

MeltLogic Smart Controller

Smarter de-icing. No wasted heat.

IN THIS MANUAL

Product details Plans 2 · Intelligence 3 · Essentials 4 · Hardware 5	pg. 2–5
Installation Before you install 6 · Set up in the app 7	pg. 6–7
App overview Dashboard 8 · Property 9 · Device 10 · Profile 11 · Settings 12	pg. 8–12
Support & notice Contacts, app downloads, important notice 13	pg. 13

Model MLT_SC_120_v1 | Wi-Fi | Outdoor rated | ETL Listed

15 A / 1,875 W

Rated load, resistive

IP65

Outdoor rated

2.4 GHz

Wi-Fi 802.11 b/g/n

–4 to 122°F

Operating range

Overview

The MeltLogic Smart Controller is a Wi-Fi, outdoor-rated plug-in controller that connects rooftop heat cables to the MeltLogic app. Instead of running cables all winter or switching them on at a fixed temperature, MeltLogic watches local conditions and turns cables on only when ice-forming weather calls for it, for up to **50% - 90% savings** on heat cable energy costs.*

At a glance

- **Retrofit or build new:** works on both self-regulating and constant wattage cables with a peak power draw under 1,800 W (roughly 200 ft of cable, check your cable specifications to be sure).
- **Plug in and go:** grounded Type B plug, no hardwiring. Connect to a GFCI outlet only, installed at least 2 ft above ground.
- **Built for winter:** IP65 housing, rated –4°F to 122°F.
- **Free to start:** MeltLogic Essentials includes remote control and temperature-based control. Upgrade to MeltLogic Intelligence for forecast-driven savings.
- **Certified:** ETL Listed (US/Canada) and FCC ID 2AQRWF96SP.

CONTROLLER ANATOMY

Illustration is representative.



Ordering information

MODEL
MLT_SC_120_v1 (hardware ver. 1.0)

UPC
8 84400 69576 5

HEAT CABLES
Sold separately. Size a run at RadiantSolutionsCompany.com

MSRP
\$79 per device

PLANS
Essentials = free, Intelligence = \$65/yr or \$395 lifetime

SHIPPING & RETURNS
See RadiantSolutionsCompany.com for current terms

*Savings estimate applies to MeltLogic Intelligence (Annual and Lifetime) and is compared with a traditional always-on cable. Actual savings vary and are not guaranteed.

PART 1 • PRODUCT DETAILS

Choose your plan

Choose MeltLogic Essentials for remote control and temperature-based operation. Choose MeltLogic Intelligence for even greater savings.

MELTLOGIC ESSENTIALS

Free

Temperature-controlled

Remote monitoring and control with temperature-based activation. A solid, no-subscription way to run your cables.

MELTLOGIC INTELLIGENCE

MOST SAVINGS

Weather-controlled. Forecast-driven control, AI runtime optimization and smart duty cycles, backed by a Savings Guarantee (Annual plan only). Available as Annual or Lifetime subscriptions.

ANNUAL
\$65 / year

LIFETIME
\$395 one-time

FEATURE	ESSENTIALS	MELTLOGIC INTELLIGENCE
CONTROL & MONITORING		
Remote monitoring & manual control	✓	✓
Control logic	Temperature-based, activates below 37°F and turns off at 50°F	Forecast-driven weather monitoring
Forecast Monitoring (additional savings of 50–90%/yr)	—	✓
AI Runtime Optimization (roof exposure and more)	—	✓
Smart Duty Cycles (adjusted to the forecast)	—	✓
SCHEDULING & PROTECTION		
Automated duty cycles	✓	✓
Run-time scheduling (off-peak or solar hours)	✓	✓
On-device back-up during Wi-Fi outages	✓	✓
In-rush protection (staggered start times)	✓	✓
INSIGHT & SCALE		
Multi-property & device (5 properties, 10 devices each)	✓	✓
Savings & CO ₂ avoided	Estimate of what you would save	Live savings and CO ₂ tracking
Savings Guarantee	—	✓ (Annual Plan Only)

MeltLogic (Annual) Intelligence | \$65/yr

Full MeltLogic Intelligence, renewed yearly, including the Savings Guarantee. The lower-commitment way to start.

MeltLogic (Lifetime) Intelligence | \$395

Pays for itself versus Annual in about six seasons. Covers the supported life of the hardware generation purchased; not transferable to a new owner without written consent.

Subscriptions are purchased in the MeltLogic app after you pair your controller. See the Important Notice on the last page for Savings Guarantee terms.

MELTLOGIC INTELLIGENCE

How it works & key features

Weather-controlled: forecast-aware control for rooftop heat cables, managed from one app

1 Monitors

Tracks temperature, precipitation, solar irradiance and the forecast for your local area, around the clock.

2 Detects

Intelligent algorithms identify the conditions that lead to ice dams, using factors like roof exposure direction.

3 Activates

Turns heat cables on only during real ice risk, dramatically reducing unnecessary energy use.

System features

Forecast & system monitoring

Continuous weather monitoring watches for ice-forming conditions and switches cables on only when needed.

Savings tracking

Seasonal and lifetime savings from your utility rate and cable setup. Most systems pay for themselves in 1 to 2 seasons.

Carbon avoidance

See the carbon dioxide you have avoided producing compared with a traditional always-on or thermostat system.

Multi-property, multi-device

Manage up to 5 properties and 10 devices per property in one app.

System controls

Choose how often duty cycles run and see the estimated cost of each setting before you commit.

Scheduling & manual runs

Shift runs to off-peak utility hours or solar production, or start a manual duty cycle to clear built-up ice.

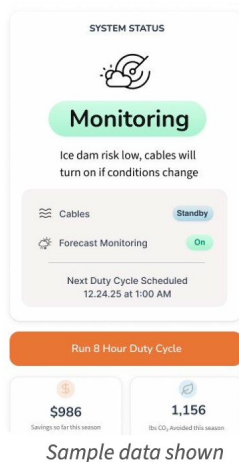
In-rush protection

Circuits stagger start times across devices to reduce the risk of tripping breakers.

On-device back-up

Keeps your cables on a protective routine even during a Wi-Fi outage.

THE MELTLOGIC APP



CABLE COMPATIBILITY

- Supports runs under 1,800 W total (about 200 ft of cable).
- Retrofit existing cable, or purchase with Heat Tape Pro. Compatible with self-regulating or constant-wattage cables.
- Size a cable run at [RadiantSolutionsCompany.com](https://www.RadiantSolutionsCompany.com).

BEFORE YOU INSTALL

- Use a GFCI outlet only. Mount vertically, receptacle down, 2 ft or more above ground.
- A 2.4 GHz Wi-Fi signal must reach the install location.
- Use UL-listed heat cables, and a licensed electrician where NEC or local code requires.
- MeltLogic does not install or inspect systems.

MELTLOGIC ESSENTIALS

How it works & key features

Temperature-controlled: simple, dependable control with remote access, free with every controller

1 Connects

Pair the controller in the MeltLogic app, then enter your property details, cable length and utility rate.

2 Senses

Checks the local outdoor temperature around the clock, so your cables respond to real conditions.

3 Activates

Switches cables on when temperatures fall below 37°F and off again above 50°F.

System features

Remote monitoring & control

Check status and switch your cables on or off from anywhere in the MeltLogic app.

Temperature-based control

Automatically activates cables when temperatures are below 37°F.

Automated duty cycles

Set a routine schedule for the cables to run, for extra peace of mind.

Run-time scheduling

Take advantage of off-peak hours by choosing when duty cycles run.

On-device back-up

Keeps your cables on a protective routine even during a Wi-Fi outage.

In-rush protection

Circuits stagger start times across devices to reduce the risk of tripping breakers.

Multi-property, multi-device

Manage up to 5 properties and 10 devices per property in one app.

Savings preview

See an estimate of what you would have saved with forecast-driven control.

TEMPERATURE-BASED CONTROL AT A GLANCE

BELOW 37°F

Cables switch on

ABOVE 50°F

Cables switch off

ANY TIME

Duty cycles and manual runs take precedence over temperature control

Live savings tracking requires MeltLogic Intelligence.

UPGRADE ANYTIME TO MELTLOGIC INTELLIGENCE

- Forecast Monitoring: additional savings of 50–90%/yr
- AI Runtime Optimization using roof exposure and more
- Smart Duty Cycles adjusted to the forecast
- Live savings and CO₂ tracking
- Savings Guarantee (Annual plan only)
- **\$65/yr or \$395 lifetime**, purchased in the MeltLogic app

PART 1 • PRODUCT DETAILS

Hardware specifications

Model MLT_SC_120_v1 | Hardware version 1.0 | Made in Vietnam

ELECTRICAL

Rated voltage	125 V AC, 60 Hz
Rated current	15 A
Max load, resistive	1,875 W
General-purpose	5 A max
Cable load	Under 1,800 W total (about 200 ft of cable)
Connector	Plug-in, Type B (grounded)
Poles / wires	3 poles, 3 wires
Power cord	14 AWG, SJTW, 300 V, 105°C, VW-1 flame rated

PHYSICAL

Color	Black
Housing material	Polycarbonate (PC)
Dimensions	1.57" D × 2.17" W × 3.15" H (≈ 40 × 55 × 80 mm)
Mounting	Vertical, receptacle facing down, at least 2 ft above ground
Hang points	Integrated hang tab and four mounting holes
Included	Plug storage cap (insert plug when not in use)

ENVIRONMENTAL & PROTECTION

Ingress protection	IP65, rated for outdoor use
Operating temp.	−4°F to 122°F (−20°C to 50°C)
Outlet requirement	GFCI-protected outlet only

WIRELESS & CONNECTIVITY

Frequency	2.4 GHz (5 GHz not supported)
Standard	IEEE 802.11 b/g/n
Pairing	Press and hold the button for 10 s; LED blinks for 180 s
Control	MeltLogic app (iOS and Android)

CONTROLS & INDICATORS

Button, press 1×	Manual on / off
Button, hold 10 s	Wi-Fi pairing mode
LED, solid white	Device on
LED, off	Device off
LED, blinking	Pairing mode (blinks for 180 s)

COMPLIANCE & IDENTIFICATION

Safety listing	ETL Listed, US and Canada (Intertek control no. 5030071)
Radio	FCC ID 2AQRWF96SP
Model	MLT_SC_120_v1 (module WF96SP)
Hardware version	1.0
UPC	8 84400 69576 5
Country of origin	Vietnam

DIMENSIONS



INSTALLATION NOTES

- Mount vertically with the receptacle facing down and at least 2 ft off the ground.
- Keep total heat-cable load under 1,800 W per controller.
- Use UL-listed heat cables and a licensed electrician where code requires.
- Specifications are subject to change without notice.

PART 2 • INSTALLATION

Before you install

Setup takes about five minutes: mount and plug in, create your account, set up your property, pair the controller, then configure it.

CHECKLIST

- ☐ Your outlet is **GFCI-protected**. A GFCI outlet has TEST and RESET buttons on its face; if you're unsure, have an electrician confirm it.
- ☐ Your heat cable is a plug-in, 120 V, UL-listed self-regulating or constant-wattage cable with a peak draw under 1,800 W (roughly 200 ft).
- ☐ A **2.4 GHz Wi-Fi** signal reaches the install location. The controller does not connect to 5 GHz networks.
- ☐ You have your Wi-Fi password and a recent utility bill (for your rate per kWh).
- ☐ You've downloaded the MeltLogic app (scan a code at right).

GET THE MELTLOGIC APP

Scan with your phone camera, or search "MeltLogic" in your app store.



App Store (iPhone)



Google Play (Android)

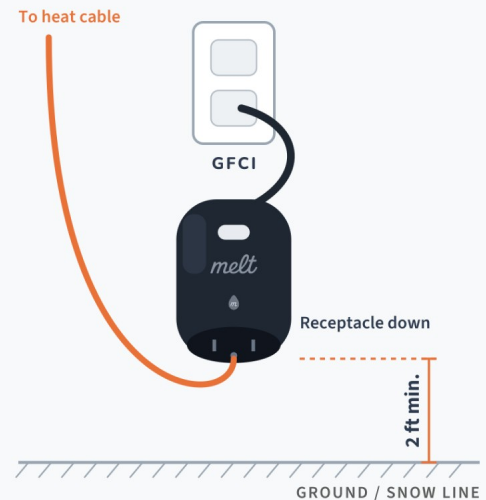
Use a licensed electrician where the NEC or local code requires one. MeltLogic does not install or inspect systems. Radiant Solutions Company can help you find a qualified installer and size a cable run.

1 Mount and plug in the controller

1. Mount the controller vertically, with the Heat Cable Receptacle facing down, at least 2 ft above the ground or expected snow line. Use the hang tab or the four mounting holes.
2. Plug your heat cable into the Heat Cable Receptacle.
3. Plug the controller directly into the GFCI outlet. Don't use an extension cord unless your cable manufacturer and local code allow it.

Once powered, hold the button for about 10 seconds the LED blinks (about once per second) for 180 seconds while the controller is in pairing mode.

MOUNTING



2 Create your account

Open the MeltLogic app, create an account with your email and a password, then enter the verification code sent to your inbox. Check your spam folder if it doesn't arrive within a few minutes.

PART 2 • INSTALLATION

Set up in the app

Steps 3 to 6: create your property, pair the controller, configure it and test it

3 Set up your property

FIELD	WHAT TO ENTER
Property name	Anything that helps you tell properties apart, such as “Home” or “Cabin”
Property location	Your ZIP code, or allow the app to use your phone's location. This is how MeltLogic pulls weather for your property location.
Utility rate	Your electricity rate in \$/kWh from a recent bill. The national average is about \$0.15/kWh.
Duty cycle start time	The hour scheduled duty cycles begin. Pick your utility's off-peak hours if it has them.

Tap **Save** to create the property.

4 Pair the controller

1. On the property screen, tap **Add Device**.
2. When asked, allow Bluetooth and location access. Location lets the app find nearby devices and detect your Wi-Fi network name.
3. The app searches for nearby devices. Tap your controller when it appears.
4. Enter your Wi-Fi information. The network name auto-detects; choose your 2.4 GHz network and enter the password.
5. Tap **Pair device** and wait a few seconds for it to connect.

NOT FOUND?

If the controller isn't found or the LED has stopped blinking, press and hold the button for **10 seconds** until the LED blinks again, then retry. Make sure your phone is on the same 2.4 GHz network.

5 Configure the device

SETTING	WHAT IT MEANS
Device name	A label for this circuit, such as “Garage” or “Front Roof”
Exposure direction	The direction this roof section faces. MeltLogic Intelligence uses it to model sun and melt. If your cables face multiple directions, choose the predominant direction or choose 'Unknown'.
Cable length	The length of cable on this controller, used for cost and savings estimates
Duty cycle frequency	How often scheduled duty cycles run, from 'off' up to 'daily'. The app shows the estimated cost per winter for each setting. Once or twice a week is a good start. This setting can be adjusted later.

Tap **Save Device**. Your setup is complete.

6 Test your system

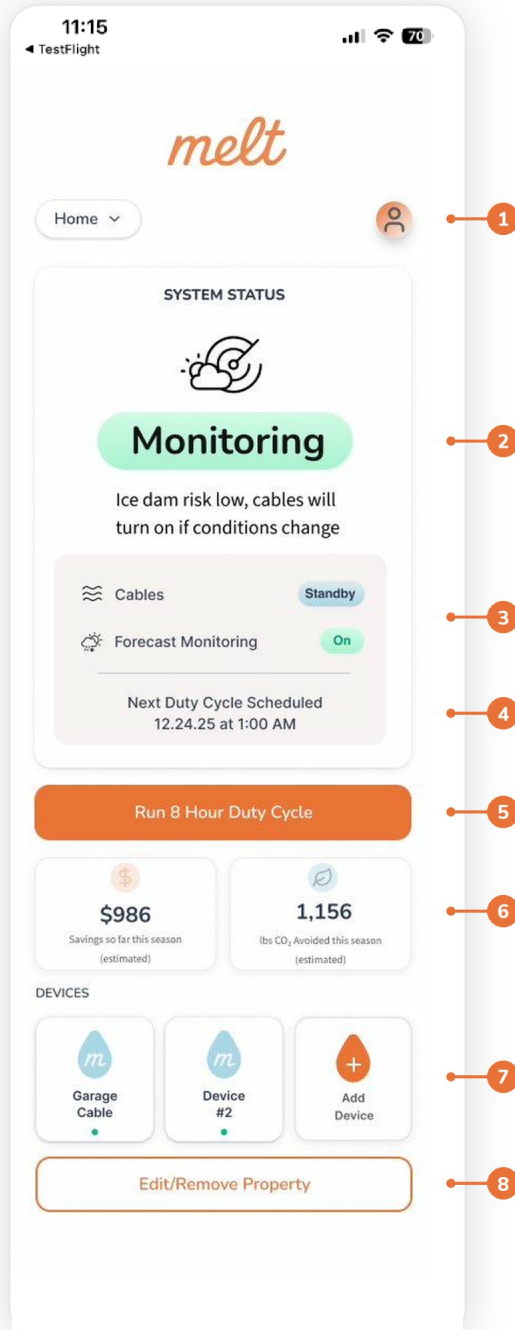
On the device screen, switch **Manual Override** 'on' and confirm the cable warms, then switch it 'off'. Test before the first snowfall, check the system after major storms, and inspect your roof during winter.

To add more devices or properties later, use **Add Device** on a property or **+ Add Property** on your profile.

PART 3 • APP OVERVIEW

Property dashboard

What your system is doing right now, and what it has saved



Sample data shown

1 Property menu & profile

Switch between your properties from the menu at top left. The icon at top right opens your profile.

2 System status

The current state with a one-line explanation. *Monitoring* means ice-dam risk is low and cables will turn on if conditions change. *Hibernation* means the system is off for the season; forecast monitoring and duty cycles resume October 1.

3 Cables & Forecast Monitoring

Whether cables are on or on *Standby*. Forecast Monitoring is *On* with MeltLogic Intelligence; with MeltLogic Essentials it shows *Subscription Required*, and you can upgrade from here.

4 Next duty cycle

The date and time of the next scheduled run.

5 Run 8 Hour Duty Cycle

Starts an immediate 8-hour duty cycle to clear channels in ice/snow.

6 Savings & CO₂ this season

Live figures with MeltLogic Intelligence. MeltLogic Essentials shows an estimate of what you would have saved.

7 Devices

Each controller on the property, with a status dot. Tap one to open its settings, or tap **Add Device** to pair another.

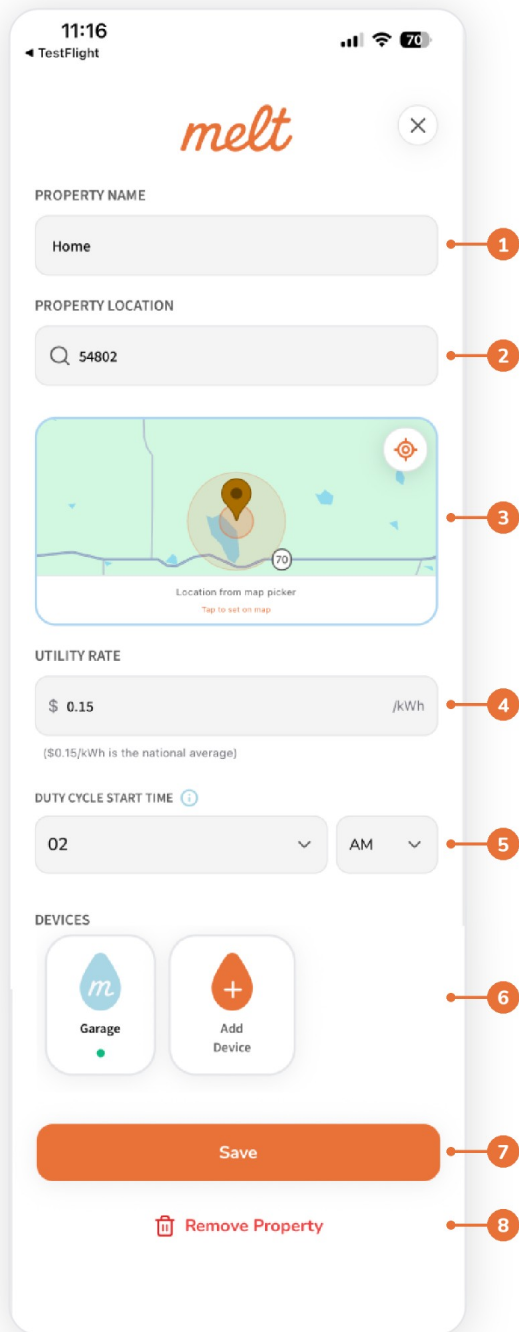
8 Edit/Remove Property

Opens property settings (next page).

PART 3 • APP OVERVIEW

Property details

Set up or edit a property: its location, utility rate, schedule and devices



Sample data shown

1 Property name

What the property is called in the app. You can assign several devices to one property.

2 Property location

Search by ZIP code, or tap the target on the map to use your phone's location (location sharing must be allowed).

3 Location map

Move the pin to fine-tune the location. MeltLogic uses it to pull your local weather forecast.

4 Utility rate

Used for duty cycle cost estimates and savings. The national average is about \$0.15/kWh, but US rates range from about \$0.05 to \$0.75/kWh, so check your provider's rate.

5 Duty cycle start time

When scheduled duty cycles begin; how often they run is set on each device. Choose your utility's off-peak hours, or mid-day if you have solar.

6 Devices

Every controller assigned to this property. Tap one to open its settings, or tap **Add Device** to pair another.

7 Save

Saves the property and any changes you made.

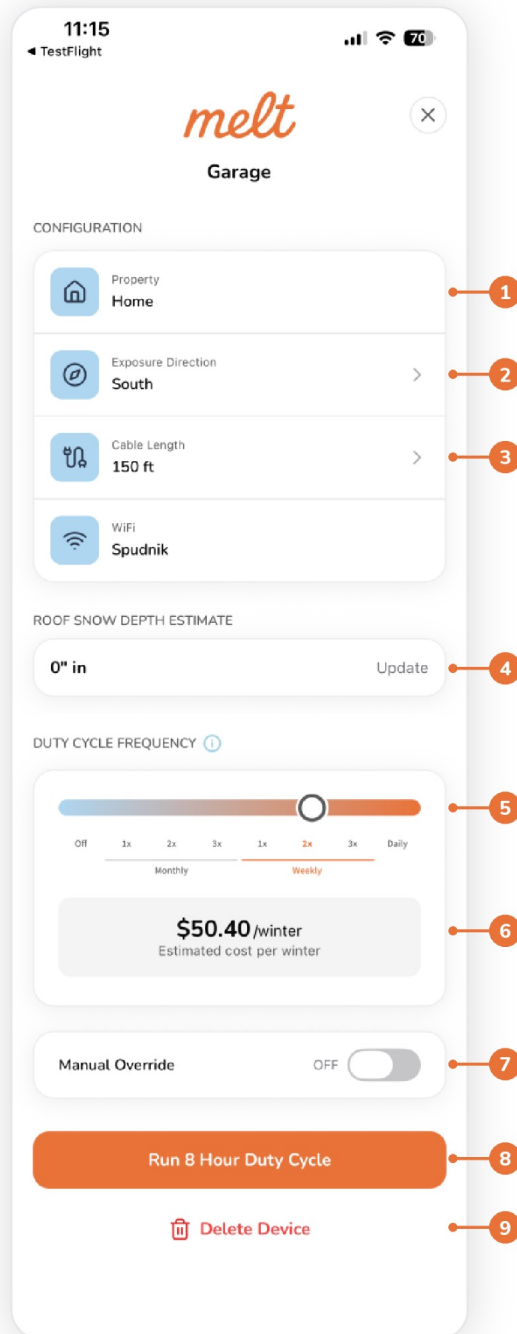
8 Remove Property

Deletes the property and all its devices. To use them again, you'll set up a new property and pair the devices again.

PART 3 • APP OVERVIEW

Device details

Configure each controller for the roof section it serves



Sample data shown

1 Property

The property this device belongs to.

2 Exposure direction

The direction this roof section faces, used to model sun and melt. If you're unsure, or it faces several ways, choose 'Unknown', this enables the most conservative settings.

3 Cable length

The length of cable on this controller, used to estimate the energy cost of each duty cycle setting.

4 Roof snow depth estimate

MeltLogic's estimate of snow on this roof section. Tap 'Update' to enter what you actually see; MeltLogic Intelligence resets its estimate and adjusts its melt rate for your roof.

5 Duty cycle frequency

Off, 1x–3x monthly, 1x–3x weekly or daily. Each duty cycle runs roughly 4 hours from the property's start time to keep drainage channels open and provide customization to your unique roof.

6 Estimated cost per winter

Based on your utility rate, chosen frequency and cable length. The estimate tells you how much your chosen frequency might cost per season. This estimate is only for the chosen duty cycle and does not include weather or temperature driven operation.

7 Manual Override

Keeps the cable on until you switch it off, regardless of season or other logic. For emergency melting or troubleshooting only.

8 Run 8 Hour Duty Cycle

Runs this device for 8 hours, then turns off on its own, with a countdown you can cancel. Not available during hibernation.

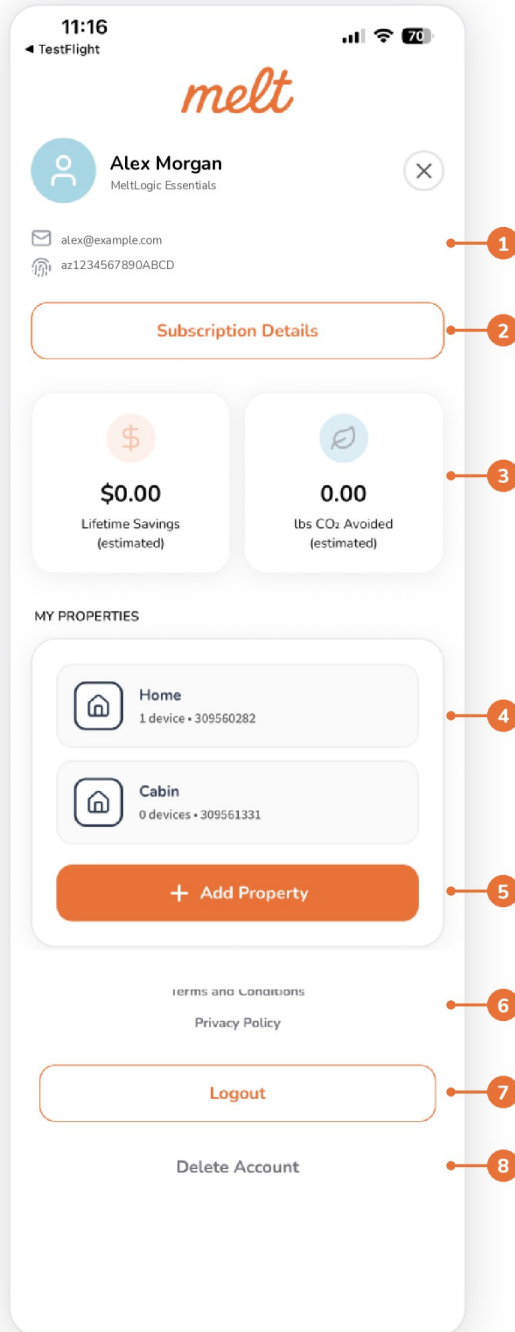
9 Delete Device

Removes the device and its settings from the property, effectively a factory reset. Needed before a repair or pairing it to another property.

PART 3 • APP OVERVIEW

Profile & account

Your plan, lifetime results and properties in one place



Sample data shown

1 Account details

Your name, current plan (MeltLogic Essentials or MeltLogic Intelligence), email and account ID.

2 Subscription Details

See which plan you're on, upgrade to MeltLogic Intelligence, or manage your Annual or Lifetime subscription.

3 Lifetime savings & CO₂ avoided

Estimated totals across all seasons, properties and devices on your account.

4 My Properties

Every property on your account, with its device count and property ID (used for advanced troubleshooting). Tap a property to view or edit it.

5 Add Property

Set up another property, such as a cabin or rental.

6 Terms & Privacy Policy

Read the Terms and Conditions and the Privacy Policy.

7 Logout

Signs you out of the app on this phone. Your system keeps running.

8 Delete Account

Cancels all subscriptions and permanently removes all your properties and devices.

PART 3 • APP OVERVIEW

Settings & profile

Change a device or property, manage your plan, and see what runs when

Device settings

Tap a device on the dashboard to see and change its configuration. Tap **Update** to save changes, or **Delete Device** to remove the controller from your account.

SETTING	WHAT YOU CAN DO
Property	The property this device belongs to
Exposure direction	The direction this roof section faces
Cable length	The cable length on this circuit
Wi-Fi	The 2.4 Ghz network the controller is connected to
Roof snow depth estimate	MeltLogic's estimate of snow on this roof section. If you see a different depth on your roof, update it; MeltLogic Intelligence adjusts its melt model for your roof.
Duty cycle frequency	How often scheduled duty cycles run, with the estimated cost per winter for that frequency
Manual Override	Turns the cable on or off right now, overriding automation
Run 8 Hour Duty Cycle	Starts an immediate 8-hour run on this device only

PROPERTY SETTINGS

- Opened from **Edit/Remove Property** on the dashboard.
- Change the property name, location, utility rate and duty cycle start time.
- See the property's devices, or add one.
- **Remove Property** deletes the property and its devices from your account.

PROFILE

- Your name, email and current plan (MeltLogic Essentials or MeltLogic Intelligence).
- **Subscription Details:** upgrade, or manage your MeltLogic Intelligence Annual or Lifetime subscription.
- Lifetime savings and lbs CO₂ avoided across all properties.
- **My Properties** with device counts, and **+ Add Property**.
- Terms, Privacy Policy, Logout and Delete Account.

What runs when

When instructions overlap, the controller follows them in this order.

1 Manual command

An on or off command you send

2 Your schedule

Duty cycles and schedules you set

3 Plan logic

Temperature control (Essentials) or weather control (Intelligence)

4 On-device back-up

Runs if the controller loses contact with MeltLogic in winter

HIGHEST PRIORITY

LOWEST PRIORITY

When several controllers at the same property are due to start together, in-rush protection staggers their start times, so some cables may start a few minutes after the scheduled time.

SUPPORT

Support & important notice

Who to contact, and what MeltLogic does and doesn't promise

MELTLOGIC

Controller, app & subscriptions

meltlogic.io

- Pairing and connectivity
- App settings and features
- Subscriptions and the Savings Guarantee
- Suspected defects and warranty

RADIANT SOLUTIONS COMPANY

Orders, cables & installers

RadiantSolutionsCompany.com

- Order status, shipping and returns
- Heat cable selection and sizing
- Finding a qualified installer

GET THE MELTLOGIC APP

Scan with your phone camera, or search “MeltLogic” in your app store.



App Store (iPhone)



Google Play (Android)

IMPORTANT NOTICE

MeltLogic is an energy-optimization product, not a property-protection or safety system, and does not guarantee the prevention of ice dams, water infiltration or structural damage. Inspect your roof during winter. Savings figures are estimates, not guarantees. The Savings Guarantee refunds your Annual Subscription fee if savings do not exceed the price of the subscription; see the Terms of Service for details. Prices and features subject to change.

**Savings estimates apply to MeltLogic Intelligence (Annual and Lifetime) and are compared with an always-on heat cable. Actual savings vary.*