

## Analog Control for Electric Brake Systems

### MCS-204

(P/N 6910-448-017)

(Shown with Housing)



### Remote/Analog control

The MCS-204 control, also completely solid state, is designed for manual or analog input control. The MCS-204 can control two 24 VDC tension brakes in parallel. It also has an antiresidual (magnetism) circuit, a brake on and a highly accessible terminal strip for rapid connection. It is designed for use with the MCS-166 power supply.

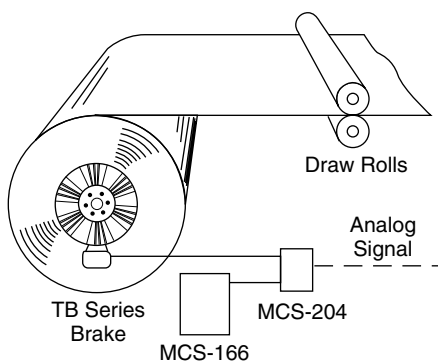
**MCS-166 Power Supply** (page 53).

### Specifications

<b>Input</b>	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.
<b>Output</b>	Pulse with modulated 0-24 VDC for 24 volt Warner Electric tension brakes.
<b>Ambient Temperature</b>	-20° to +113°F (-29° to +45°C).
<b>External Inputs</b>	
<b>Torque Adjust</b>	Controls tension by applying the desired amount of current to the brake.
<b>Brake On</b>	Applies full current to tension brake.
<b>Brake Off</b>	Removes brake current and applies antiresidual voltage to eliminate brake drag. Useful when changing rolls.
<b>Operating Modes</b>	
<b>Local Torque Adjust</b>	Knob on front panel.
<b>Remote Torque Adjust</b>	Via remote potentiometer.
<b>Roll Follower</b>	Using external potentiometer.
<b>Current Loop</b>	1-5 mA, 4-20 mA, 10-50 mA. Voltage Input: 0-14.5 VDC.
<b>Mounting</b>	
	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 54.

### Typical System Configuration



The complete system consists of:

1. Tension brake
2. Analog tension control
3. Control power supply
4. Analog signal input (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

## Analog Control for Electric Brake Systems

### TCS-220

(P/N 6910-448-027)

(Shown with Housing)



The remote analog input control is an open loop system designed to allow easy interface with existing or specially designed customer controls to complete a closed loop system. The system also offers complete operator controllability for manual tensioning control.

**TCS-167 Power Supply**, (page 53).

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

### Specifications

#### Input

**TCS-220** – 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-220/TCS-167** – 0–270 mA/magnet (running); 270–500 mA/magnet (stopping).

#### Ambient Temperature

–20° to +113°F (–29° to +45°C).

#### External Inputs

##### Torque Adjust

Controls tension by applying the desired amount of current to the brake.

##### Emergency Stop Brake Off

Applies full current to tension brake.

Removes brake current and applies antiresidual current to eliminate brake drag. Useful when changing rolls.

#### Operating Modes

##### Local Torque Adjust

Knob on front panel.

##### Remote Torque Adjust

Via 1K to 10K ohm potentiometer.

##### Roll Follower

Via 1k to 10k ohm potentiometer.

##### Current Loop

1–5 mA, 4–20 mA, 10–50 mA current source.

##### Voltage Input

0–14.5 VDC.

#### Adjustments

##### Torque Adjust/Span

Controls output manually in local torque mode. Sets maximum control span in remote torque adjust, roll follower, current loop; or voltage input mode.

##### Zero adjust

Potentiometer adjustment for setting zero output level. Front panel access.

##### Brake off input

Terminal strip connection which provides for removal of brake current and applies antiresidual current to eliminate brake drag. Used primarily when changing rolls.

##### Brake on input

Terminal strip connection applies full current to brake when activated regardless of input control signal. Used for emergency stops.

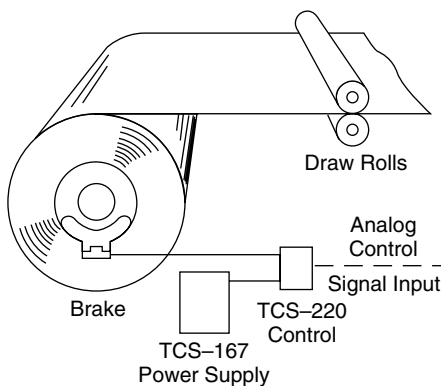
#### Mounting

**TCS-220** – 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

Requires enclosure, see page 54.

### Typical System Configuration



The complete system consists of:

1. Tension brake
2. Analog tension control
3. Control power supply
4. Analog signal input (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.