

## Winders

### Application Overview

Winders are commonly used in several industries including paper, plastic film, printing, wire & cable and metals. Precise speed/tension control is crucial to achieving accurate web thickness, product composition and smooth winding in a winder application. Common winder configurations are center wind, surface wind, turret wind and traverse wind. Emerson Control Techniques offers a wide range of AC Variable Frequency Drives (VFDs), Servo & DC Drives with options to meet the control needs of different winder configurations.

### Application Requirements

#### Control & Connectivity

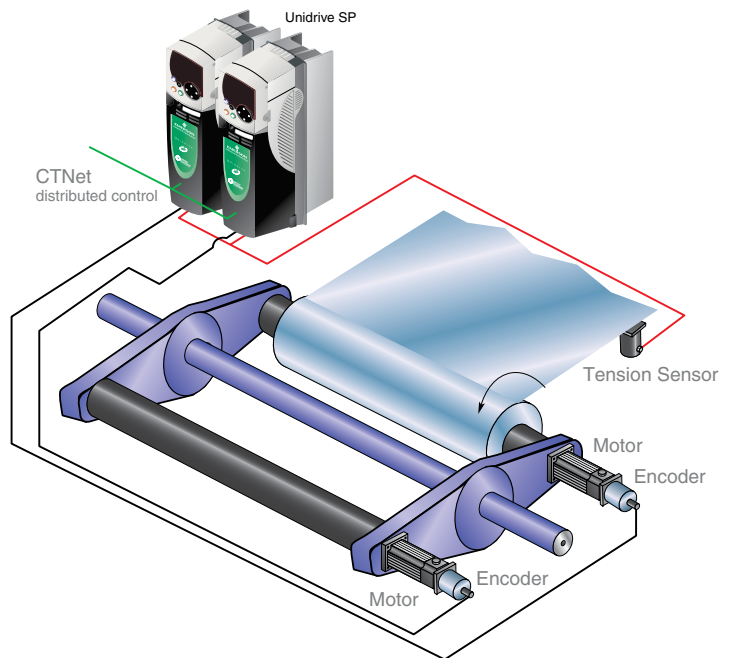
- Velocity & torque based winding control
- Diameter build up ratio to 10:1
- Inertia compensation
- Taper tension
- Dancer or load cell feedback
- Analog pressure regulation for dancer air loading
- Peer to peer drive communication
- Field bus connectivity to PLC

#### Protection

- Motor, machine and system protection
- Web break or slack detection

#### Minimize Operating Costs

- High reliability
- Ease of setup—Flexible control
- Intuitive diagnostics



### Control Techniques' Solutions

#### VFDs, DC & Servo drives

- Power range up to 2900 hp
- Global voltage ratings (115/230/480/575/690Vac)
- Global standards (UL/cUL/CE/C-Tick/ISO9002)
- On-board PLC functionality (cost & space savings)
- Wide variety of I/O & F/B option modules
- All major fieldbus connectivity options
- Optional HMI operator interfaces
- RS485 Modbus RTU standard
- Intuitive commissioning software
- Industry leading warranties



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# Winder Solutions

## Control Techniques' Performance Advantages

### Control\*

- Plug-in PLC/winder functionality – much faster than external control
- Velocity or torque based winder control
- Open loop tension control
- Inertia & frictional torque compensation
- Taper tension control (linear or hyperbolic)
- Built-in PID (for dancer or load cell control)
- Wind—Unwind modes
- Turret—Flying splice control
- Analog output for dancer pressure regulation
- Diameter calculator
- Constant torque—Constant HP region control for wide speed range
- Built in encoder port (14 different types of encoder f/b)
- Common bus connectivity (energy savings)
- CNet® peer-to-peer communication network
- Universal drive for induction & servo motor control

### Total System Protection

- Built-in diagnostics
- Intelligent thermal motor protection
- Safe torque off user interlock option
- Web break detection

### Maximum uptime

- Very high quality—Product reliability
- Easy setup—User guide available
- Auto tune—Static and rotational
- Last 10 trips logged

\* Due to the complex and varied nature of winders applications all winder solution sales are reviewed by Control Techniques applications engineering. We also strongly recommend that Control Techniques experienced service engineers are contracted for start up.



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