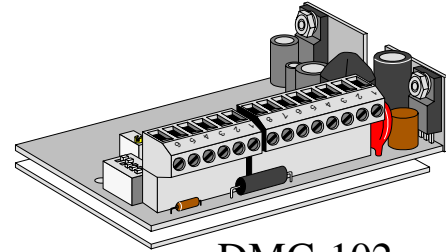
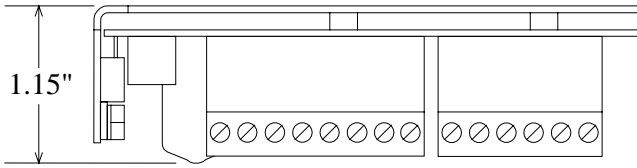


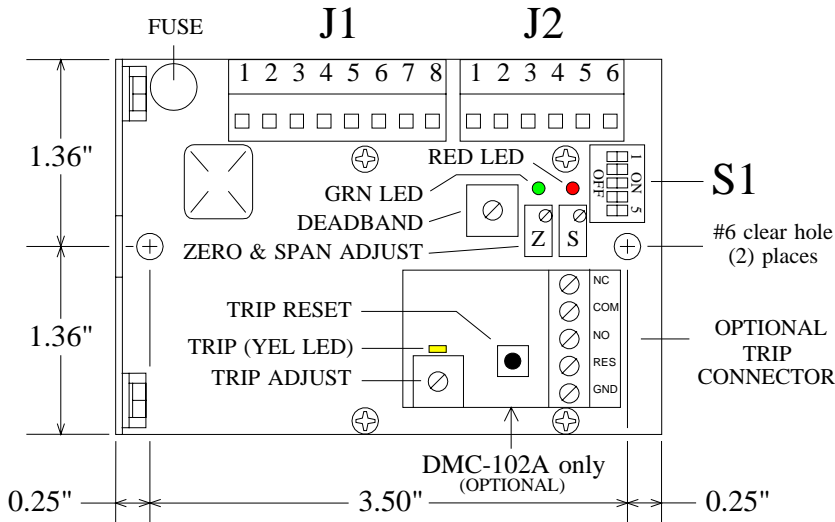


# DC MOTOR CONTROLLER

## DMC-102



DMC-102



### ELECTRICAL CONNECTIONS

#### S1

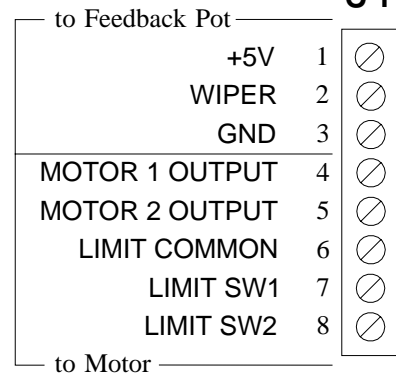
##### COMMAND INPUT SIGNAL CONFIGURATION

COMMAND TYPE	SW1	SW2	SW3	SW4	LOSS OF COMMAND OPERATION
4-20mA	ON	ON	ON	ON	Motor off
			ON	OFF	Close (Zero setting)
			OFF	ON	Open (Span setting)
1-5V	OFF	ON	ON	ON	Motor off
			ON	OFF	Close (Zero setting)
			OFF	ON	Open (Span setting)
2-10V	OFF	OFF	ON	ON	Motor off
			ON	OFF	Close (Zero setting)
			OFF	ON	Open (Span setting)
0-5V	OFF	ON	OFF	OFF	NA
0-10V	OFF	OFF	OFF	OFF	NA

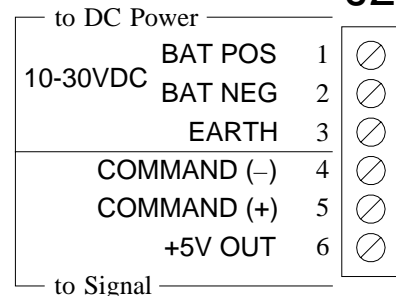
NOTE: All other settings are not valid and can cause abnormal operation.

CONTROL FUNCTION	SW5
Normal	OFF
Log Rate	ON

#### J1



#### J2



## DC MOTOR CONTROLLER

The DMC-102 is used for proportional positioning of DC powered actuators. The DMC-102 is rated to handle up to 10A continuous motor load or 60A locked rotor. An external command signal is input to the controller board to precisely position the actuator. See the chart on Page 1 for input command signal options.

## INDICATORS and FAULT CONDITIONS

The on-board green and red LED indicators provide the user with information about various conditions about the actuator. The table below provides a summary of the indications which is followed by a description of each condition.

GRN	RED	CONDITION
-	ON	MOTOR 1 on (+)
ON	-	MOTOR 2 on (+)
-	flash	LIMIT SW1 disconnected
flash	-	LIMIT SW2 disconnected
blink	OFF	Feedback WIPER < 0.25V
OFF	blink	Feedback WIPER > 4.75V
blink	blink	Low Battery Voltage
ON	ON	Overvoltage

**Motor Output ON** - When conditions are normal, the red LED indicator turns on when the MOTOR 1 output is positive, and the green LED turns on when the MOTOR 2 output is positive. For **Direct Acting** applications, the red LED indicates when the actuator is moving toward *open*, and conversely, for **Reverse Acting** applications, the red LED indicates when the actuator is moving toward *closed*.

**Limit Switch** - Many actuators are equipped with limit switches at the *open* and *closed* positions which are intended to disconnect power to the motor to prevent mechanical damage. The actuator's limit switches should be set outside of the operating range set by *zero* and *span*. Limit switches exhibit wide variations, and the DMC-102 can position the actuator more precisely than the limit switches. A limit switch serves better as a failsafe device. When LIMIT SW1 disconnects J1 pin 7 from J1 pin 6, the red LED will flash and power to the MOTOR 1 output is disabled. Likewise, when LIMIT SW2 disconnects J1 pin 8 from J1 pin 6, the green LED will flash and power to the MOTOR 2 output is disabled.

**Feedback Signal Out of Range** - The DMC-102 detects when the feedback potentiometer signal is out of range. If the voltage at the WIPER exceeds 4.75V, the MOTOR 1 output is disabled, the green LED is turned off, and the red LED will blink on and off. If the WIPER voltage is less than 0.25V, the MOTOR 2 output is disabled, the red LED turns off, and the green LED blinks.

**Low Battery Voltage and Overvoltage** - The DC power connected to J2 pins 1 and 2 are monitored continuously. If the voltage drops below 10V, the motor outputs are disabled and both LED's will blink on and off to indicate a Low Battery Voltage condition. The motor will remain off, and the LED's will blink, for 3 seconds after power returns to 10V or more. If the voltage exceeds 30V for more than 1 second, the motor outputs are disabled and both LED's will turn on to indicate an Overvoltage condition. The motor and LED's resume normal operation when power returns to 30V or less.