

# MDC100-050101USB - Brushless DC Controller



## FEATURES

- Programmable PI Controller
- Maximum Current Limit Setting from 1.0-10.0 Amps
- 2-Quadrant Operation
- Hall Sensor Feedback
- 0-5VDC Analog Input Speed Control
- Short Circuit Protection
- Requires 20-50 VDC
- Run/Stop Input
- TTL-CMOS Compatible Inputs
- Dual Mounting Option
- RoHS Compliant



## DESCRIPTION

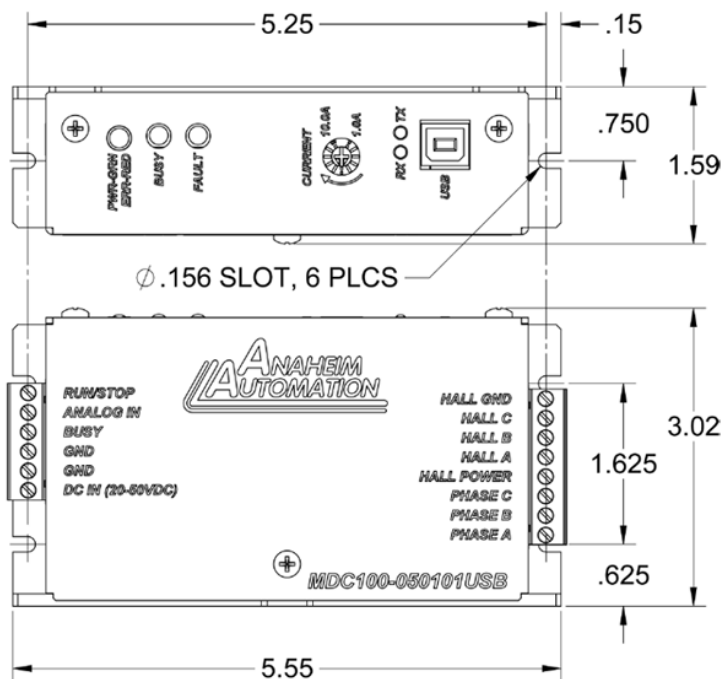
The MDC100-050101USB is a Microcontroller based Programmable Brushless DC Motor Controller with Hall Sensor feedback for accurate speed measurement. It provides flexible, independent control of a Brushless DC motor from computers, or any machine controller with a USB. It is also capable of standalone operation, making it an embedded machine controller. The easy-to-use Windows software, BMC100, can be used to directly control motion of the motor for Real Time Movements through USB Communication or to set up the parameters for stand-alone use.

The MDC100-050101USB provides accurate control of Motor speed, direction, coast and brake for a Brushless DC Motor. It is embedded with a Proportional-Integrator (PI) controller. Proportional and Integrator Constants, Kp and Ki, can be programmed using the BMC100 Windows Software or in Direct Mode. The controller has two modes through which it can control the speed of the motor: Analog Mode and Digital Mode. In Digital Mode, the controller is very accurate in keeping the motor running at the desired speed. The Analog Mode provides standalone functionality to the controller with a dynamic DC voltage input (0-5V) to control the speed of the motor.

### Ideal Applications:

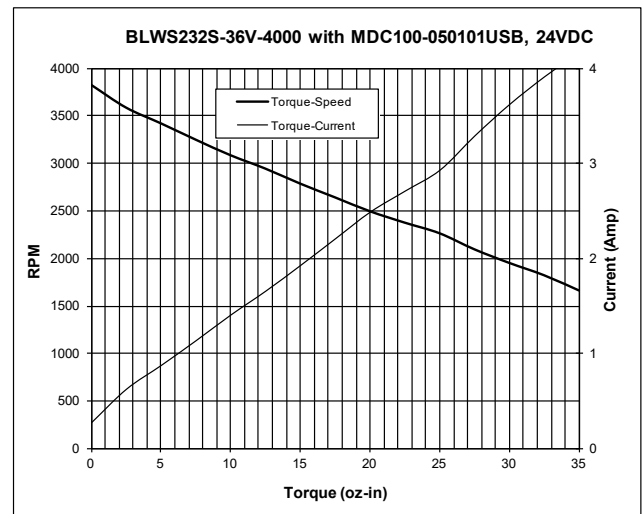
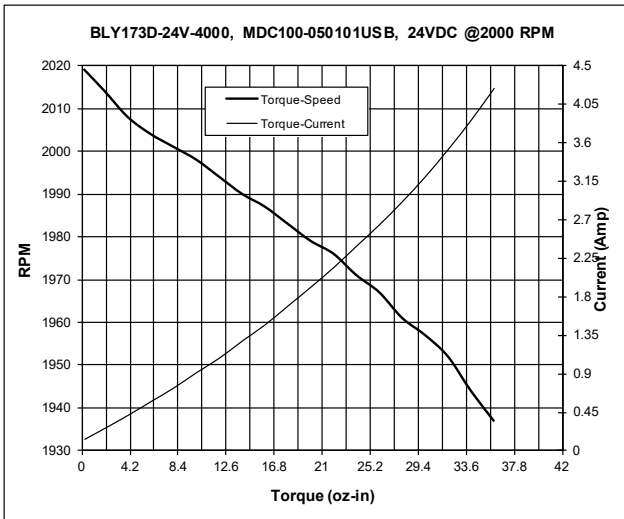
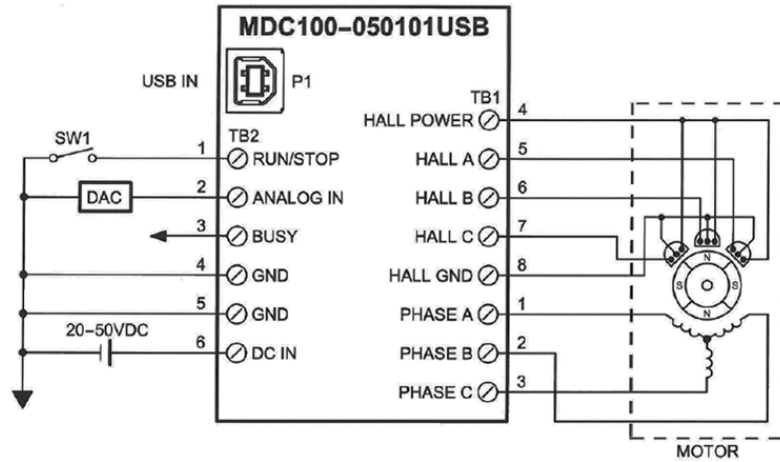
Automated machinery or processes that involves food, cosmetic, or medical packaging, electronic assembly, robotics, factory automation, medical diagnostics, inspection and security devices, conveyor and material, handling systems, pump flow control, or wherever speed control is required.

## DIMENSIONS/TORQUE CURVES

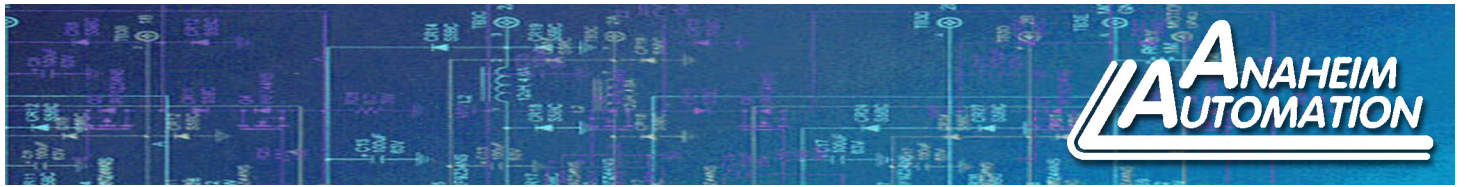


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Dimensions are in inches



Power Requirements:	20-50 VDC
Output Current Range:	1.0-10 Amps (Peak) 0.5 - 5.0 Amps (Continuous)
Hall Sensor Power Outputs:	6.25V @ 30mA (Max)
Control Inputs:	(TB2, Pins 1) TTL-CMOS Compatible Logic "0" = 0.0 - 0.8VDC Logic "1" = Open
Brake:	(TB2, Pin 1) Logic "1" (open) - Motor will not run and if running will decelerate rapidly Logic "0" = Motor will run Input ignored if Motor started through Software.
Direction Control:	Through Software.
Constant Speed:	Through Digital Mode in software.
Operating Temperature:	0°C to +70°C
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



ACCESSORIES

Model #	Description
PSAM24V2.7A	DC Power Supply 24VDC at 2.7 Amps
PSA40V4A	DC Power Supply 40VDC at 4.0 Amps
PSA40V8A	DC Power Supply 40VDC at 8 Amps