

Note: The RBD201 controller is specifically designed for use in a 19" rack. For benchtop applications or integration into our MMR601 Rack System Enclosure, please see our benchtop controllers or Brushless DC Motor Controller Module, respectively.

Cabling

Cables for connecting actuators or stages to the controller are shipped with the actuators or stages, not the controller. If you need help identifying the appropriate replacement cable, please contact Tech Support.

Not For Use with Brushed DC Motors or the DDS050 and DDS100 Linear Stages

This controller is designed for use with high power, brushless DC servo motors. For control of the Thorlabs' brushed DC servo motor devices, please see the KDC101 Brushed DC Servo Motor Driver K-Cube®. For controlling the DDS050 and DDS100 Linear Stages, please see the KBD101 Brushless DC Servo Motor Driver K-Cube.

Optional Joysticks

The MJC2 and MJC3 joysticks have been designed to provide intuitive, tactile, manual positioning of the stage being controlled. The joysticks feature a two-axis joystick knob for XY control or a three-axis joystick knob for XYZ control, respectively. In most applications, the default parameter settings saved within the controller allow the joystick to be used out of the box, with no need for further setup, thereby negating the requirement to be connected to a host PC, and allowing true remote operation.

Other Controllers

Thorlabs also manufactures a complete range of motion controllers for DC servo motors, stepper motors, and piezoelectric actuators. Please see the links below for more information.



Click to Enlarge
Figure 1.1 RBD201 Front and Rear Panels



Click to Enlarge
Figure 1.2 This image shows an RBD201 controller mounted in a typical 19" rack system.

[Hide Specs](#)

SPECS

| Specifications | |
|---|--|
| Number of Channels | 1 |
| Motor Drive Connector | 8-Pin DIN, Round, Female |
| Feedback Connector | 15-Pin D-Type, Female |
| Brushless Continuous Current Output | 2.5 A |
| PWM Frequency | 40 kHz |
| Operating Modes | Position and Velocity |
| Control Algorithm | 16-Bit Digital PID Servo Loop with Velocity and Acceleration Feed Forward |
| Velocity Profile | Trapezoidal/S-Curve |
| Position Count | 32-Bit |
| Position Feedback | Incremental Encoder |
| Encoder Bandwidth | 2.5 MHz (10 M Counts/sec) |
| Encoder Supply | 5 V |
| AUX Control Connector | 15-Pin D-Type, Female |
| Input Power Requirements (Region-Specific Power Cord Included) | 150 VA Voltage: 100 to 240 VAC Frequency: 50 to 60 Hz Fuse: 2.0 A |
| Dimensions | 482.6 x 264.8 x 43.7 mm (19" x 10.43" x 1.72") |
| Weight | 3.4 kg (7.5 lbs) |

[Hide Pin-Out Details](#)

PIN-OUT DETAILS

A developers' kit is shipped with all of our APT™ series controllers. This additional software support is intended for use by software developers working on large, system integration projects that incorporate APT™ products. The kit contains an extensive selection of useful code samples as well as a library of Video Tutorials.

Kinesis® Software

Thorlabs offers the Kinesis software package to drive our wide range of motion controllers. The software can be used to control devices in the Kinesis family, which covers a wide variety of motion controllers ranging from small, low-powered, single-channel drivers (such as the K-Cubes®) to high-power, multi-channel benchtop units and modular 19" rack nanopositioning systems (the MMR60x Rack System).

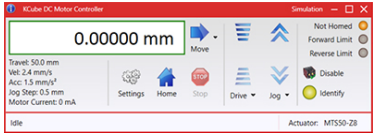


Figure 58A Kinesis GUI Screen

Software

Kinesis Version 1.14.54

The Kinesis Software Package, which includes a GUI for control of Thorlabs' Kinesis system controllers.

Also Available:

- Communications Protocol

The Kinesis Software features .NET controls which can be used by 3rd party developers working in the latest C#, Visual Basic, LabVIEW™, or any .NET compatible languages to create custom applications. Low-level DLL libraries are included for applications not expected to use the .NET framework and APIs are included with each install. A Central Sequence Manager supports integration and synchronization of all Thorlabs motion control hardware.

By providing this common software platform, Thorlabs has ensured that users can mix and match any of our motion control devices in a single application, while only having to learn a single set of software tools. In this way, it is perfectly feasible to combine any of the controllers from single-axis to multi-axis systems and control all from a single, PC-based unified software interface.

The software package allows two methods of usage: graphical user interface (GUI) utilities for direct interaction with and control of the controllers 'out of the box', and a set of programming interfaces that allow custom-integrated positioning and alignment solutions to be easily programmed in the development language of choice.

[Hide Part Numbers](#)

| Part Number | Description | Price | Availability |
|-------------|---|------------|-------------------|
| RBD201 | Customer Inspired! 1-Channel Rack-Mounted 3-Phase Brushless DC Servo Controller | \$2,584.51 | Lead Time |
| MJC2 | 2-Axis USB HID Joystick | \$600.27 | In Stock Overseas |
| MJC3 | 3-Axis USB HID Joystick | \$638.47 | Today |