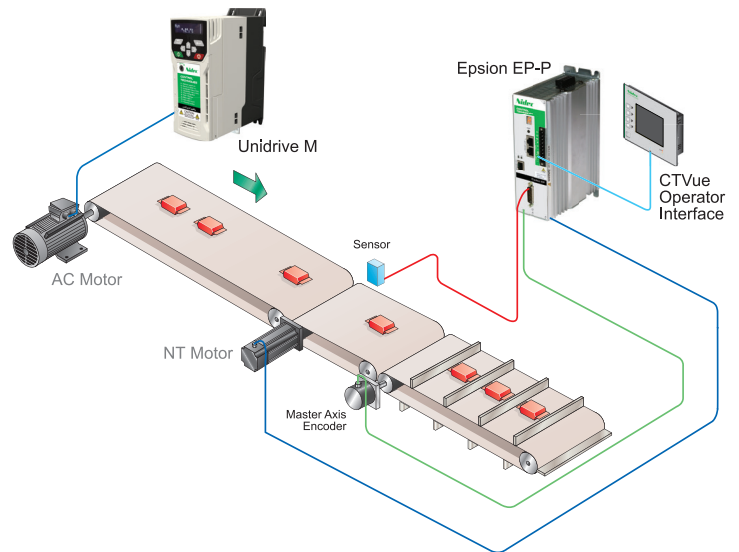


Smart Belts

Application Overview

To reduce machine size and increase flexibility, designers are replacing fixed pitch flighted conveyors with smart belts. Smart belts are able to accurately position and place randomly spaced incoming product. Various product pitch and product length can be accommodated for by adjustable servo system programs that can be reconfigured on-the-fly for rapid product changeovers requiring little or no operator involvement. Line synchronization also allows for the incoming product to change speed



Application Requirements

Control

- Increase through-put
- Easily adjust to product mix
- Accurately space incoming products
- Dynamically change acceleration profiles to eliminate product slippage

Connectivity

- Ability to network to virtually any PLC
- Stand alone network

System Costs

- Reduce multiple conveyors lanes required for differing products
- Single solution for product converging or diverting applications
- Low cost and simple to implement

Control Techniques' Solutions

Servo Drives and Motors, VFDs, and HMIs

- S-ramp for slip minimization
- Rapid change over
- Infinitely adjusts to changes in line speed
- Accurate product spacing
- Modbus Master controls VFD

Smart Belt Solutions

Control Techniques' Performance Advantages

Built-in Functionality

- High speed capture (1 us) for accurate product detection at any speed
- Queuing tool provides intelligent shift register capabilities
- Synchronized motion automatically adjusts to changes in master velocity
- Modbus/TCP and EtherNet/IP communications

Advanced Control and Tuning

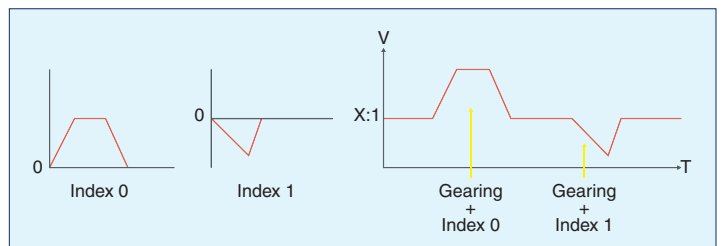
- Numerator/denominator gear ratio eliminates fractional round off
- State Space tuning provides stability over wide range of load inertia

PowerTools Pro Software

- High speed oscilloscope graphing - powerful debug tools
- Advanced diagnostics and fault processing
- Complimentary software or firmware upgrade from our website

Distributed Control

- Multitasking processor - allows summation of multiple motion profiles
- Modbus Master - Easily add network I/O for total machine control
- Fast data transfers between Servo Drives, VFDs and HMI



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Compact Servo Drives



Variable Frequency Drives



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