Tension Control Systems

Selection Guide

Selecting the Correct Tension Control

Selecting the correct tension control is as important as selecting the proper tension clutch or brake. As the control is the heart of the system which provides the necessary controlling function in the application, selecting the wrong control or inadequate control can be as bad as incorrectly sizing the mechanical portion of the system.

Normally control selection can be very simple if a few simple questions can be answered regarding the application. By doing so, selection can be very easy and painless.

Selection Steps

The following steps outline a simple way of selecting the proper control system for the application.

1. Determine the type of system that is to be used. Will the system be load cell, dancer, or open loop analog control?
2. Next, determine the type of brake or clutch system that the control will be used with. Will this be an electric or pneumatic system?
3. Using the Quick Selection Chart, determine which models may be suitable for the application.

Once the determination of the control/controls has been made for the application, review the specifications for the various controls to determine the characteristics and features that best suit the application and your requirements.

Mechanical Elements

Once the control has been selected, be sure to check that it will work with the brake or clutch previously selected. This can be determined from the specific technical specification for the control selected. Remember, not all controls will work with all clutches and brakes.

If the control selected will not operate the controlling device selected, i.e., clutch or brake, then a different control must be selected.

Control – Quick Selection Guide

Model Number	Output Voltage	System Type				Air or Electric	Page
		Open Loop		Closed Loop			
		Manual Adjust	Analog Input Adjust	Dancer	Load Cell		
BXCTRL	0±10 (2 channel) (0–20mA)	●	●	●	●	Air/Electric	40
*TCS-200	0–24	●	●			Electric	47
TCS-200-1	0–24	●	●			Electric	47
TCS-200-1H	0–24	●	●			Electric	47
MCS-203	0–24			●		Electric	49
MCS-204	0–24	●	●			Electric	47
MCS-207	0–10 (1–50mA)			●		Air	51
TCS-210	0–24 (48)			●		Electric	50
TCS-220	0–24 (48)	●	●			Electric	48
TCS-310	0–24 (48) (2 channel)			●		Electric	52

*For new applications, we recommend the TCS-200-1 or TCS-200-1H.

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Control	Description	Page Num.
BXCTRL 	Solid state electronic control that receives signal from a Dancer pivot point sensor or 2 Load cells. It integrates 2 separate Digital PID Controllers and 2 separate Open Loop controls. See notes on page 41 for proper driver selection.	40
TCS-200 	Inexpensive analog control with manual or remote follower adjust for electric brakes. Also accepts roll follower potentiometer input. Requires 24-30 VAC input. For use with MTB Series electric brakes (page 56).	46
TCS-200-1 **TCS-200-1H** 	Extremely versatile and economical open loop control for all 24V electric brakes and clutches. Can be used for manual adjust, or will follow an analog (0–10V, 4–20mA) input, such as from an ultrasonic sensor or PLC. For use with MTB, TB and ATTB Series and magnetic particle electric brakes. (page 56)	46
MCS-203 	Closed loop dancer control for 24V electric clutches and brakes. For use with TB Series, ATTC and ATTB Series and Magnetic Particle clutches and brakes (page 56).	49
MCS-204 	Analog control for 24V electric clutches and brakes. Manual control, or analog (0–10V or 4–20mA) signal. For use with TB Series, ATTC and ATTB Series and Magnetic Particle clutches and brakes (page 56).	47
MCS-207 	Economical closed loop dancer control especially configured for air brakes. Provides a 0–10V or 4–20mA output to E/P transducers. For use with Pneumatic brakes (page 56).	51
TCS-210 	Economical closed loop dancer control for all 24V brakes and clutches. Has reserve 48V supply for enhanced E-stop torque with certain brakes. For use with MTB Series electric brakes (page 56).	50
TCS-220 	Analog control for 24V electric clutches and brakes. Manual adjust, or follows analog (0–10V or 4–20mA) input. Reserve 48V overexcite for E-stops. For use with MTB Series electric brakes (page 56).	48
TCS-310 	Dancer splicer control (two output channels) for 24V electric brakes. Full splicing logic, and 48V overexcite for E-stops. For use with MTB Series electric brakes (page 56).	52