throughput
Changeover function for different sized labels: Automatic label detection	• Reduced setup time: Easy to implement function from GOT
Servo auto tuning: MR-J3 amplifiers tune automatically and continuously without the need to re-tune or adjust manually	• Reduced machine setup time • Increased machine lifetime • Improved productivity
Easy to use visual motion programming: Easy to set up a visual representation of the system for encoder following	• 30% reduced programming time • Reduced labor cost • Reduced machine cost (less mechanical and electrical components) 
High resolution absolute encoders as standard product: Smooth and accurate positioning with 18-bit resolution (262,144 ppr) absolute encoders	• Reduced overall cost ◦ Reduced machine & maintenance costs (eliminate switches) • Reduced setup time ◦ Re-homing not necessary after power down ◦ Direct setting for start/stop positions
Customizable HMI Screen Design • Direct access to Motion Controller • Flexible software programming options for recipe management	• Easy to use ◦ Less effort for programming and operating • Reduced maintenance time & cost 
Vision integration for product consistency: Easy to configure Cognex cameras with Mitsubishi PLCs	• Higher quality production ◦ Less scrap material • Increased machine productivity COGNEX
Options for Expansion: Connectivity to Balluff sensors	• Increased machine throughput and efficiency BALLUFF *sensors worldwide*

Note: The values listed above are based on a real world application.

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