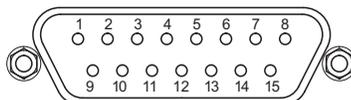


Benchtop Brushless DC Servo Motor Controllers

We have ensured that the software interfaces to the BBD series are highly integrated with all other apt™ family controllers, providing easy system integration and reduced learning curve. As one of the newest members of the apt™ family of controllers, these units are backed up by the fully featured apt™ suite of PC software tools for immediate and easy out-of-the-box configuration and usage.

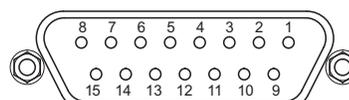
This controller is designed for use with high power, brushless DC servo motors. For control of the Thorlabs brushed DC servo motor devices, please see the TDC001 DC Servo Motor Driver T-Cube (pages 626 – 627).

Rear Panel USER IO Connector Pin Out



PIN	Description
1	5 V
2	Axis In
3	Axis Out
4	Ground
5	Ground
6	For Future Use
7	For Future Use
8	For Future Use
9	QA+
10	QA-
11	QB+
12	QB-
13	Index/Ref+
14	Index/Ref-
15	Ground

Rear Panel AUX I/O Connector Pin Out



PIN	Description
1	Digital O/P 1
2	Digital O/P 2
3	Digital O/P 3
4	Digital O/P 4
5	Digital Ground
6	Digital I/P 1
7	Digital I/P 2
8	Digital I/P 3
9	Digital Ground
10	Digital Ground
11	For Future Use (Trigger Out)
12	For Future Use (Trigger IN)
13	Digital I/P 4
14	5 V Supply Output
15	5 V Supply Output

Specifications

- **Drive Connector:** 8 Pin DIN, Round, Female
- **Feedback Connector:** 15-Pin D-Type
- **Brushless Continuous Output:** 5 A
- **PWM Frequency:** 40 kHz
- **Operating Modes:** Position and Velocity
- **Control Algorithm:** 16-Bit Digital PID Servo Loop with Velocity and Acceleration Feedforward
- **Velocity Profile:** Trapezoidal/S-Curve
- **Position Count:** 32-Bit
- **Position Feedback:** Incremental Encoder
- **Encoder Feedback Bandwidth:** 2.5 MHz (10 M Counts/s)
- **Encoder Supply:** 5 V
- **AUX Control Connector:** 15-Pin D-Type Female

Input Power Requirements

- **Volts:** 85 to 264 VAC
- **Power:** 250 VA
- **Frequency:** 47 to 63 Hz
- **Fuse:** 3.15 A
- **Dimensions:**
 - BBD101: 174 x 245 x 126 mm (6.85" x 9.65" x 4.96")
 - BBD102, BBD103: 240 x 337.9 x 124.8 mm (9.5 x 13.3 x 4.9 in.)
- **Weight:**
 - BBD101: 3.46 kg (7.6 lb)
 - BBD102, BBD103: 6.1 kg (13.42 lb)



BBD102 Rear Panel

2-Axis Joystick Console

MJC001 JOYSTICK
(Available Separately)



Thorlabs' MJC001 joystick console has been designed for microscope users, to provide intuitive, tactile, manual positioning of the stage. The console features a two-axis joystick for XY 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.

ITEM #	\$	£	€	RMB	DESCRIPTION
BBD101	\$ 1,949.28	£ 1,403.48	€ 1,695.87	¥ 15,535.76	Single-Channel 3-Phase, Brushless DC Servo Motor Controller
BBD102	\$ 2,949.28	£ 2,123.48	€ 2,565.87	¥ 23,505.76	Two-Channel 3-Phase, Brushless DC Servo Motor Controller
BBD103	\$ 3,749.29	£ 2,699.49	€ 3,261.88	¥ 29,881.84	Three-Channel 3-Phase, Brushless DC Servo Motor Controller
MJC001	\$ 995.00	£ 716.40	€ 865.65	¥ 7,930.15	2-Axis Microscopy Joystick Console