THE TENSION CONTROL SPECIALISTS

Quick Start Guide

SteadyWeb™ 6 Tension Controller

DOC 801-2541 R1

SAFETY

This label indicates: “Read The Manual”

Make sure you read and understand all instructions and safety precautions listed in this manual before installing or operating your SteadyWeb™ 6 Tension Controller. If you have any questions concerning the operation of your device or the information in this manual, please contact us.

Email: techsupport@dfe.com
Telephone: (603) 332-6150

- **Observe all warning labels.**
- **Never remove warning labels.**

Please review the SteadyWeb™ 6 Instruction Manual (DFE P/N 801-0004) online at www.dfe.com to familiarize yourself with all of the unit’s installation instructions, specifications, safety information, and wiring diagrams.

WARNING: If this equipment is not connected or operated in the manner specified, the operating safety of this unit or of connected equipment cannot be guaranteed.

WARNING: The isolated output is designed to prevent ground loops and noise. It is not intended or approved for safety isolation of hazardous voltages. Do not install unit where isolated circuit and chassis ground are more than 40 Vpk differential.

GENERAL DESCRIPTION

The SteadyWeb™6 is a digital tension controller designed to automatically maintain tension of any continuous material at a value selected by the equipment operator. The controller combines ease of use with powerful control features and capability that allow for effortless configuration and utilization over a wide variety of tension control applications.

The SteadyWeb™6 can be powered by 24 VDC or with a built-in 100-240 VAC power supply and is available in panel mount and enclosure mount configurations. The controller is offered in multiple output versions. The user interface features a context-sensitive 5" touch screen display. Illustrated prompts and color graphics make set up easy and allow for a short operator learning curve.
Basic functions of the controller are divided into three components: amplifier, tension regulator and output converter.

MOUNTING

Select a mounting location on the machine frame or a wall that will provide convenient operator interaction and easy screen viewing. To ensure safety and proper operation, the SteadyWeb™ 6 must be located away from dusty or wet environments. The unit should be mounted to a secure wall or surface that can support in excess of 30 lbs (13.6 kg). As the controller's front panel is hinged to the bottom of the enclosure, ensure that the mounting location will allow the front panel to swing open and down unobstructed. In addition, ensure there will be adequate room below the controller to allow for wire routing.

INSTALLATION INSTRUCTIONS

Panel Versions

For panel mount units, drill four holes and cut an opening centered in the holes. Mount your Panel style controller in the hole using four M3 (#4) nuts and screws.

Enclosure Versions

For enclosure mount units, drill and tap two M4 (#8) holes up from the desired bottom of the enclosure to match the screw hole dimensions on the back surface of the SteadyWeb™ 6. The

enclosure is fastened to the mounting surface you have chosen by two M4 (#8) screws. Install the screws on the mounting surface. Leave the screws loose about 6 turns. Position the keyholes in the back panel of the enclosure over the screws and slide it down until it locks in place. The cover must be open to tighten the mounting screws and secure the enclosure in place.

Version P Only
The pneumatic enclosure should be located in the area of your clutch or brake. Drill and tap four M3 (#4) holes in a rectangle. The enclosure is fastened to the mounting surface you have chosen by four M3 (#4) screws. The pneumatic servo is sensitive to any mounting off it's vertical axis. Mounting off vertical axis can cause error in output pressure.

Version V Only
The High Voltage Output module, required for 45 VDC and 90 VDC only, should be located in the area of your clutch or brake. If you are using the DIN Rail Clip (DRC) option, the V-Out module may simply be clipped to a DIN rail. If you are using the Enclosure mount style without the DRC option, drill and tap two M4 (#8) holes to match the screw hole dimensions on the back surface of the V-Out enclosure. The enclosure is fastened to the mounting surface you have chosen by two M4 (#8) screws. Install the screws on the mounting surface. Leave the screws loose about 6 turns. Position the keyholes in the back panel of the enclosure over the screws and slide it down until it locks in place. The cover must be open to tighten the mounting screws and secure the enclosure in place. This module is not sensitive to mounting at any angle.

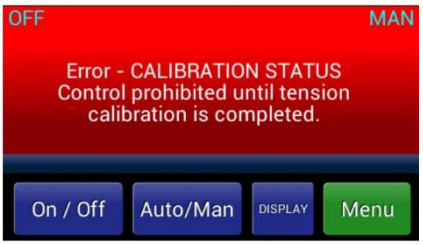
USER INTERFACE

For ease of use, the critical-use buttons / critical-awareness indicators are located consistently from one screen to the next. Those buttons and indicators include blue **On/Off**, **Auto/Man**, and **Display** toggle buttons on the bottom of the screen, and Tension **On/Off** and **Auto/Man** status indicators in the upper LH and upper RH corners of the display. The remaining button in the lower RH corner is green and displays as **Menu**, **Back** or **Save**, depending on what screen is current, and is used to advance to other menus, to back out of menus, or to save selections or adjustments. For more detail about buttons and indicators, see **SECTION 1 - USER INTERFACE OVERVIEW** of the **SteadyWeb™ 6 Instruction Manual** (DFE P/N 801-0004), hereafter referenced as **The Manual.**

After first connecting the controller to power, the **POWER** LED will light, and an error message will display, indicating that transducer calibration must be completed (for other error messages, see **SECTION 11 - TROUBLESHOOTING** of the **The Manual**).

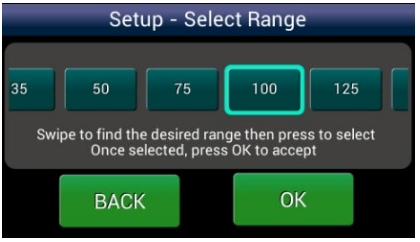
CALIBRATION

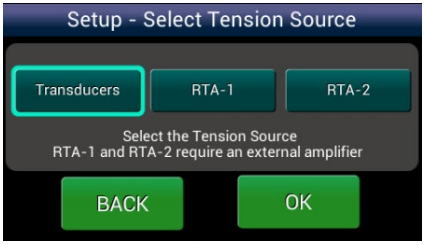
To calibrate the controller, press the **Menu** button to enter the menu mode. You can always exit Menu mode and return to Display mode by pressing the **Display** button. Reference **Appendix B** - **MENU HIERARCHY** of the **The Manual** for a diagram of the complete menu structure.

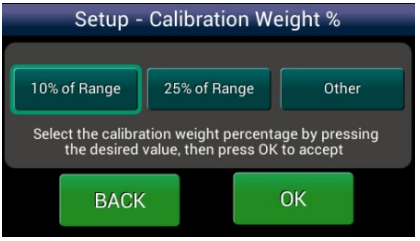


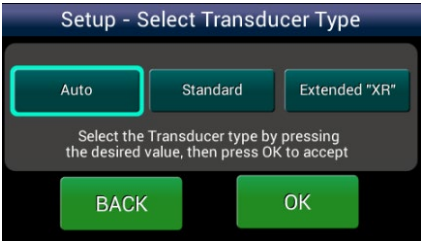
Before calibrating the unit, you should verify that the **Tension Units**, **Tension Range**, **Tension Source**, **Calibration Weight Percentage** and **Transducer Type** are set to values you desire. Press *Menu* > *Calibration Menu* > *Calibrate* buttons to get to the **Select Units** screen. Confirm that the preset units are correct, or choose your preferred units and then press **OK**.

After confirming or selecting new tension units, the controller will similarly guide you through selection of the tension range, the source of the tension signal, calibration weight percentage and transducer type to be used. The tension range should be set at, or just above your expected upper web tension limit.



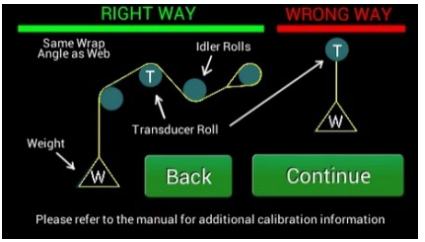






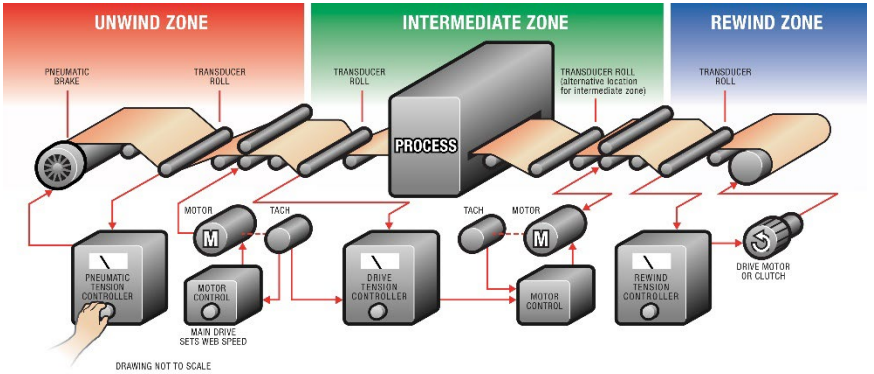
With no other loads on the transducer roll, **ZERO** the transducers, hang a calibration weight of known value with an inelastic rope, strap or cable, and **CALIBRATE** the transducer signal, exactly as instructed in **SECTION 6 - CALIBRATION** of **The Manual**. The calibration weight should weigh at least 10% of your maximum expected web tension.

When the transducer signal is calibrated, press the **Display** button to return to the tension display.



If additional calibration is required for inputs of Line Speed, Roll Speed or Roll Diameter, refer to **SECTION 6 - CALIBRATION** of the **The Manual**.

Program settings are based on the tension zone in which the controller is being used. For setting up Unwind, Intermediate and Rewind Zones, refer to **SECTION 7 - SETUP** of **The Manual**.



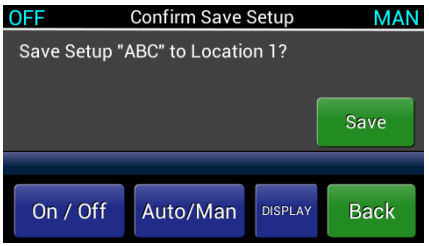
Some PID (Proportional, Integral and Derivative) tuning may be necessary to control tension optimally. Refer to **SECTION 6 - TUNING ADJUSTMENTS** of **The Manual** for a PID control overview and tuning procedure. Use the PID Tune View display located at *Menu* > *Calibration Menu* > *Tune PID Values* to adjust the PID terms for optimal control. See **SECTION 5 - USER INTERFACE OVERVIEW** of **The Manual** for information on how to utilize the **PID Tune View** display.

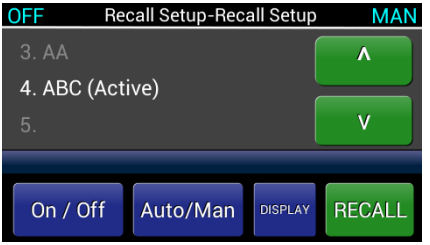
OPERATING INSTRUCTIONS

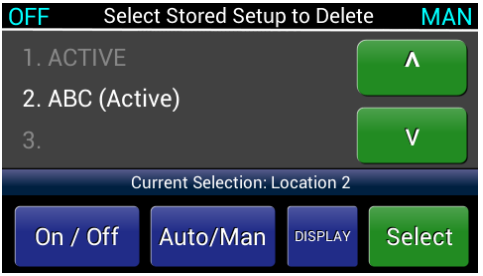
After calibrating, configuring and tuning the controller, save the setup at *Operator Menu* > *Store / Delete Setup*, by selecting **Store Setup**, scrolling to the desired setup location and pressing the **Select** button. Follow the on-screen instructions to name the setup (it helps to be descriptive), press the **OK** button, and press the **Save** button on the next screen.

To recall a setup, visit *Operator Menu* > *Recall Setup*, scroll to the desired setup and press the **Recall** button, press **Recall** again on the next screen, and press **OK**.

For more information about saving, recalling and deleting setups, see **SECTION 2 - OPERATING INSTRUCTIONS** of **The Manual**.







There are two tension display options, the **Analog Meter** and **Trend-Line Graph**, which can be toggled back and forth using the Display button.

For more information about the display mode, see **SECTION 1 – USER INTERFACE OVERVIEW** of **The Manual**.

When in tension display screens, you may bring up velocity-sensitive "**+**" and "**-**" adjustment buttons by touching the tension display. These buttons, for adjusting the Auto Setpoint or Manual Output will time out a few seconds after discontinued use.

TROUBLESHOOTING

Most problems are caused by incorrect installation or misapplication of the equipment, so it is important to read through the manual and follow the proper installation, calibration and configuration procedure.

The most common source of improper operation of tension equipment is incorrect installation of the tension transducers or using transducers of the wrong load rating. Refer to your transducer instruction manual and
check the sizing and installation procedures to verify the installation.

Note: Avoiding preloading the transducers
is very important. If changes cannot be made to menu selections, check to make sure that the Anti-Tamper Lockout Jumper is not in the locked position. Refer to manual for more detail.

The complete SteadyWeb™ 6 Tension Controller instruction manual is located on the product page, here:

https://dfe.com/products/tension-controllers/steadyweb-6-tension-controller/

Or by scanning the QR code below with a tablet or smartphone:

307 PICKERING ROAD
ROCHESTER, NEW HAMPSHIRE 03867-4630
U.S.A

TEL: (603) 332-6150
FAX: (603) 332-3758

E-mail: info@dfe.com Internet: www.dfe.com

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