



THE TENSION CONTROL SPECIALISTS

INSTRUCTION MANUAL



TRUEVIEW™ Model 1100 Tension Indicator

DOC 801-2573 R1

Dover Flexo Electronics
307 Pickering Road
Rochester, NH 03867- 4630
U.S.A.

FOR ASSISTANCE:

TECHNICAL SERVICE - Installations, Start-Up, Troubleshooting, Repairs, Field Service or Returns. **Call (603) 332-6150 and ask for Technical Support or email us at: techsupport@dfc.com**

CUSTOMER SERVICE - Replacement Parts, Individual Products, Questions about Orders, Manuals. **Call (603) 332-6150 and ask for Customer Service or email us at: customerservice@dfc.com**

SALES - Product Information, System Application Questions or Placing Orders, **Please e-mail us at: sales@dfc.com or call (603) 332-6150 and ask for Sales.**

Telephone: (603) 332-6150 Fax: (603) 332-3758

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

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 TrueView™ 1100 Indicator. If you have any questions concerning the operation of your device or the information in this manual, please contact us.

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

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



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: During installation, care should be taken not to drop the TrueView™ 1100. Handle with care. Sudden jolts or drops can damage its components.

Table of Contents

- 1 OVERVIEW / DEVICE DESCRIPTION 1**
 - 1.1 GENERAL DESCRIPTION 1
 - 1.2 SPECIFICATIONS 1
 - 1.3 FEATURES..... 1
- 2 INSTALLATION..... 2**
 - 2.1. DIMENSIONS..... 2
 - 2.2 MOUNTING THE UNIT..... 2
 - 1. Din Rail Mount..... 2
 - 2. Panel Mount..... 2
 - 3. Pole Mount:..... 2
 - 2.3 STANDARD ELECTRICAL CONNECTIONS 3
 - 1. Power Input..... 3
 - 2. Tension Output (Optional) 3
 - 3. Transducers / Load Cells..... 3
- 3 OPERATION..... 4**
 - 3.1 MENU DISPLAY AND NAVIGATION..... 4
 - 1. Operator Menu 4
 - 2. Diagnostics..... 4
 - 3. Calibration Menu and Service Access..... 4
- 4 CALIBRATION 5**
 - 1. Setup..... 5
 - 2. Zeroing the Indicator 6
 - 3. Calibration Procedure 6
 - 3. Calibration Procedure..... 7
- 5 TROUBLESHOOTING..... 8**
 - 1. Alarm Messages: 8
- TERMS AND CONDITIONS OF SALE AND SHIPMENT..... 9**

1 OVERVIEW / DEVICE DESCRIPTION

1.1 GENERAL DESCRIPTION

The TrueView™ 1100 Indicator is a compact, versatile single-channel tension transducer interface. It can be used with DFE tension transducers to monitor tension in any zone on web or filament processing machinery. The standard configuration for the 1100TV is a 4.9" x 3.75" x 1.36" aluminum enclosure with a terminal connector.

1.2 SPECIFICATIONS

Model: 1100TV

Display: 4.3" LCD touchscreen, capacitive, 500 nits brightness

Power Input:

Voltage: 24 VDC +/- 10%

Current: 0.1 ADC typical, internal fusing PTC resettable

Tension Indicator Accuracy: +/- 1/2% drift at ambient maximum

Calibration Range: Up to 50:1

Processor: 32 Bit

ADC Resolution: 16,777,216 (24 Bit)

DAC Resolution: 4,096 (12 Bit)

Tension Outputs: (Simultaneous)

Output 1: 0-10 VDC isolated from 24 VDC input GND

Output 2: 4-20 mA isolated from 24 VDC input GND

Temperature Range: 32°F to 122°F (0°C to 50°C)

Dimensions: 4.9" W x 3.75" H x 1.36" D

Weight: 1.5 lbs (681 g)

Certifications:

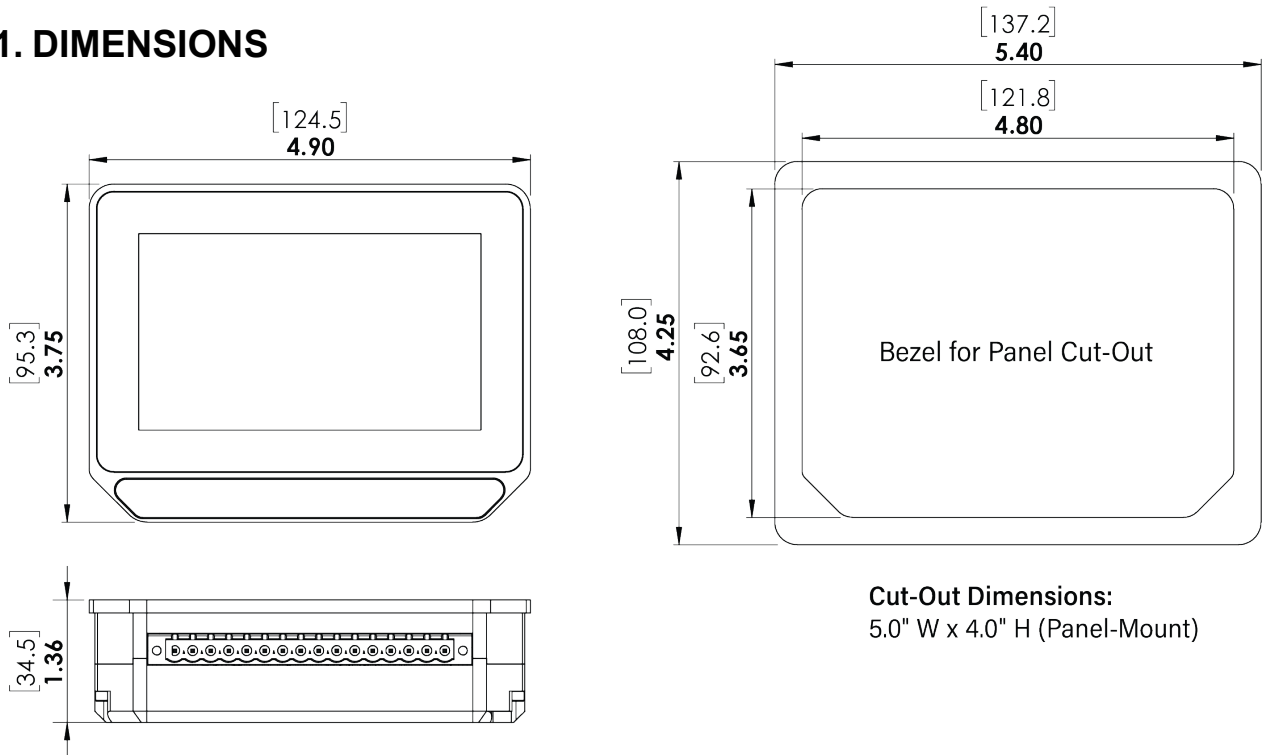


1.3 FEATURES

- **Full Color Touchscreen:** 4.3-inch capacitive touchscreen display for navigation, selection and adjustment
- **10% or 25% Calibration Ratio:** Full output is reached when tension is at 10 or 4 times the calibration weight
- **Flexible Mounting:** 35mm DIN Rail, Panel Mount, or Pole/Pipe Adapter

2 INSTALLATION

2.1. DIMENSIONS



2.2 MOUNTING THE UNIT

There are three mounting choices:

- 1. Din Rail Mount:** Compatible with 35mm DIN rail. Screw DIN rail clip to back of unit with provided mounting screws. Clip the top of the DIN rail clip onto the top of the DIN rail and pull down while pushing forward slightly to snap the unit onto the rail. To remove from the DIN rail, push the device down while pulling its bottom forward, then pull up when bottom is free.
- 2. Panel Mount:** Slide panel-mount bezel over the unit from the back. Insert into panel cut-out from the front. Attach panel-mount brackets to the back of the indicator with the provided mounting screws and tighten the assembly against the mounting panel.
- 3. Pole Mount:** Unscrew a hose clamp (not provided) with a 1/2" or smaller width and the appropriate diameter for the mounting surface. Pass the tail end (without the nut) through one of the pockets in the Pole Mount Adapter and out of the other, ensuring the recess faces outwards from the pole (towards the unit). Screw Pole Mount Adapter to unit with provided mounting screws, wrap clamp around pole or railing and secure unit by tightening clamp.



DIN RAIL MOUNT



PANEL MOUNT



POLE MOUNT

INSTALLATION (continued)

2.3 STANDARD ELECTRICAL CONNECTIONS

1. Power Input

Power should be sourced to the 1100TV on Pins 16 (GND) and 15 (+24 VDC).

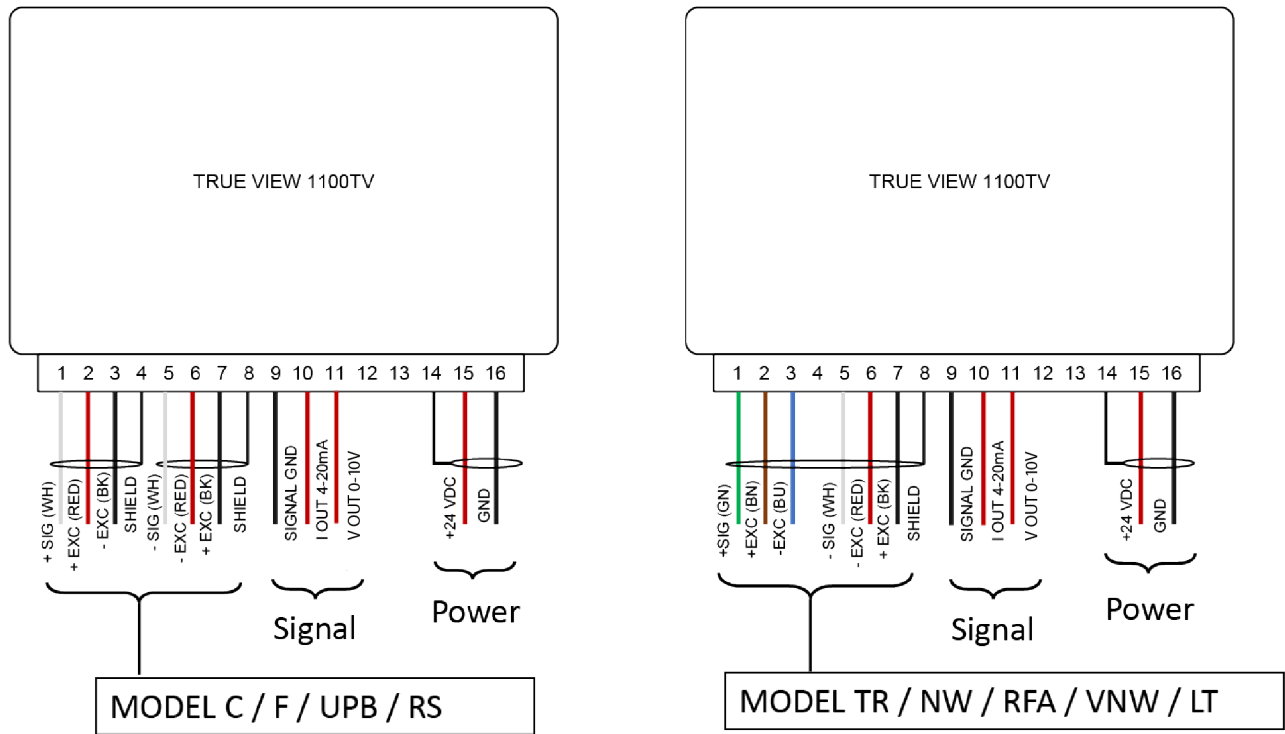
2. Tension Output (Optional)

The tension output signal is provided in two options:

- 0-10 VDC is available on Pins 9 (Return) and 11 (0-10 VDC)
- 4-20 mA is available on Pins 9 (Return) and 10 (4-20 mA)

3. Transducers / Load Cells

Use the appropriate color connections for the type of tension transducer being connected.



POWER and SIGNAL CONNECTIONS

3 OPERATION

3.1 MENU DISPLAY AND NAVIGATION

The first screen that will appear upon powering up will be the one in **Fig. 1** reminding you that setup must be performed before operating the unit.

From the tension display screen (**Fig. 2**), the **Menu** button will deliver the operator to the **Main Menu (Fig. 3)** where subordinate menus appear for further navigation. Note that the names of all menu screens are consistently displayed at the center of the top line.

1. **Operator Menu** - The **Display Configuration** tab and submenu are accessed through the operator menu. The display configuration page (**Fig. 3b**) reveals the following options:

Tension Update - Choose 0.2, 0.5, 1.0, 2.0 or 5.0 seconds and press **SAVE** to adjust the time it takes for the display to update with new information. Longer updates produce fewer changes in displayed information over time, at the expense of rapid visual response to changes in tension.

Plot Update Time - Choose 30 sec or 1, 2, 5, 10 or 30 min and press **SAVE** to adjust time that tension displays before dropping off the trend-line graph screen.

Meter Damping - Changes the update rate of the display meter to balance response speed vs read-out stability. Select your preferred value and press **SAVE**.

Display Brightness - Adjust between 10% and 100% and press **SAVE**.

2. **Diagnostics** - This menu is for discussions with DFE Tech Support if needed.

3. **Calibration Menu and Service Access**

When selecting either of these menus, a screen (**Fig. 4**) requiring permission-based access will display. Touch Request Access and enter **Code 6 1 5 0**. You will see the Access Enabled screen and will be directed back to the menu where the Calibration and Service Access will now be available for selection.

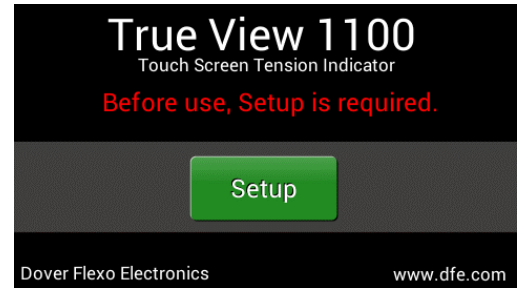


Figure 1 - INITIAL POWER-ON SCREEN



Figure 2 - TENSION DISPLAY SCREEN

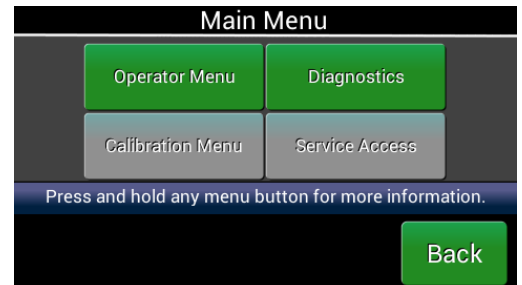


Figure 3 - MAIN MENU

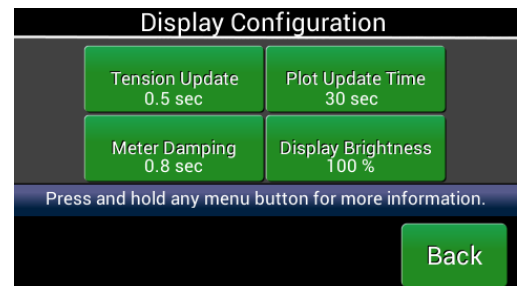


Figure 3b - DISPLAY CONFIGURATION

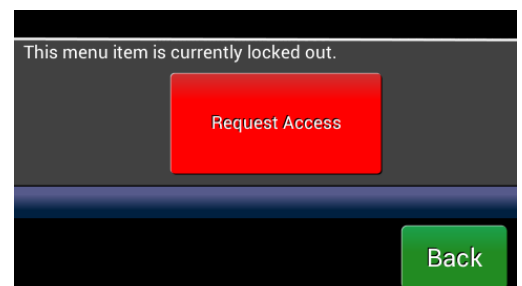


Figure 4 - REQUEST ACCESS SCREEN

4 CALIBRATION

A calibration process must be performed before the indicator is ready to indicate tension. Select an appropriate calibration weight. The weight determines the value of web tension that will produce full output of the 1100TV. For example: A 10 lb weight will result in full output of 100 lbs of tension if the 10% calibration is performed. If a calibration of 25% is used, a calibration weight of 25 lbs will result in a full scale output of 100 lbs of tension.

1. Setup

In the lower right corner of the main display, tap the green **Menu** tab. Now tap the **Calibration Menu** tab. You may be prompted to press the **Request Access** tab, if this occurs enter **6 1 5 0** on the number pad. After gaining access, tap **Calibration Menu** again to proceed.

Next, tap **Calibrate**. Select the units of measure for display (**Fig. 5**). The choices are lb, oz, g, Kg or N. After selection, press **OK**.

You will now need to select a measurement range or scale (**Fig. 6**). Swipe left or right to view all available options. Press **OK**.

Next, select the percentage of your tension range for calibration (**Fig. 7**).

Note: The 10% calibration weight ratio is recommended for high tension applications, or any time it may be a challenge to handle a heavy calibration weight. The 25% calibration ratio is recommended for maximum accuracy and is especially useful in calibrating for low tension applications.

Make your selection and press **OK**.

Review your selections (**Fig. 8**) and press **OK** to accept them all or **BACK** to return to prior screens and makes changes.

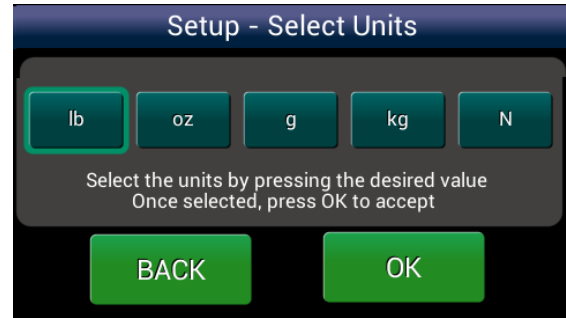


Figure 5 - SELECTION OF TENSION UNITS

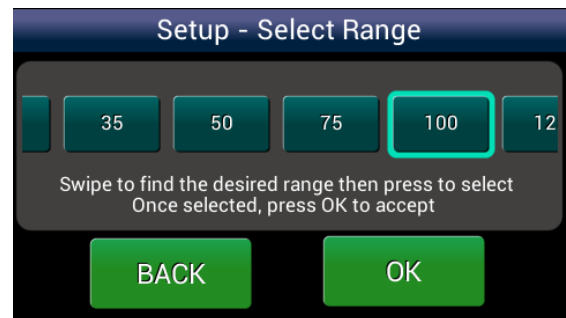


Figure 6 - SELECTION OF TENSION RANGE

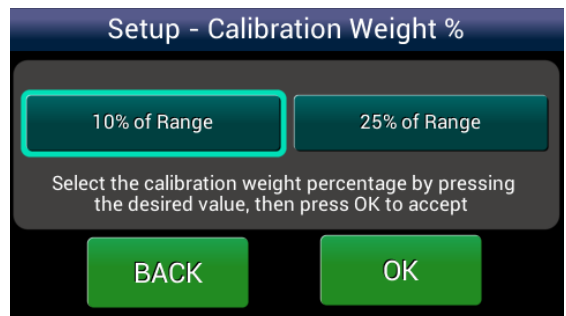


Figure 7 - SELECTION OF CALIBRATION WEIGHT

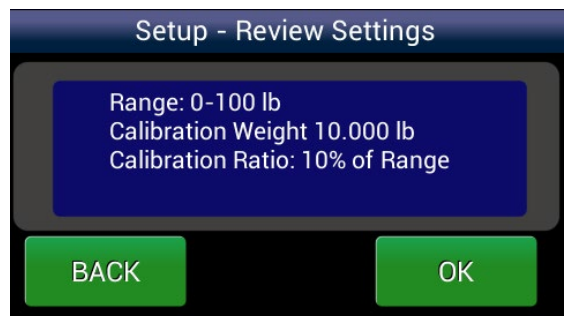


Figure 8 - REVIEW OF CALIBRATION SETTINGS

CALIBRATION (continued)

2. Zeroing the Indicator

The first step of any calibration is Zeroing out the amplifier. Per the **Zero Tension** screen (Fig. 9), check the transducer roll to make sure that nothing is hanging from, resting on, or leaning against it, including the calibration rope or cord. Press **OK** when the roll is unloaded and ready to zero, or **BACK** to return to the prior screen.

After pressing **OK**, the 1100TV zeros out the roll weight and a progress bar moves across the screen, after which the message “**Zero operation complete**” comes up in green characters, as shown on the **Zero successful** screen (Fig. 10). Press **OK** to accept or Re-Zero if anything occurred which made the zero-operation suspect.

3. Calibration Procedure

At the center of the web path (located with a tape measure), secure one end of the inelastic cord to a fixed point at least two rolls beyond the transducer roll, and thread it around the transducer roll and both adjacent idler rolls, following the exact same path as the web which will be measured. See the **Right Way / Wrong Way** illustration (Fig. 11) for guidance. Be sure that the cord does not wrap around any driven rolls, drag bars or other obstacles that might affect tension. Hang the total calibration weight on the free end of the cord and wait for it to stop swinging. It is important that the cord wraps around one idler roll on either side of the transducer roll, and that the weight hangs freely, without touching anything. When these conditions are satisfied, press **Continue** to proceed.

Fig. 12 shows the **Cal Not Ready** screen where the **Calibrate** button is gray, accompanied by an error message in red characters. This error message appears if the transducers are not properly wired to the indicator, if the calibration weight is insufficient for the application, or if the weight is not properly loading the transducer roll.

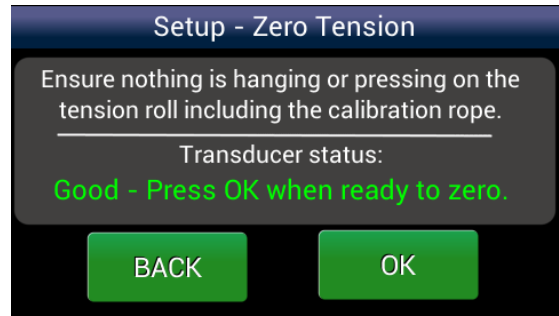


Figure 9 - ZERO TENSION SCREEN

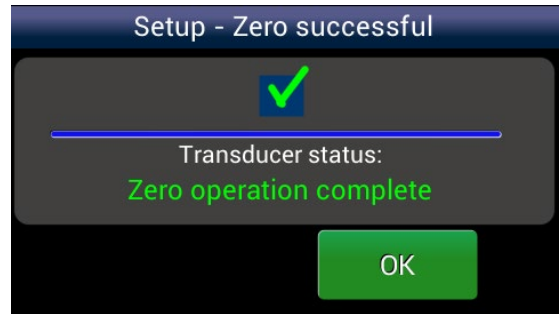


Figure 10 - ZERO OPERATION COMPLETE

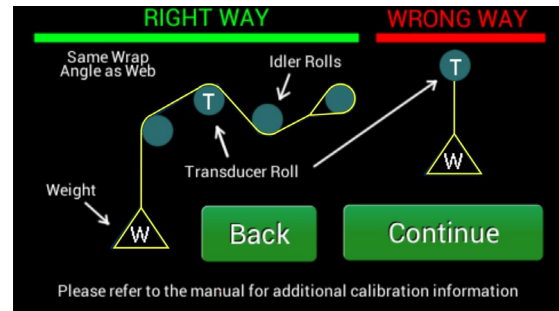


Figure 11 - WEB PATH FOR CALIBRATION

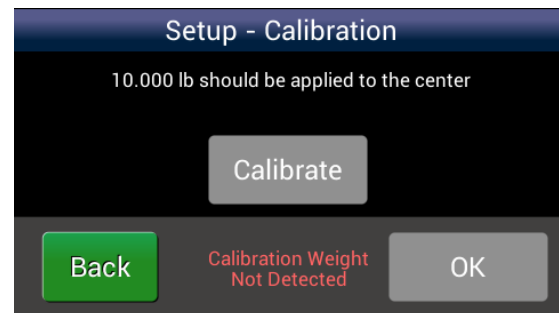


Figure 12 - CAL NOT READY

CALIBRATION (continued)

3. Calibration Procedure continued...

The **Calibrate** button will turn green and the red text will disappear when the conditions required for calibration have been met (**Fig. 13**).

When ready, press the **Calibrate** button and the screen will indicate that the calibration was successful (**Fig. 14**). Press **BACK** to return to the prior screen; Re-Calibrate if something occurred which made the calibration suspect, or **OK**, after which the indicator will very briefly flash a Calibration Successful screen, and then progress to the **Display** Screen.

Remove the weight and observe the output. It should read 0 VDC or 4 mA with nothing touching the tension sensing roller. If these conditions are satisfied, calibration is now complete.

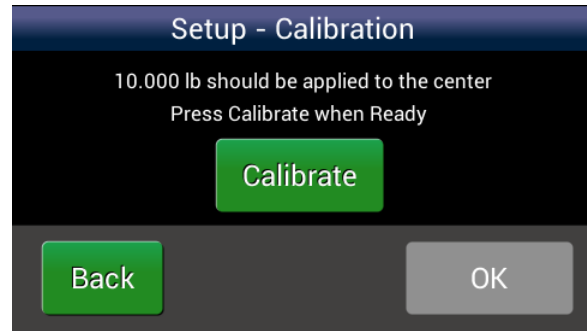


Figure 13 - CAL READY

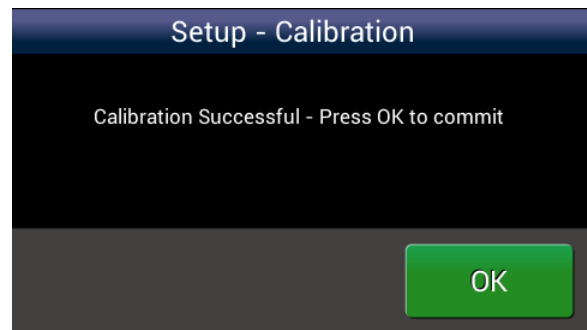


Figure 14 - CALIBRATION SUCCESSFUL

5 TROUBLESHOOTING

The TrueView™ 1100 is running normally when no alarm message is present on the screen. If an alarm appears, perform the action below to resolve the issue. Contact Technical Support if you need additional help.



1. Alarm Messages:

- **OUT OF RANGE:** Once calibrated the TrueView™ 1100 will indicate an over range or under range condition by setting the alarm. The error will remain active if -20% or 120% of calibrated tension is exceeded.
Action Required: To clear this error the tension must be brought back into range. Or a new calibration will need to be established to increase the measurement range and prevent future alarms.
- **WIRING ERROR:** Will alert until the load cells are wired correctly.
Action Required: Check wiring and retry. Refer to page 3 to check for loose wires at the terminal blocks, wiring shorts and ensure load cells are connected on the opposite end of the cable. If the transducers need trouble shooting – contact tech support for assistance.

LT Transducer: A WIRING ERROR indicated with an LT transducer could also be caused by an overload condition.
Action Required: Check that the tension range does not exceed the transducer load rating. Reduce wrap angle to reduce effective net force exerted on load cell.
- **EXCITATION SHORT:** Wiring or load cell failure.
Action Required: Check for shorts in the transducer (load cell) wiring. If the transducers need troubleshooting – contact tech support for assistance.
Action Required: Contact DFE for load cell replacement.

TERMS AND CONDITIONS OF SALE AND SHIPMENT

1. THE COMPANY

Dover Flexo Electronics, Inc. is hereinafter referred to as the Company.

2. CONFLICTING OR MODIFYING TERMS

No modification of, additions to or conflicting provisions to these terms and conditions of sale and shipment, whether oral or written, incorporated into Buyer's order or other communications are binding upon the Company unless specifically agreed to by the Company in writing and signed by an officer of the Company. Failure of the Company to object to such additions, conflicts or modifications shall not be construed as a waiver of these terms and conditions nor an acceptance of any such provisions.

3. GOVERNING LAW

This contract shall be governed by and construed according to the laws of the state of New Hampshire, U.S.A. The parties agree that any and all legal proceedings pursuant to this contract shall take place under the jurisdiction of the courts of the State of New Hampshire in the judicial district of Strafford County.

4. PENALTY CLAUSES

Penalty clauses of any kind contained in orders, agreements or any other type of communication are not binding on the Company unless agreed to by an officer of the Company in writing.

5. WARRANTY

Dover Flexo Electronics, Inc. warrants, to the original Buyer, its' products to be free of defects in material and workmanship for five years from date of original shipment. Repairs on products are warranted for 90 days from date of shipment. During the warranty period the Company will repair or replace defective products free of charge if such products are returned with all shipping charges prepaid and if, upon examination, the product is shown to be defective. This warranty shall not apply to products damaged by abuse, neglect, accident, modification, alteration or mis-use. Normal wear is not warranted. All repairs and replacements under the provisions of this warranty shall be made at Dover Flexo Electronics or at an authorized repair facility. The Company shall not be liable for expenses incurred to repair or replace defective products at any other location or by unauthorized persons or agents. This warranty contains all of the obligations and warranties of the Company. There are no other warranties, either expressed or implied. No warranty is given regarding merchantability or suitability for any particular purpose. The Company shall not be liable in either equity or law for consequential damages, losses or expenses incurred by use of or inability to use its' products or for claims arising from same. No warranty is given for products of other manufacturers even though the Company may provide these products with its' own or by themselves. The provisions of this warranty cannot be changed in any way by any agent or employee of the Company. Notice of defects must be received within the warranty period or the warranty is void. The warranty is void if the serial number tag is missing or not readable.

6. PAYMENTS

Standard terms of credit are net 30 days from date of shipment, providing satisfactory credit is established with the Company. Amounts past due are subject to a service charge of 1.5% per month or portion thereof or 18% per annum. The Company reserves the right to submit any unpaid late invoices to a third party for collection and Buyer shall pay all reasonable costs of such collection in addition to the invoice amount. All quoted prices and payments shall be in U.S. Dollars. If the Company judges that the financial condition or payment practices of the Buyer does not justify shipment under the standard terms or the terms originally specified, the Company may require full or partial payment in advance or upon delivery. The Company reserves the right to make collection on any terms approved in writing by the Company's Finance Department. Each shipment shall be considered a separate and independent transaction and payment therefore shall be made accordingly. If the work covered by the purchase order is delayed by the Buyer, upon demand by Company payments shall

be made on the purchase price based upon percentage of completion.

7. TAXES

Any tax, duty, custom, fee or any other charge of any nature whatsoever imposed by any governmental authority on or measured by any transaction between the Company and the Buyer shall be paid by the Buyer in addition to the prices quoted or invoiced.

8. RETURNS

Written authorization (MRA) must be obtained from the Company's factory before returning any material for which the original Buyer expects credit, exchange, or repairs. Material returned for credit must be unused, received back within 30 days of original ship date and shall be subject to a re-stocking charge of 15%. Special Product Requests (SPRs), product manufactured specially to customer specifications, and non-DFE product purchased on customer behalf shall not be returnable for any reason. All material returned, for whatever reason, shall be sent with all freight charges prepaid by the Buyer.

9. SHIPPING METHOD AND CHARGES

All prices quoted are EXW the Company's factory. The Company shall select the freight carrier, method and routing. Shipping charges are prepaid and added to the invoice of Buyers with approved credit, however the Company reserves the right to ship freight-collect if it prefers. Shipping charges will include a charge for packaging. Company will pay standard ground freight charges for items being returned to Buyer which are repaired or replaced under the Warranty. Claims of items missing from a shipment must be received, in writing, within 30 days of original shipment

10. CANCELLATION, CHANGES, RESCHEDULING

Special Product Requests (SPRs), product manufactured specially to customer specifications, and non-DFE product purchased on customer behalf shall not be returnable for any reason. Buyer will be subject to a 15% fee for any standard item on order with the Company which is cancelled by the Buyer. A one-time hold on any item ordered from the Company shall be allowed for a maximum of 30 days. After 30 days, or upon notice of a second hold, Company shall have the right to cancel the order and issue the appropriate cancellation charges which shall be paid by Buyer. Items held for the Buyer shall be at the risk and expense of the Buyer unless otherwise agreed upon in writing. Company reserves the right to dispose of cancelled material as it sees fit without any obligation to Buyer. If Buyer makes, or causes to make, any change to an order the Company reserves the right to change the price accordingly.

11. PRICES

Prices published in price lists, catalogs or elsewhere are subject to change without notice and without obligation. Written quoted prices are valid for thirty days only.

12. EXPORT SHIPMENTS

Payment for shipments to countries other than the U.S.A. and Canada or to authorized distributors shall be secured by cash in advance or an irrevocable credit instrument approved by an officer of the Company. An additional charge will apply to any letter of credit. There will also be an extra charge for packaging and documentation.

13. CONDITION OF EQUIPMENT

Buyer shall keep products in good repair and shall be responsible for same until the full purchase price has been paid.

14. OWNERSHIP

Products sold are to remain the property of the Company until full payment of the purchase price is made.

Rev.10 10/15/19



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

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

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

CANADA

EUROPE

MEXICO

UNITED KINGDOM

TAIWAN

KOREA

CHINA

INDIA

AUSTRALIA

SOUTH AFRICA