Mitsubishi Solutions

Gapping & Indexing Applications

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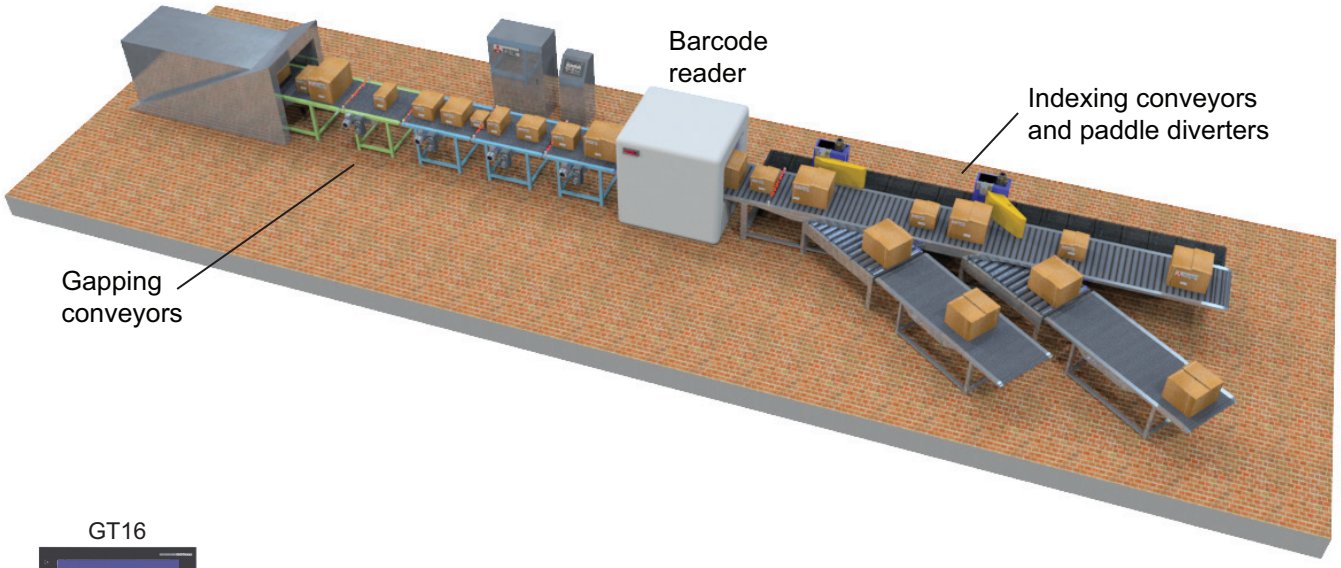
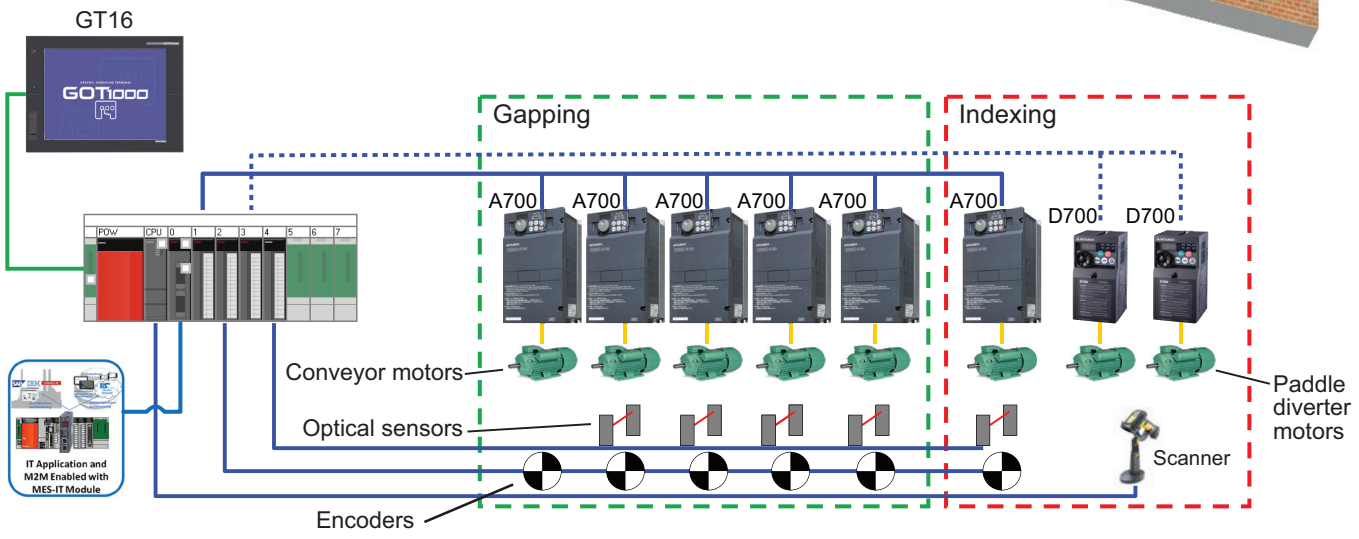
PLC: **Q03**
Input: **QX40**
MES Interface IT module: **Q12DCCPU-V**
Analog OUT: **Q68DAIN**
Serial: **QJ71C24N-R2**
High Speed IN: **QD60P8-G**
Inverter: **A700 & D700**
Output: QY10
HMI: **GT16**





Example Applications

Gapping and Indexing conveyors are found typically within material handling applications.

- Package handling
- Warehouse management
- Food processing
- Baggage handling

Overview

Gapping and indexing conveyors are used in material handling applications to move packages from point to point with high accuracy. Success in these applications is reliant on accurate reading of the conveyor encoders so that the package position is continuously monitored. In simple terms, the gapping conveyor provides sufficient spacing between products so the barcode scanner can read each code a package at a time. Sufficient spacing also improves the paddle diverter accuracy when moving packages to defined points.

MITSUBISHI ELECTRIC

Features	Advantages and Benefits
A700 VFD – Precise speed and torque control: Ultra-precise speeds across the control range	• VFD control comparable to servo technology • High accuracy spacing (to within 1% error spacing precision)
A700 VFD – Simplified parameter setup with Auto-tuning	• Optimized parameter setup • Compensates for speed changes caused by temperature fluctuation
A700 VFD – Open networking: Ethernet I/P	• VFDs are able to operate with 3rd party controllers for pre-specified controller applications or retro-fit applications
A700 + D700 VFD – Self diagnostics: • Monitoring of internal components prevents unnecessary downtime • System protection and overload functions	• Enables accurate planning for maintenance checks of the conveyors • Avoids prolonged downtime of application
A700 + D700 VFD – Unmatched product reliability: A700 Service life of up to 20 years	• Significant reduction in machine service costs over life time
D700 VFD – Open networking: EtherNet/IP	• VFDs are able to operate with 3rd party controllers for pre-specified controller applications or retrofit applications
Q series CPU: • High performance CPU • Pulse counter up to 30Kpps	• Exceptional data handling for timeliness of conveyor speed change • Precision package handling
Q series Analog OUT • Fast conversion (80 µs/channel) • High accuracy (±0.1%)	• Accurate speed differential setting for creating controlled spacing • Fast signal processing for speed differential timing
GT16 + Q series Communication: Stand-alone/networked	• Continuous operator attendance is not necessary • Control, monitoring and error check can be monitored away from the factory
MES Interface IT • Direct data connection to IT systems • Convert raw data to actionable events • Data aggregation from other plant floor devices	• Simplify system architecture ◦ Eliminate need for intermediate PC infrastructure to link shop floors to IT ◦ Reduced integration time and effort ◦ Improve security and standardization 
Remote Monitoring: • Extend connections to remotely located IT systems and databases • Secure and encrypted transport • Meets plant security policies and practices	• Reduced operating and support costs ◦ Reduced travel and support expenses ◦ Reduced MTTR (Mean Time to Repair) ◦ Improved process efficiency ◦ Enables remote preventative and predictive maintenance

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

Customer Testimonials

- *"The performance and responsiveness of the A700 VFDs provides extreme accuracy for gapping applications."*

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R72-09Z-SLSMKTG-002-B • Effective January, 2011
Specifications subject to change without notice.