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Data Sheet

August 15, 2026

ADVANCED MOTION CONTROLS

Advanced Motion Controls B12A6F Brushless PWM Servo Amplifier

Advanced Motion Controls B12A6F Brushless PWM Servo Amplifier The B12A6F is the F-revision B12A6 brushless PWM amplifier in the B15A series. OEM B12A6/B15A8 datasheet lists 20-60 VDC supply, plus or minus 12 A peak for 2 s, plus or minus 6 A continuous, 200 uH minimum load inductance, 33 kHz plus or minus 15 percent switching, 18 W dissipation at continuous current, 62 V overvoltage shutdown, 2.5 kHz bandwidth, 0 to 65 C heatsink, and 5.09 × 2.98 × 0.99 in / 10 oz (0.28 kg). Brushless DC motors on a single unregulated 20-60 V supply in current, open-loop, or tachometer velocity mode. The B12A6F is the F-revision B12A6 brushless PWM amplifier in the B15A series. OEM B12A6/B15A8 datasheet lists 20-60 VDC supply, plus or minus 12 A peak for 2 s, plus or minus 6 A continuous, 200 uH minimum load inductance, 33 kHz plus or minus 15 percent switching, 18 W dissipation at continuous current, 62 V overvoltage shutdown, 2.5 kHz bandwidth, 0 to 65 C heatsink, and 5.09 × 2.98 × 0.99 in / 10 oz (0.28 kg). Brushless DC motors on a single unregulated 20-60 V supply in current, open-loop, or tachometer velocity mode.



MODEL

Advanced Motion Controls B12A6F

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

B12A6F

LISTING

<https://aumictechlabs.com/products/b12a6f-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Advanced Motion Controls B12A6F is a brushless PWM servo amplifier engineered to deliver precise, efficient motor control across demanding automation and motion systems. It drives brushless DC motors, brushed DC motors, voice coil motors, and inductive loads with a 33 kHz switching frequency, supporting trapezoidal commutation via Hall sensors with selectable 60/120 degree phasing. The amplifier provides peak output current of 12 A and continuous current of 6 A at maximum continuous output power of 342 W, operating from a single unregulated DC supply between 20–60 VDC.

Technical Specifications

Peak Output Current:	12 A
Continuous Output Current:	6 A
Maximum Continuous Output Power:	342 W
Maximum Power Dissipation (at Continuous Current):	18 W
DC Supply Voltage Range:	20–60 VDC
DC Bus Over Voltage Limit:	62 VDC, 67 VDC
Minimum Load Inductance (Line-to-Line):	200 μ H
Switching Frequency:	33 kHz
On-Board Power Supplies:	+10 V @ 3 mA (short circuit protected); +6 V @ 30 mA for Hall sensors (short circuit protected)
Current Monitor Output:	2 A/V scaling
Current Reference Output:	Max ± 7.2 V at peak current

Key Features

- Supports multiple control modes: current, open loop, tachometer velocity, velocity, profile current/velocity/position, and cyclic synchronous variants
- Four-quadrant regenerative operation capability
- Comprehensive hardware protection: over-current, over-temperature, over-voltage, under-voltage, phase-phase and phase-ground short circuits, invalid commutation feedback, and power-up reset
- DIP switch configuration for mode selection, commutation phasing, outer loop integration, and test/offset modes
- Analog output signals for real-time current monitoring and feedback

Typical Applications

Automation systems, precision motion control, robotics, and OEM equipment requiring efficient brushless motor drive with flexible control architecture and extensive fault detection.

Compatibility & Integration

Accepts ± 10 V analog commands and digital network commands via EtherCAT. Supports embedded Click&Move program execution. Feedback inputs accommodate Hall sensors, tachometer, and incremental encoder (ENC A, B, I signals). Operates as standalone unit or interfaces with external digital controllers.

B12A6F Characteristics / Specifications

PARAMETER	VALUE
Model	B12A6F
Base Model	B12A6
Instrument Type	brushless PWM servo amplifier
Dc Supply Voltage	20 to 60 V
Peak Current	plus or minus 12 A for 2 s maximum
Continuous Current	plus or minus 6 A
Minimum Load Inductance	200 μ H
Switching Frequency	33 kHz plus or minus 15 percent
Heatsink Temperature	0 to 65 C, disables if greater than 65 C
Power Dissipation Continuous	18 W
Overvoltage Shutdown	62 V self reset
Bandwidth	2.5 kHz load dependent
Size	5.09 $\times$ 2.98 $\times$ 0.99 in (129.3 $\times$ 75.8 $\times$ 25.1 mm)
Mass	10 oz (0.28 kg)
Power Connector	screw terminals
Signal Connector	Molex
Reference Input	differential plus or minus 15 V max, 40 kohm
Tach Input	plus or minus 60 VDC max, 60 kohm
Current Monitor Scale	1 V = 2 A
Hall Supply	plus 6 V at plus 30 mA short-circuit protected
Current Limit Monitor	7.25 V = 12 A peak, 3.63 V = continuous
Modes	current, open loop, tachometer
Manufacturer	Advanced Motion Controls
Agency Approvals	listed on B15A series datasheet header

B12A6F Specifications

PARAMETER	VALUE
Applications	Brushless DC motors on a single unregulated 20-60 V supply in current, open-loop, or tachometer velocity mode.
Technical Specifications	Model: B12A6F
Notes	From Advanced Motion Controls B15A Series datasheet, B12A6 column. F is the current-revision letter in the B12A6X ordering scheme.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Model	B12A6F
Base Model	B12A6
Instrument Type	brushless PWM servo amplifier
Dc Supply Voltage	20 to 60 V
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Current Limit Monitor	7.25 V = 12 A peak, 3.63 V = continuous
Modes	current, open loop, tachometer
Manufacturer	Advanced Motion Controls
Agency Approvals	listed on B15A series datasheet header

Notes

From Advanced Motion Controls B15A Series datasheet, B12A6 column. F is the current-revision letter in the B12A6X ordering scheme.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.