

Z4-UD

Unwind Tension Controller for Dancer Input



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The Z4-UD brings precise, accurate, repeatable tension control to applications utilizing a dancer/rider arm. Combining industry leading technology and advanced functionality creates a performance driven, convenient and easy to operate tension control system.

Additional Z4 Controller Types

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

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.

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 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)

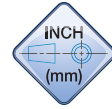
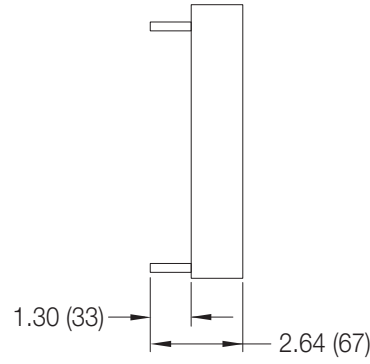
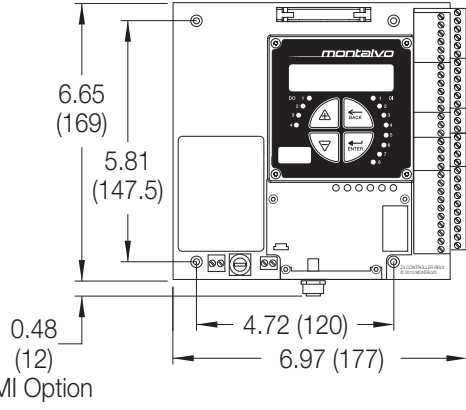
A high definition, crystal clear, and easy to navigate HMI blending form and function into one incredible package.

Multiple Mounting Options

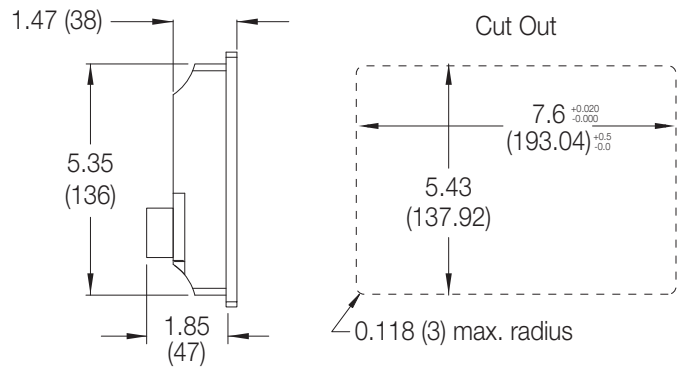
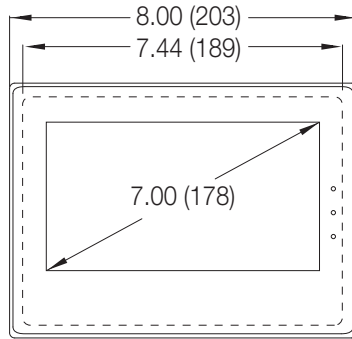
- Standalone circuit board • Circuit board with remote HMI • Circuit board and HMI in a dust proof, water resistant enclosure

Dimensions

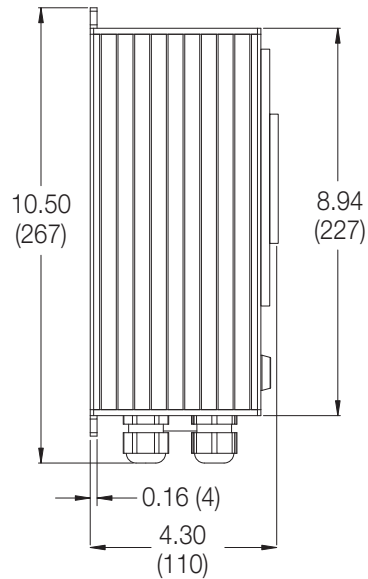
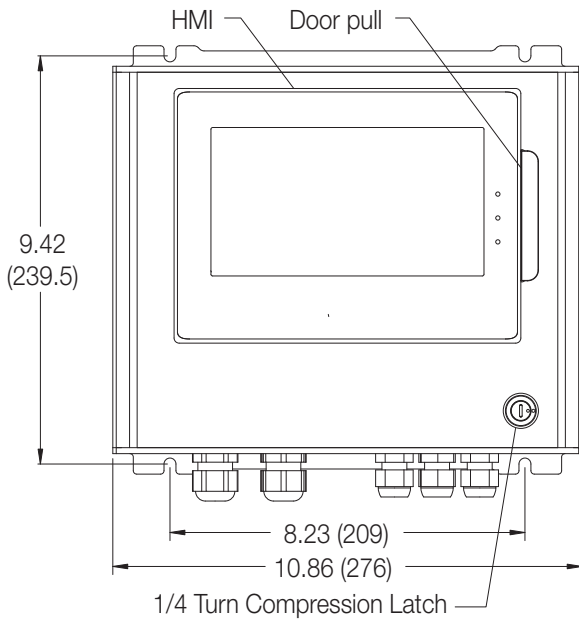
Circuit Board



HMI



Enclosure



How to Specify

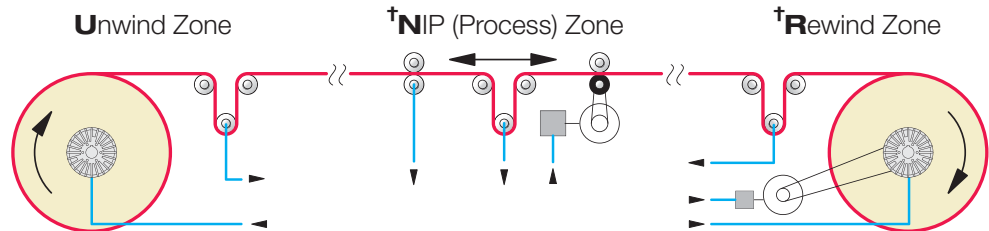
Series

Z4

Type

U, N, R

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

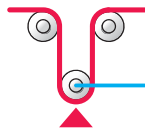


Input

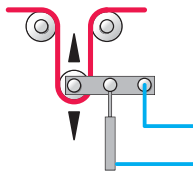
L, D, I

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

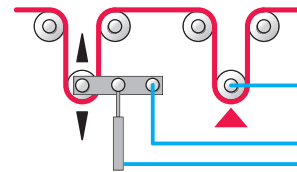
Load Cell



***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)

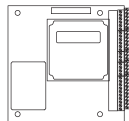
Ethernet
(USB and HMI connectors onboard)

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

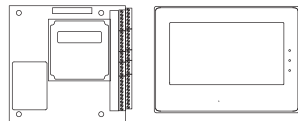
Version

B, R, E

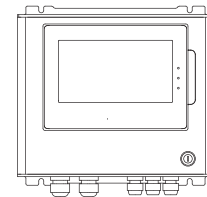
Board



Remote



Enclosure



ORDER CODE EXAMPLE:

Z4 U D D U R

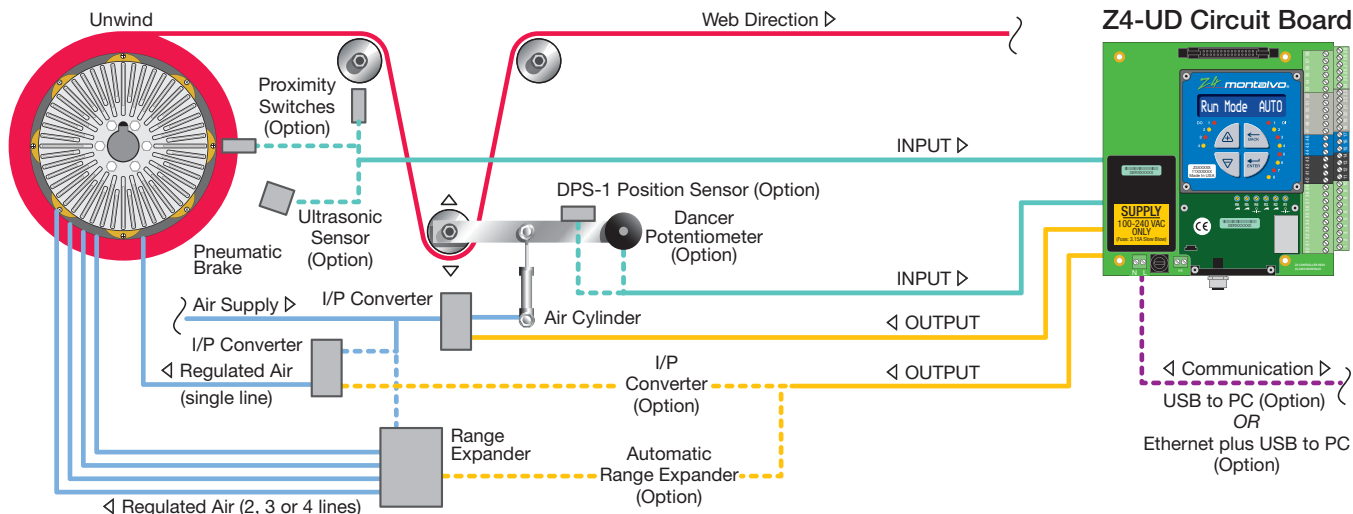
Series ———— ↑ ———— Version
Type ———— ↑ ———— Communications
Input ———— ↑ ———— Supply

Z4 series-**U**nwind type-**D**ancer input-**VDC** supply-**U**SB communications-**R**emote version

Z4-UD

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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

Fuse3.15A 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 Version25VA 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

Regulator Outputs0 to 10V (max. load -5mA)

.....4 to 20mA / 0 to 20mA (RL = 0 to 1000Ω)

Meter Outputs0 to 100µA (RO = 100kΩ)

.....0 to 10V (max. load -5mA)

Analog Input Voltage.....0 to 10V (RI = 100kΩ)

Digital Input Voltage15 to 30V (RI = 10kΩ)

Digital Output Voltage24V ±15% (max. load 100mA)

..... Total load 4 outputs 350mA

Standards..... Designed to meet UL 508 and EN 60204

Environmental

Temperature Range Operating Circuit Board32 to 122°F (0 to 50°C)

HMI32 to 113°F (0 to 45°C)

Enclosure Version.....32 to 113°F (0 to 45°C)

Storage Circuit Board14 to 176°F (-10 to 80°C)

HMI14 to 140°F (-10 to 60°C)

Enclosure Version.....14 to 140°F (-10 to 60°C)

Degree of Protection Circuit BoardIP10

HMIIP65

Enclosure Version **IP54**IP54

Certification CE

Functions

Manual / Auto Standard

Manual Setpoint..... Standard

Tension Off / On Standard

Splice..... Configurable

Range Expansion  (requires P4 Automatic Range Exp.)..... 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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