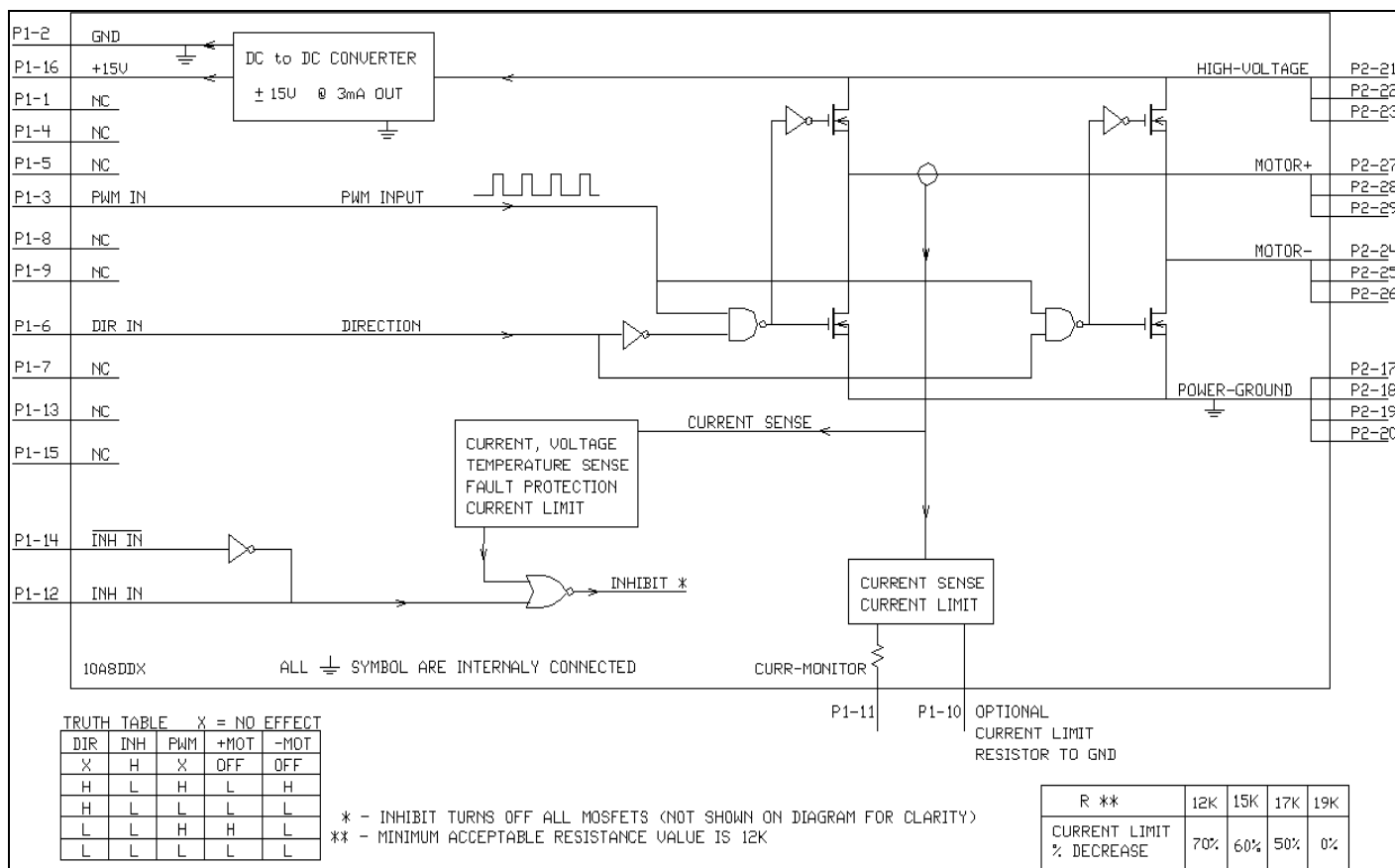
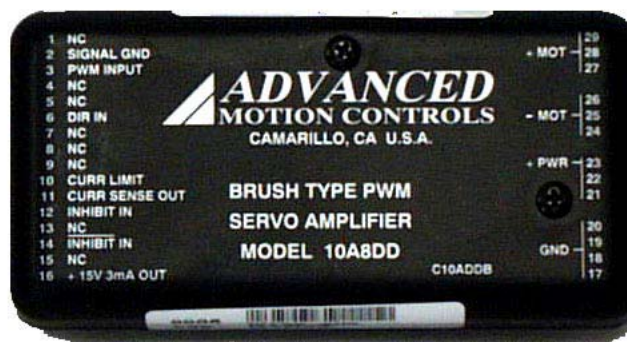


## SERIES 10A-DD PWM BRUSH TYPE SERVO AMPLIFIERS Model: 10A8DD

**FEATURES:**

- Surface-mount technology
- Small size, low cost, ease of use
- Adjustable current limit
- Four quadrant regenerative operation
- Agency Approvals:



**ADVANCED MOTION CONTROLS**  
3805 Calle Tecate, Camarillo, CA 93012 Tel: (805) 389-1935, Fax: (805) 389-1165

**DESCRIPTION:** The 10A8DD PWM servo amplifier is designed to drive brush type DC motors. The PWM frequency is determined by the PWM input signal. The 10A8DD is fully protected against over-voltage, over-current, over-heating and short circuits across motor, ground and power leads. This model interfaces with digital controllers that have a digital PWM output. It can also be used as a stand-alone system. The 10A8DD amplifier requires only a single unregulated DC power supply as all logic and control voltages are generated internally. PWM input determines the output duty cycle. "Direction In" determines which side of the "H bridge" output is switching. The current limit can be reduced by an external resistor. The voltage at the current monitor pin P1-11 is proportional to the actual motor current.

**SPECIFICATIONS:**

|   | <b>MODEL</b>                        |
|---|-------------------------------------|
| <b>POWER STAGE SPECIFICATIONS</b>       | 10A8DD                              |
| DC SUPPLY VOLTAGE                       | 20 - 80 V                           |
| PEAK CURRENT                            | ± 10 A                              |
| MAXIMUM CONTINUOUS CURRENT              | ± 6 A                               |
| MINIMUM LOAD INDUCTANCE*                | 150 µH                              |
| SWITCHING FREQUENCY                     | 5-20 kHz ±15%                       |
| HEATSINK (base) TEMPERATURE RANGE       | 0° to + 65° C, disables if > +65° C |
| POWER DISSIPATION AT CONTINUOUS CURRENT | 40 W                                |
| OVER-VOLTAGE SHUT-DOWN (self reset)     | 85 V                                |

| <b>MECHANICAL SPECIFICATIONS</b> |   |
|----------------------------------|---|
| SIGNAL CONNECTOR                 | Molex connectors                                    |
| SIZE                             | 4.00 x 2.00 x 0.60 inches<br>101.6 x 50.8 x 15.2 mm |
| WEIGHT                           | 5.1 oz<br>0.143 kg                                  |

\* "Pancake" and "basket-wound" motors require external inductors.

## PIN FUNCTIONS:

| CONNECTOR | PIN     | NAME                  | DESCRIPTION / NOTES   | I/O |
|-----------|---------|-----------------------|---|-----|
| P1        | 1       | NC                    |   |     |
|           | 2       | SIGNAL GND            | Reference ground  | GND |
|           | 3       | PWM / IN              | 2.5 - 15 V, Pulse Width Modulated Digital Input   | I   |
|           | 4       | NC                    |   |     |
|           | 5       | NC                    |   |     |
|           | 6       | DIRECTION             | 2.5 - 15 V, Direction Input   | I   |
|           | 7       | NC                    |   |     |
|           | 8       | NC                    |   |     |
|           | 9       | NC                    |   |     |
|           | 10      | CURRENT LIMIT         | Can be used to reduce the factory preset maximum current limit.                           | I   |
|           | 11      | CURRENT MONITOR       | This signal is proportional to the actual current in the motor leads. Scaling is 1V = 2A. | O   |
|           | 12      | INHIBIT               | Turns off all mosfets of the "H" bridge drive when high.                                  | I   |
|           | 13      | NC                    |   |     |
|           | 14      | INHIBIT               | Turns off all mosfets of the "H" bridge drive when low.                                   | I   |
|           | 15      | NC                    |   |     |
|           | 16      | 15 V @ 3 mA           | For customer use  | O   |
|           | 17-20   | POWER GND             | Power Ground, Common to P1-2  | GND |
|           | 21-23   | + HIGH VTG            | DC Power Input  | I   |
|           | 24-26   | - MOTOR               | Negative Motor Output   | O   |
| 27-29     | + MOTOR | Positive Motor Output | O   |     |

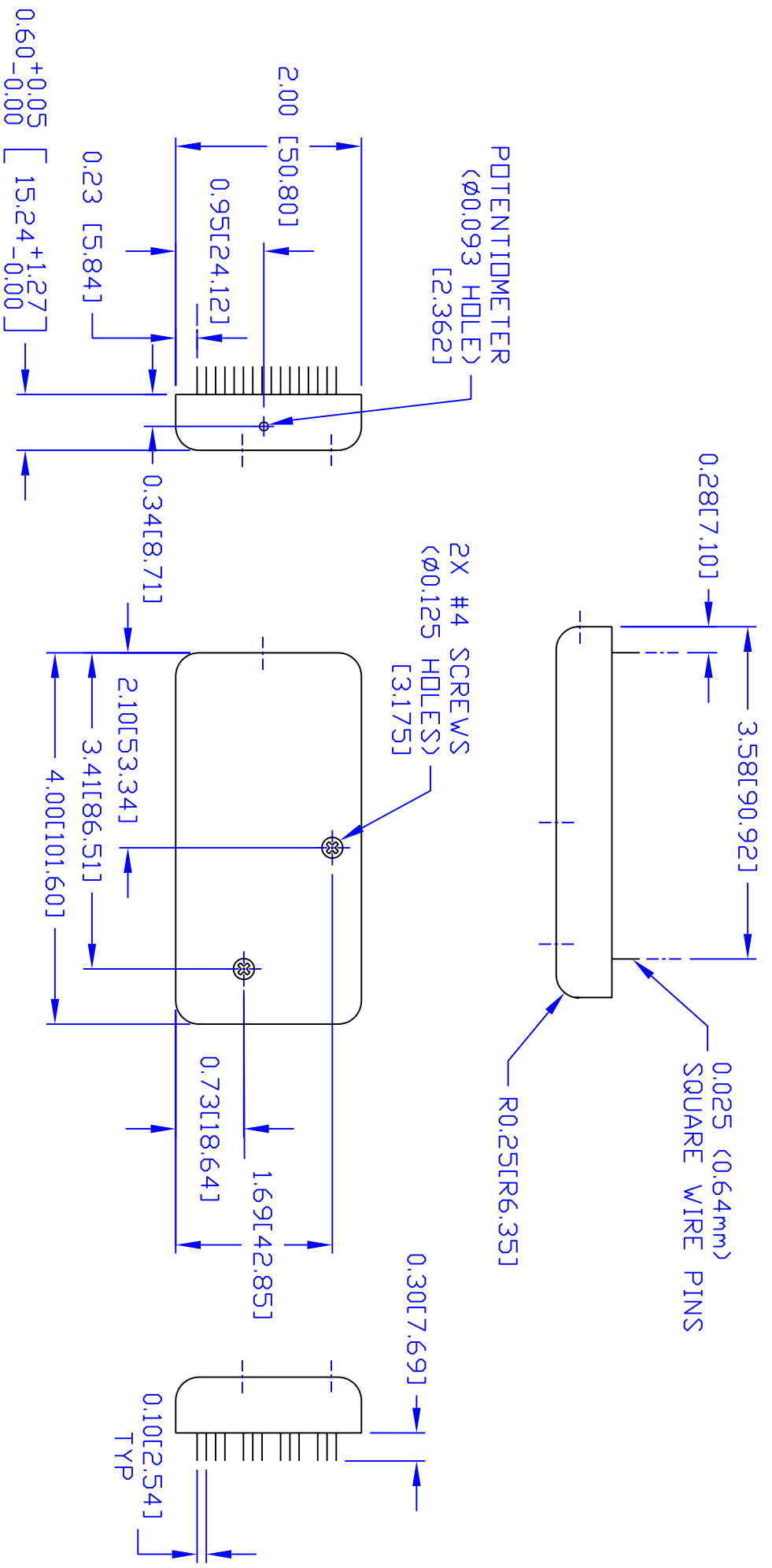
10A8DD Series

**ORDERING INFORMATION:**

Model: 10A8DDX

X indicates current revision letter.

**MOUNTING DIMENSIONS:** See page F-5.



MODEL 10A8, 10A8DD

| REV | DESCRIPTION                  | DATE     | BY |
|-----|------------------------------|----------|----|
| C   | ADDED TOL. TO DIM. 0.60      | 11/19/03 | RB |
| B   | UPDATE ADDRESS ON DWG FORMAT | 02/12/02 | RB |
| A   | UPDATE DWG FORMAT            | 08/22/96 | RB |

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES  
TOLERANCES  
.XX  $\pm$  .010  
.XXX  $\pm$  .005  
DO NOT SCALE DRAWING

DRAWN BY: AIDA DATE: 06/03/93

CHECK BY: DATE:

DESIGN APPROVED: DATE:

10A8DD SERIES  
10A SERIES  
USED ON

**ADVANCED**  
MOTION CONTROLS  
• PWM SERVO AMPLIFIERS •  
3805 Calle Tecate, Comarillo, CA 93012

TITLE MOUNTING DIMENSIONS  
10A SERIES

SIZE DWG. NO. M10A REV C

SCALE: NONE

NOTE: DIMENSIONS IN [ ] ARE IN MM.