



New ALC253X

The Next Generation

When your next velocity application demands the best there is, turn to the new ALC253X series, the next step in brushless OEM embedded servo solutions.

More compact, more powerful, and lower cost, and as always, covered by our two-year "no hassle" warranty.

State-of-the-Art

With Automation's newest voltage mode brushless servo-amplifier, the ALC253 "X" generation amplifier series, you're getting the best the industry has to offer. This new amplifier is designed for high-volume, cost-sensitive embedded OEM velocity mode applications that require a world class product, brushless reliability, safety and durability.

The ALC253X next generation amplifier makes extensive use of our new microprocessor technology to provide better drive diagnostics and greater functionality — at a lower cost than was possible in previous voltage mode servo-amplifiers.

An on-board microprocessor monitors critical drive status including motor rail over/under voltage, shunt use, internal logic supply, bridge over-temperature, low side bridge over-current, and Hall faults. All status conditions are distinguished by an LED flash code and a loss of the "Drive Enabled" signal output.

The ALC253X operates from 208/230 VAC, 50/60 Hz direct off-the-line input. Measuring just 9.2" x 7.55" x 2.7", the compact unit can be configured for 10, 15, 20 or 30 amp peak current output, at up to a 360 VDC three-phase bus to any compatible three-phase BLDC motor. The drive is fully protected from short circuits, includes heavy-duty regenerative

shunt circuitry, and has been designed to meet UL508C, CSA22.2.14 and IEC950 product safety requirements. All units pass the factory 1500 VAC, 1 minute Hi Pot test.

Features

- Available in 208/230 VAC, single phase, 50/60 Hz input standard
- Optional 115 VAC or DC rail input
- On-board microprocessor for status monitoring
- Four-quadrant regenerative or dynamic brake deceleration
- Hall tach signal output
- Current signal output
- Complete optical user isolation
- Remote digital PWM speed command and direction selection

Specifications

- DC Motor rail from +55 to +385 VDC nominal, +400 VDC maximum
- Peak continuous currents to 30 amps
- Minimum 1500 VAC, 1 minute Hi Pot capability
- Six-step trapezoidal commutation
- Hall sensor feedback, 60 or 120 degrees
- Compact 9.2" X 7.55" X 2.7" size

ALC253X

P.O. Box 7746

Ann Arbor

MI 48107

PHONE

734/662-7771

FAX

734/662-3707

E-Mail:

sales@automationinc.com

Website:

www.automationinc.com

Model Specifications

	115 VAC Model ALC2531	ALC2532	208/230 VAC Models ALC2533	ALC2534
Motor Supply	55 to 180 VDC, 3 phase		55 to 360 VDC, 3 phase	
Phase Cur. Peak	10 Arms	15 Arms	20 Arms	30 Arms
Phase Cur. Cont.	7 Arms	10.5 Arms	14 Arms	21 Arms
Input Power — Drive	90 to 132 VAC RMS, 1 Phase, 50/60 Hz or +60 to 190 VDC		180 to 260 VAC RMS, 1 Phase, 50/60 Hz or +60 to 380 VDC	
Input Power — Logic	90 to 132 VAC RMS, 1 Phase, 50/60 Hz		180 to 260 VAC RMS, 1 Phase, 50/60 Hz	

Pinouts

Drive Interface — J1

Pin	Description
1	+5 VDC Input (User Supplied)
2	+5 VDC Input (User Supplied)
3	Enable/Reset Input
4	Half Chop Enable Input
5	Direction Input
6	Dynamic Brake Input
7	Enable/Fault-Disable Output
8	Tach Signal Output
9	+5 VDC Common
10	±12 Volt Common
11	PWM Input
12	+12 VDC Input (User Supplied)
13	-12 VDC Input (User Supplied)
14	Current Signal Output

Hall Signal Interface — J2

1	Commutation S1, Input
2	Commutation S2, Input
3	Commutation S3, Input
4	Factory Assigned
5	+5 VDC, 25 mA, Output
6	Common, Return

AC Power / External Shunt — P3

1	Frame Ground
2	AC "HOT" Input
3	AC "NEU" Input
4	External Shunt Resistor
5	External Shunt Resistor

Motor Phase — P4

1	Phase 1 Output
2	Phase 2 Output
3	Phase 3 Output

External Supplemental Capacitance/ External DC Power Input — P5

1	B+ Power
2	B- Power

General Specifications

Switching Frequency

18 KHz (standard) to 40 KHz (optional)

Voltage Command Input

4.5 to 10 KHz PWM

Bridge Modulation

6 step, full wave, 4 quad, 3 phase

Min. Motor Inductance

250 uH (115 VAC), 500 uH (230 VAC)

Operating (Storage) Temp.

0 to +60 C (-20 to +85 C)

Interface Power

4.5 to 5.5 VDC, 100 mA Max. Load

Weight

61 oz. (1.73 Kg) typical

Diagnostic LEDs/Flash Codes

Total of five with Flash Codes. See User Manual.

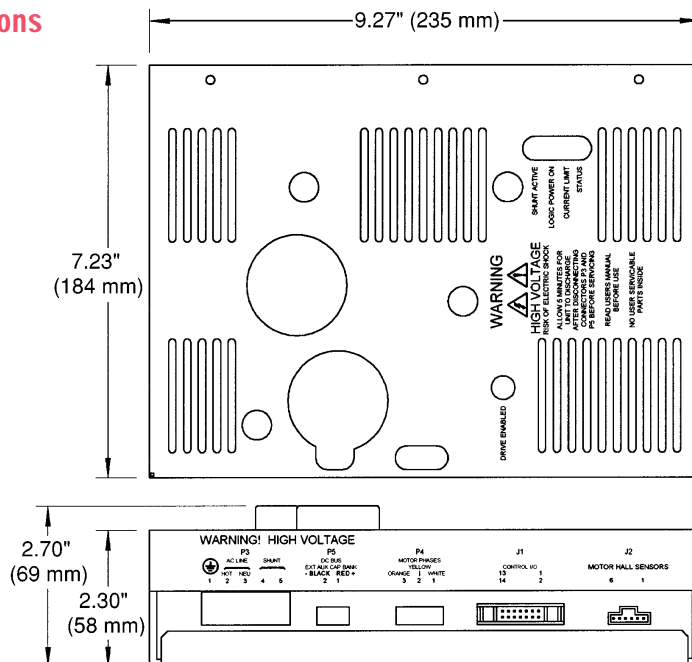
Functional & Wiring Diagrams

See User Manual.

Ordering Information

See Automation's "How To Order" form or contact Automation for assistance.

Dimensions



If you need more information, including custom user options available, please contact:
 AUTOMOTION • P.O. Box 7746 • Ann Arbor, MI 48107 • 734/662-7771 • Fax 734/662-3707
 E-Mail: sales@automotioninc.com • Website: <http://www.automotioninc.com>

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