

General Specifications

Supply Input	10V to 40V 2A <i>Examples:</i> Digikey part 285-1820 or 1470-1015
Dimensions	1.6" X 1.6" (40mm X 40mm) square
Step Resolution	1/2 to 1/256 step
Operating Modes	PC controlled or standalone
PC Control	Can control up to 16 drives daisy chained 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 size 23 (3") and smaller stepper motors, including bipolar or unipolar-wound motors. Best performance is with motor rated at about 1/4 of supply voltage.
	Two motors can be supported with additional daughter card.
Mating Connectors	AMP MTA 100 series. Recommended tool: Digikey part A9982, or better Digikey parts A2031 + A1998. (See Application Note 131021 for non-standard connector options.)
I/O Interface	Accepts 2 opto-electronic and two mechanical switch inputs, or 4 mechanical switch inputs. Also ADC and encoder inputs. 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 HO1A870-33 (prewired)
Encoder Interface	Primary and secondary quadrature encoder, max. freq. 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: AMP MTA 100 series 8 pin, 26 GA, part 3-643815-8
Digikey part A31030-ND

Pin	Name	Notes
1	A/D in #2, secondary encoder Chan B, or Direct input	Includes 10k Ω pullup to 3.3V.
2	A/D in #1, secondary encoder Chan A, or Step input	Includes 10k Ω pullup to 3.3V.
3	LED Drive #2	Includes series 200 Ω resistor to 5V.
4	A/D in #4, secondary encoder Index or Upper Limit Input	Includes 10k Ω pullup to 3.3V.
5	Ground	Common input ground
6	LED Drive #1	Includes series 200 Ω resistor to 5V.
7	A/D in #3 or Home/Lower Limit input	Includes 10k Ω pullup to 3.3V.
8	Ground	Common input ground

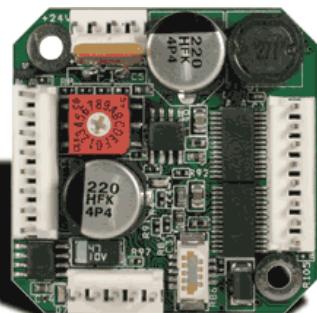
ENCODER CONNECTOR

Mating Connector: AMP MTA 100 series 5 pin, 26 GA, part 3-643815-5
Digikey part A31027-ND

Pin	Name	Notes
1	Ground	Ground for encoder
2	Index	Input from encoder
3	Chan A	Input from encoder
4	+5V (V+)	Power to encoder
5	Chan B	Input from encoder

For connector locations, see reverse side.

High resolution intelligent Stepper Motor Controller/Driver with Encoder Feedback



Model EZHR17EN actual size

MOTOR CONNECTOR

Mating Connector: AMP MTA 100 series 8 pin, 22 GA, part 3-643813-8
Digikey part A31111-ND

Pin	Function	Notes
1	ON/OFF driver #1 (V+)	2A peak; 1A continuous
2	ON/OFF driver #1 (V-)	Open collector
3,4	Stepper winding A	2A bipolar chopper
5,6	Stepper winding B	2A bipolar chopper
7	ON/OFF driver #2 (V+)	2A peak; 1A continuous
8	ON/OFF driver #2 (V-)	Open collector

POWER AND COMMUNICATION CONNECTOR

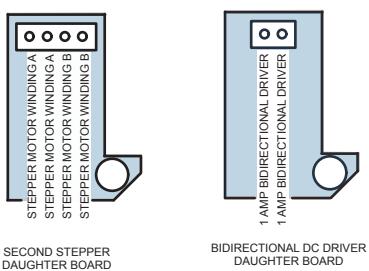
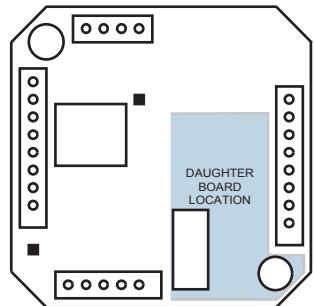
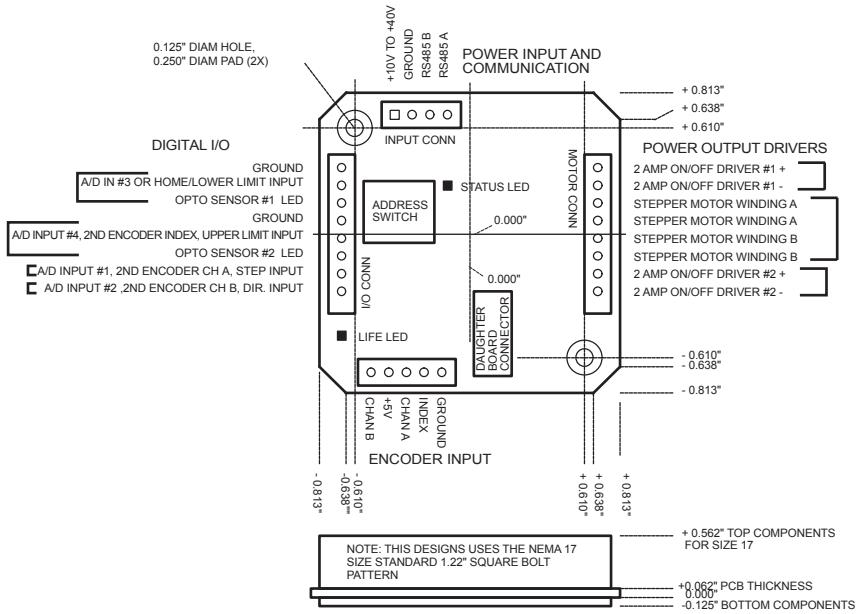
Mating connector: AMP MTA 100 series 4 pin, 22GA, part 3-643813-4
Digikey part A31108-ND

Pin	Function
1	V+ (external supply) +10V to 40V
2	GROUND
3	RS485 B
4	RS485 A

Key Features

- Single 4-wire bus linking up to 16 drives
- 2A chopper (PWM) stepper driver
- Operates from 10V to 40V
- RS232, RS485 or USB based control communications
- On-board EEPROM for user program storage
- Optional standalone operation with no connection to PC
- ADC inputs, branch halt on ADC value
- Optional second stepper or bidirectional DC driver daughter card
- Execution halt/branch pending switch closure
- Prewired for optoswitch inputs
- 1/2 to 1/256 step bipolar control
- Up to 16 million microsteps/second
- Cavro DT or OEM protocol compatible
- Homes to an optical or mechanical switch closure with a single command
- Hold current auto selected upon move completion
- Step & Direction mode, 4 MHz step frequency
- Secondary encoder mode
- Fully programmable ramps and speeds
- Four digital I/O; and two 1A power On/Off drivers for driving relay, dc motors, solenoids, etc. included
- Switch-selectable device address
- Software-settable "Move" and "Hold" currents

Mechanical Specifications



Ordering Information

Name	Order Number
EZHR17EN Stepper Drive.....	EZHR17EN
RS232 to 485 Converter (option).....	RS485
USB to 485 Converter (option).....	USB485
Enclosure for drive (option).....	EZENC17
Second stepper daughter board (option).....	EZDT17-ST
Bidirectional DC driver daughter board (option).....	EZDT17-BD