VERSATEC™ S10

Instruction Manual Addendum

VTC-S10 and VTCE-S10

(Refer to manual 850A232 for complete user instructions.)

Periodically there will be updates to this manual. The latest version is available on our website or by calling your regional office listed on the back page of this publication.

Introduction

The VERSATEC S10 rewind tension control allows you to minimize clutch power dissipation by reducing the speed of the rewind motor as the roll builds. The speed output to the rewind motor is the proportional product of the inverse roll diameter and the line speed input.

Note: A small amount of slip in the clutch (created by overspeeding the clutch input) is necessary for optimum clutch performance. Approximately a 10% overspeed on the input of the clutch is recommended, but heat dissipation requirements of the clutch must be verified.

The VERSATEC S10 differs from the standard VERSATEC as follows:

1. Tension mode is the only supported operation mode.
2. The Inverse Diameter output controls a rewind motor in Speed mode.
3. Terminals TB3-11 and TB3-13 are used to monitor the line speed using a voltage output tachometer.

Electrical setup

The Inverse Diameter, 0 to 10 VDC, non-isolated output should be connected to the rewind motor speed controller.

A 0 to 5 VDC output tachometer signal from line speed must be connected to terminals TB3-11 and TB3-13.

The Run/Stop input should be connected to a signal which provides the RUN indication when the motor has started running and provides the STOP indication when the motor begins to decelerate to stop.

Software setup

Use the instructions in the VERSATEC manual 850A232 to set up the tension control.
No other software settings are needed for the speed control.

Speed control equations

The line speed input into the VERSATEC should be 5 VDC at maximum line speed. The VERSATEC inverse diameter output is 10 VDC at maximum line speed and core diameter. The rewind drive must be configured to provide the required RPM at core and maximum line speed plus desired slip RPM with a 10 VDC input control signal.

$$Inverse\ Diameter\ Output = Line\ Speed * \frac{Dia\ Core}{Dia\ Actual}$$

$$Inverse\ Diameter\ Output\ (Voltage) = 2 * Line\ Speed\ Input\ (Voltage) * \frac{Dia\ Core}{Dia\ Actual}$$

Example:

Max. line speed	=	300 ft/min
Core diameter	=	3.0 inch
Full roll diameter	=	24.0 inch
Max. RPM at core	=	382 RPM
Required motor RPM at core	=	382 RPM + (10% slip) = 420 RPM

Customer tachometer and speed control configuration

1. The tachometer voltage fed into the line speed input of the VERSATEC should be scaled to 5 VDC at 300 ft/min.
2. The motor speed control should be adjusted to provide 420 RPM with a 10 VDC signal from the Inverse Diameter output of the VERSATEC.

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