



ZXM-50

Taper Tension Controller

Operating Manual

The respect user, thanks for you to select this company product, for better use this product each function, asks you to read this user handbook before the use.

In addition, keep this instruction manual so that you may read it at anytime when necessary.

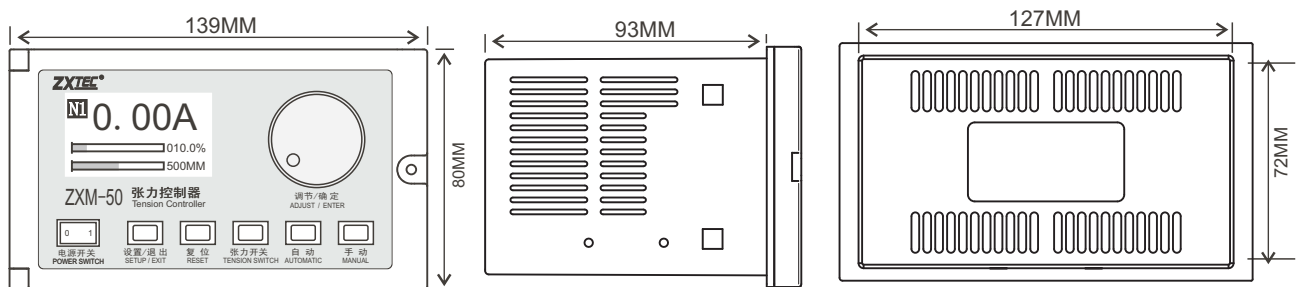
One. Summary

The ZXM-50 tension controller is a taper tension with two control options. The user can enter the system parameters to set the controller in the model ZXM-32 or ZXM-50. ZXM-32 is pulse taper control. The function and principle of ZXM-50 is the same as the ZXM-32 tension controller of our company. ZXM-50 is a kind of intelligent calculating roll diameter high precision taper control. The principle of ZXM-50 is that the speed of traction datum shaft and reel shaft are measured simultaneously by the controller. According to the velocity difference of the two axes and the pre-set diameter of the traction reference rod, the roll diameter of the material on the current reel shaft is calculated, so that the taper tension control can be realized. Model ZXM50 is not suitable for mechanical transmission structures with high speed fluctuation or intermittent operation.

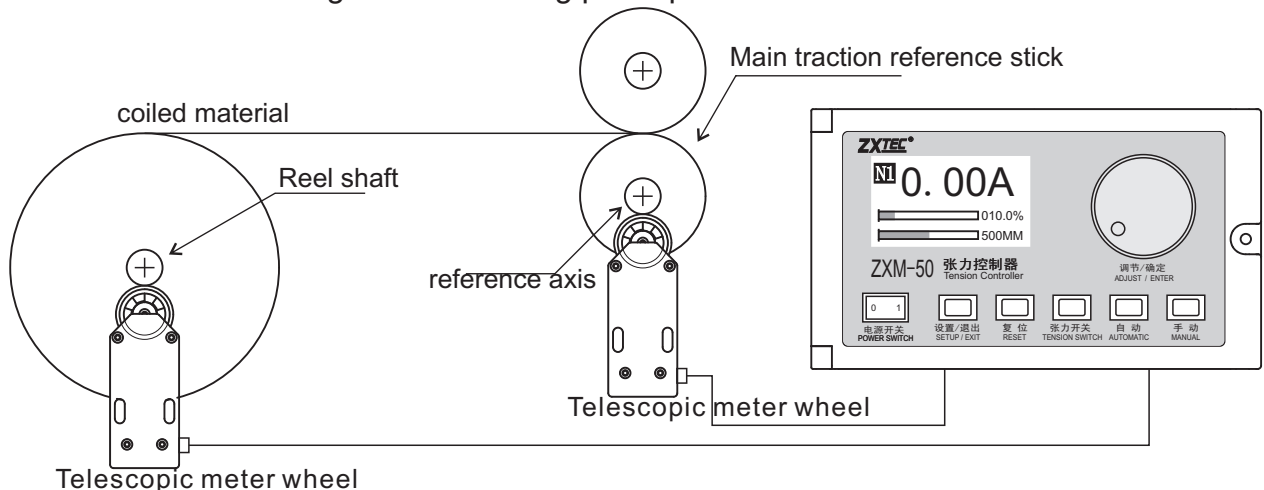
Two. Technical Parameter

	Select a model: ZXM32	Select a model: ZXM-50
working voltage	AC 220V/50-60HZ	AC 220V/50-60HZ
Tension output	Analog DC 0-5V / Magnetic Powder 0-3A/DC28V	Analog DC 0-5V / Magnetic Powder 0-3A/DC28V
Tension control mode	Manual / pulse taper tension control	Manual / intelligent roll diameter calculation taper tension control
input maximum frequency	MC1,MC2 port is less than 240HZ	MC1,MC2 port is less than 240HZ
Double station	Dual axis output interface	Dual axis output interface
Tension brake	With tension brake input interface	With tension brake input interface
communication interface		With RS485 communication function

Three. Outline Dimension



Four. Schematic diagram of working principle



4-1. ZXM32 taper tension control requires only a meter wheel or a Hall switch. The controller counts the number of running rings of the traction reference shaft or scroll shaft, and when the count reaches the number of pulses set by the user, The controller will automatically zero the counted pulse, and the controller will increase or decrease the tension output by 0.1% according to the menu selection is rewinding taper control or unwinding taper control. As a result, the output tension also changes with the change of winding diameter caused by continuous winding of materials.

4-2. ZXM50 taper tension control requires the installation of two meter wheels or Hall switches to detect the speed of the traction reference shaft and the reel shaft, respectively. According to the detected speed difference and the preset diameter of the traction reference rod, the coil diameter of the coil is calculated. The controller outputs the corresponding tension according to the change of the coil diameter and the set taper rate, so as to realize the taper tension control.

Five. the function and setting method of the parameter

5-1. setting method: the controller parameter is divided into system parameters and user parameters, and the system parameter setting method is to hold down the setting key and turn on the controller and keep holding down the setting key for more than 5 seconds. The controller enters the system parameter settings. The user parameter setting method is that the controller can enter the setting by pressing the setting key in the working state. In setup mode, continuing to press the setting key will exit the setting mode; press the OK key to repeatedly select the data that changes the menu number or settings, and the data content will reverse the color prompt when you change the setting of the data.

5-2. the function of system parameters

System settings: 01	Model selection: select the controller to work on ZXM-32 or ZXM-50 models
System setup: 02	Current Calibration: used to calibrate the current displayed on the screen equal to the current output of the magnetic powder. The method is to adjust the data on the screen to the current actual magnetic powder current, and then press the OK key to complete the calibration. (calibrated from factory)
System setup: 03	Maximum current: select the maximum current output of the controller to the magnetic powder, you can choose 2A or 3A
System setup: 04	Language selection: select the controller's LCD display in Chinese or English.
System setup: 05-07	RS485 communication function settings. Please contact our technical department for RS485-MODBUS communication technology.

5-3. the function of ZXM-32 user parameters

Menu number 200 requires a password 123 to pass

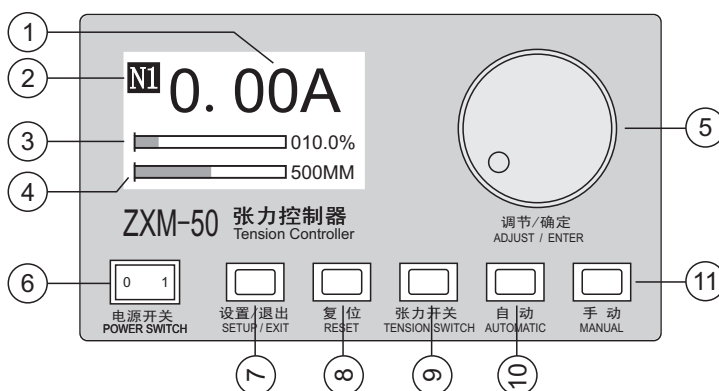
Menu number: 100	Set pulse: the taper rate of taper tension is related to the data. When the measured pulse reaches this value, the output tension will increase or decrease by 0.1%, and the smaller the value, the faster the tension will change.
Menu number: 101	Reset tension: when the user presses the reset key on the operator panel or the external reset switch, the output tension will switch to this value, and the output tension will also switch to this value when the external exchange axis signal is input to produce the replacement action.
Menu number: 102	Braking time: when the external brake signal is input, the tension output will gradually increase to the braking ratio according to that time.
Menu number: 103	Brake ratio: when the external brake signal is input, the tension output will gradually increase to this value with the braking time.
Menu number: 200	Control mode: select rewinding / unwinding tension control. In the rewinding mode, the tension output is increased and the unwinding is decreasing.

5-4. the function of ZXM-50 user parameters

Menu number 200 and above requires a password 123 to pass

Menu number: 100	Maximum and minimum reel diameter: maximum and minimum coil diameter preset values. When the coil diameter calculated by the controller changes between the two data, the tension output ratio will also correspond to the change between the maximum tension and the minimum tension.
Menu number: 101	
Menu number: 102	Maximum and minimum tension: the controller calculates that when the coil diameter of the coil varies between the maximum and the minimum coil diameter, the tension output will also correspond to the variation between the maximum tension and the minimum tension.
Menu number: 103	
Menu number: 104	Intermediate ratio: the intermediate value used to correct the maximum and minimum tension is linear if it is 50%. The principle can be referred to the following diagram.
Menu number: 105	Coil diameter alarm: when the controller calculates that the coil diameter is greater than this value in the winding control mode, the JCK port outputs. When unwinding control mode, when the coil diameter is less than this value, JCK output.
Menu number: 106-107	Brake time and braking ratio: the function is the same as that in ZXM-32.
Menu number: 200	Control mode: select rewinding / unwinding tension control. In the rewinding control mode, the calculated coil diameter will be reset to the minimum coil diameter, and the output tension will also be reset to the set minimum tension. In the unwinding control mode, the calculated coil diameter will be reset to the maximum coil diameter, and the output tension will also be reset to the maximum tension.
Menu number: 201	The diameter of the reference shaft guide rod: the coil diameter calculation of the coil depends on two Hall switches to detect the rotating speed of the traction reference shaft and the coil shaft respectively. The controller calculates the coil diameter according to the speed difference and the diameter of the reference guide rod.
Menu number: 202	Diameter of reference shaft and reel shaft head: if the speed signal of traction shaft and roll shaft is picked up by meter wheel, the linear velocity data of the shaft is picked up, so the diameter of the head of meter wheel contact needs to be input here.
Menu number: 203	

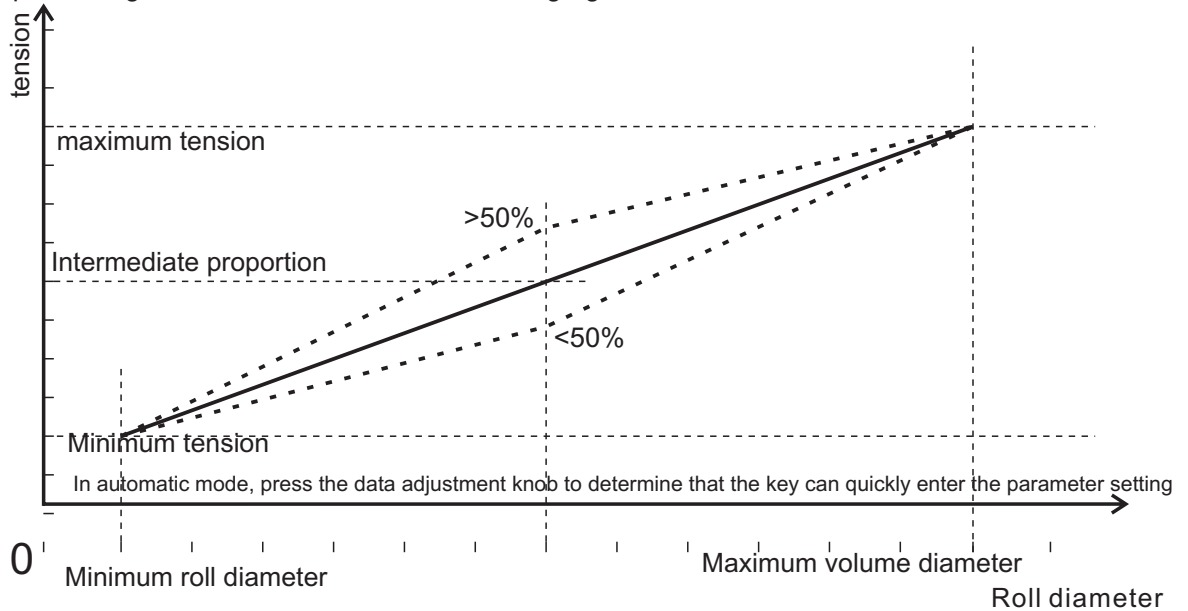
Six. Introduction to the main components of the panel



1. magnetic powder working current indication
- 2, current working shaft, N1 and N2 corresponding to connection port
- 3, tension output ratio
- 4, calculated coil diameter (ZXM-50) measured pulse number (ZXM-32)
- 5, tension regulating potentiometer, Sets the state to select menus and modify data. Press the knob for the OK button.
- 6, total power switch
- 7, enter and exit setting button
- 8, tension and roll diameter reset button
- 9, tension output switch button
- 10, automatic mode selection button
- 11, manual mode selection button

Seven. how to operate: (explain ZXM-50 only)

The manual key controller will be in manual mode, the manual key indicator will be on, and the output of tension will be controlled by potentiometer adjustment. Press the automatic key controller to switch to automatic mode, and the auto key light is lit, and the output size of the tension will be changed by the volume diameter of the coil material, depending on the set taper data parameters. The taper change can be referred to the following figure.



Eight. Distribution chart:

