

Z4-UL

Unwind Tension Controller for Load Cell Input



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The Z4-UL provides accurate, repeatable tension control on all web unwind processing machinery. Utilizing load cell feedback for constant communication to any changes in the tension of your material the Z4 features a wide range of functions and features to ensure maximum process quality right from the start.

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.

Splice

Maintains tension on materials during flying splice, resulting in more successful splices without tension changes.

Range Expansion (requires P4 Automatic Range Expander)

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

Variable Wrap Angle Technology™

Eliminates need to isolate tension sensing roll. Utilize fewer rolls in your machine.

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 convenient package.

Multiple Mounting Options

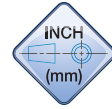
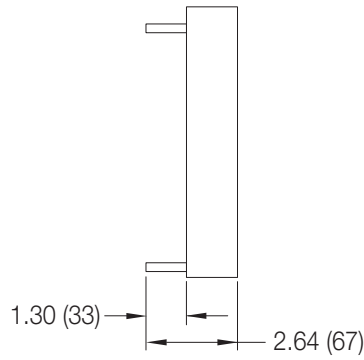
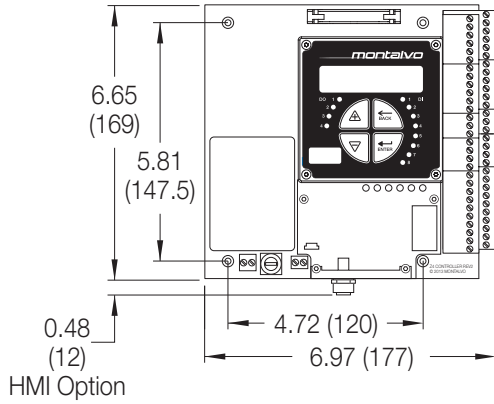
- Standalone circuit board
- Circuit board with remote HMI
- Circuit board and HMI in a dust proof, water resistant enclosure

Additional Z4 Controller Types

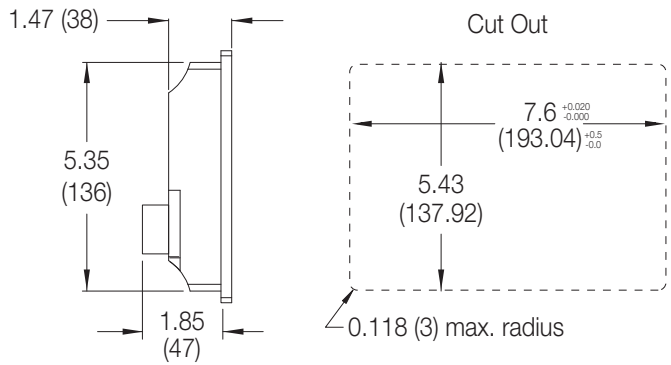
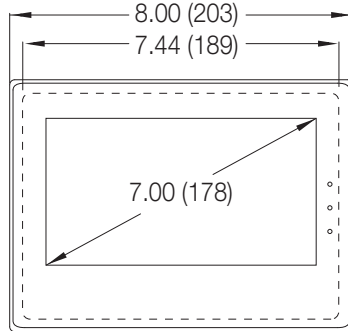
- ✓ Dancer/Tension Indication
- ✓ Dancer
- ✓ NIP/Load Cell
- ✓ Rewind/Load Cell

Dimensions

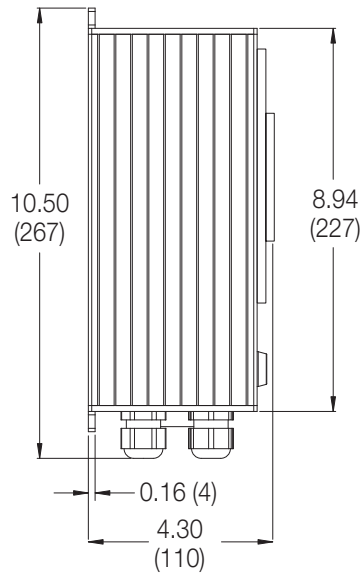
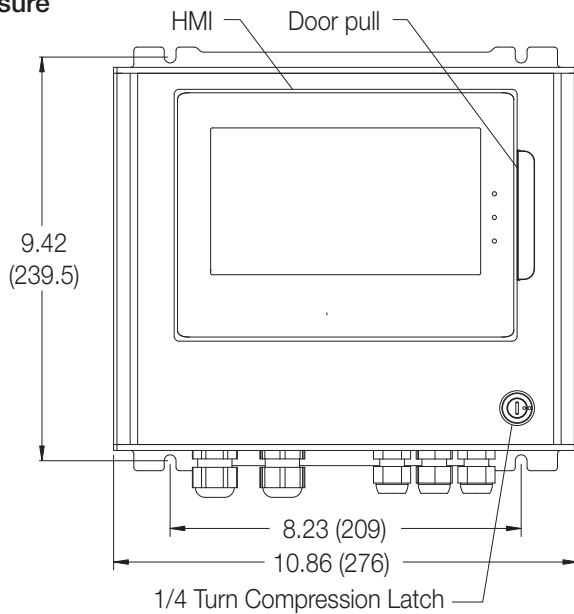
Circuit Board



HMI



Enclosure



How to Specify

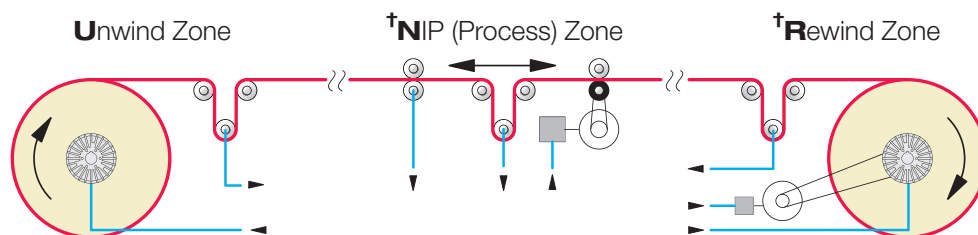
Series

Z4

Type

U, N, R

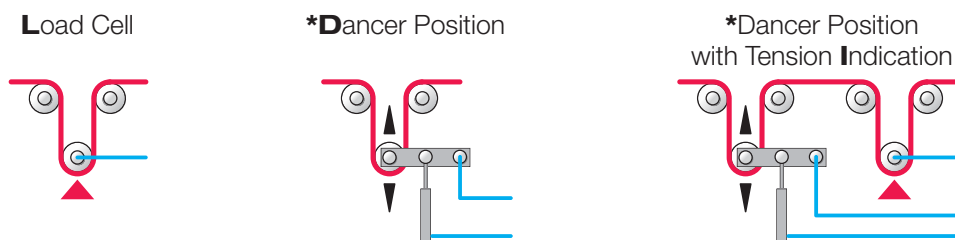
[†]**NIP** and **Rewind** type controllers work in conjunction with **Load Cell** Input only - see Input below.



Input

L, D, I

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



Supply

A, D 100-240 VAC 24 VDC

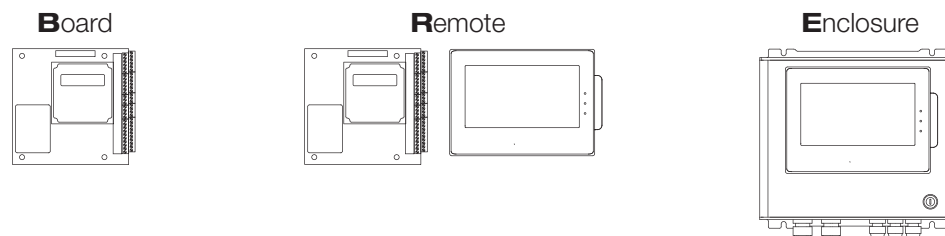
Communications (module option)

N, U, E None ****USB** (used for configuration with PC) (HMI connector onboard) **E**thernet (USB and HMI connectors onboard)

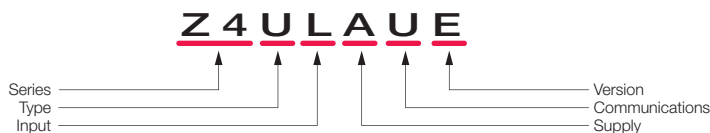
****USB** module is *standard* with **R**emote and **E**nclosure version controllers (*required* for connection to HMI).

Version

B, R, E

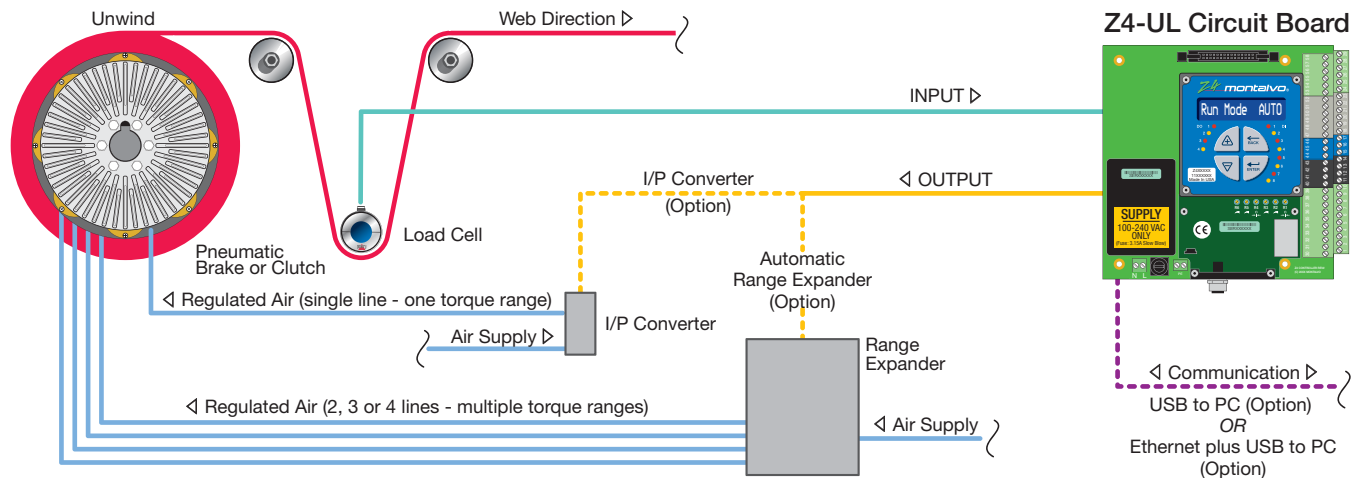


ORDER CODE EXAMPLE:



Z4 series-**U**nwind type-**L**oad cell input-**VAC** supply-**U**SB communications-**E**nclosure version

How It Works



Specifications

Electrical

Supply Voltage

Standard	100 -240 VAC ±10% (IEC-60204-1) 47 to 63 Hz
Fuse	3.15A Slow Blow
Option (factory configured)	24VDC
Fuse	1.0A Slow Blow

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

Load Cell Supply.....±2.5V ±5%

Load Cell Input.....0 to ±250mV

Load Cell Input (optional).....0 to 10V

Zero Range (tare).....50% of load cell rating

Calibration Range.....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 = 1000Ω)

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

Auto Setpoint	.....Standard
Manual / Auto	.....Standard
Manual Setpoint	.....Standard
Tension Off / On	.....Standard
Splice	.....Configurable
Dual Calibration	.....Configurable
Range Expansion	⊙ (requires P4 Automatic Range Exp.).....Configurable
Variable Wrap Angle Technology	⊙.....Configurable

Communications

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

EtherNet/IP
ODVA

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