



STEADYWEB™ 6 DIGITAL TENSION CONTROLLER



The SteadyWeb™ 6's stable output and versatility in managing web tension in the most challenging applications is unmatched.

The SteadyWeb™ 6 maintains a pre-selected tension set point on a web machine or filament process by measuring tension from a tension transducer (load cell) and then sending a compensating signal to a tensioning device such as a brake, clutch or motor drive. The digital closed-loop PID control algorithm allows manufacturers to improve process consistency and productivity.

The large, bright and colorful touchscreen user interface is so easy-to-use that your operators will be up to speed with minimal instruction and training time. Initial setup and configuration is fast with illustrated prompts and color graphics.

The controller may be used in unwind, rewind or intermediate (process) tension zones.

A variety of controller output modes and modules are available, including:

Drive Control Output (D)

0-10 VDC or 4-20 mA isolated output. Used to control DC drives or other variable speed drive systems.

Pneumatic Output Module (P)

Used to actuate any air-operated brake or clutch. The standard version includes a servo valve and pressure regulator installed in a separate open-back enclosure.

High-Voltage Output Module (V)

Uses Silicon Controlled Rectifiers (SCR's) to produce a standard variable voltage of 0-45 or 0-90 VDC to operate any electric brake or clutch, including eddy current clutches. The 0-24 VDC control output is integrated within the controller and does not require the high-voltage output module.

FEATURES & BENEFITS

- 5 inch touchscreen display for navigation, selection and parameter adjustment
- Wall-mount full enclosure or open panel-mount
- 100-240 VAC 60/50 Hz or 24 VDC input power
- Isolated 0-10 VDC control output
- Storage and Recall of 30 job setups
- Auto-detection of transducer excitation (5V or 10V)
- Integrated diagnostic tools
- Diameter, taper and acceleration compensation
- Automatic and manual control modes
- Machine stop circuit
- Ratio output up and down
- Sample and hold output
- Operator lock-out
- Soft Start
- Tension meter damping
- Reversible output for driven unwinds
- Remote tension amplifier mode, used when a tension signal is provided by an external device such as the FireGuard™ 2 intrinsically safe tension amplifier
- Bipolar 10 Volt output for bi-directional machines, D version only
- Tuneview display mode for easy PID adjustment
- Minimum & maximum diameter alarm output

OPTIONS

24 VDC or 45 VDC Output (24, 45) - V version only.

4-20 mA Current Output (420) - Isolated.

230 Volt Power (230) - V version only, for V-Out module

Diameter Alarm (DA) - Produces an output at a pre-determined roll diameter. Requires diameter signal.

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 available as RS232 or RS485 interfaces.

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, 0-10 V diameter input, DC tachs or pulse tachs (encoders).

SPECIFICATIONS

Power Input:

DC: 24 VDC +/-10%, 0.6 Amps typical, 2.2 Amps internal fusing.

AC: 100-240 VAC @ 0.25-0.15 Amps.

AC w/24Vout: 100-240 VAC @ 2.05 Amps.

Control Output Type:

Version 'D'

+/- 0-10 VDC or 4-20 mA: Both isolated from input power and transducer circuits (select type by jumper).

- 0-10 VDC max loading is 5 mA. This requires a 2000 Ohm or greater input resistance for equipment connected to this output.

- 4-20 mA max loop resistance is 500 Ohms.

Version 'P'

Air Supply Input: 125 psi Max.

Pneumatic Output: 2 to 75 psi (0.14 to 5.17 bar).

Servo Valve Input Signal: 4-20 mA (from controller).

Version 'V'

24V Power Input (AC powered SW6): Sourced from internal power supply (see power input section - SW6 AC input with 24V).

24V Power Input (DC powered SW6): Sourced From customer provided external Power Supply: 24V @ 2.5 Amps.

24V Power Output: 0-24 VDC @ 2.5 Amps 60W, high voltage output module **not** required.

45V Power Output: 0-45 VDC @ 5 Amps, high voltage output module required.

45V Power Input: Either 115 or 230 VAC 50/60Hz single phase, set by factory. Specify on order.

90V Power Output: 0-90 VDC @ 5 Amp, high voltage output module required.

90V Power Input: Either 115 or 230 VAC 50/60Hz single phase, set by factory. Specify on order.

High Voltage Module Signal Input: 0-10 VDC control output from SW6 (0-45V & 0-90V only).

High Voltage Module AC Input Circuit Protection: 5.13 Amps @ 115 VAC or 5.07 Amps @ 230 VAC

High Voltage Module Output Circuit Protection: 5 Amps.

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):

0-10 VDC or 0-1 mA (jumper selectable).

• 0-10 VDC max loading is 5mA. This requires a 2000 Ohm or greater input resistance for equipment connected to this output.

• 0-10 VDC and 0-1 mA signal capable of over-range, -14% to 120% of full scale (-1.4 VDC to 12 VDC / -0.14 mA to 1.2 mA), to indicate over-range or error conditions.
 • 0-1 mA meter output designed for 50 Ohm impedance meter.

Weight:

DC Panel: 1.6 lbs (0.73 kg) DC Enclosure: 5.1 lbs (2.31 kg).

AC Panel: 3.1 lbs (1.41 kg) AC Enclosure: 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 ACS06AD10SL-3S-724 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, 0-10 VDC or 4-20mA only.

Standard Tension Ranges:

See values in Meter Scale column below.

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 below.

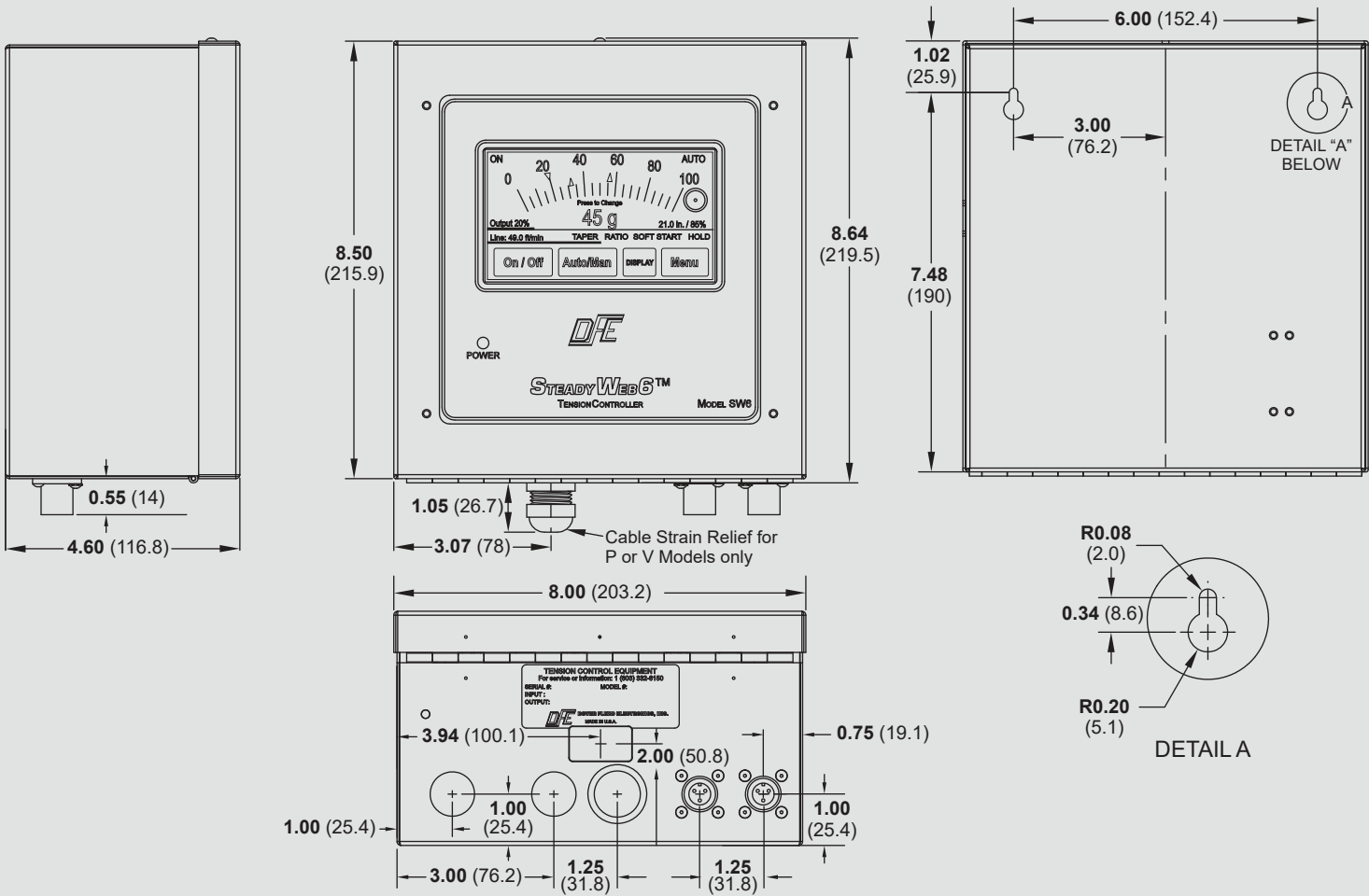
EXAMPLE: SW6P-U-E-AC-100-TLS,SFD

SW6 X - X - X - X - XX - OPTIONS (Separated by Commas)

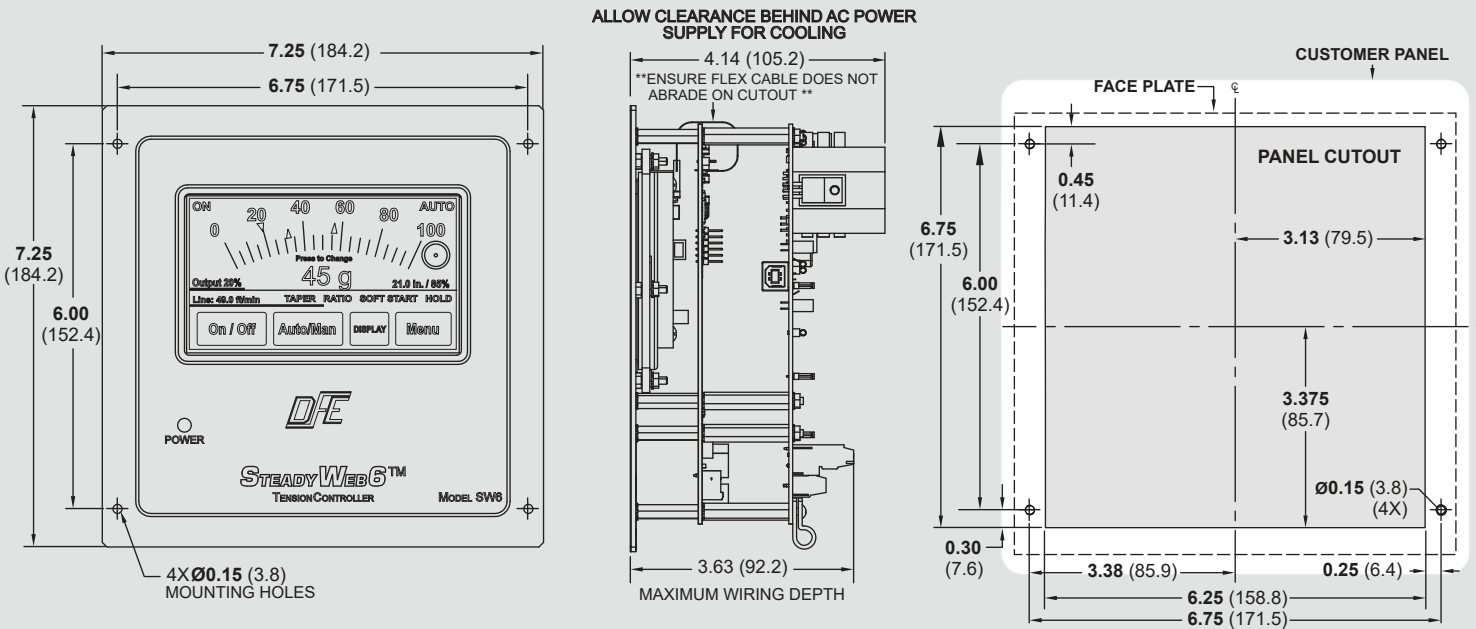
OUTPUT	ZONE	PACKAGING	POWER	METER SCALE	OPTIONS
V = Electric P = Pneumatic D = Drive	U = Unwind R = Rewind I = Intermediate	E = Enclosure O = Open	24 = 24 VDC AC = 100-240V, 50/60Hz	0 to 1 25 200 1250 3 35 250 1500 5 50 300 2000 7 75 400 2500 10 100 500 3000 15 125 750 4000 20 150 1000 5000	230 = 230 VAC Power Input (1) 24 = 0-24 VDC Output (1) 420 = 4-20 mA Output 45 = 0-45 VDC Output (1) B10 = Bipolar 10V Output DA = Diameter Alarm DB9 = Serial Data Connector (2) DRC = Din Rail Clip (6) MPF = Metric Pneumatic Fittings (3) 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 RS23 or RS48 options. 5. Select only one of TOR or TLS options. 6. V-Out module only.

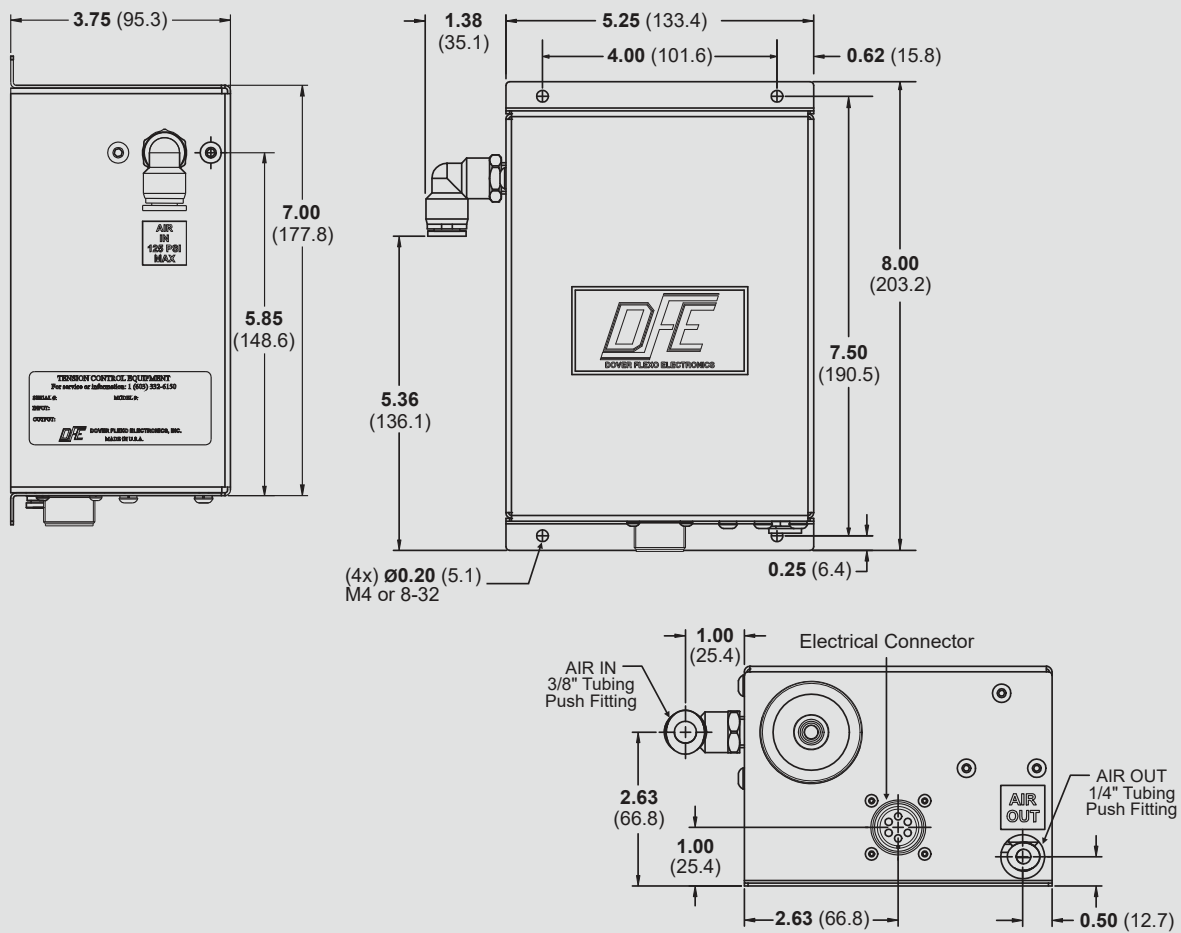
DIMENSIONS OF ENCLOSURE VERSION inches (mm)



DIMENSIONS OF OPEN VERSION inches (mm)



DIMENSIONS OF PNEUMATIC MODULE (P VERSION) inches (mm)



DIMENSIONS OF HIGH VOLTAGE OUTPUT MODULE (V VERSION) inches (mm)

