EZCTRL17-RC

3-axis RC servo controller

General Specifications

Supply Input..... +9V to 30V 2A *Examples*: Digikey part 102-1337-ND or 62-1047-ND (enclosed)

Dimensions..... 1.6" X 1.6" (40mm X 40mm) square, .687" (17.45mm) thick

Operating Modes..... PC controlled or standalone

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

Communications Protocol..... RS485. Can convert to RS232/USB with appropriate converter. Provision is made for future addition of CAN bus protocol.

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.

Mating Connectors ..... AMP MTA 100 series. Recommended tools: Digikey A9982; or A1998 + A2031. (See Application Note 131021 for non-standard connector options.)

ADC Inputs ..... Signal Levels: <0.8V Vlow; >2V Vhigh (TTL compatible). Accurate to 8 bits; can be modified for 10-bit accuracy (details available).

Optical switches ..... Transistor optical switch with IC> 1 mA @ IF=20mA. Examples: Digikey QVA11134 or H21A1; Honeywell HOA1887-012 or HOA1870-33 (prewired); OPTEK OPB830W11 (prewired)

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

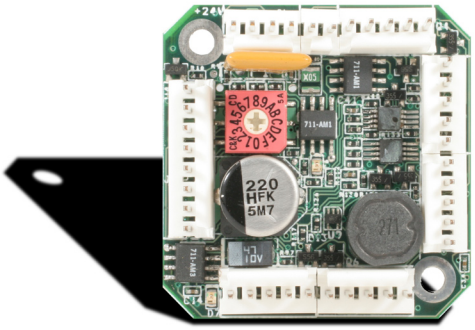
Relative Humidity..... 10% to 90% non condensing (operating and storage)

INPUT CONNECTOR
Mating connector: AMP MTA 100 Series 8 pin, 26 GA, part 3-643815-8
Digikey part A31030-ND

Pin	Function	Notes
1	Switch input #2, A/D input #2, Dir. In	Includes 10k Ω pullup to 3.3V.
2	Switch input #1, A/D input #1, Step In	Includes 10k Ω pullup to 3.3V.
3	Opto sensor #2 LED	Includes series 200 Ω resistor to 5V. Resistor can be removed for applications that require direct access to 5V.
4	Opto sensor #2, A/D input #4	Includes 10k Ω pullup to 3.3V.
5	Opto Sensor #2 ground	Common input ground
6	Opto Sensor #1 LED	Includes series 200 Ω resistor to 5V. Resistor can be removed for applications that require direct access to 5V.
7	Opto Sensor #1 input, A/D input #3	Includes 10k Ω pullup to 3.3V.
8	Opto sensor #1 ground	Common input ground

IO BLOCK CONNECTORS
Mating connector: AMP MTA 100 Series 5 pin, 22 GA, part 3-643813-5
Digikey part A31027-ND

Pin	Function	Notes
1	V+ 9V to 30V	Power output
2	Power ground	Power return
3	2A output	Open collector to ground. Requires external pullup. IO Blocs #1,3,4: RC PWM output. Pulse with nominal width of 1.5 mS for zero position. Width can be varied from 1 mS - 2 mS (negative and positive extremes, respectively). IO Block #2: 20kHz PWM output
4	NC	
5	Axis Home input	



Model EZCTRL17-RC actual size

Rapidly configurable, fully intelligent 3-axis RC servo control with two opto-electronic/mechanical switch inputs, up to 8 (configurable) analog-to-digital (A/D) converter inputs, and programmable slow PWM control

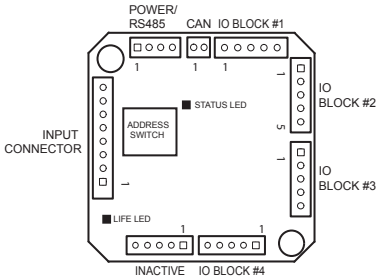
POWER AND RS485 CONNECTOR
Mating connector: AMP MTA 100 Series 4 pin, 22 GA, part 3-643813-4
Digikey part A31108-ND

Pin	Function
1	V+ (external supply) +9V to 30V
2	Ground
3	RS485 B
4	RS485 A

CAN CONNECTOR
Mating connector: AMP MTA 100 Series 2 pin, 22 GA, part 3-643813-2
Digikey part A31107-ND

Pin	Function	Notes
1	CAN High	Not active at this time
2	CAN Low	Not active at this time

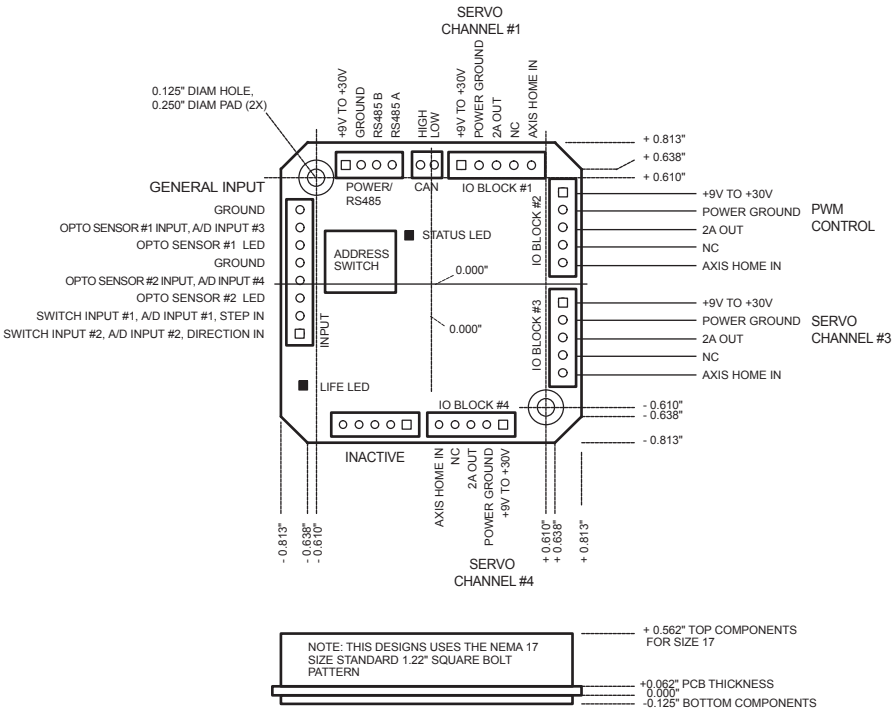
Connector Locations



Key Features

- 3-axis RC servo controller
- +9V to 30V operation
- Pre-wired for opto-switch inputs
- RS232, RS485, or USB-based communications
- Single 4-wire bus linking up to 16 controllers
- Switch-selectable device address
- Industry standard communications protocol
- Standalone operation with no connection to a PC
- Dual encoder readback (optional encoder feedback)
- Execution Halt pending switch closure
- Homing to opto or switch closure with one command
- Fully programmable ramps and speeds

Mechanical Specifications



Ordering Information

Name	Order Number
3-Axis RC servo controller	EZCTRL17-RC
RS232 to 485 Converter (option)	RS485
USB to 485 Converter (option)	USB485