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APT™ Stepper Motor Controllers

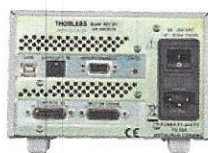
- ▶ Motor Speeds up to 3000 RPM
- ▶ 409,600 Microsteps per Revolution of Motor
- ▶ Seamless Operation with Thorlabs Stages/Motors



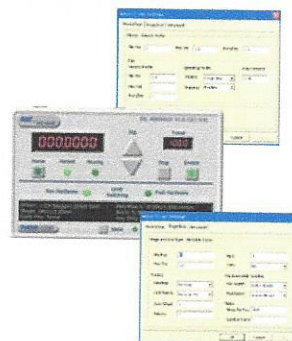
BSC201



BSC201 Rear Panel



Full Suite of Software Support Tools Included



Related Items

Motorized Translation Stages



100 mm Travel Stage



Motorized Actuators



Stepper Motor Cables



[Overview](#) [Specs](#) [Pin Diagrams](#) [Further Info](#) [Motion Control Software](#) [APT Tutorials](#) [Feedback](#)

Features

- High-Resolution Microstepping Control for Very Fine Positioning Applications
- Differential Encoder Feedback (QEP Inputs) for Closed-Loop Positioning
- Motor Control I/O Port (Jogging, Interlocks)
- Full Software Control Suite Supplied
- Intuitive Software Graphical Control Panels
- Extensive ActiveX® Programming Interfaces
- Fully Integrated Software for Use with Other APT™ Family Controllers

These APT Stepper Motor Controllers are the next generation of enhanced controllers using the familiar APT User interface. Many new features are provided, including a choice between trapezoidal and S-shaped velocity profiles, a higher theoretical microstep resolution (409,600 for a 200 full step motor), and speeds more than twice that achieved by their predecessors.

Designed for use with our DRV series of actuators (DRV208, DRV013, DRV014, and legacy DRV001), these one-, two- and three-channel 50 W stepper motor controllers are capable of driving high-power, 2-phase bi-polar stepper motors, with or without encoder feedback. They have been designed to drive the higher power, stepper-motor-equipped nanopositioning actuators and stages offered by Thorlabs (e.g., [LNR50S](#) and [NRT150](#)). Alternatively, generic two-phase, bi-polar motors of varying step sizes can also be driven; see the [Specs](#) tab for compatible motor information. Cables for connecting the DRV series actuator to the controller are shipped with the actuators, however replacement cables are available: the 1 m long [PAA612](#) and the 3 m long [PAA613](#). Please note that these controllers are not suitable for use with our ZST or ZFS series of stepper motors.

USB connectivity provides easy plug-and-play PC operation. Multiple units can be connected to a single PC via standard USB hub technology for multi-axis motion control applications. Coupling this with the very user friendly APT software allows the user to very quickly get up and running with reasonably complex move sequences in a short period of time. For example, all relevant operating parameters are set automatically for Thorlabs' stage/actuator products. Advanced custom motion control applications and sequences are also possible using the extensive ActiveX® programming environment described in more detail on the [Motion Control Software](#) and [APT Tutorials](#) tabs.

Additionally, these APT controllers support Thorlabs' [2-axis joystick console](#). This joystick console provides intuitive, tactile, manual positioning along with two-axis control. 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. However, depending on the actuator being driven, some software setting adjustment may be required. All cables are supplied. Please note this joystick is not compatible with former generation BSC10x series controllers.

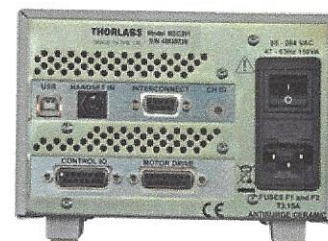
Owners of our two-channel BSC202 controller may have their controllers upgraded by Thorlabs to support a third channel. Please contact [Tech Support](#) for more details.

Other Stepper Motor Controllers

[K-Cube™ Single-Channel Controller](#) 1-, 2-, and 3-Channel Benchtop Controller [Modular 2-Channel Rack System Module](#)



BSC203 (Use with our DRV Series of Stepper Motors)


[Click to Enlarge](#)

Based on your currency / country selection, your order will ship from Newton, New Jersey

+1	Qty	Docs	Part Number - Universal	Price	Available
<input type="text" value="1"/>	<input type="text"/>		BSC201 Customer Inspired! One-Channel APT™ Benchtop Stepper Motor Controller	\$1,428.82	Today
<input type="text" value="1"/>	<input type="text"/>		BSC202 Customer Inspired! Two-Channel APT™ Benchtop Stepper Motor Controller	\$2,331.28	Today
<input type="text" value="1"/>	<input type="text"/>		BSC203 Customer Inspired! Three-Channel APT™ Benchtop Stepper Motor Controller	\$2,965.84	Today