ESTAT ACTUATION

Compact motion starts—and stops—with us

Isolated Voltage Driver with Digital Control

The Evaluation Unit includes the ESTAT Isolated Voltage Driver with Digital Control, which powers any ESTAT clutch product. Isolated Voltage Driver with Digital Control is operated by the user's control circuit. Only mount the Voltage Driver using a light press fit or double-sided adhesive. DO NOT DRILL INTO THE VOLTAGE DRIVER. Please contact ESTAT for any required maintenance.

The Voltage Driver input connection has 6 pins, and can be connected with a Molex connector or directly to the 0.1" spaced headers. The GND pins are for ground, VIN is the power supply input, driving SLP high disables the driver, ENG engages or disengages the clutch, and PWM sets the output voltage scaling. The 2 pin Molex interfaces with the electroadhesive clutch and outputs voltage between 0-500 V.

Mechanical Specifications	
Dimensions —mm (inch)	71.5*31.0*14.8 (2.815 * 1.11 * 0.583)
Weight—g (oz)	27.2 (0.959)
Enclosure Material	3D printed black resin
Clutch Output Connector	Molex Nano-Fit 2-Pos. Female (Part# 105313-1102)
Input Connector	Molex SL Modular Connector (Part# 1719710006) *or* 0.1" headers

Electrical Specifications	
Input Power Supply Voltage	4.5 V - 24.5 V
Max Transient Current Draw from Power Supply	680 mA (@ 5.0V Input)
Disabled State Max Current Draw	11 mA (@ 5.0V Input)
Input Reverse Polarity Protection	Protected to -28 V on Power & Control Inputs
Output Voltage Range	10 V - 500 V
Output Voltage Accuracy	± 5.0%
Control Input	3.3V to 24.0V PWM Signal
PWM Input Frequency Range	50Hz to 5000Hz
Effective PWM Input Duty Cycle Range	0% to 99.5%
Output Voltage to Duty Cycle Ratio	50V / 10% Duty Cycle
PWM, Engage, Disable Control Input Voltage	3.3V to 24.0V
Engage Signal Polarity	High = Engaged | Low = Disengaged (Default)
Disable Signal Polarity	High = Disabled | Low = Enabled (Default)
Max Output Current Between Terminals	~20 mA
Output Capacitance	3.3 nF
Max Continuous Output Current (at 400 V)	0.85 mA
Max Output Ripple Voltage (no Load)	1.10 Vp-p
Max Output Ripple Voltage (10 nF load)	0.25 Vp-p
Max Engage Rise Time (10 nF Load, 400V)	850 µS
Max Disengage Fall Time (10 nF Load, 400V)	180 µS