

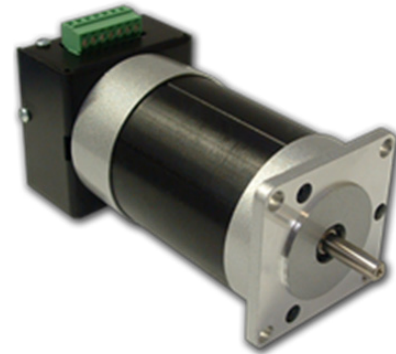
# BLWS23MDC

## Programmable Brushless DC Motor Controller



FEATURES

- Programmable PI Controller
- 2-Quadrant Operation
- Hall Sensor Feedback
- 0-5VDC Analog Input Speed Control
- Short Circuit Protection
- Requires 24VDC
- Run/Stop Input
- TTL-CMOS Compatible Inputs
- Motor Frame: 2.3" Square (Similar to NEMA23)



DESCRIPTION

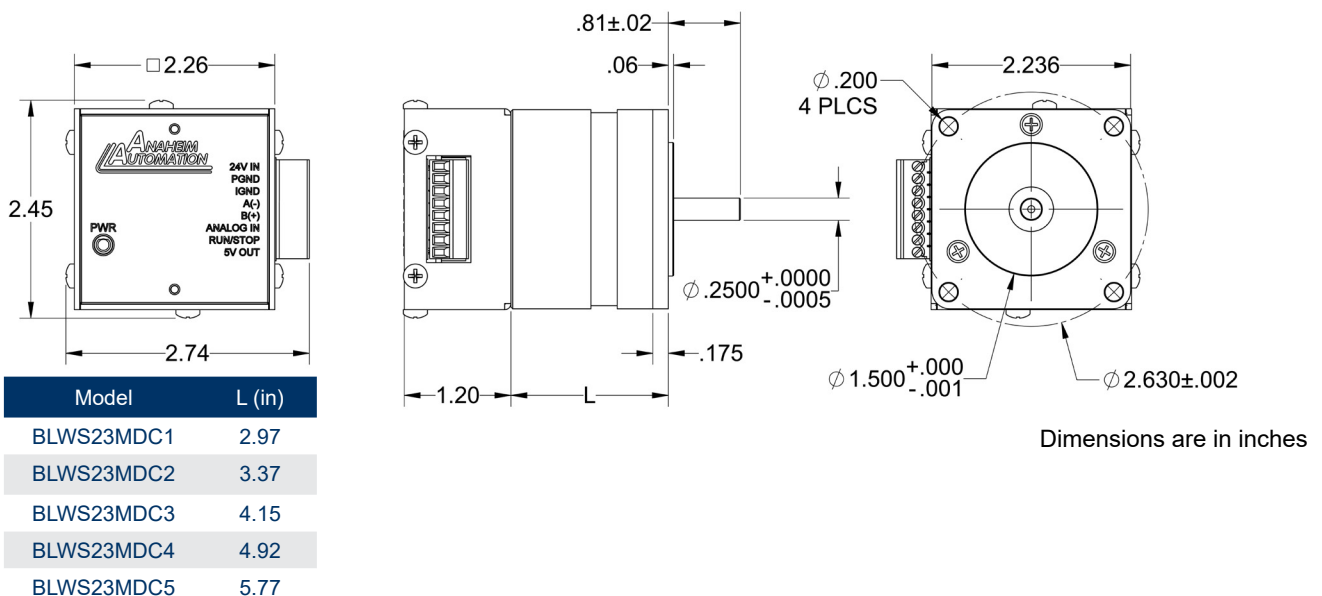
The BLWS23MDC Series is a compact microcontroller-based Programmable Brushless DC Motor Controller with Hall Sensor feedback for accurate speed measurement. With the two parts combined into one casing, the need to wire up the motor has been eliminated. It provides flexible, independent control of a Brushless DC motor from computers, or any machine controller with a serial port. 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 the BLWS23MDC for Real Time Motion through serial communication.

The BLWS23MDC 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 user directly sets 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.

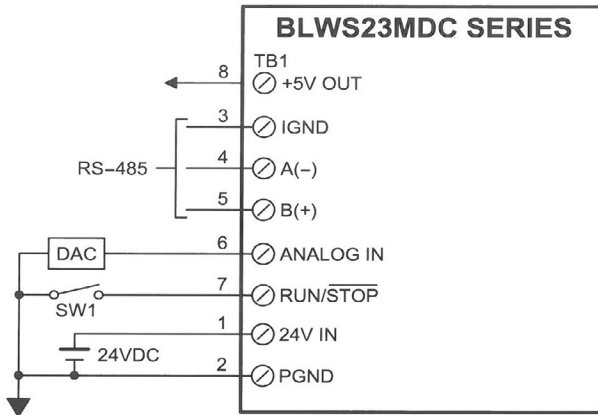
### Ideal Applications:

Automated machinery or processes that involve 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.

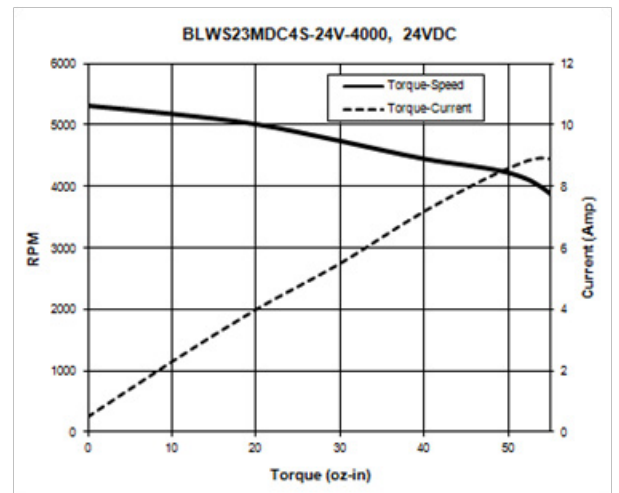
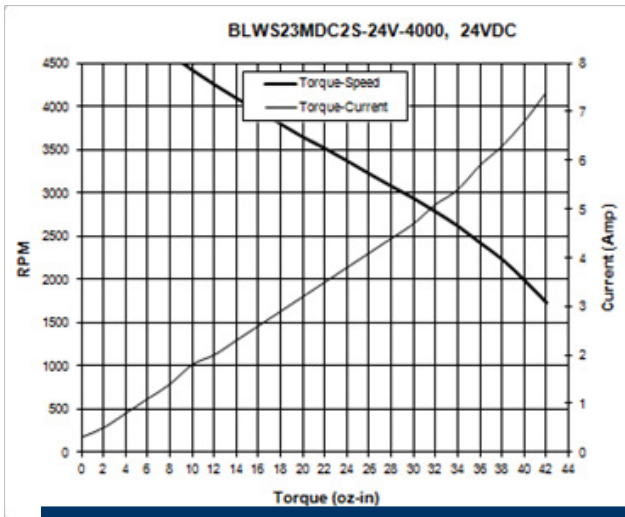
DIMENSIONS



L011389



| Position | Description           |
|----------|-----------------------|
| 1        | Power 24VDC           |
| 2        | Power Ground          |
| 3        | RS485 Isolated Ground |
| 4        | RS485 A(-)            |
| 5        | RS485 B(+)            |
| 6        | Analog Speed Input    |
| 7        | RUN/STOP Input        |
| 8        | 5VDC Output           |



| Model #              | Motor Frame    | Rated Voltage (V) | Rated Speed (RPM) | No Load Speed (RPM) | Rated Torque (oz-in) | Torque Constant (oz-in/A) | Rated Power (W) | Weight (lbs) | L Length (inch) |
|----------------------|----------------|-------------------|-------------------|---------------------|----------------------|---------------------------|-----------------|--------------|-----------------|
| BLWS23MDC1S-24V-4000 | 2.3 in. Square | 24                | 4000              | 5900                | 8                    | 5                         | 23              | 0.8          | 2.97            |
| BLWS23MDC2S-24V-4000 | 2.3 in. Square | 24                | 4000              | 5100                | 16                   | 5.5                       | 46              | 1.3          | 3.37            |
| BLWS23MDC3S-24V-4000 | 2.3 in. Square | 24                | 4000              | 5000                | 31                   | 6                         | 92              | 1.9          | 4.15            |
| BLWS23MDC4S-24V-4000 | 2.3 in. Square | 24                | 4000              | 5300                | 45                   | 5.5                       | 134             | 2.4          | 4.92            |
| BLWS23MDC5S-24V-4000 | 2.3 in. Square | 24                | 4000              | 5600                | 62                   | 5.5                       | 184             | 3.0          | 5.77            |

Winding Type: Delta, 4 Poles      Max Radial Force: 28N @ 10mm from Flange

Hall Effect Angle: 120 Degree Electrical Angle      Max Axial Force: 10N - Force

Shaft Run Out: 0.025mm      Insulation Class: Class B

Radial Play: 0.02mm@450g      Dielectric Strength: 500VDC for one minute

End Play: 0.08mm@450g      Insulation Resistance: 100Mohm, 500VDC

| Model #     | Description                       |
|-------------|-----------------------------------|
| PSAM24V2.7A | DC Power Supply 24VDC at 2.7 Amps |