MCS-203

(P/N 6910-448-014)

(Shown with Housing)

The completely solid state MCS-203 Dancer Control Module is designed for automatic web tensioning through the use of a dancer roll. The MCS-203 can control two 24 VDC tension brakes in parallel. It works on the concept of a P-I-D controller and has internal P, I & D adjustments for optimum performance regardless of brake size.

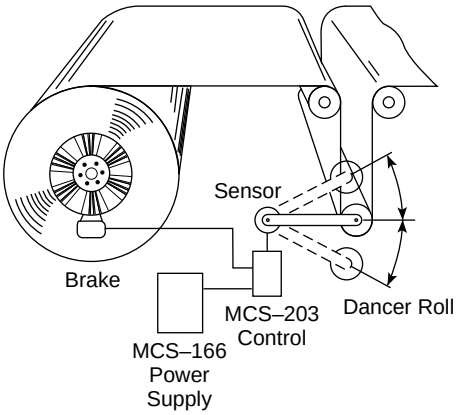
MCS-166 Power Supply, (page 61).

Specifications

Input	24–28 VDC @ 3 Amps (from MCS-166, 1.5 amps for single MCS-166; 3.0 amps from dual MCS-166's) or other power source.
Output	Pulse width modulated 0–24 VDC for 24 volt Warner Electric tension brakes.
Ambient Temperature	–20° to +113°F (–29° to +45°C).
External Inputs	
Dancer Potentiometer	Provides the feedback signal of dancer position and movement for input to the control.
Brake On	Applies full current to tension brake.
Brake Off	Removes brake current and applies antiresidual current to eliminate brake drag. Useful when changing rolls.
Antidrift Input	Nullifies integrator portion of control for faster brake response. Important for splicing and mid-roll starting.
Mounting	Available for panel mounting with exposed wiring or wall/shelf mounting with conduit entrance. Must be ordered with either wall/shelf or panel enclosures.

Requires enclosure. See page 62.

Typical System Configuration



The complete system consists of:

1. Tension brake
2. Dancer tension control
3. Control power supply
4. Pivot point sensor
5. Dancer roll assembly (customer supplied)

The control unit maintains a current output to the tension brake based on an analog input or the manual setting of the control tension adjustment dials. Varying the current from the control creates more or less brake torque for tension adjustability.

Tension Controls

Dancer Control for Electric Brake Systems

TCS-210

(P/N 6910-448-026)

(Shown with Housing)

This closed loop tension control system automatically controls tension on unwinding materials such as paper, film, foil, cloth and wire.

TCS-167 Power Supply, (page 61).

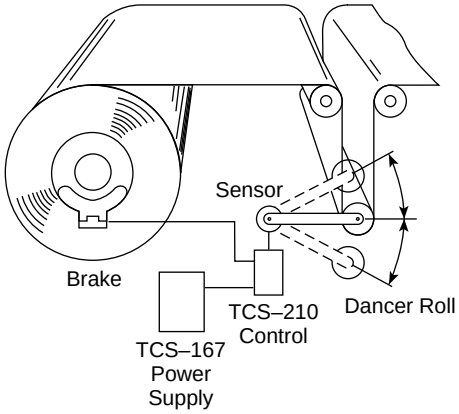
Note: When used with other than MTB magnets, a 68 ohm, 25 watt resistor must be added. Consult factory for details.

Specifications

Input	**TCS-210** – 48 VDC @ 1.6 Amps continuous, 48 VDC @ 6 Amps intermittent, 1.6% duty cycle, 30 sec. on time, 8–12 VDC @ 1.5 Amps. **TCS-167** – 120 VAC, 50/60 Hz or 240 VAC, 50/60 Hz (Switch selectable).
Output	**TCS-210/TCS-167** – 0–270 mA/magnet (running); 270–500 mA/magnet (stopping).
Ambient Temperature	–20° to +113°F (–29° to +45°C).
External Inputs	
Dancer Potentiometer	Provides the feedback signal of dancer position and movement for input to the control.
Brake On	Applies holding brake voltage.
Anti-Drift Input	Nullifies integrator portion of control for faster brake response. Important at startup and for mid-roll starts.
Brake Off	Removes brake current and applies antiresidual current to eliminate brake drag. Useful when changing rolls.
Mounting	**TCS-210** – available as panel mounted with exposed wiring, or wall/shelf mounted with conduit entrance. **TCS-167** – available with open frame or wall/shelf mounted enclosure with conduit entrance.

Requires enclosure. See page 62.

Typical System Configuration



The complete system consists of five components:

1. Tension brake
2. Dancer tension control
3. Control power supply
4. Pivot point sensor
5. Dancer roll assembly (customer supplied)

The weight of the dancer roll or loading on the dancer determines the tension on the web and the remainder of the system operates to hold the dancer roll as steady as possible. When the dancer position changes, the Warner Electric pivot point sensor tracks the direction and speed of the change and sends an electric signal to the closed loop control, which, in turn, relays a corrective signal to the Electro Disc tension brake. Increasing current to the Electro Disc increases braking torque to elevate the dancer to the desired position, while reducing brake current lowers the dancer.

The closed loop dancer control system is completely automatic, limiting the need for operator involvement and the potential for inaccurate tension control. The system offers exceedingly rapid response that, in effect, corrects tension errors before they reach the work area of the processing machine.