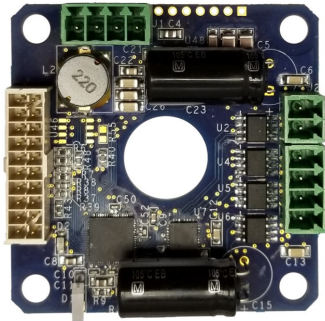


# DATASHEET



**Absolute Encoders**

## OMDE2 Integrated Single Axis Drive & Control with Encoder

The OMDE2 is an advanced stepper motor drive and motion controller with encoder feedback input in one small compact size. Through a simple RS485 communications interface you can control a stepper motor with exceptional capabilities and accuracy with simple ASCII character commands. Incremental encoder feedback provides high resolution and speed for critical applications. Selectable velocities up to 2M steps/sec. Motor step size resolution is selectable up to 1/256 microstep. Its small design is compatible to mount on a NEMA 23 stepper motor or remotely, and includes a hole in the center so the shaft of a linear actuator motor can pass through when mounted on the motor.

### FEATURES

- Advanced motion control capabilities
- Absolute Encoders (BiSS & SSI, 36+ bit resolution)
- Simple communications through RS485 interface (Modbus option)
- Commands are intuitive ASCII characters (Modbus RTU option)
- Communication speed = 115.2K Baud
- Velocity = 0 to 2M steps per second
- Differential Quadrature Incremental Encoder up to 16MHz
- Microstep resolutions include full, 1/2, 1/4, 1/8, 1/16, 1/64, 1/128, 1/256
- Exceptional accuracy: +/- 0% position (full-steps)
- 6 TTL input/output, including Home and +/- Limits
- Single supply voltage +12V to +50V
- 0 to 2.5 amp phase current for high torque motors
- Center pass-through hole for linear actuator stepper motors
- No heat-sink required for typical current
- Motor current set through the interface
- Matches the NEMA 23 dimension for direct motor mounting
- Use existing motors or select optimum motor for the application for cost control and best performance
- Screw-terminal connector plugs for convenient wiring
- LED indicator for status

*“The Company in Motion”™*

***OMS Motion, Inc.***

15201 NW Greenbrier Pkwy, B-1  
Beaverton, Oregon 97006

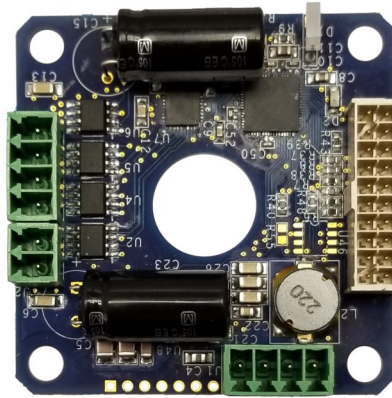
503-629-8081, Fax: 503-629-0688

E-mail: [Sales@OMSmotion.com](mailto:Sales@OMSmotion.com)

**[www.OMSmotion.com](http://www.OMSmotion.com)**

### Connector Pin-out

J3 -Pin4: Phase B2  
 J3 -Pin3: Phase B1  
 J3 -Pin2: Phase A2  
 J3 -Pin1: Phase A1  
 J2 -Pin2: GND  
 J2 -Pin1: 12-50VDC

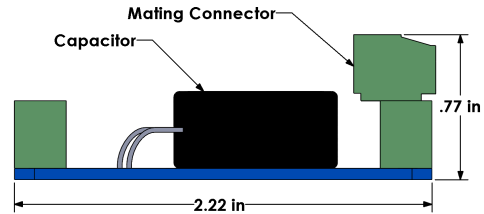
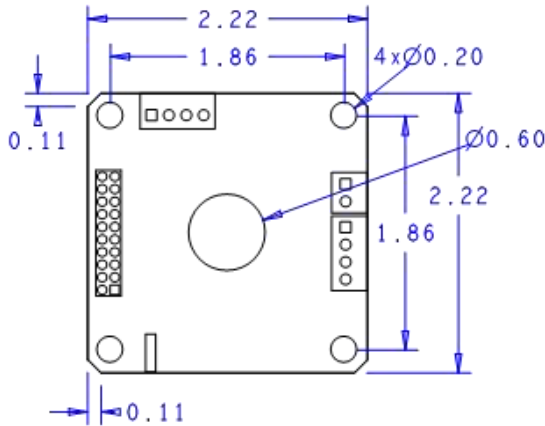


J4

|                 |    |    |       |
|-----------------|----|----|-------|
| VIO / +5V       | 01 | 02 | GND   |
| GPIO0           | 03 | 04 | GND   |
| GPIO1           | 05 | 06 | GND   |
| Home / GPIO2    | 07 | 08 | GND   |
| Neg Lmt / GPIO3 | 09 | 10 | GND   |
| Pos Lmt / GPIO4 | 11 | 12 | GND   |
| Indx+           | 13 | 14 | Indx- |
| PhB+            | 15 | 16 | PhB-  |
| PhA+            | 17 | 18 | PhA-  |
| +5V             | 19 | 20 | GND   |

J1  
RS485

### Dimensions



| ORDERING INFORMATION |  |
|----------------------|--|
| Model                | Description                            |
| OMDE2                | Drive & Controller w/ Encoder, Size 23 |

## OMS Motion, Inc.

15201 NW Greenbrier Pkwy, B-1  
 Beaverton, OR 97006  
 Sales@OMSmotion.com

1(800) 707-8111, 503-629-8081  
 Fax: 503-629-0688  
[www.OMSmotion.com](http://www.OMSmotion.com)

