

A large, abstract white line geometric pattern is positioned at the top left of the slide, consisting of various intersecting and overlapping lines that form a complex, organic shape.

# WALK-IN REFRIGERATOR & GREENHOUSE AUTOMATION

COUNTRY LIVING EXPO

Build your own Walk in Refrigerator / Automate your Green House

# AGENDA

- ▶ Introductions
- ▶ Building your own Walk-In Cooler
- ▶ Automating your greenhouse.

# MEET YOUR PRESENTERS



BRIAN ROMANO

Chiller Mechanic

Product Technical  
Support

Johnson Controls



CHARLES IHLER

BAS Expert

Field Support @ JCI  
and founder of  
SNOCO Makerspace



BUILD YOUR OWN  
WALK-IN FREEZER

# COOLER FRAMING

- **Wood framed** (preferred)
  - The R-value for wood ranges between **1.41 per inch** for most softwoods
- **Metal framed** (I would stay away from metal framed)
  - Can cause thermal bridging

**Steel framing conducts a great deal of heat.** According to ASHRAE, a layer of R-19 batt insulation is reduced by a staggering 63 percent to an effective R-7.1 when 2x6 metal studs are spaced at 16 inches-on-center.

**Wood framing also induces thermal bridging, but it is not as bad as metal studs.** Although less conductive than steel, wood will still diminish the effective r-value of batt insulation somewhere between 14 - 18 percent.

# Standard fiberglass insulation

## ***DO NOT USE FIBERGLASS BATT INSULATION!***

- Regardless of whether or not you have a vapor barrier, moisture seeps into the fiberglass insulation.
- This moisture creates mold and decreases your insulation value.
- The decreased insulation value results in higher electricity bills; your a/c now has to work constantly to cool the cooler, since the cold air is leaking out through the now uninsulated walls.
- **PLEASE DO NOT USE THIS!**

# Rigid Foam

- Industry Standard for insulation is R25
  - R values can vary based on the different kinds of foam as well as the age of the foam.
  - Vapor barriers are not required with the use of rigid foam.
- 
- **3 TYPES OF RIGID FOAM INSULATION:**

## POLYISOCYANURATE - BEST CHOICE FOR WALLS AND CEILING:

- Grey or yellow
- R-Max is the most recommended insulation, it has the highest R value
- After 5-10 years: R value of 5.5 per inch (where it stays)
- 4 inch exceeds the recommended R25
- Comes in 4' x 8' sheets
- Available at lowe's and home depot

*\*\*Use at least 4 inches. If it has foil backing, be sure to face that towards the outside. This product can be irritating to skin, so be sure to wear long sleeves.\*\**

# Polyisocyanurate, at 2 in think we are at R13.1

RMAX  
Pro Select R-Matte Plus-3, 2 in. x 4 ft. x 8 ft. R-13.1 Foam Insulation Board  
  
  


\$53<sup>73</sup>  
Pay \$28.73 after \$25 OFF you opening a new card.  
Apply for a Home Depot Cons

- Interested in purchasing a pallet? B
- Thinnest profile & higher R-Value th
- Air & water-resistive barrier
- View More Details

Tulalip Store  
✓ 22 in stock Aisle BW, Bay 003

Sheathing Size: 8 ft. x 2 in. x 48 in.  
8 ft. x 2 in. x 48 in.

THICKNESS	R-VALUE
1/2 inch	R-3.2
3/4 inch	R-5.0
1 inch	R-6.0
1 1/2 inch	R-9.6
2 inch	R-13.1



## EXTRUDED POLYSTYRENE (XPS) – BEST CHOICE FOR THE FLOOR:

- Pink or blue
- After 5-10 years: R value of ~6 per inch (where it stays)
- Would require 5" to meet R25
- Comes in 4' x 8' sheets
- Available at lowe's and home depot

*\*\*Use at least 4 inches in the walls, floor and ceiling, and you'll be fine.\*\**

# Extruded Polystyrene at 2 in thick is R10

**Best Seller**

Owens Corning

FOAMULAR NGX F-250 2 in. x 4 ft. x 8 ft. SSE R-10 XPS Rigid Foam Board Insulation

★★★★★ (28) [Questions & Answers \(90\)](#)



**\$49.97**

Pay \$24.97 after \$25 OFF your total qualifying purchase upon opening a new card. [Apply for a Home Depot Consumer Card](#)

- Saves energy and resists moisture with limited lifetime warranty
- Blocks mildew, corrosion and rot; easy to cut and install
- Strong, lightweight pink foam panels don't require special tools
- [View More Details](#)

**Tulalip Store**

✓ 64 in stock Aisle BW, Bay 005 [Text to Me](#)

Sheathing Size: **8 ft. x 2 in. x 48 in.**

[2 ft. x 1 in. x 24 in.](#) [8 ft. x 1 in. x 48 in.](#) **8 ft. x 2 in. x 48 in.**

[8 ft. x 0.5 in. x 48 in.](#) [8 ft. x 1.5 in. x 48 in.](#)

## Expanded Polystyrene (EPS):

- White beaded
- R Value of ~4 per inch
- Would require 6 inch thickness to meet the recommended R25
- Comes in 4' x 8' sheets
- Available at Lowe's and Home Depot

*\*\*EPS has the lowest R Value, so be sure to use 5-6 inches.\*\**

# Expanded at 2 in thick R value 7.7

Top Rated

R-Tech  
2 in. x 48 in. x 8 ft. R-7.7 EPS Rigid Foam Board Insulation

★★★★★ (204) Questions & Answers (321)



1.5k

**\$35<sup>95</sup>**

Get up to 30% off in Rebates for 98271

Pay \$10.95 after \$25 OFF your total qualifying purchase upon opening a new card. Learn More

Apply for a Home Depot Consumer Card

- Interested in purchasing a pallet? Buy 24
- Lightweight, easy to use
- Multiple thicknesses
- [View More Details](#)

**Tulalip Store**

✓ 2 in stock Aisle BW, Bay 002 Text to Me

Sheathing Size: **8 ft. x 2 in. x 48 in.**

4 ft. x 2 in. x 24 in. 8 ft. x 2 in. x 24 in. **8 ft. x 2 in. x 48 in.**

# Spray Foam Insulation

- Spray foam insulation quickly turns an existing room, shed, or trailer into a walk-in cooler
- This is a great alternative that has the added benefit of sealing all cracks as it is being applied
- Spray foam should be applied to the appropriate thickness to achieve R-25 - typically 4".

# Rockwool Or Roxul

- High-end house insulation
- 4" thick R16

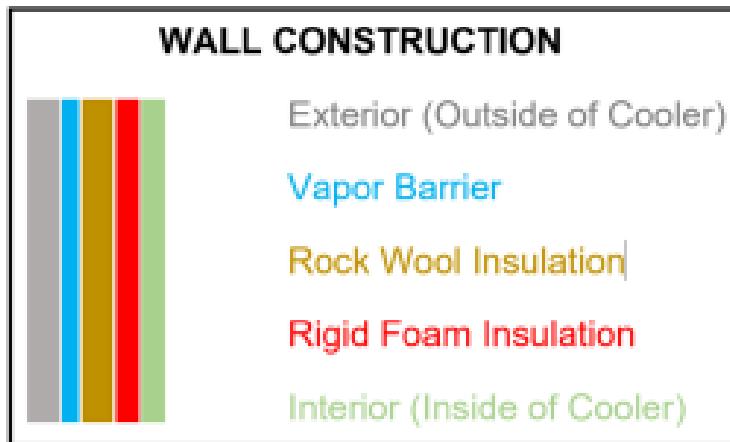
Roxul is not affected by moisture or cold



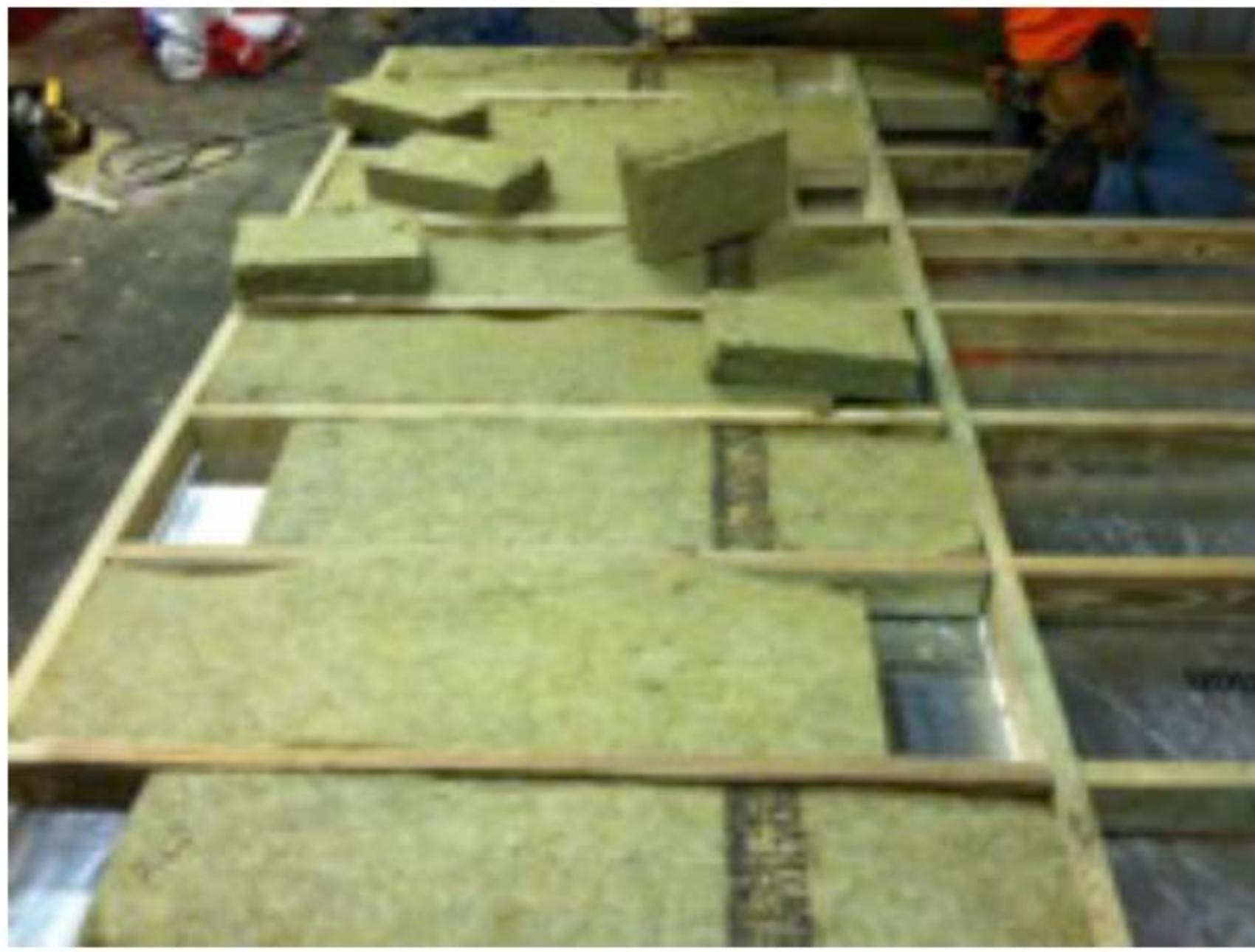
## **IMPORTANT TIP!**

Depending on your climate, a vapor barrier may be necessary.

The vapor barrier should **ALWAYS** go on the outside (warm side) of your cooler.



<https://storeitcold.com/wp-content/uploads/2020/03/Insulation-2022.pdf>















## **FRP (Fiberglass Reinforced Plastic) to finish the walls and ceiling**

- This material gives a great appearance
- Is accessible at most hardware stores
- Easy to install and easy to clean
- Very common in the restaurant industry.







# Door

- Exterior rated
- Good door seals
- Highest R rating you can find

# Other things to consider

- Framing
  - Air conditioner
  - Door
  - Over head lifting or hanging
  - Shelving
- Electrical
  - Outlet for the A/C
  - Outlet for heat
  - Lighting
  - Light switch
- Where will the A/C be located so it can exhaust heat from the condenser
  - Is there enough air flow
  - Can condensation drip

# REFRIGERATION

- Window unit
- Mini split
- [HTTPS://WWW.STOREITCOLD.COM/BUILD-IT/AC-CALULATOR/](https://www.storeitcold.com/build-it/ac-calculator/)

## Common Storage Temperatures

Intended Use	Temperature
Agriculture – Produce	38 °F
Brewing – Fermenting	50 – 59 °F
Brewing – Lagering	34 °F
Cheese	50 – 59 °F
Floral	42 – 49 °F
Meat – Curing	50 – 59 °F
Meat – Processing	38 °F
Restaurant	36 °F
Wine	50 – 59 °F

## Step 1

### Walk-in cooler dimensions

Length

Width

Height

Feet

Meters

## Step 2

### Walk-in cooler temperature

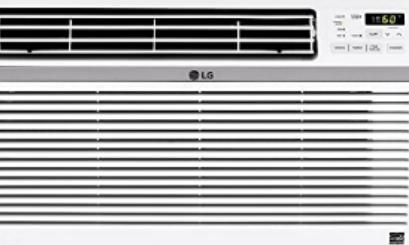
Desired Temperature (Use arrows)

° F  
 ° C

**Get Results ➔**

Recommended: 12K BTU



Add To Cart

Need Upsizing? 15K BTU



Add To Cart

## Step 1

### Walk-in cooler dimensions

Length

Width

Height

Feet

Meters

## Step 2

### Walk-in cooler temperature

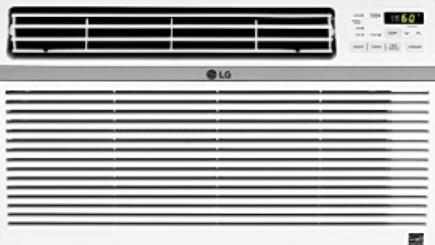
Desired Temperature (Use arrows)

° F  
 ° C

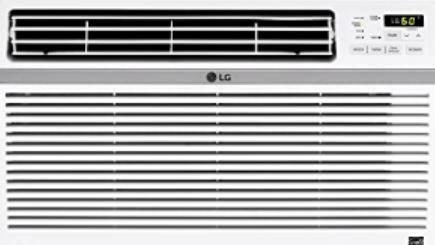
**Get Results ➔**

Recommended: 15K BTU



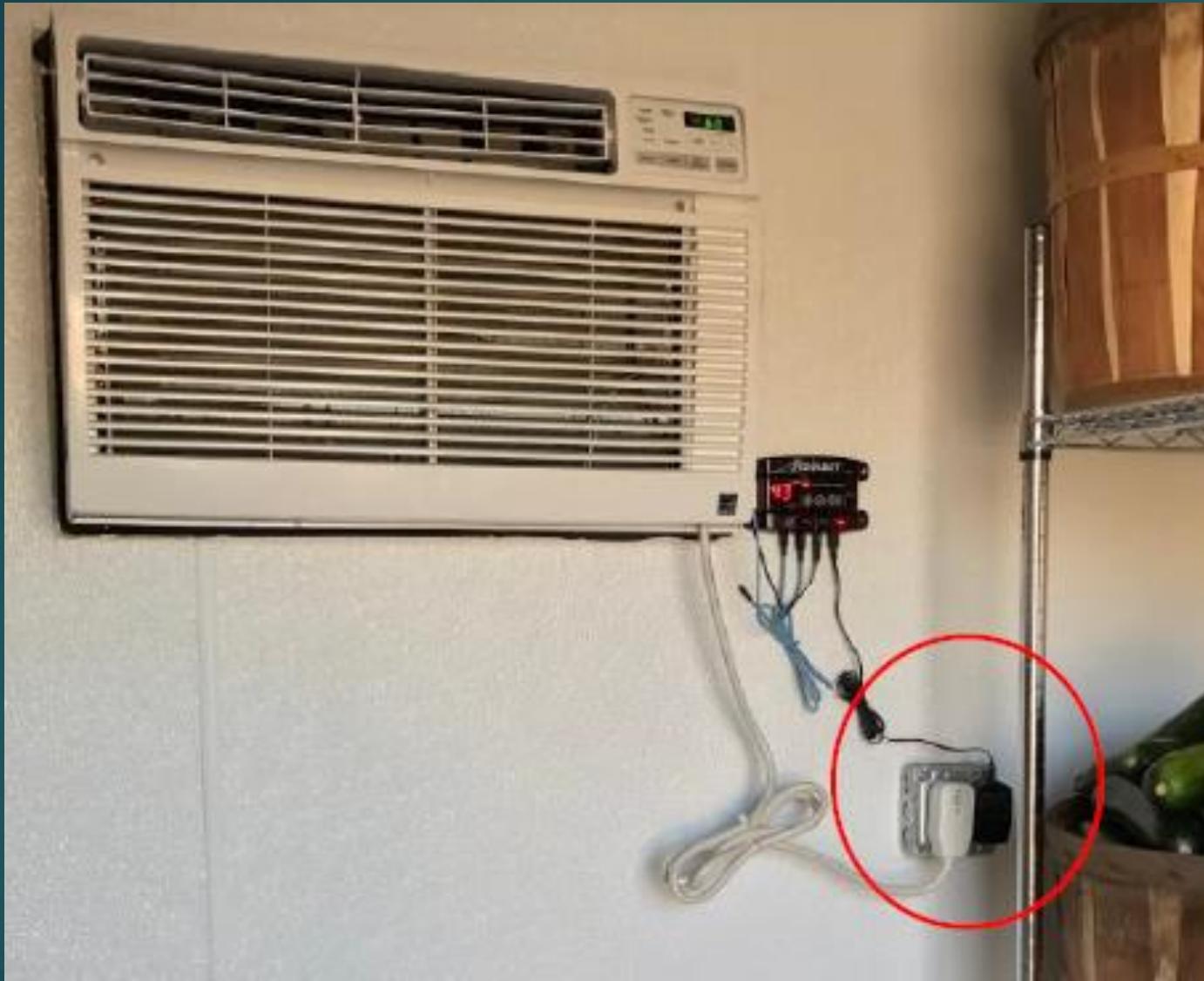
Add To Cart

Need Upsizing? 18K BTU



Add To Cart



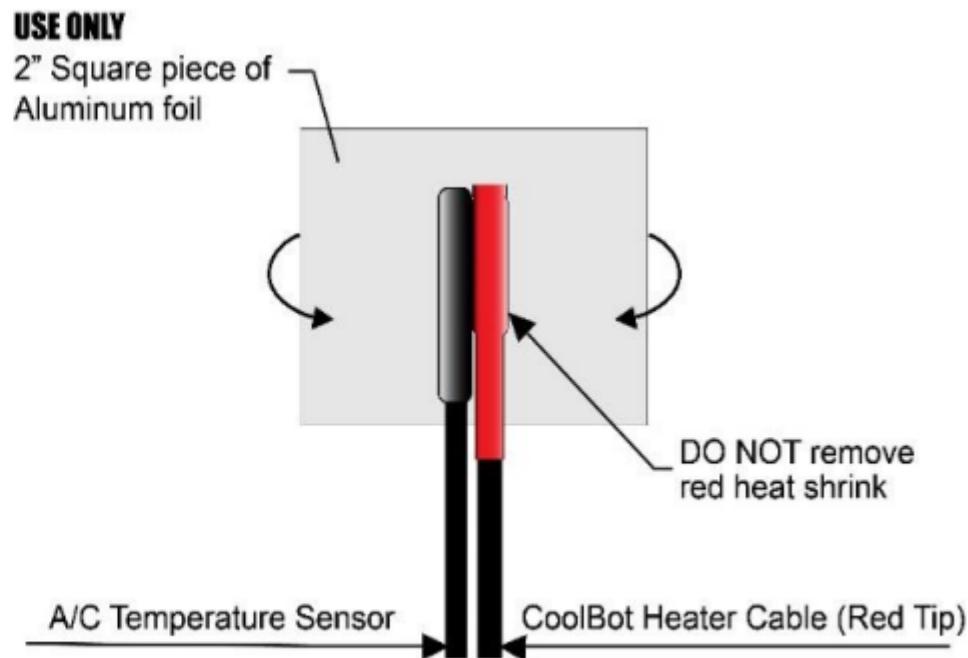


Using ONLY a 2" square piece of regular Aluminum foil, place the CoolBot Heater Cable (**red tip**) next to the A/C's Temperature Sensor (from STEP 4).

Keep together next to each other, pointing in the same direction, and wrap them tightly with the foil into a bundle.

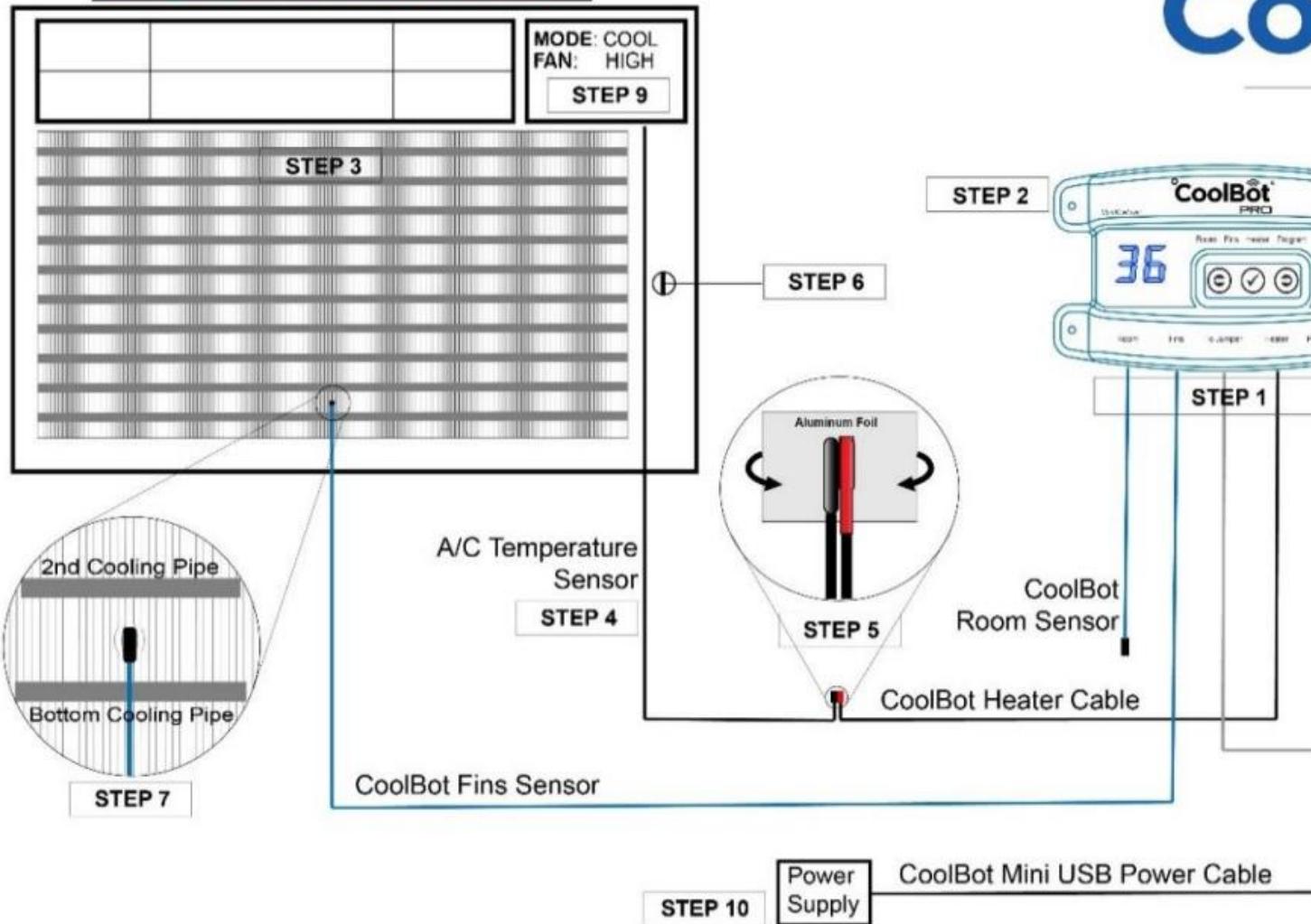
**Make sure the bundle does NOT hang in front of the A/C fins or hangs directly in front of the air flow of the air conditioner – It should hang free, to the side or below the A/C not touching anything cold or metal.**

You can put a wire tie or zip tie around the 2 cables (1 inch before the foil bundle) to keep the cables from getting pulled apart.



# °CoolBot<sup>®</sup> PRO

USE ONLY A DIGITAL DISPLAY A/C



# WINTER OPERATION

What do I do in the winter as my ambient temperature drops below freezing?  
Could I use a heat pump?

Heat pumps can struggle below 32\*, some are rated as low as 0\* but those get pricey.

One solution that we've found is to buy a little heater (buy the blower type, not radiant type) like the Lasko Ceramic Heater or the Pelonis ceramic heater.



Lasko Ceramic Adjustable Thermostat Space Heaters, Non-Oscillating, 754200 Silver

Visit the Lasko Store ★★★★★ 37,749 ratings

**\$31.45** -37% \$49.99

List Price: \$49.99

Thank you for being a Prime member. Get a \$100 Amazon Gift Card upon approval for the Amazon Prime Rewards Visa Card.

Not eligible for Amazon Prime. Available with free Prime shipping from other sellers on Amazon.

Size: Non-Oscillating

Non-Oscillating	Oscillating
\$31.45	\$36.99

6 VIDEOS

**\$31.45**  
FREE delivery January 27 - 30.  
Details  
Deliver to Carol - Stanwood 98292  
Only 4 left in stock - order soon.  
Qty: 1 ▾  
**Add to Cart**  
**Buy Now**  
Secure transaction  
Ships from dollarmax  
Sold by dollarmax  
Return policy: Eligible for Return, Refund or Replacement within 30 days of receipt ▾

# WINTER OPERATION

Plug the heater into the pass-through thermostat like the [Inkbird ITC-308 Plug and Play Temperature Controller](#), which is digital. The Inkbird is easy to use and to adjust.



Inkbird ITC-308 Digital Temperature Controller Outlet Thermostat 2-Stage 1100W with Sensor Reptile Beer Brewing Kegs Fridge Cured Meat Breeding Growing

[Visit the Inkbird Store](#)

 4.5 stars 2,984 ratings | 422 answered questions

\$35.00

 prime

 FREE Returns

May be available at a lower price from [other sellers](#), potentially without free Prime shipping.

Size:

0.5 LB

Brand Inkbird

Item Dimensions 5.51 x 1.3 x 2.68 inches  
LxWxH

Color Black178

Power Source Battery Powered

Item Weight 0.35 Kilograms

#### About this item

- [Convenient Design] Plug and play design, easy to use.
- [Dual Relay Output] Be able to connect with refrigeration and heating equipment at the same time.
- [Dual Display Window] Be able to display measured temperature and set temperature at the same time.
- [Dual Reading Mode] Support reading with Centigrade or Fahrenheit unit.
- [Parameter] Maximum output load: 1100W(110V).

\$35.00

 prime

 FREE Returns

FREE delivery Wednesday, January 11. Order within 10 hrs 59 mins

 Deliver to Carol - Stanwood 98292

In Stock.

Qty: 1

 Secure transaction

Ships from Amazon  
Sold by Inkbird

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

Support: Free Amazon product support included

Add a Protection Plan:  
 3-Year Protection for \$4.99  
 4-Year Protection for \$6.99  
 Add a gift receipt for easy returns

Add to List

# WINTER OPERATION

A second option is the DuroStat Portable Waterproof Prewired Thermostat from FarmTek.com (Item #CR2045).

This one is not digital like the Inkbird.

Make sure you choose a thermostat that can be set below 40°F!



Click image to open expanded view



## FarmTek DuroStat NEMA 4 Thermostat

Brand: FarmTek

★★★★★ 29 ratings

\$68<sup>90</sup>

Get a \$100 Gift Card: Pay ~~\$0.00~~ \$68.90 upon approval for the Amazon Prime Rewards Visa Card. No annual fee.

Size:

1 set

### Purchase options and add-ons

#### Payment plans

\$12.51/mo (6 mo) at example APR of 30% (rates from 10-30% APR)

Brand

FarmTek

Color

Gray, White

Power Source

Corded Electric

Item Weight

0.92 Pounds

Voltage

240 Volts, 120 Volts, 24 Volts

#### About this item

- Wiring Hole: 1/2"
- Amps At 240v: 8A
- Amps At 120v: 16A
- Phase: Single Only

\$68<sup>90</sup>

FREE delivery January 13 - 19.  
Details

ⓘ Deliver to Carol - Stanwood  
98292

In Stock.

Qty: 1 ▾

Add to Cart

Buy Now

🔒 Secure transaction

Ships from Growers Supply  
Sold by Growers Supply

Return policy: Eligible for  
Return, Refund or Replacement  
within 30 days of receipt ▾

Add to List ▾

Have one to sell?

Sell on Amazon

Save 5%

VIVOSUN

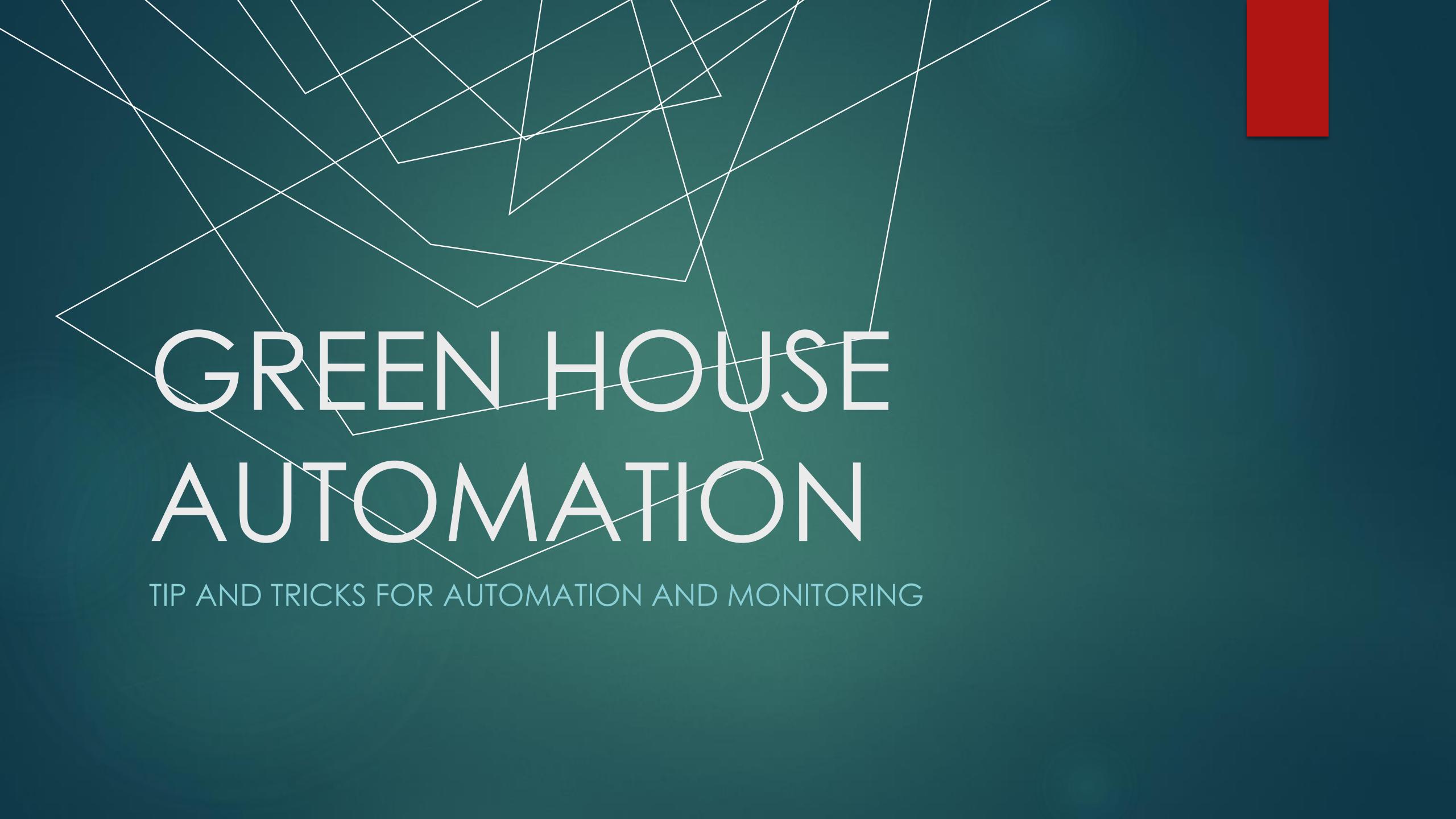
# WINTER OPERATION

Whichever thermostat you choose,

It is recommended to set the °CoolBot at least 4°F warmer than the heater so they don't overlap and fight with each other.



**LET'S PULL APART A  
WINDOW UNIT**



A large, abstract white line geometric pattern is positioned in the upper left quadrant of the slide. It consists of various intersecting and overlapping lines forming a complex web of shapes, resembling a network or a stylized architectural drawing.

# GREEN HOUSE AUTOMATION

TIP AND TRICKS FOR AUTOMATION AND MONITORING



# The Basics:

- ▶ For temperature control of an area, you need an input, a device that makes a discussion and an output.
- ▶ Focus:
  - ▶ All over the place.. A variety of options based on budget and technical ability
  - ▶ Temperature Control
    - ▶ Heating and Cooling (not humidity)
    - ▶ Ready-made Products
    - ▶ DIY
  - ▶ Monitoring Devices
- ▶ Not included: Industrial Options
- ▶ Follow on support for questions @ SnoCo Makerspace

# COOLING

## INPUT AND CONTROL

READY MADE  
~DIY

## OUTDOOR AIR PURGE

- VENTED/POWERED
- ACTUATOR ON HINGED WINDOW

FROM LOW POWER TO HIGH POWER

# Ready Made Controllers



Roll over image to zoom in



## Inkbird ITC-308 Digital Temperature Controller Outlet Thermostat 2-Stage 1100W with Sensor Reptile Beer Brewing Kegs Fridge Cured Meat Breeding Growing

Visit the [Inkbird Store](#)

★★★★★ 2,993 ratings  
| 422 answered questions

\$35<sup>00</sup>

✓prime

FREE Returns

Size: 0.5 LB

Brand Inkbird

Item 5.51 x 1.3 x 2.68 inches

Dimensions

LxWxH

Color Black178

Power Source Battery Powered

Item Weight 0.35 Kilograms

### About this item

- [Convenient Design] Plug and play design, easy to use.
- [Dual Relay Output] Be able to connect with refrigeration and heating equipment at the same time.

Delivery

Pickup

\$35<sup>00</sup>

✓prime

FREE Returns

FREE delivery Friday, January 20. Order within 4 hrs 36 mins

Deliver to Charles - Everett 98201

In Stock.

Qty: 1 ▾

Add to Cart

Buy Now

Secure transaction

Ships from Amazon

Sold by Inkbird

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

Support: Free Amazon product support included

### Add a Protection Plan:

3-Year Protection for \$4.99

4-Year Protection for \$6.99

# OUTDOOR AIR PURGE



HINGE AND LINEAR ACTUATOR  
COULD BE PART OF A SOLAR OPTION

Cientific > Power Transmission Products > Linear Motion Products > Linear Motion Actuators

**ECO-WORTHY Heavy Duty 330lbs Solar Tracker Linear Actuator Multi-function (12V, 8")**

Visit the ECO-WORTHY Store 610 ratings | 136 answered questions

\$42.99

FREE delivery Friday, January 20. Order within 4 hrs 54 mins

Deliver to Charles - Everett 98201

In Stock.

Qty: 1

Ships from Amazon  
Sold by ECO LLC

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

Support: Free Amazon product support included

Ask a nift reoint for eacu

**Roll over image to zoom in**

**Size: 8" (200mm)**

8" (200mm)	2" (50mm)	4" (100mm)	6" (150mm)	10" (250mm)
12" (300mm)	16" (400mm)	18" (450mm)		

**• Heavy Duty -** The alloy-steel shaft accompanied by metal gears allows it to push and pull up to 330 lbs. It will be great to use the actuator with our controller, which helps to control your actuator to Forward & Reverse.

NO-POWER SOLUTIONS START AT \$30.

# Actuators: Rotational Spring Return

[Back to results](#)

A photograph of a Belimo LMB24-3-T actuator, which is orange and black with a clamp mounting bracket.

**Spring Return Damper Actuator, 24VAC/DC**

Brand: CAI - BELIMO

\$240<sup>00</sup>

✓prime  
FREE Returns

Connector Type: Clamp  
Brand: CAI - BELIMO  
Voltage: 24 Volts  
Item Dimensions LxWxH: 12 x 6.1 x 4.2 inches

Report incorrect product information.

A photograph of a NavePoint wall rack unit.

NavePoint 15U Load Wall Mount \$438<sup>27</sup> prime

Sponsored

Roll over image to zoom in

**Buy it with**

[Share](#) · [Add to Watchlist](#)

**Belimo LMB24-3-T actuator for HVAC damper control**

A photograph of the Belimo LMB24-3-T actuator.

svlekskov (6) 100% positive Seller's other items Contact seller

US \$27.75/ea or Best Offer

Condition: Used  
Quantity: 1 More than 10 available / 2 sold  
Bulk savings:

Buy 1 \$27.75/ea	Buy 2 \$26.36/ea	Buy 3 \$24.98/ea	4 or more for \$23.59/ea
------------------	------------------	------------------	--------------------------

**Buy It Now** **Add to cart** **Make offer** **Add to watchlist**

Shipping: US \$14.00 Expedited Shipping See details



GRAINGER / JOHNSTONE SUPPLY / EBAY

24VDC NOT SUITABLE FOR BATTERY  
POWERED SOLUTIONS

# OUTDOOR AIR PURGE

POWERED EXHAUST

MORE AIRFLOW, MORE ENERGY AND 110V

◀ to results



Roll over image to zoom in



VIDEO

VIVOSUN 6 Inch Inline Duct Fan 240 CFM, HVAC Exhaust Ventilation Fan with Low Noise for Basements, Bathrooms, Kitchens and Attics, Silver

Visit the VIVOSUN Store  
★★★★★ 13,339 ratings

\$31<sup>99</sup>

✓prime Overnight

FREE Returns

With Amazon Business, you would have saved \$187.56 in the last year. Create a free account and save up to 11% today. May be available at a lower price from other sellers, potentially without free Prime shipping.

Size: 6 Inch

4 Inch  
\$26.99  
✓prime

6 Inch  
\$31.99  
✓prime

8 Inch  
\$41.99  
✓prime

Brand

VIVOSUN

Color

Silver

Delivery

Pickup

\$31<sup>99</sup>

✓prime Overnight

FREE Returns

FREE delivery Overnight  
4 AM - 8 AM. Order within 2 hrs  
27 mins

Deliver to Charles - Everett 98201

In Stock.

Qty: 1 ▾

Add to Cart

Buy Now

Secure transaction

Ships from Amazon  
Sold by VIVOSUN

Return policy: Eligible for  
Return, Refund or Replacement

# Low-Cost Alternatives for the Adventurous



Roll over image to zoom in

HiLetgo 2pcs W1209 with Case 12V DC Digital Temperature Controller Board Micro Digital Thermostat -50-110°C Electronic Temperature Temp Control Module Switch with 10A One-Channel Relay and Waterproof

Visit the [HiLetgo Store](#)

280 ratings | 19 answered questions

**Amazon's Choice** in Temperature Controllers by HiLetgo

\$9.99 (\$5.00 / Item)

Same-Day  
 FREE Returns

Color: With Case

\$8.49   
 \$9.99 (\$5.00 / Item)

- 100% complete machine patch, wave soldering, stable performance, good consistency.
- Embedded CPU chip (MCU), more intelligent, lower power consumption.
- Automatic power set memory (MCU built-in EEPROM memory unit).
- Control accuracy of 0.1 degrees Celsius. Have been tested for stability, consistency and reliability.
- Tips: - long press set to get menu, starts at P0 - press +/- to get next P-parameter - press set to choose that parameter - press +/- to select the value you want for that parameter - press set to accept it - long press +/- = reset to default - power-out does reset to default - default temp set is 34.5C

Report incorrect product information.

PYMETER

Dual Control Heat Mat Thermostat for Reptiles

Pymeter Digital...  
★★★★★ 1,685  
\$33.99   
10% off coupon

Delivery Pickup

\$9.99 (\$5.00 / Item)  
 Same-Day  
FREE Returns

FREE delivery Today  
5 PM - 10 PM on \$25 of qualifying items. Order within 1 hr 7 mins

Deliver to Charles - Everett 98201

In Stock.

Qty: 1

Add to Cart  
Buy Now

Secure transaction

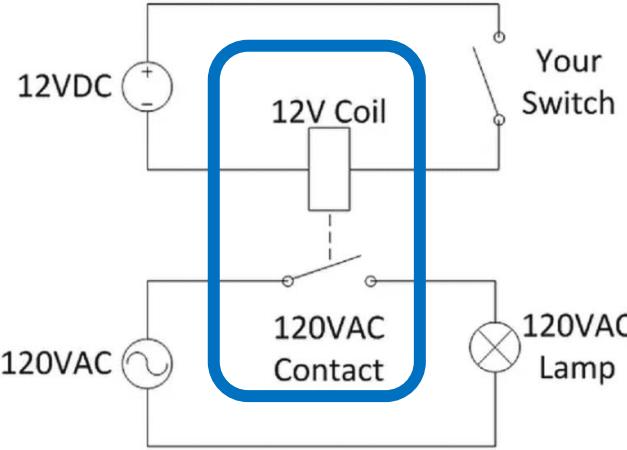
Ships from Amazon  
Sold by HiLetgo

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

Add a gift receipt for easy returns

Add to List

Have one to sell?  
Sell on Amazon



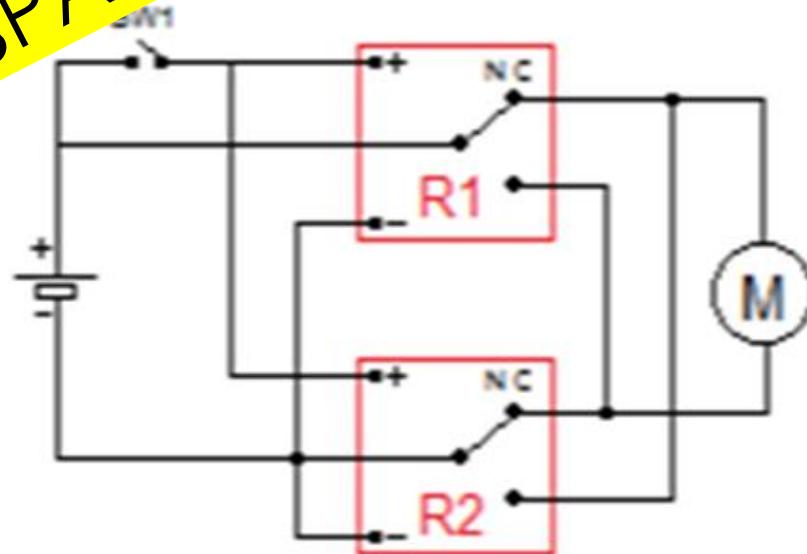
SCHEMATIC FOR ROTARY ACTUATOR

DIY MODULES

LOW POWER, EXTREMELY  
AFFORDABLE

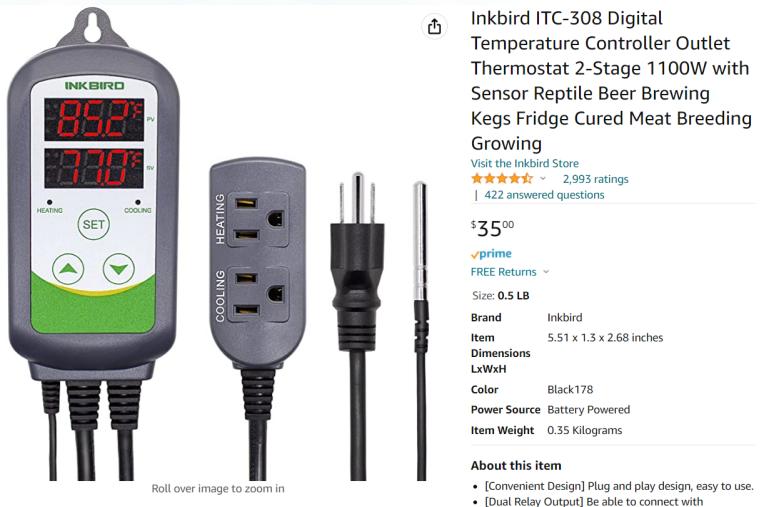
I CAN'T TEACH YOU ELECTRONICS IN 30MINS.  
SEE ME AT SNOCO MAKERSPACE ON THURSDAYS 6P-8:30P.

SCHEMATIC FOR LINEAR ACTUATOR



# HEATING

## INPUT AND CONTROL



Inkbird ITC-308 Digital Temperature Controller Outlet Thermostat 2-Stage 1100W with Sensor Reptile Beer Brewing Kegs Fridge Cured Meat Breeding Growing

Visit the Inkbird Store  
★★★★★ 2,993 ratings | 422 answered questions

\$35.00  
prime  
FREE Returns  
Size: 0.5 LB  
Brand: Inkbird  
Item: 5.51 x 1.3 x 2.68 inches  
Dimensions: LxWxH  
Color: Black178  
Power Source: Battery Powered  
Item Weight: 0.35 Kilograms

About this item  
• [Convenient Design] Plug and play design, easy to use.  
• [Dual Relay Output] Be able to connect with refrigeration and heating equipment at the same

results



## RESISTIVE HEATING

De'Longhi Comfort Temp Full Room Radiant Thermostat, 3 Heat Settings, Energy Saving, Safety Features, Nice for Home with Pets/Kids, 27" x 6.5" x 15.5", Light Gray

Visit the De'Longhi Store  
★★★★★ 8,947 ratings

Amazon's Choice for "oil radiant space heater"

\$88.99  
prime  
FREE Returns  
Get 5% back (\$4.44 in rewards) on the amount charged to your Amazon Prime Rewards Visa Signature Card.

Enhance your purchase

\$88.99  
prime  
FREE Returns  
FREE delivery Saturday, January 21  
Deliver to Charles - Everett 98201  
Only 5 left in stock - order soon.

Qty: 1  
Add to Cart  
Buy Now  
Secure transaction  
Ships from Amazon  
Solid hu Pure Off Price

Share Add to Watchlist

100 sq ft 1710 BTU White Convection Baseboard Heater

xinglong995 (1133)  
95.8% positive Seller's other items Contact seller

US \$36.98

Condition: New

Quantity: 1 3 available

Buy It Now

Add to watchlist

Breathe easy. Free shipping and returns.

Shipping: Free Standard Shipping. See details  
Located in: Ontario, California, United States

# Going beyond products and modules

**Official Arduino Starter Kit [K000007] (English Projects Book)**

Visit the [Arduino Store](#)

3,230 ratings | 155 answered questions

**-14% \$103<sup>15</sup>**

List Price: \$120.00

**prime** One-Day  
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Brand	Arduino
CPU Socket	14 (of which 6 provide PWM output)
Compatible Devices	Personal Computer
Memory Speed	2933 MHz
Platform	Windows NT 3.5
Series	FBA_K000007
System Bus Standard Supported	SATA 3

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**About this item**

- It's a quick and easy way to get started with the learning of STEAM subjects at home, and it can be used to think critically, learn collaboratively, and solve problems.
- This kit walks you through the basics of Arduino and electronics in a hands-on way. No prior experience is required, as the kit introduces both coding and electronics through fun, engaging, and hands-on projects.
- The kit comes with a 170-page project guide book and includes over 100 components.
- You'll be able to build 15 different projects using components that let you control the physical world with different kinds of sensors and actuators.
- Plenty of free activities and materials are available online, along with lots of inspirational tutorials and videos that mean you can continue using the kit in creative ways even after you've completed the projects.

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# MONITORING



# Remote or Locally Recorded?

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- ▶ Temperature & Humidity
- ▶ Easy
- ▶ Ability to Review over Coffee
  
- ▶ Requirements: WIFI (Home/Direct Burial CAT5-PoE)

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2 VIDEOS

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