

Parts for Phys39. F2023

(1) Order this [H-bridge](#) for the TEC. Need one per TEC setup. I have 1, so order 8 more.

The screenshot shows the Amazon product page for the HiLetgo BTS7960 43A High Power Motor Driver Module. The product is priced at \$10.99 and is in stock. The page includes a wiring schematic diagram showing the module connected to an Arduino and a motor. The product description highlights features such as 5V isolation with MCU, voltage indication, and the ability to reverse the motor forward. The page also shows the delivery and pickup options, and the 'Add to Cart' and 'Buy Now' buttons.

(2) Order 25 100k thermistors

<https://www.digikey.com.mx/en/products/detail/epcos-tdk-electronics/B57861S0104F040V24/739890>

(3) Order 25 100k resistors for the voltage divider. You choose a supplier.

(4) Order 8 [power supplies](#) for the TEC. Order power cords with switches.

The screenshot shows the Amazon product page for the ALITOVE DC 12V 10A 120W Power Supply Adapter. The product is priced at \$17.99 and is in stock. The page includes a photograph of the power supply unit. The product description highlights features such as 10amp switching converter, LED driver for LED strip light, and CCTV camera security system. The page also shows the delivery and pickup options, and the 'Add to Cart' and 'Buy Now' buttons.

(5) Order 8 [TEC heatsink - coolers](#). This is designed to plug into a computer to power the pump and fans on these units. So we need some additional electronics to emulate the computer. The power supply for the TEC has two output terminals, so one can be used for this heatsink . What kind of connectors?

The screenshot shows the Amazon product page for the ID-COOLING DASHFLOW 240 Basic White CPU Water Cooler. The page includes a navigation bar with the Amazon Prime logo, delivery location (Newton Ce... 02459), and a search bar. Below the navigation bar, there are category links such as Industrial & Scientific, Janitorial & Facilities, Safety Supplies, Medical Supplies, Food Service, Diagnostic Equipment, Material Handling, and Educational Supplies. The product image shows a white CPU water cooler with two blue fans. The product title is "ID-COOLING DASHFLOW 240 Basic White CPU Water Cooler LGA1700 Compatible AIO Cooler 240mm AM5 CPU Liquid Cooler White LED 2x120mm PWM Fans, Intel 1700/1200/115X, AMD AM5/AM4". The price is \$64.99, with a 7% discount from the list price of \$69.99. The product has a 4.5-star rating and 103 ratings. The page also features a "Limited Time Offer" and a "Coupon" section.

amazon prime Deliver to Seth Newton Ce... 02459 Industrial & Scientific Search Amazon

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Industrial & Scientific Janitorial & Facilities Safety Supplies Medical Supplies Food Service Diagnostic Equipment Material Handling Educational Supplies

Back to results

Roll over image to zoom in

VIDEOS

ID-COOLING DASHFLOW 240 Basic White CPU Water Cooler LGA1700 Compatible AIO Cooler 240mm AM5 CPU Liquid Cooler White LED 2x120mm PWM Fans, Intel 1700/1200/115X, AMD AM5/AM4

Visit the ID-COOLING Store

4.5 ★★★★★ 103 ratings | 7 answered questions

Amazon's Choice in Water Cooling Systems by ID-COOLING

-7% \$64.99

List Price: \$69.99

prime Overnight

FREE Returns

Coupon: Apply \$5 coupon Shop items - | Terms

Save up to 3% with business pricing. Sign up for free Amazon Business account

Limited Time Offer - pay \$64.99 \$0.00 for this order. Get a \$200 Amazon Gift Card upon approval for the Amazon Business Prime Card. Offer ends 07/31/23. Terms apply. [Learn more.](#)

May be available at a lower price from other sellers, potentially without free Prime shipping.

Size: DASHFLOW 240 BASIC WHITE

DASHFLOW 240 BASIC BLACK **DASHFLOW 240 BASIC WHITE**

DASHFLOW 360 BASIC BLACK DASHFLOW 360 BASIC WHITE DASHFLOW XT

Style: DASHFLOW Basic

DASHFLOW Basic DASHFLOW XT

Brand ID-COOLING

Voltage 12 Volts

Wattage 240 watts

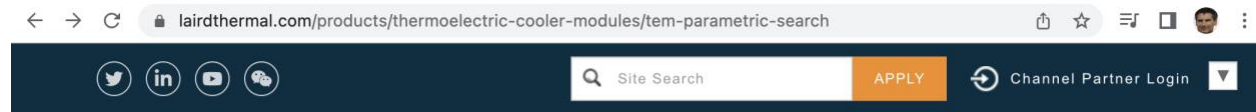
Cooling Method Water

Compatible Devices Desktop

Noise Level 30 dB

Maximum Rotational 2500 RPM

(6) Order 9 Laird TEC from DigiKey



Laird THERMAL SYSTEMS HOME | PRODUCTS | THERMAL WIZARD | APPLICATIONS | SERVICES | TECHNICAL LIBRARY | NEWS | ABOUT | CONTACT

Single
 Multistage

Type

Annular/Center Hole
 High Temperature
 Thermal Cycling
 High Performance

Annular Series
 CP Series
 HiTemp ETX Series
 Multistage MS Series
 OptoTEC™ OTX Series
 OptoTEC™ HTX Series
 PowerCycling PCX Series
 PolarTEC™ PT Series
 UltraTEC™ UTX Series

Length
36 mm — 46 mm

Width
37 mm — 47 mm

Height
2 mm — 5 mm

***Qc Max**
65 W — 95 W

***ΔT Max**
70 °C — 130 °C

Max Operating Temperature
80 °C — 151 °C

***I Max**
0 A — 10 A

***V Max**
0 V — 15 V

***AC Resistance**
0.0 Ohms — 10.0 Ohms

Standard Finish
 Lapped
 Gold Plating
 Pre-tinned
 Metallized

No Sealant
 Epoxy
 RTV

Reset

* Specifications are shown at a hot side temperature of 27°C, except for the ETX, HTX and PCX series which are shown at 50°C.

| Description | MFG Part # | Length | Width | Height | Qcmax ΔT=0 °C | ΔTmax Qc=0 W | Imax ΔT=0 °C | Vmax ΔT=0 °C | AC Res | Op Temp Max | |
|----------------------|------------|-----------------------|-----------------------|------------------------|------------------|-----------------|-----------------|-----------------|--------|-------------|-----------------------------|
| CP14-127-045-L1-W4.5 | 56910-502 | 1.575 in [40] mm | 1.575 in [40] mm | 0.131 in [3.3] mm | 71.3 W | 70.5 °C | 8.6 A | 13.87 V | 1.42 Ω | 80 °C | Check Stock |
| CP14-127-045-L2-W4.5 | 58910-501 | 1.575 in [40] mm | 1.575 in [40] mm | 0.131 in [3.3] mm | 71.3 W | 70.5 °C | 8.6 A | 13.87 V | 1.42 Ω | 80 °C | Check Stock |

Laird THERMAL SYSTEMS Ceramic Plate Series CP14-127-045-L1-W4.5 MFG Part Number: 56910-502

Ceramic Plate Series Thermoelectric Cooler
The CP14-127-045-L1-W4.5 is a high-performance and highly reliable standard Thermoelectric Cooler. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics, it has a maximum Qc of 71.3 Watts when ΔT = 0 and a maximum ΔT of 70.5 °C at Qc = 0.

Features

- Compact geometric sizes
- DC Operation
- RoHS-compliant

Applications

- Thermoelectric Coolers for Reagent Storage
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Cooling for Centrifuges
- Health-care Displays, Imaging Sensors
- Peltier Cooling for Machine Vision

CERAMIC MATERIAL: AL₂O₃
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [MM]

DigiKey All Products Enter keyword or part # Login or REGISTER 0 Item(s)

Products Manufacturers Resources UPS Labor Negotiations: Potential Shipping Delays

Product Index > Fans, Thermal Management > Thermal > Thermoelectric, Peltier Modules > Laird Thermal Systems, Inc. 56910-502

56910-502

Digi-Key Part Number: 926-1030-ND
Manufacturer: Laird Thermal Systems, Inc.
Manufacturer Product Number: 56910-502
Description: PELTIER MOD CP14,127,045,L1,W4.5
Manufacturer Standard Lead Time: 11 Weeks
Detailed Description: Peltier Module 72.0W @ 25°C 8.5 A 80°C
Customer Reference: Customer Reference
Datasheet: Datasheet

58 In Stock

Can ship immediately

QUANTITY

Quantity

[Add to Cart](#)

[Add to List](#)

All prices are in USD

| QTY | UNIT PRICE | EXT PRICE |
|-----|------------|------------|
| 1 | \$29.60000 | \$29.60 |
| 5 | \$27.74800 | \$138.74 |
| 10 | \$27.07500 | \$270.75 |
| 25 | \$26.06560 | \$651.64 |
| 50 | \$25.39300 | \$1,269.65 |
| 100 | \$24.72030 | \$2,472.03 |

Import Tariff may apply to this part if shipping to ...

Product Attributes


| TYPE | DESCRIPTION | SELECT |
|----------|--|----------------------------------|
| Category | Fans, Thermal Management Thermal Thermoelectric, Peltier Modules | <input type="radio"/> |
| Mfr | Laird Thermal Systems, Inc. | <input checked="" type="radio"/> |
| Series | CP | <input type="radio"/> |

(7) Order 9 Arduino UNO. You pick source.

(8) Two solder stations.

(9) 4 sets of [jeweler's screwdrivers](#)

Tools & Home Improvement › Power & Hand Tools › Hand Tools › Screwdrivers & Nut Drivers › Screwdriver Sets Sponsored



66-039
STANLEY
3.0mm
2.0mm
1.4mm

Roll over image to zoom in

Stanley Hand Tools 66-039 6 Piece Jeweler's Screwdriver Set
Visit the Stanley Store
4.3 ★★★★★ 3,063 ratings

-35% \$10⁹⁴
List Price: \$16.99
prime One-Day
FREE Returns

Pay \$10.94 \$0.00 for this order. Get a \$150 Amazon Gift Card upon approval for the Amazon Business Prime Card. Terms apply. [Learn more.](#)

Brand Stanley
Number of Items 1
Head Style Swivel
Material Alloy Steel
Item Dimensions LxWxH 18 x 3.2 x 0.9 inches

About this item
• Bright-plated shafts fluted for grip

Delivery Pickup

\$10⁹⁴
prime One-Day
FREE Returns

FREE delivery **Tomorrow, August 11.** Order within 7 hrs 39 mins

Deliver to Seth - Newton Center 02459


In Stock
Qty: 1

Add to Cart
Buy Now


Payment: Secure transaction
Ships from: Amazon
Sold by: Japan Import store
Returns: Eligible for Return, Refund or Replacement within 30 days of receipt

Add a gift receipt for easy returns

(10) 3 sets [breadboard](#)

ELEGOO Ideal learning kit for arduino project \$65⁹⁹ prime 

◀ Back to results Sponsored



ELEGOO 3pcs Breadboard 830 Point Solderless Prototype PCB Board Kit for Arduino Proto Shield Distribution Connecting Blocks
Visit the ELEGOO Store
4.3 ★★★★★ 2,190 ratings
16 answered questions

-23% \$9⁹⁹
List Price: \$12.99
prime One-Day
FREE Returns

Extra Savings Save 3... 2 Applicable Promotion(s)

Eligible for Return. Refund or Replacement within

\$9⁹⁹
prime One-Day
FREE Returns

FREE delivery **Tomorrow, August 11.** Order within 10 hrs 21 mins

Deliver to Seth - Newton Center 02459

In Stock
Qty: 1

Add to Cart
Buy Now

Payment: Secure transaction
Ships from: Amazon
Sold by: ELEGOO Official US

(11) 3 sets of [jumper wires](#)

Electronics > Computers & Accessories > Computer Components > Single Board Computers

Sponsored



Roll over image to zoom in

20cm 240pcs Breadboard Jumper Dupont Wires Cable Kit Male to Female, Male to Male, Female to Female Compatible with Arduino Projects and Raspberry Pi

Brand: Aypzuke

4.6 ★★★★★ 65 ratings

\$9.99

FREE Returns

Save up to 7% with business pricing. Sign up for free Amazon Business account

Size: 20cm

| | | |
|--------------------------|-----------------------------|----------------|
| 10cm \$9.99 ✓prime | 10+20cm \$9.99 ✓prime | 20cm \$9.99 |
|--------------------------|-----------------------------|----------------|

- Package included: 2X 40pin male to female breadboard jumper wires, 2X 40pin male to male breadboard jumper wires, 2x40pin female to female breadboard jumper wires

\$9.99

FREE Returns

FREE Prime delivery **August 13 - 16**

Deliver to Seth - Newton Center 02459

In Stock

Qty: 1

Add to Cart

Buy Now

Payment Secure transaction

Ships from Amazon

Sold by Shiku US

Returns Eligible for Return, Refund or Replacement within 30 days of receipt

Add a gift receipt for easy returns

(12) 2 sets of electrical [terminal strip \(6 positions\)](#)

MILAPEAK

High Quality

\$25.49 ✓prime



Back to results

Sponsored



Roll over image to zoom in



MILAPEAK 10pcs (5 Sets) 6 Positions Dual Row 600V 25A Screw Terminal Strip Blocks with Cover + 400V 25A 6 Positions Pre-Insulated Terminals Barrier Strip (Black & Red)

Visit the MILAPEAK Store

4.7 ★★★★★ 4,586 ratings

Amazon's Choice for "terminal block"

\$13.89

✓prime One-Day

FREE Returns

Save up to 12% with business pricing. Sign up for free Amazon Business account

Extra Savings Save 5% on 6 Set... 8 Applicable Promotion(s)

Size: 25A 6P+5pcs Jumpers

Delivery

Pickup

\$13.89

✓prime One-Day

FREE Returns

FREE delivery **Tomorrow, August 11.** Order within 11 hrs 30 mins

Deliver to Seth - Newton Center 02459

In Stock

Qty: 1

Add to Cart

Buy Now

Payment Secure transaction

(13) 100 of [Fork Spade](#)

Industrial & Scientific > Industrial Electrical > Wiring & Connecting > Terminals > Butt

Sponsored



100pcs Insulated Fork Spade Wire Connectors, U Type Electrical Crimp Terminals for 22-16AWG Cable by MILAPEAK (Red)

Visit the MILAPEAK Store

4.7 ★★★★★ 347 ratings

Amazon's Choice in Butt Terminals by MILAPEAK

\$7⁸⁹ (\$0.08 / Count)

prime One-Day

FREE Returns

Pay \$7.89 **\$0.00** for this order. Get a **\$150 Amazon Gift Card** upon approval for the Amazon Business Prime Card. Terms apply. [Learn more.](#)

Extra Savings Save 5% on 10 Pa... 8 Applicable Promotion(s)

Size: **100pcs 22-18 AWG Fork**

100pcs 12-10 AWG Fork
\$11.49

100pcs 16-14 AWG Fork
\$8.89

Roll over image to zoom in



Delivery

Pickup

\$7⁸⁹ (\$0.08 / Count)

prime One-Day

FREE Returns

FREE delivery **Tomorrow, August 11**

Or FREE delivery **Overnight 7 AM - 11 AM** on qualifying orders over \$25. Order within **11 hrs 43 mins**

Deliver to Seth - Newton Center 02459

In Stock

Qty: 1

Add to Cart

Buy Now

(14) 100 ft [18 gauge wire pairs](#) (rated for 10 amps)

Back to results

Sponsored



100FT 18 AWG Gauge Electrical Wire, DC 12V Hookup Red Black Copper Stranded Auto 2 Cord, Flexible Extension Cable with Spool for LED Ribbon Lamp Light or Low Voltage Products by MILAPEAK

Visit the MILAPEAK Store

4.6 ★★★★★ 3,133 ratings

Amazon's Choice in Electrical Wire by MILAPEAK

\$25⁴⁹ (\$0.25 / Foot)

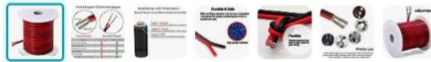
prime Overnight

FREE Returns

Save up to 6% with business pricing. Sign up for free Amazon Business account

Extra Savings Save 5% on 10 Pairs ... 7 Applicable Promotion(s)

Roll over image to zoom in



\$25⁴⁹ (\$0.25 / Foot)

prime Overnight

FREE Returns

FREE delivery **Overnight 7 AM - 11 AM**. Order within **11 hrs 32 mins**

Deliver to Seth - Newton Center 02459

In Stock

Qty: 1

Add to Cart

Buy Now

Payment Secure transaction

Ships from Amazon

Sold by MILAPEAK

(15) 10 of Thermo [cutoff switch](#)

DigiKey

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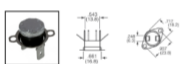


Image shown is a representation only. Exact specifications should be obtained from the product data sheet.



CS706525Z

| | |
|--|---|
| Digi-Key Part Number | 317-1520-ND |
| Manufacturer | Cantherm |
| Manufacturer Product Number | CS706525Z |
| Description | THERMOSTAT 65DEG C SPST-NC CYL |
| Manufacturer Standard Lead Time | 8 Weeks |
| Customer Reference | <input type="text" value="Customer Reference"/> |
| Datasheet | Datasheet |

3,358 In Stock

Can ship immediately

QUANTITY

All prices are in USD

Bulk

| QTY | UNIT PRICE | EXT PRICE |
|-----|------------|-----------|
| 1 | \$6.48000 | \$6.48 |
| 10 | \$4.86300 | \$48.63 |

Product Attributes

(16) 25 Crimp [quick connects](#) for thermo cutoff switch

[Product Index](#) > [Connectors, Interconnects](#) > [Terminals](#) > [Quick Connects, Quick Disconnect Connectors](#)

[Share](#)

TE Connectivity AMP Connectors 2-520184-4




Image shown is a representation only. Exact specifications should be obtained from the product data sheet.

2-520184-4

| | |
|--|--|
| Digi-Key Part Number | A27819-ND |
| Manufacturer | TE Connectivity AMP Connectors |
| Manufacturer Product Number | 2-520184-4 |
| Description | CONN QC RCPT 18-22AWG 0.250 |
| Manufacturer Standard Lead Time | 8 Weeks |
| Detailed Description | 0.250" (6.35mm) Quick Connect Female 18-22 AWG Crimp Connector Fully Insulated |
| Customer Reference | <input type="text" value="Customer Reference"/> |
| Datasheet | Datasheet |

64,317 In Stock

Can ship immediately

QUANTITY

All prices are in USD

Bulk

| QTY | UNIT PRICE | EXT PRICE |
|-----|------------|-----------|
| 1 | \$0.47000 | \$0.47 |
| 10 | \$0.43700 | \$4.37 |
| 25 | \$0.43560 | \$10.89 |

Product Attributes

| TYPE | DESCRIPTION | SELECT |
|------|-------------|--------------------------|
| | | <input type="checkbox"/> |