

## SteadyWeb™ 5 Tension Controller



**SteadyWeb™ 5  
Open Mount**  
(Analog tension meter  
display shown)



**SteadyWeb™ 5  
Enclosure Mount**  
(Bargraph tension  
display shown)

The SteadyWeb™ 5 is an advanced closed loop digital tension controller with an intuitive user interface. Its output stability and versatility in managing web tension in the most challenging applications are unmatched.

The SteadyWeb™ 5 maintains a pre-selected tension setpoint by measuring web tension from tension transducers and sends a compensated signal to a tensioning device. The digital closed-loop PID control algorithm allows improved process consistency and productivity.

The graphic user interface is easy-to-use. Illustrated prompts and color graphics simplify setup and configuration. The large front dial allows fast, easy scrolling through configuration values or adjustment to the tension setpoint.

### FEATURES

- 4.3-inch color graphic display.
- Menu scroll knob and soft keys for selection.
- Wall-mount full enclosure or open panel-mount.
- Power inputs: 100-240VAC 60/50 Hz or 24 VDC.
- Isolated 0-10VDC control output.
- Storage and Recall for 30 setups.
- Auto-detection of transducer excitation (5V or 10V).
- Integrated diagnostic tools.
- Diameter, Taper, and Acceleration Compensation.
- Automatic and Manual control modes.
- Emergency Stop circuit.
- Ratio output up and down.
- Sample and hold output.
- Operator lock-out.
- Soft Start.
- Tension meter damping.
- Reverse Output for driven unwinds.
- Remote Tension Amplifier. Used when tension signal is provided by an external device.
- Bipolar 10 Volt Output for bi-directional machines. D version only.
- Upload and download setups to PC via USB.
- Min./Max Diameter Alarm Output.

### OPTIONS

- **24Vdc or 45Vdc Output (24,45).** V version only.
- **4-20mA Current Output (420).** Isolated.
- **230 Volt Power (230).** V version only, for V-out module
- **DIN-Rail Mounting Clip (DRC).** Fits 35mm DIN rail. Available only on V version, for V-Out Module.
- **Serial Data Connector (DB9).** 9-pin connector for data transfer when using the RS232 and RS485 options. Enclosure version only.
- **Metric Pneumatic Fittings (MPF).** P Version only.
- **Serial Communications (RS23, RS48).** Modbus RTU and HCI (proprietary Host Computer Interface for backward compatibility with WH3) are available as RS232 or RS485 interfaces.
- **Ethernet Communication Card (NET).** An optional 10/100 Base-T Ethernet card with RJ45 Jack for remote web access.
- **Speed Follow (SFD, SFP).** Accepts line speed signal from either a DC tach or pulse tach/encoder.
- **High & Low Tension Limit Switch (TLS).** An open collector output actuates at a pre-set adjustable trip point. Used as a web break detector or high tension warning.
- **Tension on Relay (TOR).** Provides a 250V, 5A interface. Not compatible with TLS function - only 1 relay per controller.
- **Taper Tension (TTD, TTF, TTDP, TTP)** Tapers tension as roll size increases. Signal supplied by follower roll, 0-10V diameter input, DC tachs or pulse tachs/encoders.

The controller may be used in unwind, rewind or intermediate tension zones. Controller output modes are:

**Drive output (D):** 0-10Volt DC compensated output. Used to control AC or DC drives or other variable speed drive systems. This output is isolated from earth ground to make it more compatible with all drives.

**Pneumatic output (P):** Used to actuate any air-operated brake or clutch. The standard version includes a servo valve and pressure regulator installed in a separate enclosure.

**High Voltage output (V):** Uses Silicon Controlled Rectifiers (SCR's) to produce a standard variable voltage of up to 90Vdc to operate any electric brake or clutch, including eddy current clutches.

# SPECIFICATIONS

## Power input:

- 24VDC +/-10%, 0.6 amps typical, 2.2 amps internal fusing OR
- 100-240 VAC +/-10%, 60/50Hz single phase, 2.2 Amps @ 115VAC typical, 1.2 Amps@230VAC typical, inrush current 40 A @ 230 VAC (cold start).

## Control Output (Select Version):

### Version D:

- 0 to +/-10VDC OR 4-20mA (jumper selectable), both isolated from input power and transducer circuitry.
  - 0 to +/-10VDC max loading is 5mA. This requires a 2000 Ohm or greater input resistance for equipment connected to this output.
  - 4-20mA max loop resistance is 500 Ohms.

### Version P:

- Input: 125 psi Max.
- Output: 2 to 75 psi (0.14 to 5.17 bar).
- Servo Valve Drive Signal used: 4-20mA.

### Version V:

Power Input:

- 115 OR 230VAC 50/60Hz single phase.  
*Note:* 115 / 230 VAC factory set. Specify when ordered.
- Output Circuitry fused at 5 Amps.
- AC Input Circuitry fused at 5.125A @ 115VAC - **OR** - 5.063A @ 230VAC.
- Output:
  - 0 to 24, 45, or 90VDC, all @ 5 Amp with 115VAC In OR
  - 0 to 45 or 90VDC, all @ 5 Amp with 230 VAC In.
- Signal Input:
  - 0-10VDC Control Signal used.

## Tension Precision:

Max error of 1% over temperature range. 0.1% Typical.

**Enclosure:** Steel, powder resin painted, NEMA 1.

**Pneumatic Enclosure:** Air Connections: In = 3/8" push fitting, Out = 1/4" push fitting.

## Tension Output:

### All Versions:

- 0 to +10VDC OR 0 to 1mA (jumper selectable).
  - 0 to +10VDC max loading is 5mA. This requires a 2000 Ohm or greater input resistance for equipment connected to this output.
- 0 to +10VDC and 0 to 1mA signal capable of over-range, -14% to 120% of full scale (-1.4VDC to 12VDC / -0.14mA to 1.2mA), to indicate over-range or error conditions.
  - 0 to 1mA meter output designed for 50 Ohm impedance meter.

## Weight:

DC Panel Version:	1.6 lbs. (0.73 kg)
AC Panel Version:	3.1 lbs. (1.41 kg)
DC Enclosure Version:	5.1 lbs. (2.31 kg)
AC Enclosure Version:	6.6 lbs. (3.00 kg)
Pneumatic Module:	4.6 lbs. (2.09 kg)
High Voltage Output Module:	2.9 lbs. (1.32 kg)

## Transducer Signal Accepted:

500 mVDC per pair at rated load (1000 mV with XR option).

## Mating Transducer Cable Connectors:

(2) Amphenol MS3106A-10SL-3S on enclosure

**Calibration Range:** 50:1 max.

**Temperature Range:** 32° F to 104° F (0° C to 40° C).

**Zero (Tare) Range:** 95% of transducer rating, minimum.

**System Accuracy:** within 1 - 3% typical.

**Output Range:** 0-100% Max.

**Manual Mode Output Range:** 0-100% of rated output, 0-10VDC or 4-20mA only.

**Standard Tension Ranges:** 0 - 1, 3, 5, 7, 10, 15, 20, 25, 35, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 750, 1000, 1250, 1500, 2000, 2500, 3000, 4000, 5000.

**Taper Tension Range (option):** 0-100%

**Taper Tension by Rider Roll / Diameter Sensor:** 0-10 VDC input.

# ORDERING INFORMATION

You may order by description, or by matching the labeled digits with your choices.

**Example: SW5P-U-E-AC-100-TLS,SFD**

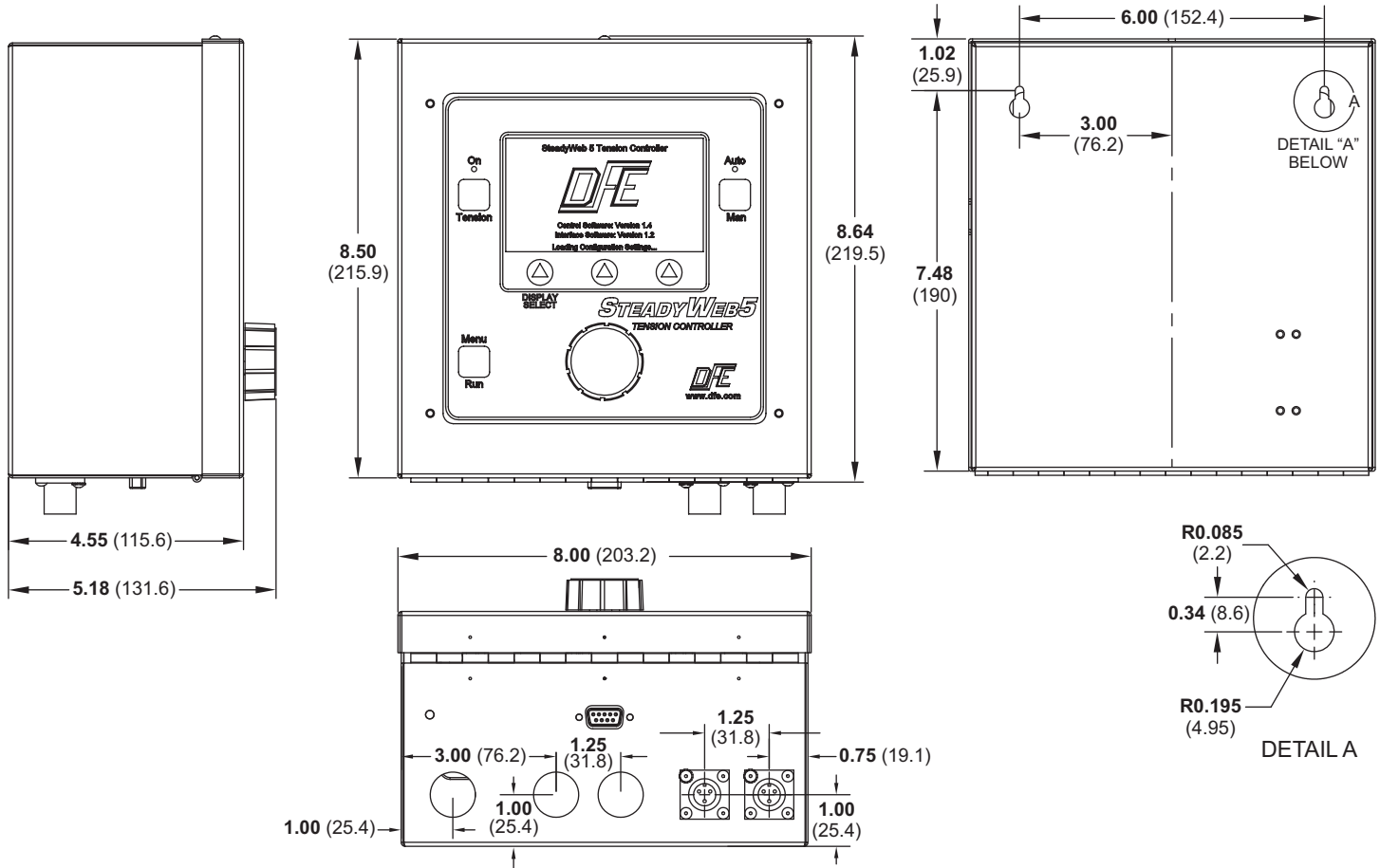
**SW5X - X - X - X - XX - OPTIONS** (Separated by commas)

OUTPUT	ZONE	PACKAGING	POWER	METER SCALE	OPTIONS
P = Pneumatic V = Electric D = Drive	U = Unwind R = Rewind I = Intermediate	E = Enclosure O = Open	AC = 100-240V, 50/60Hz 24 = 24 Vdc	0 to 1, 3, 5, 7, 10, 15, 20, 25, 35, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 750, 1000, 1250, 1500, 2000, 2500, 3000, 4000, 5000	230 = 230 Volt Power Input (1) 24 = 24 Vdc Output (1,6) 420 = 4-20mA Output 45 = 45 Vdc Output (1) B10 = Bipolar 10V Output DB9 = Serial Data Connector (2) DRC = Din Rail Clip (7) MPF = Metric Pneumatic Fittings (3) NET = Ethernet Connection (4) RO = Reverse Output RS23 = RS232 Interface (4) RS48 = RS485 Interface (4) RTA = Remote Tension Amplifier SFD = Speed Follow by DC Tach SFP = Speed Follow by Pulse Tach TLS = Tension Limit Switch (5) TOR = Tension On Relay (5) TTD = Taper Tension by DC Tachs TTF = Taper Tension by Diameter Follower TTDP = Taper Tension by DC/Pulse Tachs TTP = Taper Tension by Pulse Tachs Z = Special (SPR)

**Notes:** 1. V version only. 230 refers to power input of V module. 24 and 45 refer to output voltage. 2. Used only for RS23 and RS48 options when having the enclosure configuration. 3. P version only. 4. Select only ONE of NET, RS23, or RS48 options. 5. Select only ONE of TOR or TLS options. 6. Not available with 230 Volt power input. 7. VOUT enclosure only.

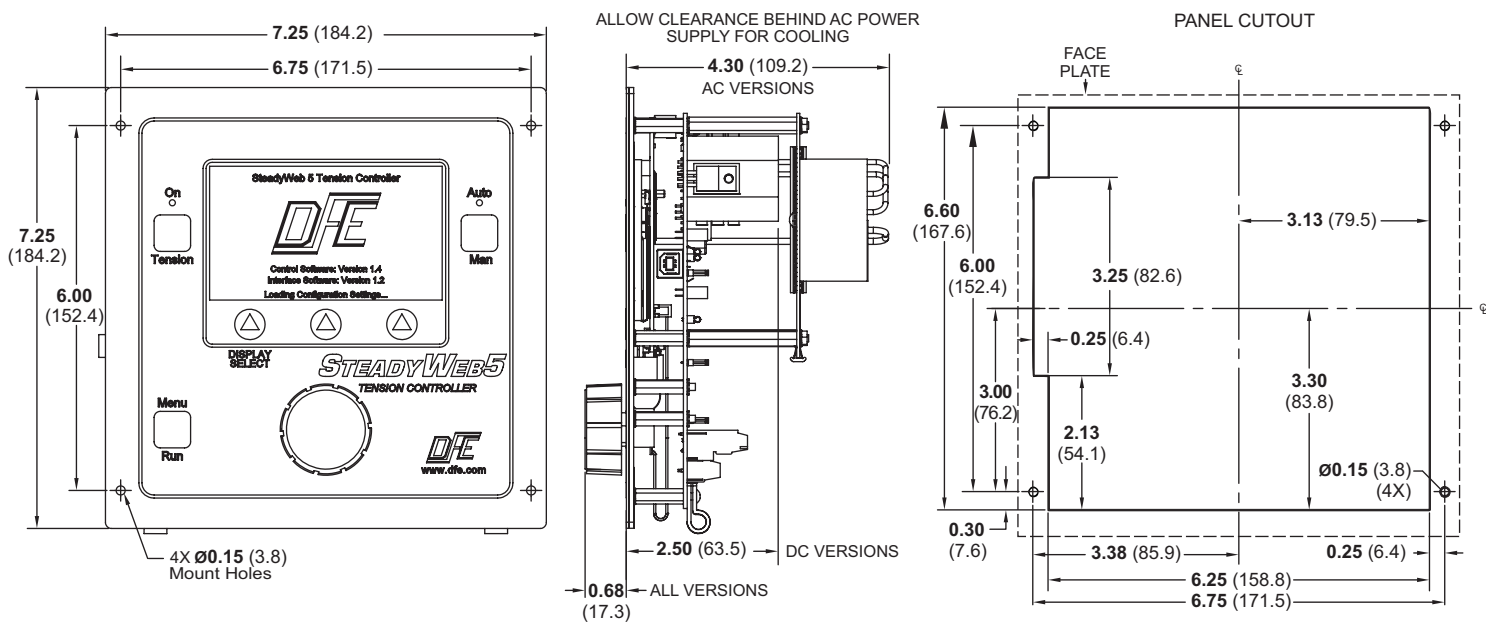
## DIMENSIONS OF ENCLOSURE VERSION

inches (mm)



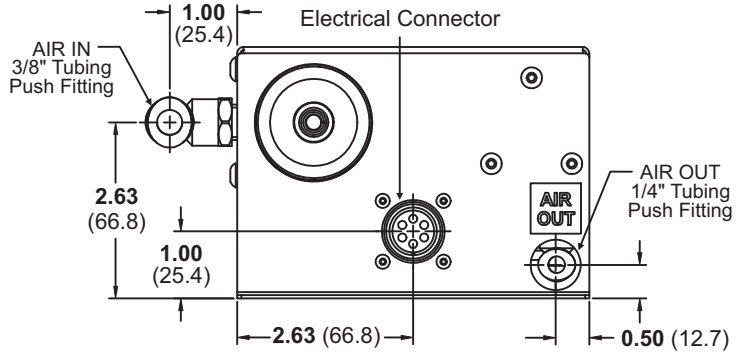
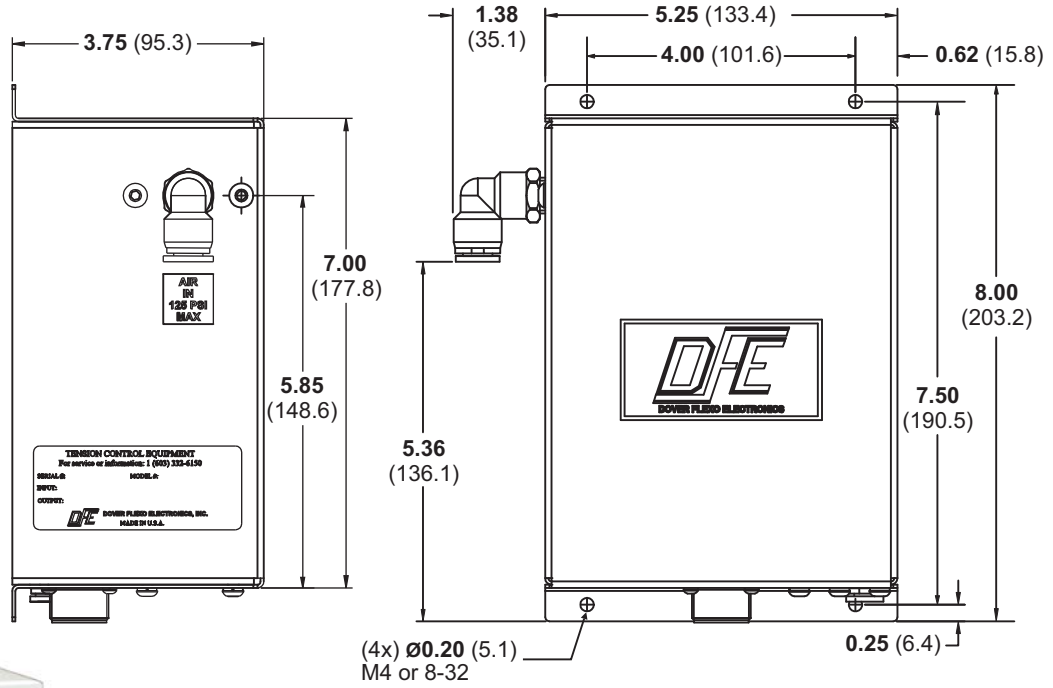
## DIMENSIONS OF OPEN VERSION

inches (mm)



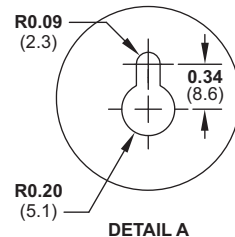
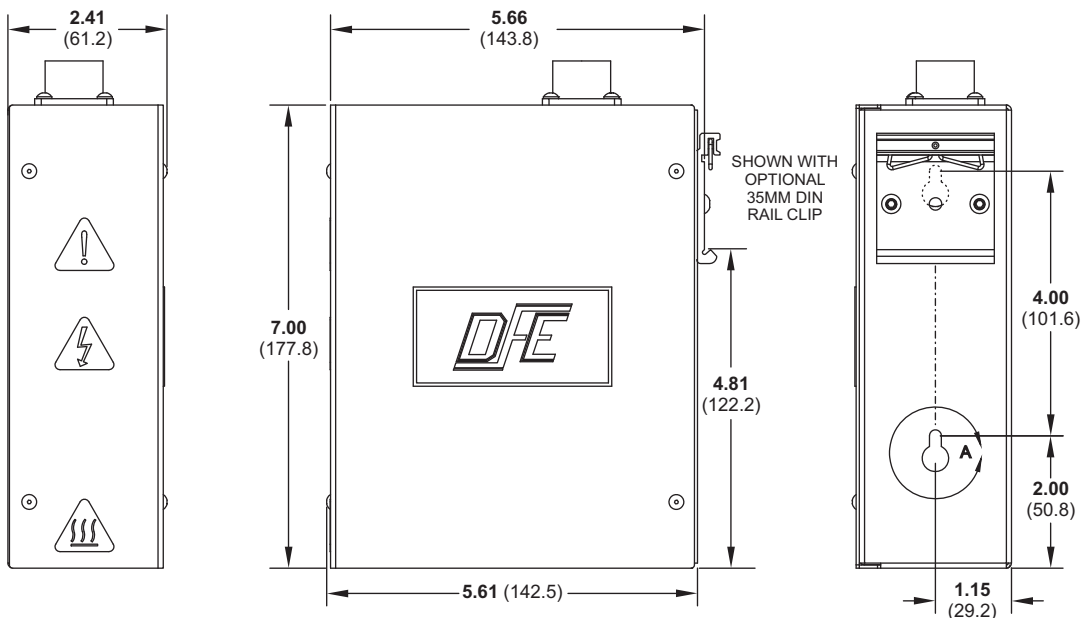
## DIMENSIONS of PNEUMATICS MODULE (P Version)

inches (mm)



## DIMENSIONS OF HIGH VOLTAGE OUTPUT MODULE (V Version)

inches (mm)



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