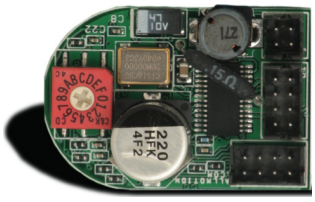
ALLMOTION

EZServo® **Model EZSV10**

Fully intelligent servo motor controller + driver with encoder feedback



Model EZSV10 actual size

General Specifications

Supply Input ..... 12V to 40V 1.5A
Examples: Digikey part 285-1820 or 1470-1015

Dimensions ..... 0.95" x 1.4" x 0.6" (24mm x 35mm x 15.24mm)

Operating Modes ..... PC controlled or standalone. Position, velocity, and torque

PC Control..... Can control up to 16 drives daisychained together.

Communications protocol..... RS485. Can convert to RS232/USB with appropriate converters.

Control protocol ..... Compatible with devices that use the Cavro DT or OEM protocol. Can use EZCommander™ Windows application or serial terminal program such as HyperTerminal to issue commands.

Motor compatibility..... Accommodates most 1.5" and smaller DC brush servo motors without tuning. Best performance is with motor rated at about 1/2 of supply voltage.

Mating Connectors..... HIROSE DF11 series. Recommended tool: Digikey H9924-ND

I/O Interface..... Accepts 2 opto-electronic and two mechanical switch inputs, or 4 mechanical switch inputs. ADC inputs also.
Signal Levels: <0.8V Vlow; >2V Vhigh (TTL compatible)
Optical switch specifications: Transistor optical switch with IC> 1 mA @ IF=20mA. *Examples*: OPTEK part OPB841W55 or Digikey part 365-1103-ND (prewired); Honeywell HOA1870-33 (prewired)

Encoder interface..... Quadrature encoder, maximum frequency 4 MHz

Operating Temperature ..... -20 to 85 °C PCB copper temperature

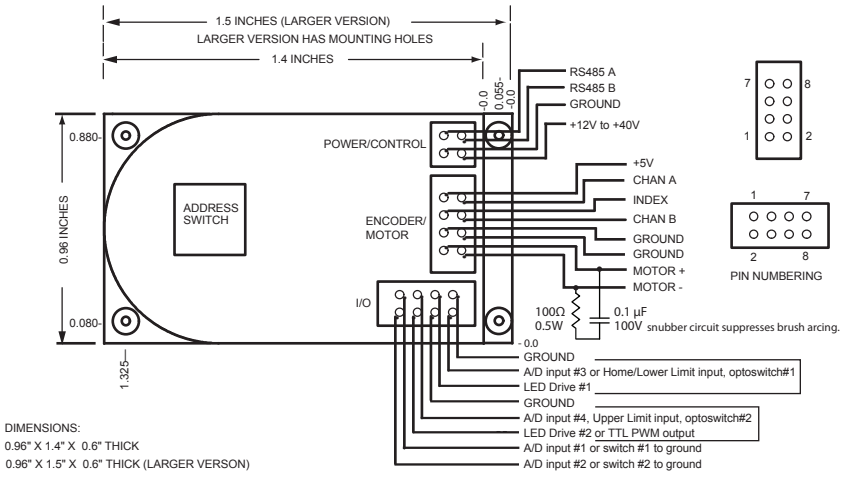
Relative Humidity..... 10% to 90% non condensing (operating and storage)

I/O CONNECTOR
Mating Connector: HIROSE DF11 series 8 pin, 24 GA, part DF11-8DS-2C Digikey part H2022-ND

Pin	Function	Notes
1	A/D in #1 or Switch #1 to ground	Includes 10k Ω pullup to 3.3V.
2	A/D in #2 or Switch #2 to ground	Includes 10k Ω pullup to 3.3V.
3	A/D in #4, Upper Limit in, optoswitch #2 collector	Includes 10k Ω pullup to 3.3V.
4	LED Drive #2 or optional TTL PWM output	Includes series 200 Ω resistor to 5V.
5	LED Drive #1	Includes series 200 Ω resistor to 5V.
6	Ground	Common ground
7	Ground	Common ground
8	A/D in #3, Home/Lower Limit in, optoswitch #1 collector	Includes 10k Ω pullup to 3.3V.

Mechanical Specifications

Smaller version is for mounting inside encoder.



DIMENSIONS:
0.96" X 1.4" X 0.6" THICK
0.96" X 1.5" X 0.6" THICK (LARGER VERSON)

ENCODER & MOTOR CONNECTOR
Mating conn.: HIROSE DF11 8 pin, 24 GA, part DF11-8DS-2C DIGIKEY part H2022-ND

Pin	Function	Notes
1	Motor +	2A peak, 1.5A continuous
2	Motor -	2A peak, 1.5A continuous
3	Ground	Ground for encoder
4	Ground	Ground for encoder
5	Index	Input from encoder
6	Chan B	Input from encoder
7	+5V (V+)	Power to encoder
8	Chan A	Input from encoder

POWER AND CONTROL CONNECTOR
Mating conn.: HIROSE DF11 4 pin, 24 GA, part DF11-4DS-2C Digikey part H2019-ND

Pin	Function
1	GROUND
2	V+ (external supply) +12V to 40V
3	RS485 A
4	RS485 B

Key Features

- Single 4-wire bus linking up to 16 drives
- 2A peak, 1.5A continuous DC brush motor driver
- Operates from 12V to 40V.
- RS232, RS485, or USB based control communications
- Optional standalone operation with no connection to PC
- Optional ADC inputs, halt/branch on ADC value
- Optional digital PWM output
- On-board EEPROM for user program storage
- 4-quadrant operation
- Position, velocity, and torque modes
- Homes to an opto, switch, or encoder index with a single command.
- Quadrature encoder-based feedback
- 4MHz max encoder frequency
- Prewired for optoswitch inputs
- Cavro DT or OEM protocol compatible
- Fully programmable ramps and speeds
- Switch-selectable device address
- Software-settable maximum currents

Ordering Information

Name	Order Number
EZSV10 Servo Drive	EZSV10
RS232 to 485 Converter (option)	RS485
USB to 485 Converter (option)	USB485