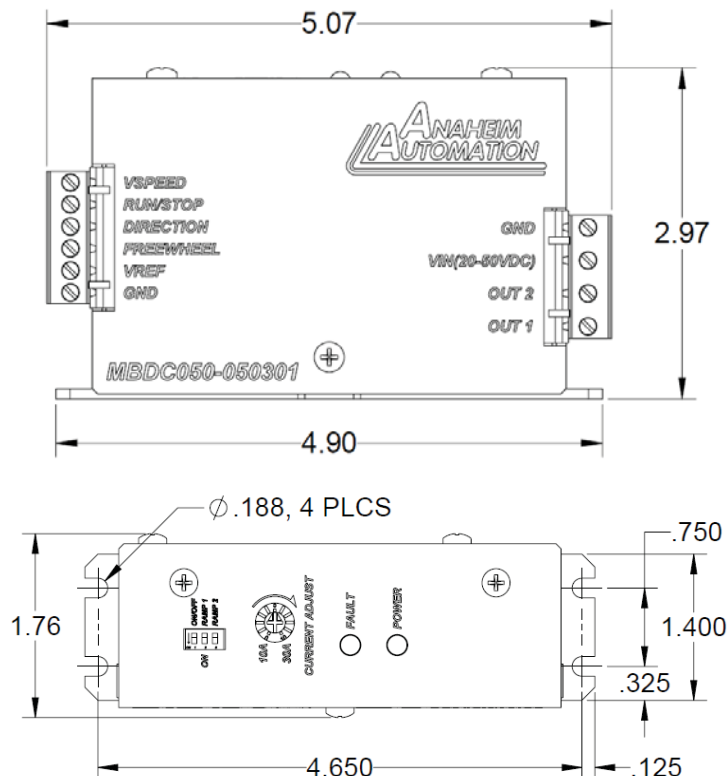**FEATURES**

- *Maximum Current Limit Setting from 10.0-30.0 Amps*
- *Vary Speed Using an External 0-5VDC Power Supply*
- *2-Quadrant Operation*
- *Open-Loop Velocity Mode*
- *Cycle-by-Cycle Over Current Protection*
- *Requires 20-50VDC Input*
- *Run/Stop, Freewheel and Direction Inputs*
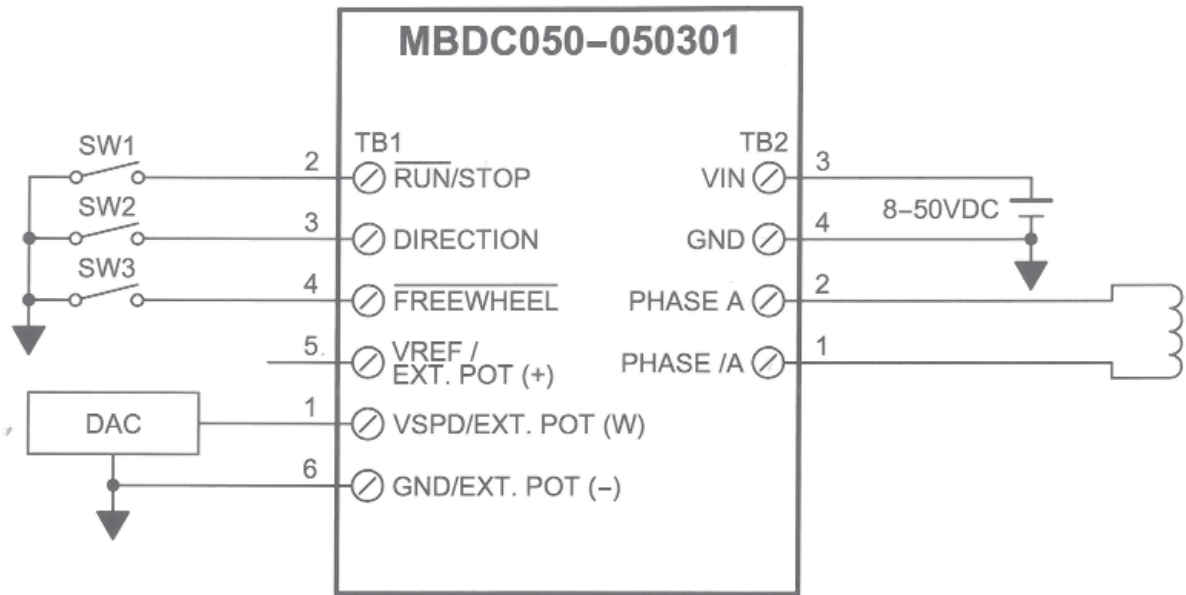- *Selectable Ramp Up*
- *TTL-CMOS Compatible Inputs*

DESCRIPTION

The MBDC050-050301 is a DC Speed Controller designed to drive Brush DC Motors at currents up to 30A peak with an input voltage range of 20-50VDC. An internal potentiometer is used to set the peak motor current limit between 10.0-30.0A, and an external DC power supply ranging from 0 to 5V can be applied to vary the speed of the motor. 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 will override all other inputs into the driver. This controller features protection from over-current and under-voltage. The fault protection is set for a cycle-by-cycle motor turn-off.

DIMENSIONS

L011739

MBDC050–050301

```
SW1         TB1                      TB2
 o—o    2   ⊘ RUN/STOP       VIN ⊘   3
SW2                                         8–50VDC
 o—o    3   ⊘ DIRECTION      GND ⊘   4
SW3
 o—o    4   ⊘ FREEWHEEL    PHASE A ⊘  2
        5   ⊘ VREF /        PHASE /A ⊘ 1
            EXT. POT (+)
DAC     1   ⊘ VSPD/EXT. POT (W)
        6   ⊘ GND/EXT. POT (–)
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Model #	Description
MBDC050-050301	BDC Driver, 30A, 20-50V
PSA40V4A	DC Power Supply 40VDC at 4.0 Amps
PSA40V8A	DC Power Supply 40VDC at 8.0 Amps

Vspeed Control: (TB1, Pin 1):	0VDC - Motor Stopped 5VDC - Max Speed (6.25VDC max)
Control Inputs (TB1, Pins 2-4):	TTL-CMOS Compatible Logic "0" = 0-0.8VDC Logic "1" = Open
Run/Stop (TB, Pin 2):	Logic "1" (open) - Stop and if running stop rapidly Logic "0" - Running
Direction: (TB1, Pin 3):	Logic "1" (open) - Counterclockwise Logic "0" - Clockwise
Freewheel: (TB1, Pin 4):	Logic "1" (open) - Motor Enabled Logic "0" - Motor is de-energized and will coast to a stop
Vref Output: (TB1, Pin 4)	6.25V @ 30mA Maximum
Power Requirements Output Current Rating: (TB1)	20VDC (min) - 50VDC (max) 30 amperes peak maximum operating current.
Operating Temperature:	0°C to 70°C