MDC151-050601 - Brushless DC Controller

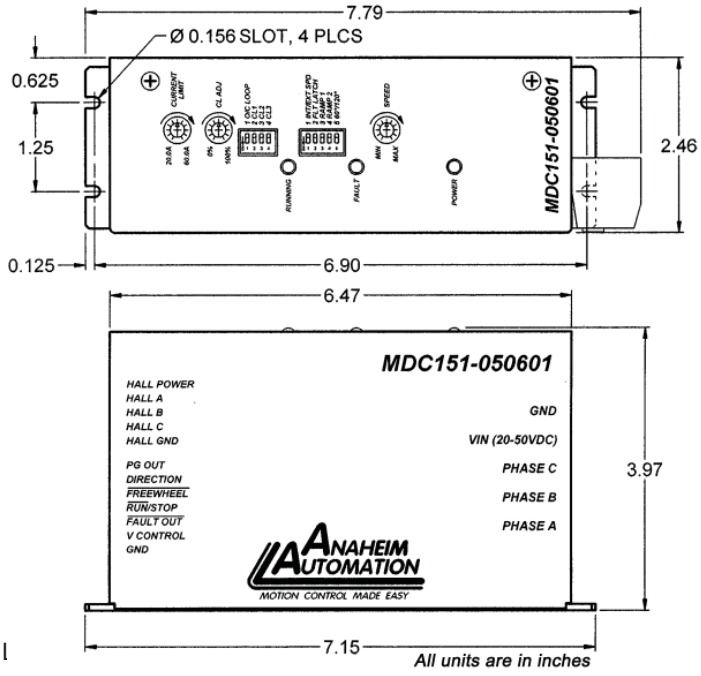
FEATURES

- ***Maximum Current Limit Setting from 20.0-60.0Amps (Peak)***
- ***Internal or External Potentiometer Speed Control***
- ***0V to 5V External Voltage Speed Control***
- ***2-Quadrant Operation***
- ***Hall Sensor Feedback***
- ***Constant Velocity Mode***
- ***Short Circuit Protection***
- ***Requires 20-50VDC***
- ***Speed Out, and Fault Out***
- ***Run/Stop, Freewheel and Direction Inputs***
- ***TTL-CMOS Compatible Inputs***
- ***Dual Mounting Option***
- ***Detachable, Screw Type Terminal Blocks***
- ***RoHS Compliant***

DESCRIPTION

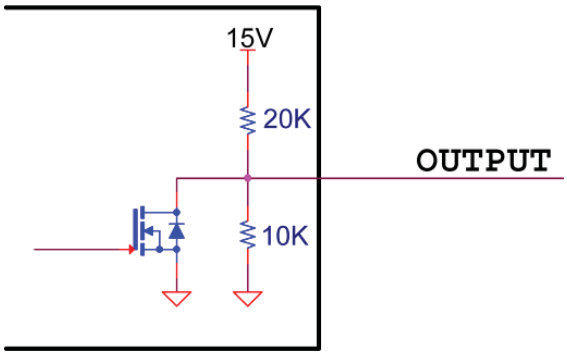
The MDC151-050601 driver is designed to drive DC Brushless Motors at currents up 60A (peak) AND 50V. Using hall sensor feedback, a constant velocity mode can be selected. The driver is protected against over current (cycle-by-cycle or latched), hall sensor error and under voltage. When an error occurs, a fault light notifies the user. If the fault latch is enabled and an error occurs, the fault output goes low to notify the user. Included on the drive is an internal potentiometer to control the maximum phase current allowed into the motor and an internal potentiometer to control the speed of the motor. An external voltage (0-5VDC) can be used to control the speed as well. The direction of the motor can be preset by the direction control input. When using the run/stop input, there are three ramp up profiles from standstill to select from. The run/stop input overrides all other inputs into the driver.

DIMENSIONS



All units are in inches

PG AND FAULT OUT



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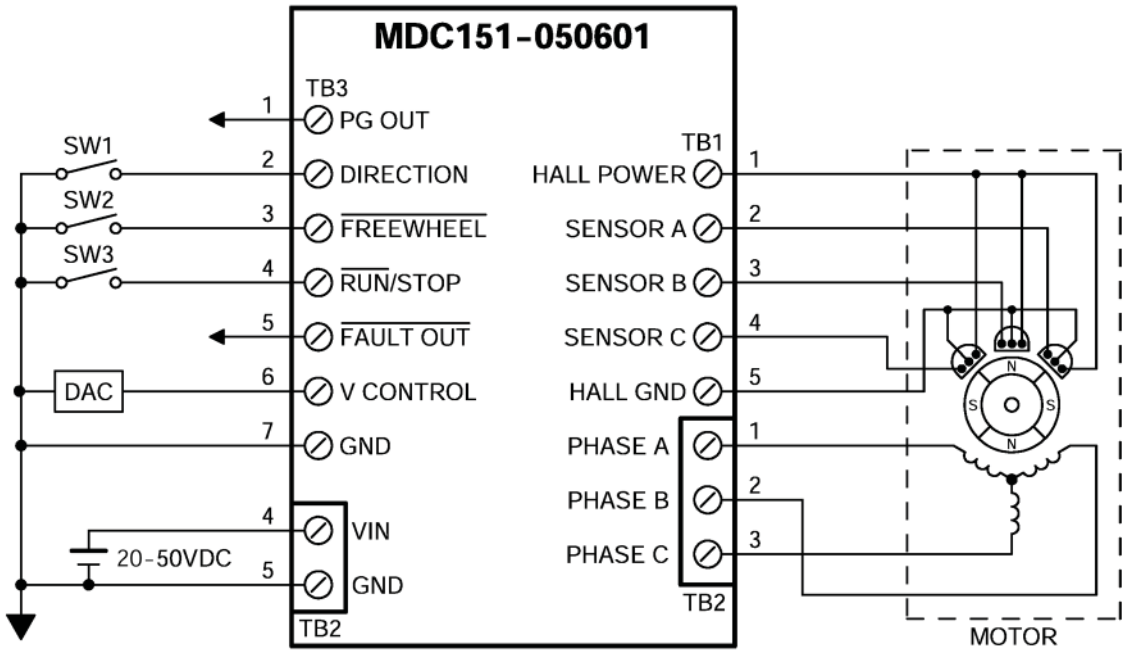
SPECIFICATIONS

Control Isolated Inputs: (TB3, Pins3-8,11,12)	1mA minimum Logic “0” = 6-7VDC Logic “1” = Open
Power Requirements:	20VDC (min) - 50VDC (max)
Output Current Range:	20 - 60 Amps (peak) 10 - 30 Amps (Continuous)
Hall Sensor Power Output:	6.25V @ 30mA (Max)
Operating Temperature:	Heat Sink: 0°-70°
Control Isolated Outputs: (TB1, Pins 1,2,9,10)	TTL-CMOS Compatible These open collector outputs are able to sink 50mA.
PG Output (TB1, Pin 1-2)	An open collector signal pulse out is available at a rate of 4 pulses for 1 revolution of an 8-pole motor, 3 pulses for 1 revolution of a 6-pole motor, and 2 pulses for 1 revolution of a 4-pole motor. 8-pole motor RPM = 15 * PG OUT (in Hz) 6-pole motor RPM = 20 * PG OUT (in Hz) 4-pole motor RPM = 30 * PG OUT (in Hz)
Fault Output: (TB1, Pin 9-10) *Enabled when fault latch enabled.*	Logic “1” (5V out) - Status good, normal operation. Logic “0” - One of the three fault conditions listed in the ‘Fault Protect’ section has occurred. When a fault is detected, the Fault Output (Pin 5) goes low.
Output Current Rating:	Adjustable 20.0-60.0 amperes per phase maximum operating peak current (10.0-30.0 amperes per phase maximum operating continuous current).
Maximum Closed Loop Motor Speed	2 pole: 30,000 RPM 4 pole: 15,000 RPM 6 pole: 11,250 RPM 8 pole: 7,500 RPM
Maximum Open Loop Motor Speed	50,000 RPM

WIRING DIAGRAM



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