

Z4-UI

Unwind Tension Controller for Dancer Input with Tension Indication



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Combining the best of both worlds, the Z4-UI is the only tension controller able to utilize both dancer and load cell feedback to maximize your productivity and process efficiency. Receive direct tension feedback from the material you are running via load cells for precise, repeatable tension control while still controlling and capitalizing on the all benefits of your dancer. Achieve more with the Z4-UI.

Features & Benefits

ODVA Ethernet/IP Communication Option

Z4 Controllers are available with ODVA Certified Ethernet/IP Communication

Soft Start / Anti-Coast

Work together to ensure consistent web tension during the challenging acceleration and deceleration phases of machine operation.

Web Break Detection

Triggers an alarm output should the controller detect a sudden change in tension, such as when the web breaks, minimizing waste and loss of productivity and protecting valuable machine components.

Tension Indication

Z4-UI utilizes load cell input to display tension.

Multiple Feedback Source Compatibility

- Ultra-Sonic • Proximity • Laser • Potentiometer • Inclinometer

Range Expansion (requires P4 Automatic Range Expander)

Run multiple types of materials on one machine and/or gain greater control at lower torque ranges.

Montalvo Progressive Gain

Ensures uniform control from full roll all the way to the core.

Hybrid Controller

Digitally controlled analog processing optimized to produce accurate, repeatable web tension.

Set It & Forget It Technology

Set-up and operation parameters reduce the need for constant monitoring.

7" Interface Display Screen (optional)

A high definition, crystal clear, and easy to navigate HMI blending form and function into one incredible package.

Multiple Mounting Options

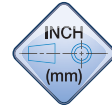
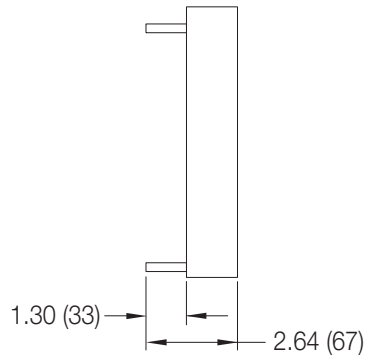
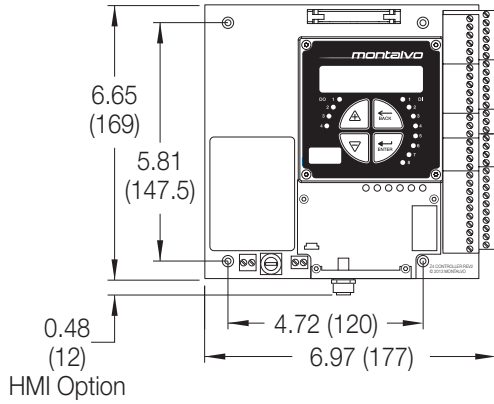
- Stand alone circuit board • Circuit board with remote HMI • Circuit board and HMI in a dust proof, water resistant enclosure

Additional Z4 Controller Types

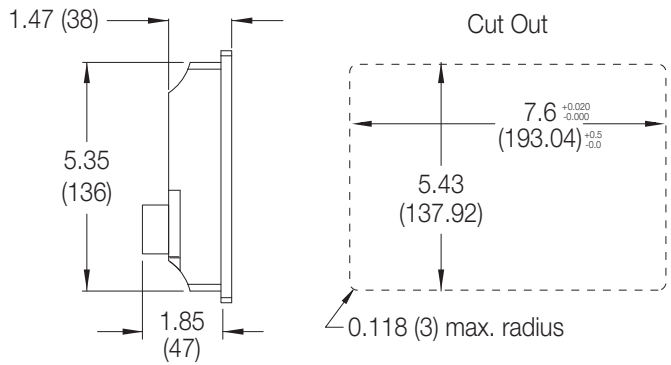
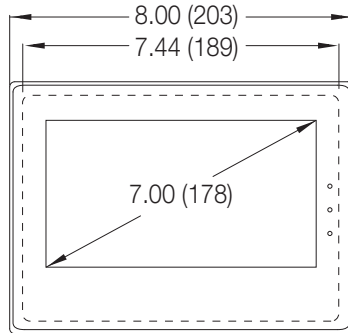
- ✓ Unwind/Load Cell
- ✓ Dancer
- ✓ NIP/Load Cell
- ✓ Rewind/Load Cell

Dimensions

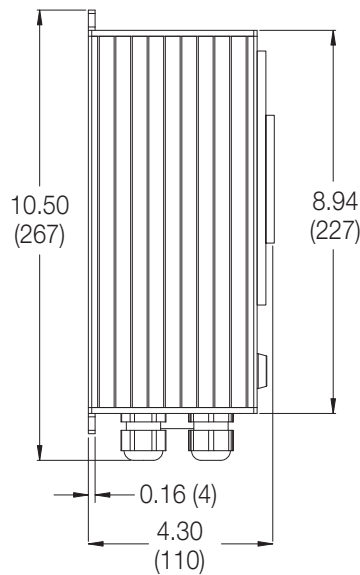
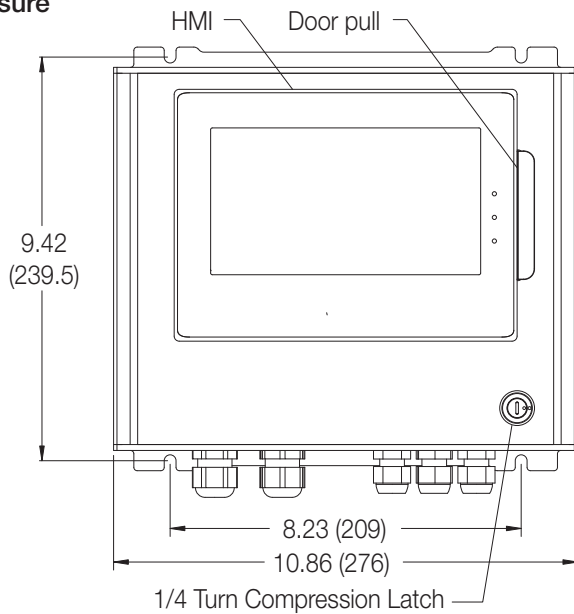
Circuit Board



HMI



Enclosure



How to Specify

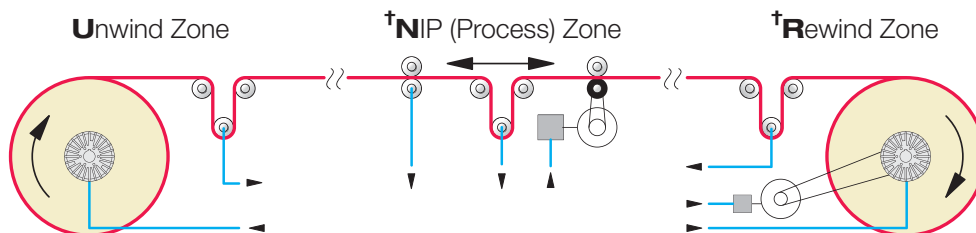
Series

Z4

Type

U, N, R

[†]**NIP** and **Rewind** type controllers work in conjunction with **Load Cell** Input only - see Input below.

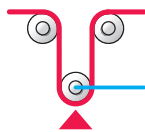


Input

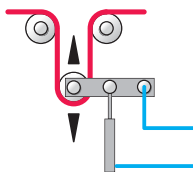
L, D, I

*Dancer Position Input (**D** and **I**) available for **Unwind** Zone controllers only - see Type above.

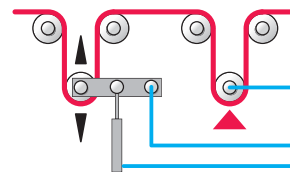
Load Cell



***Dancer Position**



***Dancer Position with Tension Indication**



Supply

A, D

100-240 **VAC**

24 **VDC**

Communications (module option)

N, U, E

None

****USB** (used for configuration only with PC)
(HMI connector onboard)

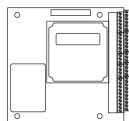
Ethernet
(USB and HMI connectors onboard)

****USB** module is *standard* with **R**emote and **E**nclosure version controllers (*required* for connection to HMI).

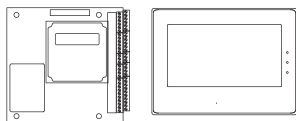
Version

B, R, E

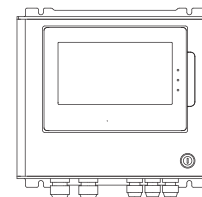
Board



Remote



Enclosure



ORDER CODE EXAMPLE:

Z4UIAEE

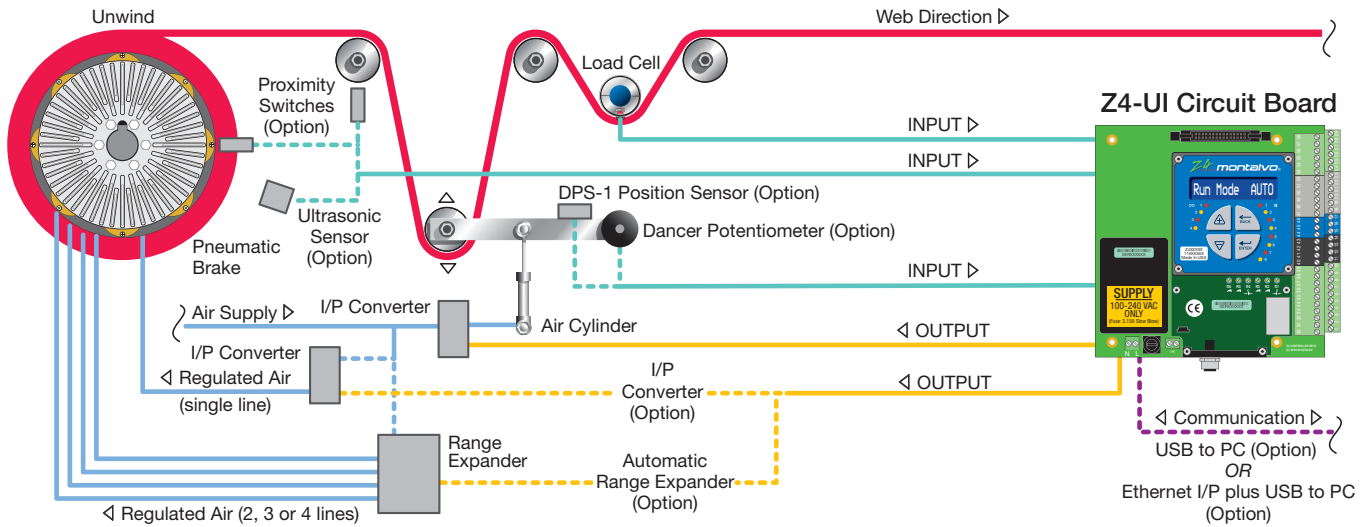
Series ———— ↑ ———— Version
Type ———— ↑ ———— Communications
Input ———— ↑ ———— Supply

Z4 series-**U**nwind type-Dancer with **I**ndication input-**VAC** supply-**E**thernet communications-**E**nclosure version

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How It Works



Specifications

Electrical

Supply Voltage	
Circuit Board (standard)	100 -240 VAC ±10% (IEC-60204-1) 47 to 63 Hz
Fuse	3.15A Slow Blow
Circuit Board (factory configured option)	24VDC
Fuse	1.0A Slow Blow
HMI	12-28VDC
Fuse	2.5A Self Resetting
Overvoltage Category	II (IEC 664)
Test Voltage	3.75 kV in 1 min. primary to secondary
Max Power Consumption AC Version	25VA typ. (50VA max.)
Max Power Consumption DC Version	12VA typ. (25VA max.)
Noise Immunity	EN 50082-2 industrial
Noise Emission	EN 50081-1
Dancer Roll Potentiometer Supply	±2.5V ±5%
Potentiometer Resistance (typ.)	10k Ω
Dancer Input	0 to ±2.5V
Dancer Zero Range	100% dancer signal ±2.5V
Dancer Calibration Range (gain)	1 to 48
Load Cell Supply	±2.5V ±5%
Load Cell Input	0 to ±250mV
Tension Reference Input (optional)	0 to 10V
Load Cell Zero Range (tare)	50% of load cell rating
Load Cell Calibration Range (gain)	11 to 480
Regulator Outputs	0 to 10V (max. load -5mA)
	4 to 20mA / 0 to 20mA (RL = 0 to 1000Ω)
Meter Outputs	0 to 100µA (RO = 100kΩ)
	0 to 10V (max. load -5mA)
Analog Input Voltage	0 to 10V (RI = 100kΩ)

Digital Input Voltage	15 to 30V (RI = 10kΩ)
Digital Output Voltage	24V ±15% (max. load 100mA)
	Total load 4 outputs 350mA
Standards	Designed to meet UL 508 and EN 60204

Environmental

Temperature Range	Operating	Circuit Board	32 to 122°F (0 to 50°C)
		HMI	32 to 113°F (0 to 45°C)
		Enclosure Version	32 to 113°F (0 to 45°C)
Storage		Circuit Board	14 to 176°F (-10 to 80°C)
		HMI	14 to 140°F (-10 to 60°C)
		Enclosure Version	14 to 140°F (-10 to 60°C)
Degree of Protection		Circuit Board	IP10
		HMI	IP65
		Enclosure Version	IP64
Certification			CE

Functions

Manual / Auto	Standard
Manual Setpoint	Standard
Tension Off / On	Standard
Auto Setpoint (requires additional I/P)	Configurable
Splice	Configurable
Range Expansion (requires P4 Automatic Range Exp.)	Configurable

Communications

USB (used to configure controller from PC)	Optional (with Board only controller)
	Standard (with R and E controller versions)
Ethernet I/P (includes USB)	Optional (B, R and E controller versions)

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Technical details subject to change without notice. Z4UI-US-04 © Montalvo