DOVER FLEXO ELECTRONICS, INC.

OPERATING INSTRUCTIONS

L-R-T TENSION INDICATOR

TRIVIEW™ (Ti31)

DOC 801-2521

5 YEAR WARRANTY

DOVER FLEXO ELECTRONICS, INC.

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READ THIS!

*** SAFETY INFORMATION ***

Please read this manual prior to operating the indicator. Only properly trained indivduals should operate this equipment. Failure to follow the manual's instructions and practice safe working habits could result in property damage, personal injury and/or death.

WARNING:
Before servicing the TriView™ LRT, power should be removed from the device. Failure to do so could result in property damage, personal injury and/or death.

CAUTION:
The TriView™ LRT contains circuit boards with static sensitive devices. When working directly with these circuit boards, users should always practice proper grounding techniques, including the use of ground straps.

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1. PRODUCT DESCRIPTION

The **TriView™ LRT** (Ti31) accurately indicates tension measured at the left and right ends of a roll as well as the total tension across the roll. The indicator displays all information and accepts all operator instructions via a 5" color touchscreen, and there are no mechanical knobs, switches or buttons on the TriView™ LRT Indicator. All inputs and outputs from the indicator are located on the bottom of the enclosed unit, or at the terminal blocks on the back of the panel mounted unit.

2. FRONT VIEW

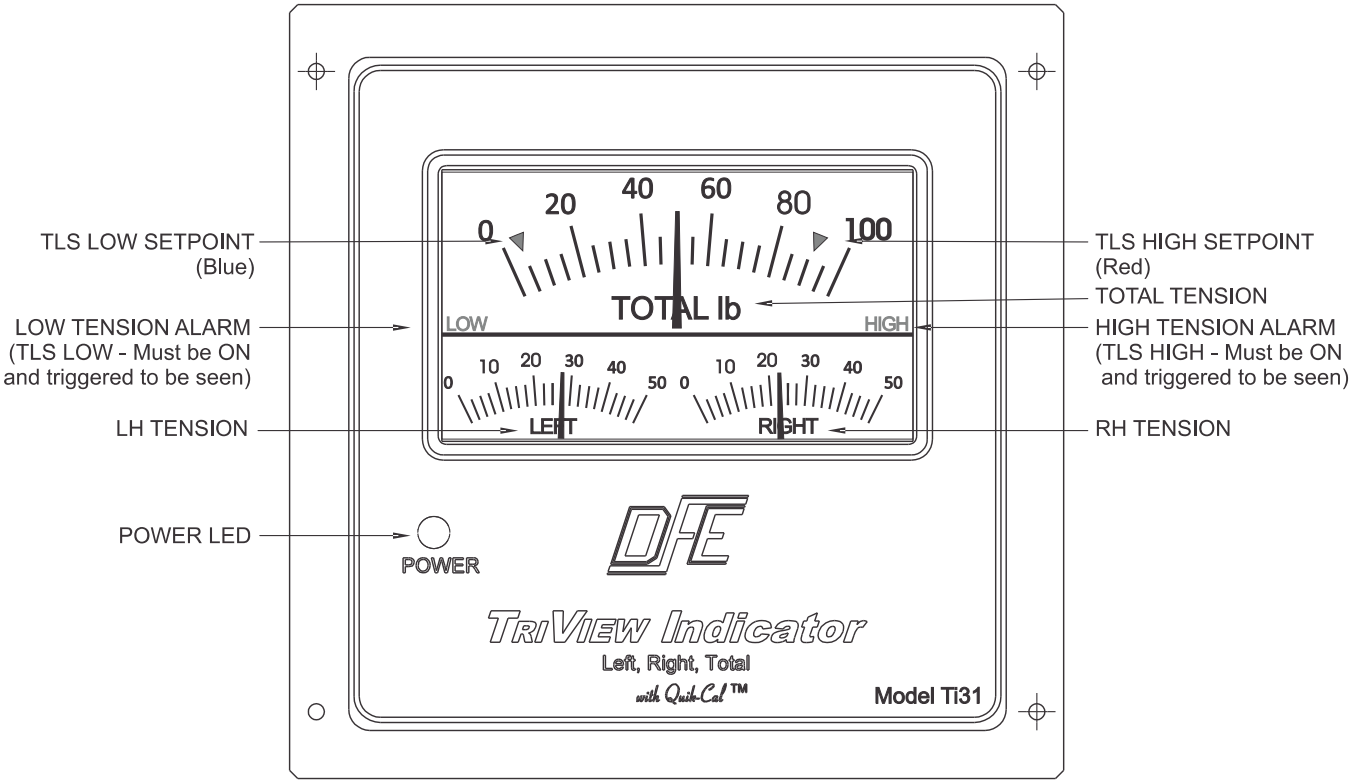

***Figure 1* – TRIVIEW USER INTERFACE**

All settings and adjustments which are not primarily tension displaying functions require some on-screen navigation to access them.

Tap the tension display to bring up the controls which are context driven, and operate the indicator with color-coded buttons.

Green buttons indicate selectable functions and grey buttons indicate functions that may not be selected until certain conditions are met.

In the unlikely event of a screen failure, an always-on Power LED on the front of the indicator lets the operator know that that the unit is still powered up.

3. DISPLAY MODES

The default display is an analog style meter where the upper meter displays the **TOTAL** tension, and the lower meters display **LEFT** and **RIGHT** tension ***(Figure 2)***.

Tapping the screen temporarily floats a control bar up from below the bottom of the screen ***(Figure 3)***, and enables toggling between **ANALOG** and **HYBRID** displays, toggling between individual **LEFT** and **RIGHT** tension meters and a **L/R BALANCE** meter, and entering the **MAIN MENU**. A few seconds after the last touch, the control bar times out and sinks below the bottom of the screen again.

Figure 2 **– DEFAULT METER DISPLAY**

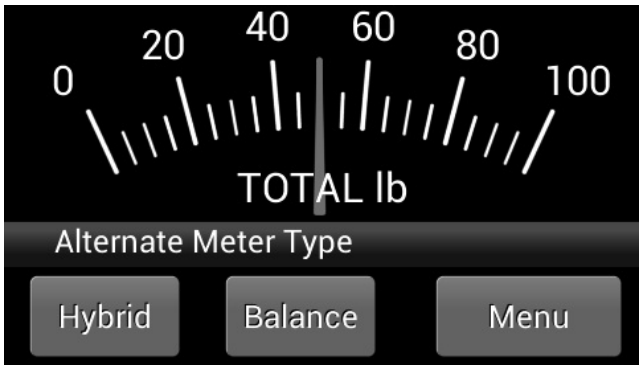

Figure 3 **– METER WITH CONTROL BAR**

A tension value is indicated by the needle on each analog-style meter. If the **HYBRID** display is selected instead of the **ANALOG** display, a digital tension readout will be added below each analog-style meter scale ***(Figure 4)***.

Figure 4 **– METER WITH HYBRID DISPLAY**

When toggled from **L/R** to **Balance** an analog style meter will indicate the difference in tension between the two ends, and the tension-dominant side of the roll ***(Figure 5)***.

When toggled from **ANALOG** to **HYBRID** and from **L/R** to **Balance** the analog style meter will indicate the difference in tension between the two ends, and the Left and Right tensions will also be expressed in digital tension readouts below the meter scale ***(Figure 6)***.

Figure 5 **– ANALOG BALANCE DISPLAY**

Figure 6 **– HYBRID BALANCE DISPLAY**

4. FEATURES, SETTINGS, ADJUSTMENTS and NAVIGATION

Main Menu – Accessed from the Control Bar (tap the display screen to float the Control Bar up), the Main Menu ***(Figure 7)*** connects the user to the subordinate menus and controls that follow:

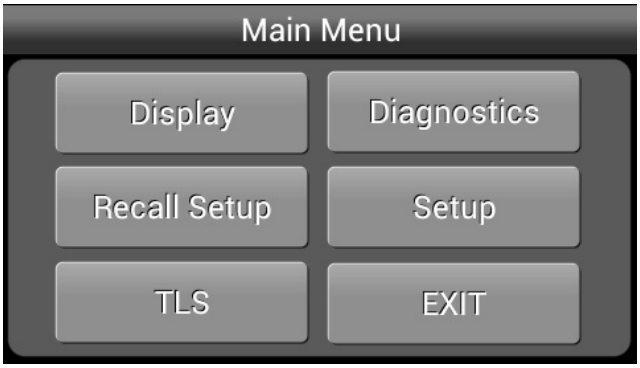

Figure 7 **– MAIN MENU DISPLAY**

1. **Display**

   Display Brightness – Adjust screen brightness with "**+**" and "**-**" buttons.

   Display Damping – Adjust meter damping with "**+**" and "**-**" buttons.

   OK – Returns to the Main Menu.

2. **Recall Setup** – A setup may be recalled if it has already been stored (button will be green if settings are stored, and grey if not). See the Technical Manual to create stored setups. A setup selected for recall will be highlighted around its edges, as Setup 2 ***(Figure 8)***.

Figure 8 **- RECALL SETUP DISPLAY**

Setup 1 button – Select, if desired settings are stored in Setup 1.

Setup 2 button – Select, if desired settings are stored in Setup 2.

Setup 3 button – Select, if desired settings are stored in Setup 3.

Setup 4 button – Select, if desired settings are stored in Setup 4.

Setup 5 button – Select, if desired settings are stored in Setup 5.

Back button – Returns to the Main Menu and preserves the current settings without recalling a stored setup.

OK button – Returns to the Main Menu after recalling the selected Setup

3. **TLS (Tension Limit Switch)** – TLS High is normally used to prevent stretching of the web or a web break under excess tension. TLS Low is normally used to indicate a web break, or that tension has dropped below a desired level. Both TLS High and TLS Low may be used independently.

TLS High SETUP

To turn on TLS High and set the high TLS value, tap the tension meter at the value desired for a tension limit, as instructed by the screen ***(Figure 9)***.

(Note: TLS is set for total tension, not left or right tension).

A red caret will appear at the selected value on the meter scale, and text will appear in the control bar indicating the value chosen ***(Figure 10)***. The caret may be dragged from one value to another on the screen, and the text in the control bar will update to suit. Confirm that the selected tension limit is correct, or reselect, and then pick the **OK** button to return to the TLS Setup screen.

To turn off TLS, press the **TLS OFF** button and then press the **OK** button to return to the TLS Setup screen

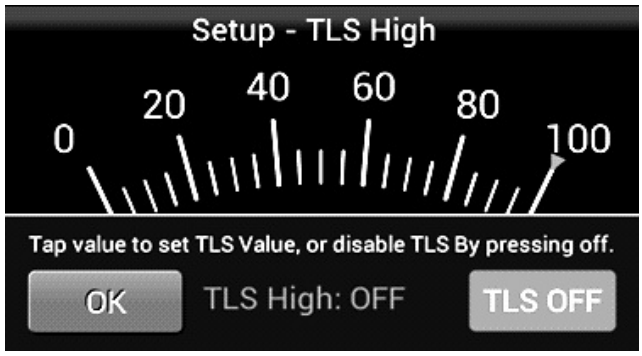

Figure 9 **- SETUP MENU - TLS HIGH SETUP**

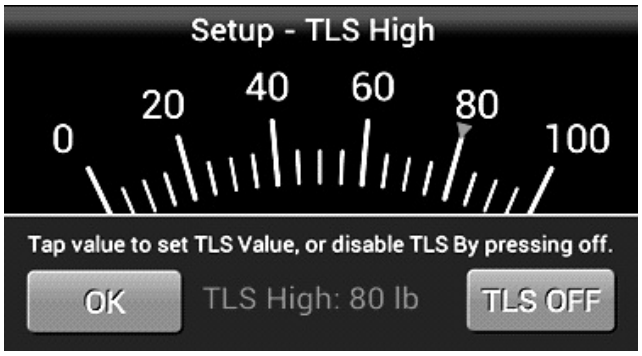

Figure 10 **- SELECT HIGH TLS VALUE**

In display mode, if tension exceeds the TLS High setting, the indicator will display a **HIGH** message at the high end of the total tension meter, indicating that tension is too high. ***(Figure 11)***.

Figure 11 **- TLS HIGH ALERT SCREEN**

4. FEATURES, SETTINGS, ADJUSTMENTS and NAVIGATION *continued...*

TLS Low Setup

To turn on TLS Low and set the low TLS value, tap the tension meter at the value desired for a tension limit, as instructed by the screen ***(Figure 12)***.

(Note: TLS is set for total tension, not left or right tension).

A blue caret will appear at the selected value on the meter scale, and text will appear in the control bar indicating the value chosen ***(Figure 13)***. The caret may be dragged from one value to another on the screen, and the text in the control bar will update to suit. Confirm that the selected tension limit is correct, or reselect, and then pick the **OK** button to return to the TLS Setup screen.

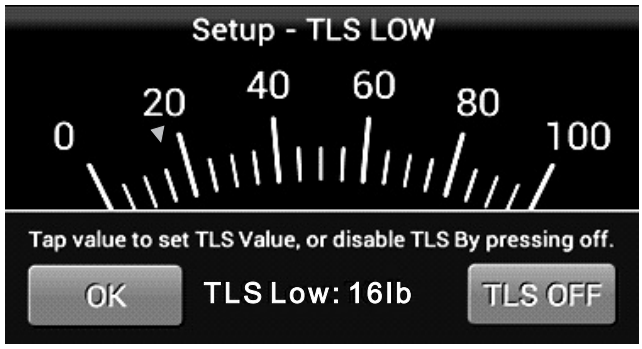

Figure 12 **- SETUP MENU - TLS LOW SETUP**

Figure 13 **- DISPLAY with TLS SET VALUES**

In display mode, if tension falls below the TLS Low setting, the indicator will display a **LOW** message at the low end of the total tension meter, indicating that tension is too low ***(Figure 14)***.

Figure 14 **- TLS LOW ALARM SCREEN**

To turn off TLS press **TLS OFF** button and then press the **OK** button to return to the TLS Setup screen. Press **EXIT** button returns to the Main Menu.

Note: Both TLS High and TLS Low may be used at the same time, as shown above. If used together, and the TLS Low value is set higher than the TLS High value, it is not possible to satisfy the operating conditions set with those controls, without suitable customization by your Technical Service Department.

4. FEATURES, SETTINGS, ADJUSTMENTS and NAVIGATION *continued...*

4. Diagnostics

Provided for troubleshooting and communication with the Maintenance/Technical Service Department, the user may review the following on the Diagnostics screen ***(Figure 15)***:

- Active Setup – The current Setup (selected from Setups 1-5), or “Run” if none of the stored setups are selected.
- Units – The selected units of measure for tension.
- Meter Range – The selected range on the Total tension meter.
- Calibration Weight – The selected calibration weight (10% or 25% of range).
- Transducer Type – The type of DFE transducer(s) connected (Standard or XR).
- TLS High – High Tension Limit Setting or “OFF”.
- TLS Low – Low Tension Limit Setting or “OFF”.
- LEFT channel output in percentage of calibration.
- RIGHT channel output in percentage of calibration.

Figure 15 **- DIAGNOSTIC DISPLAY**

SERVICE MENU button:

Access Code keypad (Access will be denied without access code – Contact your Maintenance / Technical Service Department if service is required)

EXIT button – Returns to the Diagnostic Menu.

EXIT button – Returns to the Main Menu.

5. Setup (Creation)

SERVICE MENU button:

Access Code keypad (Access will be denied without access code – Contact your Maintenance / Technical Service Department if service is required)

EXIT button – Returns to the Main Menu.

EXIT button – Returns to the Display Mode.

5. TROUBLESHOOTING

If the suggested remedy following each of the below listed symptoms fails to address the problem, please contact your Maintenance or Technical Service Department.

- **Touchscreen won't light up** – Confirm Power LED is lit up.
- **Power LED won't light up** – Confirm indicator is connected to power.
- **Touchscreen won't respond to touches** – Try using fingernail versus fingertip.
- **Display is too dim or too bright** – Adjust **DISPLAY BRIGHTNESS** to suit.
- **Meter needle is too sluggish or jumpy** – Adjust **DISPLAY DAMPING** to suit.
- **Load on roll won't display** – Confirm transducer cable(s) is(are) connected to indicator.
- **Indicated tension looks incorrect** – Examine the **Diagnostics** to confirm that the correct **Setup** has been recalled for the product being run. Recall the correct **Setup** if not.

6. CARE AND MAINTENANCE

Touchscreen displays can be damaged by impacts or excessive pressure. Ensure that the TriView™ LRT tension indicator is not operated carelessly.

The TriView™ LRT tension indicator requires no periodic maintenance however it is advisable to prevent an accumulation of excess dust, debris or moisture over time. If relocation is necessary to prevent such an accumulation, please contact your Maintenance / Technical Service Department.

It is important to routinely confirm a zero tension reading when there is no web on the transducer roll. If the TriView indicates a non-zero tension in this condition, please contact your Maintenance/Technical Service Department for corrections.

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DOC 801-2521 R1
06/15 PRINTED IN USA