www.dfe.com controlling process tension

Quik-Cal™ Push-Button Zero Set and Calibration Set

One of the new labor-saving features of DFE's tension indicator and controller products is ***Quik-Cal***™ technology. With ***Quik-Cal***™ the indication and control electronics use front-panel push buttons instead of potentiometers for zero and calibration settings.

– No tension display is needed.

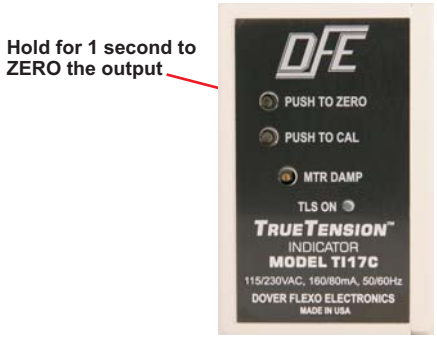
– No screwdriver is needed.

– No second person is needed.

Each button is pressed once during the calibration procedure for one second and the settings are stored automatically. The new TI17C and TI18C tension indicators come standard with ***Quik-Cal***™, and the TI17C is shown here to illustrate the ease-of-use in completing the ZERO and CALIBRATION procedure once the indicator is mounted and connected to tension transducer(s).

ZERO Set

Because an output signal is generated by the weight of the un-webbed transducer roll in the system, we can negate the roll weight output component in a procedure called 'zeroing'. To set the indicator output to ZERO when there is no tension, the ZERO button is pressed for one second.



With ***Quik-Cal***™ the zeroing step can even be eliminated altogether, if desired. The tension indicator can be adjusted so that it automatically sets the output to ZERO when power is turned on. This is achieved by changing a jumper setting on the circuit board

CAL Set

Once the indicator is zeroed, calibration is completed by hanging a known weight on a cord between the idler rolls in the machine web path such that the wrap angle over the transducer roll is kept identical to the one used in operation.

When the CAL button on the front of the indicator is pushed and held for one second, the calibration setting is stored. The indicator automatically multiplies the calibration weight by the preset calibration ratio to calculate the full-scale output of the indicator, and the indicator is calibrated and ready for operation.

What's *Calibration Ratio?*

The *calibration ratio* is a multiplier value that the indicator uses to calculate the tension required to generate the indicator's full output. It can be one of two preset values. The user can choose either 10%, which is the default value, or 25%, which may be preferred for lower tension measurement. The calibration weight chosen by the user will represent either 10% or 25% of the maximum tension the machine is expected to be running.

The standard calibration ratio is 10% (1:10). So, if a 15-pound weight is hung for calibration, and the CAL button is pushed, the indicator will store that value as 10% of its full output. Then 150 pounds of tension on the transducer roll (15 x 10) during operation will result in the indicator producing its full-scale output.

If the calibration ratio of 25% is selected instead, the same 15-pound calibration weight will represent 25% of the indicator's full output. So, then, only 60 pounds of tension (15 x 4) on the transducer roll during operation would generate the indicator's full output signal.

To switch between the 10% and 25% calibration ratios, a jumper is moved on the circuit board.

Stability

Another benefit of ***Quik-Cal***™ technology is inherent stability. The ZERO and CALIBRATION settings are stored digitally, so there is no drift over time and temperature variations as there can be with potentiometers.

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