

SUN AURA THERMAL

Product Maintenance & Troubleshooting Manual

Underfloor Heating · Heating Cables · Smart Thermostats · Pet & Plant Heating
Snow Melting Mats · Step Snow Melting Mats · Accessories & Installation · Packaging Machinery

Revision: October 16, 2026

Covers 88 products across 8 product families published at sunaura.ltd

This manual consolidates the maintenance and troubleshooting guidance published on the SunAura product pages. Always verify ratings, certifications and connection requirements against the product label and the documentation shipped with your goods before installation, operation or servicing.

How to Use This Manual

The manual is organised by product family. Each chapter opens with a short introduction, followed by one entry per product. Where several models in a family are near-identical (for example the snow melting mat range), a single common maintenance and troubleshooting block is given at the start of the family and each model entry then lists only its differentiated specifications.

Every product entry follows the same structure:

- Overview — what the product is and what it is designed for.
- Key Specifications — the rated values as published on the product page (power, voltage, dimensions, IP rating, certifications, etc.).
- Routine Maintenance — an actionable checklist for keeping the product working reliably.
- Troubleshooting — the most common fault symptoms with their likely causes and remedies.
- Support — the verified SunAura contact channels for technical and after-sales assistance.

Where a published page does not state a specific rating, the table shows “check product label”. Certification and compliance statements are reproduced as published on sunaura.ltd; always check the certificate copies shipped with your order.

General Safety & Electrical Warnings

- Disconnect the power supply before installation, inspection, cleaning or maintenance of any heating product.
- Verify that the supply voltage matches the product rating on the label before connection. Operating outside the rated voltage range can cause damage or a fire risk.
- Respect the waterproof (IP) rating of each product: use only the rated models in the intended environment, and keep all electrical connections dry and inside approved junction boxes or conduits.
- PTC (positive temperature coefficient) self-regulating heating cables limit their own temperature: their output drops as temperature rises. Do not cover them with thermal insulation beyond the design limit and never operate them coiled or overlapping.
- Do not cut or shorten film busbars or heating cables unless the product is explicitly designed for field cutting (self-regulating cables carry cut marks at marked intervals).
- Do not overlap heating film or heating cable on itself; overlapping can cause local overheating.
- Install in accordance with national electrical codes; use an RCD/GFCI-protected circuit for wet-area applications (bathrooms, kitchens, outdoor mats).
- Keep mats and films free of debris, snow shovels, sharp objects and heavy furniture during use and storage.
- If a product fails to heat or behaves abnormally, switch it off and have a qualified electrician inspect it before reuse.
- When in doubt about a rating, connection diagram or certification, contact SunAura support before proceeding.

Table of Contents

Chapter 1 — Underfloor Heating Film & Mats	5
Graphene Heating Film	5
Electric Heating Mats	6
Tile Floor Heating System	7
Wood Floor Heating System	8
0.5mm Ultra-Thin Aluminum Film Heating Mat	9
Bathroom Floor Heating Mat	10
Hotel Floor Heating Mat	10
Underfloor Heating Mat	11
Chapter 2 — Heating Cables	12
Heating Cables	13
Self-Regulating Heating Cables	14
Self-Regulating Fire Pipe Heating Cable	14
Self-Regulating Sewage Pipe Heating Cable	15
Self-Regulating Water Pipe Heating Cable	15
Silicone Heating Cables	16
Silicone Rubber Heating Cable - 50 W/m	16
Silicone Rubber Heating Cable - 25 W/m	17
Antifreeze Silicone Heating Cable for Drain Lines - 40 W/m	17
Chapter 3 — Smart Thermostats & Controls	19
Smart Thermostats	19
K1M Smart WiFi Thermostat for Electric Heating	20
K1 Thermostat for Electric Heating	20
K2M WiFi Smart Thermostat with Dual-Sensor Floor Probe	21
K9 WiFi Smart Thermostat with Colour Touchscreen and Voice Control	21
K5 WiFi Smart Thermostat with VA Colour Display	22
KC02 WiFi Smart Heating Thermostat	22
K6H WiFi LED Touch Screen Underfloor Heating Thermostat	23
Knob WiFi Smart Thermostat	23
Piano-Key WiFi LCD Thermostat for Floor Heating and Boiler	24
WITH3 RF Wireless Wall-Hung Boiler Thermostat	24
Black Glass Touch WiFi Thermostat	25
SDM5 WiFi Smart Thermostat with LED Display	25
SDM6 WiFi Smart Thermostat with Ring Display	26
HY312 WiFi Touch Screen Thermostat	26
Programmable Touch Thermostat	27
Floor Heating System Thermostat	27
Y603H/16 WiFi Thermostat	28
Y819H/16 WiFi Thermostat	28
E51.716/16 Button Thermostat	29
Y308/16 Knob Thermostat	29
E91.716/16 Touch Thermostat	30
Chapter 4 — Pet & Plant Heating	31
Reptile Heat Mats & Heating Pads for Terrariums & Vivariums	31
Seedling & Plant Heating Mat	32
Cat & Dog Heating Pad	32
Chapter 5 — Snow Melting Mats	34
Snow Melting Mats	34
Outdoor Roof Snow Melting Mat	35
Outdoor Snow Melting Mat – 12–380 V	35

PVC Roof & Driveway Snow Melting Mat	36
Rubber Snow Melting Mat with Cable System	36
Outdoor Electric Snow Melting Mat	36
Non-Slip Walkway Snow Melting Mat	37
Outdoor Snow Melting Mat System	37
Corridor Snow Melting Mat	38
Sidewalk Snow Melting Mat	38
Outdoor Snow Melting Mat – 220 V, 300 W/m ²	39
Outdoor Snow Melting Mat – 240 V, 500 W/m ²	39
Outdoor Snow Melting Mat – 110 V, 300 W/m ²	40
Walkway & Driveway Snow Melting Mat	40
Driveway Snow & Ice Melting Mat	41
Roof & Gutter Snow Melting Mat	41
Walkway De-Icing Snow Melting Mat	42
Anti-Freeze Snow Melting Mat	42
Chapter 6 — Step Snow Melting Mats	44
Step Snow Melting Mats	44
Sidewalk Step Snow Melting Mat	45
Winter Snow Melting Mat	45
Outdoor Sidewalk Snow Melting Mat	46
Outdoor Electric Step Snow Melting Mat	46
Driveway & Underfloor Snow Melting Mat	46
Driveway & Stair Snow Melting Mat	47
PVC-Jacketed Stair Snow Melting Mat	47
Ground Snow Melting Blanket	48
Durable Outdoor Snow & Ice Melting Mat	48
Step Snow Melting Mat - 110 V, 30x90 cm	49
Step Snow Melting Mat - 110 V, 50x90 cm	49
Stair Snow Melting Mat - 220 V	50
Step Snow Melting Mat - 220 V, 30x90 cm	50
Outdoor Stair Snow Melting Mat	51
Ground Snow Melting Mat - 220 V	51
Black Corridor Snow Melting Mat	52
Winter Stair & Aisle Snow Melting Mat	52
Non-Slip Stair Snow Melting Mat	53
Road Snow Melting Mat	53
Roof Snow Melting Mat - FEP Insulated	54
Step Snow Melting Mat	54
Chapter 7 — Accessories & Installation Kits	56
DIY Underfloor Heating Installation Kits	56
Indoor Digital Thermometer & Hygrometer	56
Chapter 8 — Packaging Machinery	58
Carton Sealing Machines	58
Shrink Wrapping Machines	58
Vacuum Packaging Machines	59
Complete End-of-Line Packaging Lines	60

Chapter 1 — Underfloor Heating Film & Mats

SunAura builds every layer of an electric underfloor heating system in one factory: the heating element, the thermostat that controls it, and the installation accessories that hold it together. The range covers four build styles - slim far-infrared graphene film for dry floating floors, pre-spaced dual-conductor mats for tile and stone, flexible single-run cable for screed and specialist jobs, and a 0.5 mm aluminium-film mat for tight renovation builds. Every element is controlled by a matched SunAura thermostat with floor sensing, so the same installation and commissioning principles apply across the family.

Common Routine Maintenance — applies to all models in this family

- Keep the floor surface clean; sweep or vacuum gently and use only manufacturer-approved floor cleaners, as abrasive or acidic cleaners can damage tile grout and the sensor conduit.
- Never install fixed furniture, bath panels or cabinets directly over the heated area; leave the documented edge distance and a free walking zone so heat can radiate upward.
- Run the included NTC floor-sensor thermostat at the floor manufacturer's maximum surface temperature (typically 27-28 °C under wood/low-tog coverings, up to 35 °C under tile); do not bypass or short the sensor.
- Inspect the RCD/RCBO protected test button once a quarter and confirm the circuit trips before wet-room use; have a qualified electrician re-test insulation resistance every few years if the floor is opened for any reason.
- Do not nail, drill or fix fittings through the finished floor into the heating layer; mark mat layout on the as-built drawings and keep them with the building manual.

Common Troubleshooting — applies to all models in this family

Symptom	Possible Cause	Solution
Mat does not heat; thermostat display off or shows no call	No supply to the thermostat, tripped RCD/RCBO, or blown fuse on the heating circuit.	Check the consumer unit, reset the RCD and replace the fuse; if the RCD trips immediately on re-energise, isolate and call a qualified electrician to test the mat for insulation resistance.
Thermostat calls for heat but the floor stays cold	NTC floor sensor disconnected, faulty sensor, or loose busbar/cold-tail connection in the junction box.	Check the sensor resistance at the thermostat terminals against the sensor curve; reseal the cold-tail connections and re-test continuity to the mat.
Part of the floor warms while another zone stays cold	Mat cut through during tiling, damage from a fixing screw/nail, or a broken cold-tail joint.	Trace the layout drawing, locate the fault with an insulation/continuity test under the tile adhesive; if a damaged cable section is found, the affected mat must be replaced - do not attempt to join in-field.
Floor overheats or trips the high-limit	Floor sensor not taped to the mat, sensor sitting in cold adhesive, or thermostat set above the floor covering's rated surface temperature.	Re-lay the sensor in the supplied conduit as close to the mat as possible, lower the setpoint to the floor manufacturer's limit, and avoid covering the heated area with thick rugs or carpet.
RCD trips intermittently, especially when the floor is damp	Moisture ingress into the cold-tail gland, damaged cable insulation, or earth path through a wet wall.	De-energise, inspect the connection box and gland seal, dry the cavity, and have the insulation resistance re-tested; re-seal with a waterproof junction box rated for the location.

Applies to the 0.5 m pre-spaced dual-conductor shielded cable mats (bathroom, hotel and residential underfloor kits). Each model's differentiating specs are listed on its own entry.

Graphene Heating Film

Product slug: heating-film

SunAura graphene heating film is a slim, flexible far-infrared heating element for underfloor, wall and ceiling heating, with a graphene-carbon composite printed on PET and more than 99% electrical-to-thermal efficiency.

Key Specifications

Parameter	Value
Heating element	Graphene-carbon composite printed on PET film
Standard widths	10, 15, 20, 25, 33, 40, 50, 55, 60, 75, 80, 100 cm
Length	Custom cut to project requirements
Voltage	110 V / 220-230 V
Heating efficiency	>99% electrical-to-thermal
Waterproof rating	IP67 (fully waterproof film)
Heating mode	Far-infrared radiant heat
Optional	PTC self-limiting technology on request
Compliance	CE, RoHS (EU) 2015/863, ISO 9001:2015

Routine Maintenance

- Keep the film covered only by floor finishes rated for underfloor heating; do not place fixed furniture, baths or cabinets directly over it, and respect the floor manufacturer's maximum surface temperature (typically 27-28 °C) via the thermostat.
- Always use a floor-sensing thermostat; do not bypass or tape the sensor away from the film, and do not lay thick rugs or low-tog carpets over the heated area.
- Before the floor covering goes down, visually inspect for busbar damage and confirm continuity/resistance; after covering, do not nail, drill or fix through the film plane.
- Keep the vapour membrane and subfloor dry during installation; once laminated, the film has no user-serviceable parts - any busbar or connection work must be done by a qualified electrician.

Troubleshooting

Symptom	Possible Cause	Solution
Film does not heat; thermostat has no call	No supply, tripped RCD, or busbar not connected to the cold tail.	Check the consumer unit and RCD, then have an electrician re-check the busbar-to-thermostat wiring.
Some strips heat, others stay cold	A torn busbar or a film strip cut outside the permitted cut-line, breaking the parallel circuit.	Identify the dead strip against the layout drawing; because strips are parallel, the rest of the floor keeps working - isolate and replace the affected strip when the floor is refurbished.
Floor overheats under wood/laminate	Floor sensor not taped to the film, or thermostat set above the covering's surface-temperature limit.	Re-lay the NTC sensor against the film in its conduit and lower the setpoint to the floor manufacturer's limit.
RCD trips as soon as the film is energised	Pinched film at a door threshold, damp busbar, or damaged PET layer from a fixing screw.	Isolate and insulation-test the circuit; locate the pinch point visually under the covering and replace the damaged section.

Note: 15-year warranty against manufacturing defects per page text.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Electric Heating Mats

Product slug: heating-mat

SunAura electric heating mats are pre-spaced self-adhesive mesh mats with a shielded dual-conductor cable, designed to be embedded in tile adhesive under ceramic, stone and porcelain floors at 160 W/m².

Key Specifications

Parameter	Value
Output power	160 W/m ²
Voltage	110 V or 230 V
Mat width	0.5 m (custom widths available)
Heating layer thickness	3.6 mm (including cable)
Wiring	Double insulated, fully shielded
EMF	EMF-free design
CO ₂ emissions in use	0 (no combustion, no gas)
Warranty	25 years
Compliance	CE, RoHS, ISO 9001:2015

Routine Maintenance

- Use the mat only under ceramic, stone or porcelain tile in adhesive, or under engineered wood/laminate in a dry build with suitable insulation boards; do not cover with thick carpet or place fixed furniture over it.
- Always run with a floor-sensor thermostat; the sensor protects the floor surface and saves energy through scheduling, and the mat must not be switched on without it.
- Do not nail, drill or screw through the finished floor into the mat plane; keep the as-built layout drawing for future works.
- Test the RCD test button quarterly and have the circuit insulation resistance re-tested if the floor is opened for any reason.

Troubleshooting

Symptom	Possible Cause	Solution
Mat stays cold after switch-on	Tripped RCD, blown fuse, or loose cold-tail connection in the junction box.	Reset the RCD, check the fuse, and inspect the cold-tail gland and wiring for continuity.
Thermostat calls for heat but floor does not warm	NTC floor sensor disconnected or faulty, or mat resistance out of tolerance.	Measure the sensor resistance at the thermostat terminals and test mat continuity; replace the sensor or mat as required.
Part of the floor remains cold	Cable cut during tiling or pierced by a fixing, breaking the dual-conductor loop.	Trace the layout drawing and insulation-test the mat; a pierced mat cannot be field-spliced and must be replaced at refurbishment.
RCD trips intermittently	Moisture in the connection box or a nicked cable in the adhesive bed.	De-energise, dry and re-seal the junction box, and re-test insulation resistance; route the sensor and cold tail into a waterproof box.

Note: Warranty covers manufacturing defects only; excludes improper installation, mechanical damage and incorrect voltage.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Tile Floor Heating System

Product slug: tile-floor-heating

Tile floor heating hides a thin graphene far-infrared film directly beneath ceramic tile, porcelain, marble or natural stone, with parallel strips so one damaged section does not stop the rest.

Key Specifications

Parameter	Value
Heating element	Graphene far-infrared heating film
Rated voltage	110 V / 220-230 V
Film widths	10-100 cm, cut to room size
Max surface temperature	<= 60 °C, thermostat-held
Control	Wall-mounted room / floor thermostat
Waterproof rating	IP67 encapsulated film
Circuit layout	Parallel - one strip fault does not stop the rest
Compliance	CE, RoHS, ISO 9001:2015

Routine Maintenance

- Use a floor-sensing wall thermostat so the tile surface stays within comfort and adhesive-temperature limits; never run the film at full output without a sensor.
- Do not lay film under the bath, shower tray, fixed furniture or built-in cabinets; cover only the open walking area.
- Before tiling, visually inspect the film for busbar damage and confirm resistance; after tiling, do not drill, nail or cut through the floor.
- Keep the RCD/RCBO test button checked quarterly and use only a qualified electrician for the mains connection.

Troubleshooting

Symptom	Possible Cause	Solution
Tile floor does not warm	No supply, tripped RCD, or busbar not terminated to the cold tail.	Check the consumer unit and have an electrician re-verify the busbar and thermostat wiring.
Only part of the tiled area heats	A single parallel strip torn or pinched at a cut line.	The rest of the floor keeps working - mark the dead strip and replace it at the next tile refurbishment.
Tile surface feels too hot	Floor sensor missing, taped away from the film, or thermostat set too high.	Re-lay the NTC sensor against the film in its conduit and lower the setpoint.
RCD trips on energisation	Moisture in the junction box during wet tiling work, or a damaged film edge.	Dry the connection box, re-seal it, and insulation-test the circuit before re-energising.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Wood Floor Heating System

Product slug: wood-floor-heating

Wood floor heating uses a thin graphene film under engineered wood, laminate or vinyl, held below the floor manufacturer's surface-temperature limit by a wall thermostat, and designed for 50+ years of seasonal service.

Key Specifications

Parameter	Value
Heating element	Graphene far-infrared heating film
Rated voltage	110 V / 220-230 V
Finish floors	Engineered wood, laminate, vinyl
Max film surface temperature	<= 60 °C
Control	Wall-mounted thermostat
Formats	Cut-to-size film strips; prefabricated underfloor heating modules
Service life	50+ years at ~4 months seasonal use per year
Compliance	CE, RoHS, ISO 9001:2015

Routine Maintenance

- Respect the wood/laminate manufacturer's maximum surface temperature (typically 27-28 °C) via the floor sensor thermostat; do not fit thick rugs or cover the heated area with furniture.

- Fit a thermal insulation layer beneath the film to direct heat upward and reduce energy loss.
- Do not walk on or site fixed appliances over the film plane during installation; after the floor is laid, do not nail or screw through it.
- No routine servicing is needed beyond a thermostat check each season; any electrical work must be done by a qualified electrician.

Troubleshooting

Symptom	Possible Cause	Solution
Wood floor stays cold	No supply, tripped RCD, or thermostat not calling.	Check the consumer unit, verify the thermostat setpoint and program, and test the floor sensor.
Floor overheats or the wood joints open	Floor sensor not bonded to the film, or setpoint above the covering's rated temperature.	Re-seat the sensor in its conduit against the film and lower the setpoint to the floor manufacturer's limit.
Only part of the room warms	A film strip damaged at the busbar or cut line.	Parallel strips keep the rest working; identify the dead strip on the layout drawing and replace at the next floor refurbishment.
RCD trips on switch-on	Pinched film at a door threshold or damp busbar during installation.	Isolate, inspect thresholds, dry the junction box and insulation-test before re-energising.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

0.5mm Ultra-Thin Aluminum Film Heating Mat

Product slug: aluminum-film-heating-mat

A 0.5 mm ultra-thin aluminium film heating mat for renovations: a low-profile radiant layer that spreads heat evenly across the floor, laid over existing subfloors under laminate, engineered wood or vinyl.

Key Specifications

Parameter	Value
Total thickness	0.5 mm (heating layer only)
Rated voltage	220-240 V AC, 50/60 Hz
Widths available	Custom widths from 100 mm to 1,000 mm
Length	Continuous rolls, cut to exact room size
Power density	90-220 W/m2, selectable to match floor type and climate
Surface temperature control	Via SunAura floor sensor thermostat (target 18-45 °C)
Certifications	CE, RoHS; manufactured under ISO 9001 & ISO 14001
Rated service life	15-25 years
Warranty	15-year product warranty against manufacturing defects

Routine Maintenance

- Use with a SunAura floor-sensing thermostat and keep the target within the floor covering's rated surface temperature; do not use the mat without a sensor.
- Lay only on a flat, sound subfloor; do not place fixed furniture, baths or cabinets over the heated area, and avoid thick rugs that trap heat.
- Before the finish floor goes down, check for busbar damage and confirm resistance; after laying, do not nail, drill or screw through the mat plane.
- Keep the aluminium layer dry during installation; once covered, the mat has no user-serviceable parts - any mains work must be done by a qualified electrician.

Troubleshooting

Symptom	Possible Cause	Solution
Mat does not heat	No supply, tripped RCD, or loose busbar/cold-tail connection.	Check the consumer unit and have an electrician re-verify the busbar and thermostat wiring.
Floor warms unevenly	Mat folded or overlapped at a join, or aluminium layer not making flat contact with the subfloor.	Lift the covering at the uneven spot, re-lay the mat flat, and confirm joins are taped rather than overlapped.
Surface runs hotter than setpoint	Floor sensor taped away from the mat, or setpoint above the floor covering's limit.	Re-seat the NTC sensor against the mat and lower the setpoint.
RCD trips on energisation	Pinched mat at a threshold, damp busbar, or damaged PET layer.	Isolate, insulation-test, locate the pinch point and replace the damaged section before re-energising.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Bathroom Floor Heating Mat

Product slug: floor-heating-mat-bathroom

A pre-spaced, thin dual-conductor cable mat for bathrooms and wet rooms, IPX7-sealed and paired with an NTC floor sensor for safe, comfortable barefoot warmth under tile.

Key Specifications

Parameter	Value
Product type	Electric underfloor heating mat, tile/wet-area build
Rated voltage	220-240 V AC (110-120 V build on request)
Heat output	160 W/m ² under tile / stone (200 W/m ² wet-room build on request)
Heating element	Dual-conductor resistance cable, fully shielded, low-EMF
Insulation	FEP, rated to 200 °C
Waterproof rating	IPX7 sealed; suitable for wet rooms and shower zones
Mat width	0.5 m, mesh-backed, pre-spaced
Thickness	Approx. 3 mm element + mesh, embedded in tile adhesive
Sensor & control	NTC floor sensor included; pairs with SunAura room thermostats
Compliance	CE, RoHS; manufactured under ISO 9001

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Wired on an RCD/RCBO-protected circuit by a qualified electrician; 2-year project warranty on this build.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Hotel Floor Heating Mat

Product slug: floor-heating-mat-hotel

A contractor-grade pre-spaced mesh mat for hospitality fit-outs, one room per circuit, with programmable/WiFi thermostats, guest lock and setpoint limit for consistent, energy-controlled guest comfort.

Key Specifications

Parameter	Value
Product type	Electric underfloor heating mat, hospitality room kit
Rated voltage	220-240 V AC (110-120 V build on request)
Heat output	160 W/m2 under tile / stone; 120-150 W/m2 under laminate or carpet
Heating element	Shielded dual-conductor resistance cable, low-EMF
Insulation	FEP / XLPE rated insulation for long embedded service life
Mat width	0.5 m pre-spaced mesh; lengths to 20 m
Typical circuit	One room per circuit, <= 3.6 kW per 16 A breaker; floor sensor + room thermostat per room
Floor finishes	Ceramic tile, natural stone, laminate, engineered wood (with transfer plate), carpet low-tog
Control	SunAura programmable / WiFi room thermostats; setpoint limit and guest lock available
Compliance	CE, RoHS; manufactured under ISO 9001; 2-year project warranty

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Project documentation and as-built drawings supplied for building control.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Underfloor Heating Mat

Product slug: floor-heating-mat-underfloor

A standard residential shielded dual-conductor mat on pre-spaced mesh for tile and stone floors, available in room-sized kits from 0.5 m2 to 20 m with a 3 m NTC floor sensor.

Key Specifications

Parameter	Value
Product type	Electric underfloor heating mat, residential tile/stone build
Rated voltage	220-240 V AC (110-120 V build on request)
Heat output	160 W/m2 under tile / stone; 150 W/m2 low-tog carpet or wood build
Heating element	Dual-conductor shielded resistance cable, low-EMF
Insulation	FEP / XLPE rated insulation
Mat width	0.5 m pre-spaced mesh backing
Length range	0.5 m2 to 20 m2 per mat; multi-mat rooms supported
Sensor	3 m NTC floor sensor included
Control	SunAura room thermostats - manual, programmable, or WiFi
Compliance	CE, RoHS; manufactured under ISO 9001

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 2 — Heating Cables

Common Routine Maintenance — applies to all models in this family

- Inspect the cable jacket, end-seal and connection box annually before winter: look for cracking, UV damage, crushed sections or loose fixing clips, and replace any run that has cuts in the outer jacket.
- Keep the pipe insulation intact and weather-sealed; heat trace only works when the pipe is insulated, and missing or damp insulation both wastes power and allows freeze-back at unprotected joints.
- Confirm the end-seal kit is fitted to every cut end; a missing or degraded end seal is the most common field fault and lets moisture into the PTC core.
- Test the thermostat or contact thermostat and any snow/ice/frost sensor each autumn, and verify that the circuit switches off when the sensed pipe or air temperature is well above freezing.
- Do not stack or overlay the cable beyond the overlap allowance stated on the label; although PTC cores self-limit, prolonged double or triple lay-up at high power classes shortens jacket life.

Common Troubleshooting — applies to all models in this family

Symptom	Possible Cause	Solution
Cable does not heat at all	No supply, tripped RCD, thermostat set above the call temperature, or a disconnected cold tail.	Verify mains voltage at the thermostat output, lower the setpoint to force a call, check the RCD, and inspect the power connection and end-seal for continuity.
Pipe still freezes even though the cable is energised	Cable under-sized for the pipe diameter/insulation/climate, missing or wet pipe insulation, or loop not covering the full exposed length.	Confirm the W/m class (16 W/m insulated indoor, 25-30 W/m outdoor insulated, 40-45 W/m uninsulated steel riser), re-fit dry closed-cell insulation, and extend the trace through any unprotected joint or valve.
Cable overheats or feels hot to the touch	PTC core damaged by a cut or crush, incorrect voltage applied, or cable overlapped on itself for long runs.	De-energise immediately, check supply voltage against the label (120 V on a 240 V class or vice versa), and replace any section that has visible jacket damage - do not reuse a crushed run.
RCD trips when the cable energises	Moisture in the end-seal or connection kit, nicked jacket during installation, or water entering a junction box.	Isolate, open the end seal and power connection, dry the components, inspect the braid and inner insulation, and rebuild with a new seal kit and weatherproof gland.
Energy use much higher than expected	Thermostat held on continuously, faulty sensor reading too cold, or cable left on in summer.	Check the thermostat calibration and sensor placement, install a frost or ambient setback, and put the circuit on a timer or smart controller so power flows only when freezing moisture is present.

Applies to PTC self-regulating parallel trace-heating kits (general water/sewage/fire-pipe/water-pipe variants). Output class and pipe compatibility differ per model - see each product's specs.

Common Routine Maintenance — applies to all models in this family

- Visually inspect the silicone jacket annually for cracks, hardening, cuts or chemical attack; silicone is UV- and weather-resistant but does not survive prolonged contact with solvents, oils or sharp edges.
- Confirm the cable is fixed flat to the pipe or tank with approved aluminium tape or straps every 200-300 mm; do not let it sag, cross itself, or rest on a hot fitting above its rated jacket temperature.
- Keep the trace within the stated single-circuit length limit (25 W/m up to 65 m, 40 W/m up to 50 m, 50 W/m up to 44 m at 220 V); longer loops must be split onto separate circuits.
- Check that the end termination and power gland are sealed against moisture, and re-verify the contact/frost thermostat cut-in and cut-out points each season.
- Because this is a constant-wattage cable ordered to length, do not re-cut it on site - trimming changes the resistance and overloads the loop; if a shorter run is needed, order the correct length.

Common Troubleshooting — applies to all models in this family

Symptom	Possible Cause	Solution
Cable remains cold after switch-on	No supply, tripped RCD, open circuit at a terminations, or loop length exceeded the rated maximum for the W/m class.	Measure voltage at the heater end, test continuity end-to-end, and confirm the actual loop length against the label's maximum (44/50/65 m for 50/40/25 W/m); re-size the circuit if over.

Symptom	Possible Cause	Solution
Cable heats but the pipe/tank does not reach target temperature	W/m class too low for the heat loss, missing or inadequate thermal insulation, or cable not bonded to the surface.	Re-bond the cable with aluminium tape, add closed-cell insulation, and step up to a higher W/m class (e.g. 40 W/m or 50 W/m) for uninsulated or outdoor runs.
Jacket feels hotter than the trace setpoint or discolours	Cable overlapped on itself, running against an existing hot line, or thermostat set above the 150 °C maintenance limit.	Straighten the run, separate from hotter process lines, and lower the control setpoint; a silicone jacket is rated to 200 °C but maintenance life is maximised at or below 150 °C.
RCD trips on energisation or after rain	Water in the power gland or end termination, nicked silicone jacket during installation, or cable resting in standing water without a sealed junction.	Isolate, dry and re-seal the glands, inspect the jacket for cuts, and re-route the low point so water runs off the cable rather than pooling on it.
Circuit-breaker or fuse blows repeatedly	Short circuit in the resistance wire from a crushed or pinned run, or supply voltage mismatched to the winding (e.g. 220 V on a 24 V build).	Disconnect the heater and measure cold resistance; compare to $R = V^2 / P$ for the ordered length. A reading near zero indicates an internal short - replace the cable.

Applies to constant-wattage copper-nickel resistance wire in silicone rubber (25/40/50 W/m variants). Output and max circuit length differ per model - see each entry.

Heating Cables

Product slug: heating-cable

SunAura heating cables are double-insulated, shielded IPX8 resistance wires for underfloor embedding, pipe antifreeze, roof and ramp snow melting, tank heating and equipment insulation, in fixed-resistance or PTC self-regulating builds.

Key Specifications

Parameter	Value
Technology	Alloy-resistance; PTC self-regulating available
Voltage	110 V / 220-230 V (custom on request)
Waterproof rating	IPX8
Insulation	Double-insulated, shielded construction
Applications	Underfloor, pipe antifreeze, roof & road snow melting, equipment insulation, tank heating
Temperature control	Compatible with SunAura WiFi / smart thermostats
Compliance	CE, RoHS (EU) 2015/863, ISO 9001:2015

Routine Maintenance

- Fixed-resistance cable must be ordered to length - never cut it on site, as trimming changes the resistance and overloads the loop; PTC self-regulating cable may be cut to length but must always be finished with a certified end-seal kit.
- Pair every circuit with a matched thermostat: floor sensor for underfloor, contact/frost thermostat for pipes, snow/ice sensor for roofs and ramps.
- Use an RCD/RCBO-protected supply and fix the cable with approved clips or tape at the manufacturer's spacing; do not allow the cable to cross over itself.
- Visually inspect outdoor runs each autumn before freeze-up, and re-verify the sensor cut-in/cut-out points.

Troubleshooting

Symptom	Possible Cause	Solution
Cable does not heat	No supply, tripped RCD, thermostat setpoint above call, or open circuit at the cold tail.	Check voltage at the thermostat output, lower the setpoint, reset the RCD, and inspect the power connection for continuity.
Underfloor run cold in part of the room	Cable pierced during screed/tile work, or a loop laid too far apart.	Trace the layout drawing and insulation-test the cable; a pierced fixed-resistance run cannot be field-spliced.
Pipe still freezes despite energised trace	W/m class too low for the pipe/insulation/climate, or missing/damp pipe insulation.	Confirm the W/m class against the heat-loss calculation, re-fit closed-cell insulation, and extend the trace through unprotected joints.
RCD trips on energisation	Moisture in the connection/end seal or nicked jacket during installation.	Isolate, dry and re-seal the glands, inspect the braid and inner insulation, and rebuild with a new end-seal kit.

Note: Double-conductor construction requires only one cold-tail end, no return loop.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Self-Regulating Heating Cables

Product slug: self-regulating-heating-cable

A parallel PTC conductive-polymer heat-trace cable that draws more power when cold and trims itself as the pipe warms; cut-to-length on site and safe to overlap, for water lines, sewage drains and fire-protection pipework.

Key Specifications

Parameter	Value
Voltage	120 V / 240 V pre-assembled; custom voltage 110-230 V on ODM orders
Output	Standard 16 W / 30 W / 45 W self-regulating classes available by project selection
Construction	Parallel bus wires + PTC core, tinned copper braid, outer FEP/PE jacket
Cutting	Cut-to-length on site; safe overlap, no overheat
Applications	Water pipe freeze protection, sewage drainage, fire sprinkler lines, roof de-icing, industrial tracing
Certification	CE & RoHS; tested per batch in our Qingdao laboratory

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Self-Regulating Fire Pipe Heating Cable

Product slug: self-regulating-heating-cable-fire-pipe

A pre-assembled, plug-and-play PTC trace kit for fire sprinkler lines, standpipes and risers, holding them above freezing so sprinkler systems stay operational through winter.

Key Specifications

Parameter	Value
Heating technology	PTC self-regulating conductive polymer core, parallel construction
Output at 10 °C	16 / 30 / 45 W/m (selectable at order; self-trims as the pipe warms)
Rated voltage	120 V or 240 V AC, factory pre-terminated heavy-duty plug
Inner insulation	FEP, rated to 200 °C on high-temperature builds
Outer jacket	Modified polyolefin, moisture- and chemical-resistant
Earth shield	Aluminium foil + tinned copper braid, full 100% coverage
Cut-to-length	Yes - on site, output unchanged by trimming
Pipe compatibility	Copper, steel, stainless, PVC, PEX
Overlap tolerance	Safe - PTC core self-limits temperature on overlaps
Control	Thermostat or contact thermostat; WiFi smart models available
Compliance	CE, RoHS; manufactured under ISO 9001

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Self-Regulating Sewage Pipe Heating Cable

Product slug: self-regulating-heating-cable-sewage

A PTC trace kit for outdoor and unheated drainage lines, preventing sewage and stormwater pipes from freezing solid, backing up or blocking through winter.

Key Specifications

Parameter	Value
Heating technology	PTC self-regulating conductive polymer core, parallel construction
Output at 10 °C	16 / 30 / 45 W/m (selectable; self-trims as the pipe warms)
Rated voltage	120 V or 240 V AC, factory pre-terminated industrial plug
Inner insulation	FEP, rated to 200 °C on high-temperature builds
Outer jacket	Modified polyolefin, moisture- and chemical-resistant
Earth shield	Aluminium foil + tinned copper braid, 100% coverage
Cut-to-length	Yes - on site, output unchanged by trimming
Pipe compatibility	PVC, PE, PP drainage pipe; clay and concrete ducting via exterior trace
Overlap tolerance	Safe - PTC core self-limits temperature on overlaps
Control	Thermostat or contact thermostat; WiFi smart models available
Compliance	CE, RoHS, ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Self-Regulating Water Pipe Heating Cable

Product slug: self-regulating-heating-cable-water-pipe

A plug-and-play PTC trace kit that keeps domestic and commercial potable water lines flowing through winter, with factory pre-terminated plug and safe overlap on copper, stainless, PVC or PEX.

Key Specifications

Parameter	Value
Heating technology	PTC self-regulating conductive polymer core, parallel construction
Output at 10 °C	16 / 30 / 45 W/m (selectable; self-trims as the pipe warms)
Rated voltage	120 V or 240 V AC, factory pre-terminated plug
Inner insulation	FEP, rated to 200 °C
Outer jacket	Modified polyolefin, moisture-resistant
Earth shield	Aluminium foil + copper braid, 100% coverage
Cut-to-length	Yes - on site, output unchanged by trimming
Pipe compatibility	Copper, stainless steel, PVC, PEX
Overlap tolerance	Safe - PTC core self-limits temperature on overlaps
Control	Thermostat / contact thermostat; WiFi smart models available
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Silicone Heating Cables

Product slug: silicone-heating-cable

A copper-nickel resistance wire insulated in silicone rubber, built from -60 °C to +200 °C, for tanks, pipes, defrost and drain lines; constant-wattage, ordered to length.

Key Specifications

Parameter	Value
Heating element	Copper-nickel alloy resistance wire
Insulation	Silicone rubber, inner and outer jacket
Voltage	36-240 V custom-built per order; 12 V / 24 V on request
Output classes	25 W/m, 40 W/m, 50 W/m
Working temperature	-60 °C to +200 °C; maintenance temperature up to 150 °C
Dielectric test	AC 3500 V immersion test, 100% factory checked
Certification	CE & RoHS; documentation supplied with shipment

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Silicone Rubber Heating Cable - 50 W/m

Product slug: silicone-heating-cable-50w

A high-output constant-wattage silicone trace cable at 50 W per metre for heat maintenance and antifreeze where higher power density is needed, with a 44 m maximum single-circuit length.

Key Specifications

Parameter	Value
Heating element	Copper-nickel alloy resistance wire, parallel construction
Output	50 W/m
Rated voltage	36-240 V AC, specified at order (standard 220 V)
Conductor cross-section	0.75 mm ²
Cable cross-section	approx. 5 x 7 mm
Inner insulation / outer jacket	Silicone rubber / silicone rubber
Parallel node spacing	0.5 m
Max single-circuit length	44 m at 50 W/m
Withstand test	AC 3500 V, water-immersion hipot, 100% factory tested
Temperature range	-60 °C to +200 °C jacket; trace temperature maintained up to 150 °C
Control	On/off thermostat or contact thermostat matched to circuit load
Compliance	CE, RoHS; manufactured under ISO 9001

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Silicone Rubber Heating Cable - 25 W/m

Product slug: silicone-heating-cable-25w

A gentle-output long-run silicone trace at 25 W per metre for frost protection and mild heat maintenance, with a 65 m maximum single-circuit length.

Key Specifications

Parameter	Value
Heating element	Copper-nickel alloy resistance wire, parallel construction
Output	25 W/m
Rated voltage	36-240 V AC, specified at order (standard 220 V)
Conductor cross-section	0.75 mm ²
Cable cross-section	approx. 5 x 7 mm
Inner insulation / outer jacket	Silicone rubber / silicone rubber
Parallel node spacing	0.5 m
Max single-circuit length	65 m at 25 W/m
Withstand test	AC 3500 V, water-immersion hipot, 100% factory tested
Temperature range	-60 °C to +200 °C jacket; trace temperature maintained up to 150 °C
Control	On/off thermostat or contact thermostat matched to circuit load
Compliance	CE, RoHS; manufactured under ISO 9001

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Antifreeze Silicone Heating Cable for Drain Lines - 40 W/m

Product slug: silicone-heating-cable-40w-drain-line

A purpose-built 40 W/m silicone trace for outdoor downpipes, building drains and roof drainage, keeping gravity drain lines flowing through freeze events.

Key Specifications

Parameter	Value
Heating element	Copper-nickel alloy resistance wire, parallel construction
Output	40 W/m
Rated voltage	220-240 V AC (other voltages on request)
Conductor cross-section	0.75 mm ²
Cable cross-section	approx. 5 x 7 mm
Inner insulation / outer jacket	Silicone rubber / silicone rubber
Parallel node spacing	0.5 m
Max single-circuit length	50 m at 40 W/m
Withstand test	AC 3500 V, water-immersion hipot, 100% factory tested
Temperature range	-60 °C to +200 °C jacket; trace temperature maintained up to 150 °C
Control	Contact thermostat or frost thermostat matched to circuit load
Compliance	CE, RoHS; manufactured under ISO 9001

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 3 — Smart Thermostats & Controls

A heating system is only as good as its controller. SunAura's thermostat range covers every installation scenario, from a simple wired thermostat for a bathroom mat to a WiFi colour-LCD controller that programmes the whole home from your phone. The line groups WiFi smart thermostats, the RF wireless boiler thermostat, the wired K1 and related controls, all load-matched to SunAura heating film, mats and cables. Every model is batch-tested in our Qingdao factory and carries CE and RoHS compliance.

Common Routine Maintenance — applies to all models in this family

- Isolate power at the breaker before wiring or removing the fascia; verify supply L/N and load terminals (L1/N1, or NO/NC for boiler versions) are tight and matched to the heating type.
- Keep the screen and fascia clean with a dry or lightly damp soft cloth; never spray liquid directly onto the display and avoid abrasive cleaners.
- If the reading drifts from a reference thermometer, recalibrate the display offset (typically +/-1 to +/-9 °C) in the device or app menu.
- For floor-limiting installs, route the 3 m NTC probe between two heating runs, secure it, and select the active sensor source (air / floor / floor-limited air) in the menu.
- Confirm the circuit has RCD/breaker protection and the connected load stays within rating (16 A electric, or 3 A dry-contact for boilers); use a contactor above the rated load.

Common Troubleshooting — applies to all models in this family

Symptom	Possible Cause	Solution
Screen is blank / no display	No mains supply, tripped breaker/RCD, or loose L/N wiring (batteries on the RF room unit).	Check the supply and breaker, tighten L/N terminals; on the battery RF transmitter replace the 3 x AA cells or use the USB-C input.
Heater does not switch on	Setpoint below room temperature, load over the rated current, or wrong dry-contact wiring (NO/NC).	Raise the setpoint; verify the load is within rating (16 A electric / 3 A via contactor); check L1/N1 or NO/NC terminals and the heating fuse.
Room stays hot or never reaches the setpoint	Sensor source set wrong, floor probe disconnected or shorted, or a stuck relay/contactor.	Select the correct sensor in the menu; check the external NTC probe terminals; if output stays on with demand removed, isolate supply and have the unit/relay checked.
App / WiFi will not pair or drops offline	Router on 5 GHz only, out of range, or the unit not in pairing mode.	Use the 2.4 GHz band, move within router range and re-run the app pairing wizard; the thermostat keeps running its local weekly schedule while offline.
Display reads consistently high or low	Mounting near a heat source or draught, or factory offset not matched to location.	Relocate away from direct sun, radiators and outside walls, then set the calibration offset against a known reference thermometer.

WITH3 (1202) is a two-part RF set: if the receiver does not respond, re-pair the 433 MHz link between the room unit and receiver, replace the AA batteries, and keep the receiver clear of metal obstructions.

Smart Thermostats

Product slug: smart-thermostat

The range hub for SunAura's smart thermostat line: a family of WiFi and wired controllers for underfloor heating, film, mats, cables and boilers, with remote scheduling, dual sensing and energy-saving programmes.

Key Specifications

Parameter	Value
Product family	Smart thermostat range (HYWKGR series), multiple certified models
Control	WiFi + companion app; touch / key / knob variants by model
Load range	3 A to 300 A classes across the range (per model)
Sensors	Internal air sensor plus optional external floor sensor
Display	LCD / colour touch variants by model
Programming	Weekly schedules, child lock, holiday / antifreeze mode
Certification	CE, RoHS; EMC tested to IEC 60335; independent test reports on request
Warranty	2-year standard warranty

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Range hub / overview page; individual models below carry the detailed ratings.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

K1M Smart WiFi Thermostat for Electric Heating

Product slug: k1m-wifi-thermostat

A wall-mounted WiFi smart thermostat for electric heating (film, mats, cables, wall panels) with a colour LCD, five tactile keys and app-based weekly scheduling.

Key Specifications

Parameter	Value
Display	High-definition colour LCD, 86x86 mm; 5 tactile keys
Power supply	AC 100-240 V, 50/60 Hz
Max load	16 A resistive standard; 25 A on request
Sensor	Internal air sensor; external floor sensor option; recalibration supported
Temperature range	Set limits configurable, e.g. 10-35 °C
WiFi / app	WiFi 2.4 GHz; companion app (iOS/Android)
Programming	Weekly, up to 6 periods/day; manual/auto/holiday/antifreeze
Memory	Settings retained on power loss
Certification	CE, RoHS; independent test reports available
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; colour LCD with five tactile keys.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

K1 Thermostat for Electric Heating

Product slug: k1-thermostat

A dependable wired wall thermostat for electric heating with a white-backlight LCD, three working modes and no WiFi required.

Key Specifications

Parameter	Value
Display	LCD with white backlight
Power supply	90-240 VAC, 50/60 Hz
Load rating	3 A dry contact / 16 A / 25 A versions (choose per load)
Accuracy	+/-1 °C
Temperature range	10-40 °C (display in C or F)
Dimensions	86 x 86 x 41 mm
Control	Power / mode / timer / up / down keys
Working modes	Energy-saving, weekly timer, manual
WiFi / app	None - standalone wired thermostat
Certification	CE
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Non-WiFi wired model; no app control; white backlight.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

K2M WiFi Smart Thermostat with Dual-Sensor Floor Probe

Product slug: k2m-wifi-thermostat

A WiFi smart floor-heating thermostat with a dual-sensor floor probe, suited to electric and hydronic loops and gas boilers.

Key Specifications

Parameter	Value
Display	Backlit LCD; black or white glass touch panel
Power supply	AC 95-240 V, 50/60 Hz
Output	16 A resistive standard (25 A on request); 3 A dry-contact (NO/NC) for boilers
Sensor	NTC internal air; optional external NTC floor-limiting probe
Temperature range	5-60 °C, configurable limits
Accuracy	+/-1 °C, recalibratable
WiFi / app	WiFi 2.4 GHz; companion app (iOS/Android)
Weekly timer	Up to 6 periods/day weekday; 2 periods rest day
Standby	< 1 W
Certification	CE, RoHS, FCC
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; electric and boiler versions; external floor probe.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

K9 WiFi Smart Thermostat with Colour Touchscreen and Voice Control

Product slug: k9-thermostat

A WiFi floor-heating thermostat built around a colour touchscreen with voice control, covering water, electric and wall-hung boiler systems.

Key Specifications

Parameter	Value
Display	Colour touch LCD (room/set temp, humidity, weather)
Power supply	AC 90-240 V, 50/60 Hz
Rated load	3 A dry contact (boiler/water); 16 A electric standard, 25 A on request
Sensor	NTC internal room; external NTC floor probe option
Temperature range	Settable 5-40 °C; calibration offset -9 to +9 °C
Accuracy	+/-1 °C
WiFi / app	WiFi 2.4 GHz; companion app; RS485 central-control option
Voice control	Works with major smart-home voice assistants
Weekly programming	Up to 6 periods/day, set in app or on screen
Operating environment	5-50 °C, IP20
Certification	CE, IP20

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi colour-touch model; voice control; RS485 option.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

K5 WiFi Smart Thermostat with VA Colour Display

Product slug: k5-thermostat

A wall-mounted WiFi floor-heating thermostat with a vivid VA colour display and five tactile front keys.

Key Specifications

Parameter	Value
Display	VA colour screen on black background
Power supply	AC 95-240 V, 50/60 Hz
Output - electric	16 A resistive direct switch
Output - boiler	3 A normally-open dry contact
Sensor	External NTC floor sensor beta=3950, 10 k ohm at 25 °C; built-in air sensor
Temperature range	Configurable, e.g. 5-35 °C; accuracy +/-1 °C
WiFi / app	WiFi 2.4 GHz; companion app (iOS/Android)
Weekly timer	Up to 6 periods/day; weekday/weekend groups
Housing	Flame-retardant PC+ABS, IP20; standby < 1 W
Certification	CE, FCC, RoHS
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; VA colour display.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

KC02 WiFi Smart Heating Thermostat

Product slug: kc02-thermostat

An 86 mm touch-screen WiFi smart thermostat for electric and water underfloor heating and gas wall-hung boilers.

Key Specifications

Parameter	Value
Variants	KC02H 16 A / KC02H20A 20 A / KC02RH-Wifi 3 A dry-contact boiler
Display	Large backlit LED touch screen; mirror-glass off
Power supply	AC 90-240 V, 50/60 Hz
Output	16 A / 20 A resistive, or 3 A dry contact
Sensor	Internal air sensor; external floor sensor cable optional
WiFi / app	WiFi 2.4 GHz; companion app (iOS/Android)
Programming	5+2: 6 weekday + 2 weekend periods; default 22 °C
Control modes	Manual/auto weekly, antifreeze, child lock, calibration
Certification	CE
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi touch model; three load variants; mirror-glass face.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

K6H WiFi LED Touch Screen Underfloor Heating Thermostat

Product slug: k6h-thermostat

A slim WiFi underfloor-heating thermostat with a full-screen LED touch display and black glass fascia.

Key Specifications

Parameter	Value
Display	LCD with full-screen LED touch panel
Dimensions	86 x 86 x 40 mm
Power supply	AC 95-240 V, 50/60 Hz
Carrying current	3 A / 16 A / 20 A versions
Sensor	NTC thermistor internal air; external floor option
Temperature range	5-60 °C; accuracy +/-1 °C
WiFi / app	WiFi 2.4 GHz; companion app (iOS/Android)
Control modes	Manual/auto weekly, child lock, sleep setback, power-off memory
Housing	PC flame-retardant, IP20; standby < 1 W
Certification	CE, RoHS, FCC
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi LED touch model; black glass front.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Knob WiFi Smart Thermostat

Product slug: knob-wifi-thermostat

A wall-mounted WiFi smart thermostat combining a precise rotary knob with phone-based weekly scheduling.

Key Specifications

Parameter	Value
User interface	LED display + touch keys + rotary knob (press = power)
Power supply	AC 90-240 V, 50-60 Hz
Current rating	3 A dry contact (boiler/actuators); up to 16 A resistive (electric)
Sensor	NTC 3950, 10 k ohm at 25 °C; external floor sensor terminals 5-6
Control range	5-45 °C; limits adjustable 5-90 °C; differential 0.5-5 °C
Accuracy	+/-1 °C; calibration offset -9 to +9 °C
WiFi / app	WiFi 2.4 GHz; companion app; major voice assistants
Programming	Weekly 5+2 / 6+1 / 7-day, up to 6 periods/day
Protection	IP20; PC+ABS flame-retardant
Certification	CE, IP20
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi rotary-knob model; press knob = power on/off.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Piano-Key WiFi LCD Thermostat for Floor Heating and Boiler

Product slug: piano-key-wifi-thermostat

A WiFi LCD heating thermostat with physical piano-key switches for water, electric and boiler installations.

Key Specifications

Parameter	Value
Display	Top black LCD strip (24 h clock, day, room/set temp)
Controls	3 piano-style physical keys: M, up, down
Faceplate	86 x 86 mm, champagne or white
Output - electric	16 A direct switching (L/N terminals 1/2; load L1/N1 terminals 4/3)
Output - boiler	3 A volt-free dry contact (NO/NC)
Sensor	Internal air + optional external NTC floor (10 k ohm, beta 3950)
WiFi / app	WiFi 2.4 GHz; companion app (iOS/Android)
App features	Auto/manual, antifreeze, child lock, weekly schedule, remote setpoint
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; physical piano-key switches.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

WITH3 RF Wireless Wall-Hung Boiler Thermostat

Product slug: rf-wireless-thermostat

A 433 MHz RF wireless two-part set (battery room unit + wired receiver) for wall-hung boilers and wet central heating.

Key Specifications

Parameter	Value
System type	Two-part RF set: battery room thermostat + receiver wired to boiler
Room unit size	118 x 86 x 24 mm
Room unit power	3 x AA batteries; USB Type-C 5 V input
Operating voltage	AC 90-240 V, 50/60 Hz (receiver)
Display	Backlit VA LCD; 0.1 °C resolution, 0.5 °C step
Wireless link	433 MHz RF to receiver; WiFi for app/voice
Voice control	Works with major smart-home voice assistants
Programming	7-day: 5+2 / 6+1 / 7-day, up to 6 periods/day
Functions	Manual/programme, ECO, antifreeze, child lock, limits
Housing / rating	Flame-retardant PC/ABS V0; IP20; 5-50 °C; 1 W

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: RF wireless boiler thermostat; battery transmitter pairs to the wired receiver over 433 MHz.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Black Glass Touch WiFi Thermostat

Product slug: touch-wifi-thermostat

An all-black glass WiFi touch thermostat for underfloor heating and radiators across electric, water and boiler systems.

Key Specifications

Parameter	Value
Display	Backlit LCD on all-black glass touch panel; 5 touch keys
Power supply	AC 90-240 V, 50/60 Hz
Load rating	16 A resistive (electric); 3 A dry contact (water/boiler)
Sensor	NTC; accuracy +/-1 °C
Temperature range	Settable 5-60 °C; display 5-45 °C
Dimensions	86 x 86 x 14 mm
Wiring	L/N/N1/L1 plus external probe terminals 5-6
WiFi / app	WiFi 2.4 GHz; companion app; major voice assistants
Weekly timer	6 weekday + 2 weekend periods; 5+2/6+1/7-day
Protection / cert	IP20; CE; flame-retardant PC
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; all-black glass fascia with invisible touch keys.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

SDM5 WiFi Smart Thermostat with LED Display

Product slug: sdm5-thermostat

A slim 86 mm WiFi smart thermostat with a green-backlit LED display and physical side buttons.

Key Specifications

Parameter	Value
Display	LED digital, green backlight
Controls	Physical side buttons M / up / down
Power supply	AC 90-240 V, 50/60 Hz
Load rating	16 A resistive (electric); 3 A (water/boiler)
Sensor	NTC, accuracy +/-1 °C; external probe terminal
Temperature range	Settable 5-60 °C; display 0-50 °C
Dimensions	86 x 86 x 14 mm
WiFi / app	WiFi 2.4 GHz; companion app; major voice assistants
Weekly timer	6+2 periods; 5+2/6+1/7-day templates
Protection / cert	IP20, CE; standby < 1 W
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; LED display with side buttons.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

SDM6 WiFi Smart Thermostat with Ring Display

Product slug: sdm6-thermostat

A WiFi smart thermostat built around a circular ring LCD showing room temperature on the outer ring and the setpoint inside.

Key Specifications

Parameter	Value
Display	Circular ring LCD (outer room temp, inner set temp)
Buttons	Side keys M / up / down
Power supply	AC 90-240 V, 50/60 Hz
Load rating	16 A resistive (electric); 3 A dry contact (boiler)
Sensor	NTC thermistor, accuracy +/-1 °C; external probe optional
Temperature range	Settable 5-60 °C; display 0-50 °C
Dimensions	86 x 86 x 14 mm
WiFi / app	WiFi 2.4 GHz; companion app; major voice assistants
Programming	6 weekday + 2 rest-day periods; 5+2/6+1/7-day
Protection / cert	IP20, CE
Warranty	2-year

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; distinctive ring-dial display.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

HY312 WiFi Touch Screen Thermostat

Product slug: thermostat-hy312-wifi-touch

A glass-front WiFi touch controller for electric underfloor heating with a 3 m floor sensor and wide 90-240 V supply.

Key Specifications

Parameter	Value
Type	WiFi touch-screen room thermostat for electric underfloor heating
Power supply	90-260 V~ 50/60 Hz
Load	16 A direct; use a contactor above 16 A
Sensor	Built-in room sensor + 3 m external NTC floor sensor
Mounting	Standard 60 mm recessed back box
WiFi / app	Built-in WiFi; app pairing on 2.4 GHz
Sensing modes	Air, floor, or floor-limited air (selectable in menu)
Commissioning	RCD-protected circuit per local wiring rules
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi touch model; 3 m floor probe; 60 mm back box.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Programmable Touch Thermostat

Product slug: thermostat-programmable-touch

A 7-day programmable touch room thermostat handling 16 A electric loads and 3 A boiler/wet signals.

Key Specifications

Parameter	Value
Type	Programmable touch-screen room thermostat
Power supply	90-260 V~ 50/60 Hz
Current load	16 A (electric) / 3 A dry contact (water/boiler)
Sensor	Built-in room sensor + 3 m external NTC floor sensor
Temperature range	5-35 °C adjustable; configurable floor limit
Display	Backlit touch screen
Mounting	Standard 60 mm wall back box
Programming	7-day schedule
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Non-WiFi touch model; 7-day programmable.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Floor Heating System Thermostat

Product slug: thermostat-floor-heating-controller

A simple household room thermostat that samples room and floor and switches heating mats or film on and off.

Key Specifications

Parameter	Value
Type	Household floor-heating room thermostat
Power supply	90-260 V~ 50/60 Hz
Current load	16 A (electric) / 3 A (water)
Sensor	Built-in room sensor + 3 m external NTC sensor
Temperature range	5-35 °C adjustable
Display	Digital LCD room/floor readout
Mounting	Standard 60 mm wall back box
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Non-WiFi basic model; room + floor readout.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Y603H/16 WiFi Thermostat

Product slug: thermostat-y603h-wifi

An electric-heating room thermostat with direct buttons plus remote WiFi app control, switching up to 16 A.

Key Specifications

Parameter	Value
Model	Y603H/16-WIFI
Type	WiFi room thermostat for floor heating
Power supply	90-260 V~ 50/60 Hz
Current load	16 A (electric) / 3 A (water)
Sensor	Built-in room sensor + 3 m external NTC floor sensor
Temperature range	5-35 °C adjustable; floor limit configurable
Control	Direct buttons + remote WiFi (Android/iOS app)
Mounting	Standard 60 mm wall back box
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; buttons plus app remote control.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Y819H/16 WiFi Thermostat

Product slug: thermostat-y819h-wifi

A button-and-WiFi wall controller for electric and carbon-film heating, used in hotels, hospitals, schools and offices.

Key Specifications

Parameter	Value
Model	Y819H/16-WIFI
Type	WiFi room thermostat for electric / carbon-film heating
Power supply	90-260 V~ 50/60 Hz
Typical load	16 A electric (confirm per project); 3 A water contact on variants
Sensor	Room sensor + 3 m external NTC floor sensor
Control	Direct buttons + remote WiFi (Android/iOS app)
Typical projects	Hotels, hospitals, schools, offices
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: WiFi model; button panel; commercial rooms.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

E51.716/16 Button Thermostat

Product slug: thermostat-e51716-button

A programmable room controller run entirely by physical panel buttons, with no touch screen or app.

Key Specifications

Parameter	Value
Model	E51.716/16
Type	Programmable button room thermostat
Heating systems	Electric underfloor; carbon-film heating
Control	Physical panel buttons only (no touch screen)
Sensor	Room sensor + 3 m external NTC floor sensor
Typical projects	Hotels, hospitals, schools, offices
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Non-WiFi; physical buttons only.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Y308/16 Knob Thermostat

Product slug: thermostat-y308-knob

The simplest controller in the range: a rotary knob that raises or lowers comfort, with no menus or app.

Key Specifications

Parameter	Value
Model	Y308/16
Type	Knob-type electric heating room thermostat
Heating systems	Electric underfloor; carbon-film heating
Typical load	16 A electric (confirm per project)
Control	Rotary knob; on-panel display
Sensor	Room sensor + 3 m external NTC floor sensor
Typical projects	Hotels, hospitals, schools, offices
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Non-WiFi; simplest rotary-knob model, no app.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

E91.716/16 Touch Thermostat

Product slug: thermostat-e91716-touch

A programmable touch-screen room controller for electric and carbon-film heating, set by finger on a glass fascia.

Key Specifications

Parameter	Value
Model	E91.716/16
Type	Programmable touch-screen room thermostat
Heating systems	Electric underfloor; carbon-film heating
Typical load	16 A electric (confirm per project)
Control	Glass touch screen; on-device programming
Display	Backlit touch screen
Sensor	Room sensor + 3 m external NTC floor sensor
Typical projects	Homes, hotels, hospitals, schools, offices
Body material	Flame-retardant PC+ABS
Certification	CE, RoHS
Warranty	2 years

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Non-WiFi touch model; on-device programming.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 4 — Pet & Plant Heating

Reptiles, small pets, seeds and cuttings all depend on a stable temperature to thrive. SunAura's pet and plant heating range delivers constant, uniform bottom heat with low electromagnetic emission, built-in PTC safety and simple temperature control - from a single terrarium pad to a full propagation bench. All products are CE and RoHS compliant and use flame-retardant materials where appropriate.

Reptile Heat Mats & Heating Pads for Terrariums & Vivariums

Product slug: pet-reptile-heating

Reptile and amphibian heat mats deliver uniform bottom heat with 10-speed temperature control, low-EMF shielded construction and built-in PTC temperature limiting for safe 24/7 terrarium use.

Key Specifications

Parameter	Value
Heating element	Graphene heating film
Rated voltage	220 V / 110 V
Surface temperature	PTC limited, below 50 °C
Power range	5 W to 78 W
Standard sizes	15x14 cm to 80x28 cm (seven sizes)
Outer construction	PVC (waterproof, wipe-clean) or basic construction
Temperature control	Direct plug-in, knob switch, or 10-speed controller
Cord length	1.5 m
Plugs	EU, US, UK, AU, JP
Compliance	CE / RoHS; ISO 9001:2015

Routine Maintenance

- Clean and dry the outside bottom of the terrarium, then stick the pad to the underside or outside wall - never inside a wet vivarium unless using the fully sealed PVC version.
- Cover only one third to one half of the floor so the animal always has a cooler retreat.
- Plug into a compatible thermostat with a floor probe; set the warm-side target for the species before switching on, and set the 10-speed dial one step below where the thermostat starts cycling.
- Wipe the outer casing with a damp cloth when needed; keep the plug and connector dry and away from water drift.
- Route the cord away from climbing or chewing animals, and never run the pad under gravel or bedding that can trap heat.

Troubleshooting

Symptom	Possible Cause	Solution
Surface feels too hot / risk of burns.	Dial set too high, or substrate/bedding trapping heat under the pad.	Lower the 10-speed dial one step below where the thermostat cycles; verify the warm-side floor with a probe thermometer; never bury the pad under thick substrate.
Pad seems too cool for the species.	Low-speed setting or cool ambient room temperature.	Raise the dial gradually until the thermostat stops cycling; confirm with a probe thermometer because substrate thickness changes the felt temperature.
Unsure whether the pad is safe to leave on 24/7.	Unknown continuous-use rating.	The shielded low-EMF element, moisture-resistant PVC and PTC limiting are designed for continuous 24/7 operation when paired with a thermostat that holds the species' target band.
Moisture or water near the pad.	Humid enclosure or a water area in the vivarium.	Use the fully sealed PVC version, keep the plug and connector dry, and never install inside a wet vivarium with the basic construction.

Note: Belly heat for geckos, bearded dragons, snakes, turtles, frogs, tortoises and amphibians; also used for whelping boxes and seed starting.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Seedling & Plant Heating Mat

Product slug: seedling-heating-mat

A seedling heating mat holds root-zone soil temperature in the germination sweet spot from below, using a graphene far-infrared film fully sealed in waterproof PVC.

Key Specifications

Parameter	Value
Heating element	Graphene far-infrared heating film
Outer surface	Eco-friendly, waterproof PVC encapsulation
Rated voltage	120 V / 230 V (110 V or 220-230 V builds)
Standard sizes	4x21 in, 10x21 in, 20x21 in
Control options	Basic plug-in, knob switch, or digital display thermostat
Root-zone range	10-40 °C adjustable
Plug standards	EU, US, Australian, British
Compliance	CE / RoHS; ISO 9001:2015

Routine Maintenance

- Lay the mat on a flat, dry surface with the seed tray or pot directly on top; keep the growing medium moist - the mat warms the soil, it does not water the plants.
- Unplug once seedlings have sprouted and developed their first true leaves, to avoid damping-off and leggy growth.
- At season end, wipe the PVC surface clean, let it dry fully, roll it loosely (never fold sharply over the element) and store in a dry place.
- Keep the plug, connector and power cord away from standing water; never submerge the mat.
- Unroll the mat flat for a day before first use each season so it sits evenly under the trays.

Troubleshooting

Symptom	Possible Cause	Solution
Damping-off or leggy seedlings.	Mat left on too long after germination.	Reduce or switch off the mat once the first true leaves appear; the mat is a germination tool, not a permanent heat source.
Root zone stays cold / slow germination.	Wrong control setting or cool room temperature.	On the digital-display model set the target root-zone temperature directly; on knob/basic models adjust by results and check soil warmth with a probe thermometer on day one (most seeds germinate best at 20-28 °C).
Water spills on the mat during watering or misting.	Watering or humid domes on the bench.	The sealed PVC handles spills, humid domes and misting; keep the plug and connector away from standing water and never submerge the mat.
Mat will not lie flat or kinks under the tray.	Tightly rolled or sharply folded in storage.	Store loosely rolled, never fold sharply over the element; unroll the mat flat for a day before use.

Note: For indoor seed starting, cuttings/propagation, greenhouse benches and tropical houseplants; custom sizes on request.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Cat & Dog Heating Pad

Product slug: cat-dog-heating-pad

A cat and dog heating pad wraps a graphene far-infrared film in waterproof, wear-resistant PVC with a bite-resistant cord and a downward-heat insulation layer for a safe warm bed corner through winter.

Key Specifications

Parameter	Value
Heating element	Graphene far-infrared heating film
Outer surface	Waterproof, wear-resistant, wipe-clean PVC
Power cord	Custom bite-resistant pet lead
Heat retention	Built-in insulation layer - no downward heat loss
Rated voltage	110 V / 220-230 V
Standard sizes	50x40, 70x40, 90x60, 70x120, 100x150 cm
Custom sizes	Available on request
Compliance	ISO 9001:2015, CE / RoHS

Routine Maintenance

- Place the pad in the pet's usual resting spot; cover loosely with a blanket if preferred.
- Plug in and start on the lower setting, then watch how the pet uses it.
- Wipe the PVC surface with a damp cloth when needed; never hose or submerge the pad.
- Route the bite-resistant cord away from chewing, and supervise chewers as with any pet electrical product.
- Use a thermostat or timed setting and check the pet is comfortable if the pad is left on overnight.

Troubleshooting

Symptom	Possible Cause	Solution
Cord damaged by chewing.	Pet biting the lead.	The custom bite-resistant lead resists bites longer than a standard cord, but route it out of the way and supervise chewers.
Pad gets wet from muddy paws or spilled water bowls.	Wet paws, water bowls, or outdoor dog house.	The PVC surface is waterproof and wipe-clean; do not hose or submerge, and keep the connector and plug dry.
Not warm enough for a large dog.	Pad too small for the animal to lie stretched on.	Choose a pad the pet can lie fully stretched on - 90x60 cm for medium dogs, 100x150 cm for large breeds; custom kennel sizes are available.
Unsure about leaving the pad on overnight.	Unknown continuous-use safety.	The film runs at a low, even temperature and the pad is built for regular daily use; use a thermostat or timer and check the pet is comfortable.

Note: For cat/dog beds, whelping and kitten boxes, senior-pet joint comfort, outdoor houses/sheds and vet recovery tables.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 5 — Snow Melting Mats

Snow melting mats are pre-made, weatherproof electric panels that lie flat on roofs, driveways, ramps and gutters and melt falling snow on contact, keeping the surface dry and trafficable the moment they are powered. The range covers modular 0.5 m-wide sections from 1 to 24 m² in PVC, rubber or FEP-insulated jackets, with voltages from 12 V to 380 V and power densities from 300 to 500 W/m², operated automatically from a snow/ice sensor.

Common Routine Maintenance — applies to all models in this family

- Pair the mat with a snow/ice sensor (or frost-stat) so it energizes only when moisture and near-freezing temperature coincide; run on a fixed timer/switch and it heats continuously and wastes power on dry days.
- Protect the supply circuit with an earth-leakage / GFCI device rated for outdoor wet locations.
- At the end of the freeze-thaw season, switch the system off at the isolating switch; roll up and store surface-laid walkway mats for summer, leaving embedded driveway and roof mats in place.
- Keep connector tails and glands undamaged - these are the main wear points; replacement tails and gland kits are available for after-sales service.
- Rinse surface-laid mats clear of road salt and grit after each melt cycle, and inspect the jacket for cuts before each winter season.

Common Troubleshooting — applies to all models in this family

Symptom	Possible Cause	Solution
Mat does not heat; surface stays cold.	No supply voltage, sensor not triggering, or earth-leakage / GFCI has tripped.	Check supply and isolating switch; reset the GFCI/ELCB; confirm the snow/ice sensor sees both moisture and near-freezing temperature, or test on manual override.
Mat heats constantly even on dry, mild days.	Running on a fixed timer/switch without a snow/ice sensor.	Fit a snow/ice sensor or frost-stat, and switch the system off at the isolating switch for the warmer months.
Snow/ice not clearing even though the mat is energized.	Wattage too low for slope/heavy snow, or the area is under-covered.	Size at about 300 W/m ² for flat ground and 500 W/m ² for slopes and heavy snow; cover the full area to be kept clear with 0.5 m-wide modular strips.
Connector tail trips protection or shows moisture.	Damaged gland or water ingress at the cold tail.	Isolate supply, inspect the gland and tail, and fit a replacement tail/gland kit; keep all joints sealed against standing water.
Jacket cracks or mat lasts only one season.	UV/salt degradation, or wrong jacket for the application (e.g. walking on a roof-only FEP mat).	Use the correct jacket for the surface (UV/FEP for roofs, rubber for walkways, embed-grade for driveways) and rinse off road salt after winter.

All snow melting mat models are pre-made weatherproof panels; differences are voltage/power/size/jacket material. Standard width 0.5 m, continuous strips 1-12 m² (up to 24 m on request), IP67, CE/RoHS.

Snow Melting Mats

Product slug: snow-melting-mat

Pre-made weatherproof electric panels that lie flat on roofs, driveways, ramps and gutters and melt falling snow on contact, keeping the surface dry and trafficable the moment they are powered.

Key Specifications

Parameter	Value
Modular size	0.5 m wide x 2-24 m long (1-12 m ² per section); custom sizes on ODM
Voltage	110 V / 220 V / 240 V standard; 12-380 V wide-range version available
Power density	300 W/m ² (110/220 V) to 500 W/m ² (240 V high-density)
Jacket options	PVC, rubber or FEP-insulated weatherproof construction
Control	Snow/ice sensor ready; pair with a smart thermostat
Certification	CE & RoHS; 100% batch-tested

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Category/overview page for the whole SunAura snow melting mat range (roofs, driveways, ramps, walkways, gutters).

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Roof Snow Melting Mat

Product slug: snow-melting-mat-roof

Flexible factory-built roof mat that lies flat on tile, metal or membrane roofs and melts roof-edge snow and ice automatically for ice-dam prevention.

Key Specifications

Parameter	Value
Product type	roof snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	UV-stabilised PVC / FEP outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Roof-edge variant for ice-dam prevention; UV-stabilised jacket rated for long-term rooftop sun exposure; do not drive on it.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Snow Melting Mat – 12–380 V

Product slug: snow-melting-mat-wide-voltage

Wide-voltage snow melting mat built from 12 V up to 380 V AC for solar, battery, DC or three-phase sites where a standard mains mat does not fit.

Key Specifications

Parameter	Value
Product type	wide-voltage snow melting mat
Rated voltage	12 V / 24 V ... 110 V ... 220-380 V AC (custom)
Heat output	approx. 300 W/m ² (per circuit)
Outer jacket	Heavy-duty outdoor PVC / rubber outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Wide-voltage build for off-grid, solar/battery or three-phase supply; voltage and wattage set at build time.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

PVC Roof & Driveway Snow Melting Mat

Product slug: snow-melting-mat-pvc-roof-driveway

Tough PVC-jacketed snow melting mat for exposed roof edges or embedment under driveways, with a smooth surface that rinses clean after each melt cycle.

Key Specifications

Parameter	Value
Product type	PVC jacket snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Tough PVC outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67; sealed edges and cold-tail connection
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: One jacket for two install modes: exposed on roofs or buried under driveways; stands up to embedment, road salt and UV.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Rubber Snow Melting Mat with Cable System

Product slug: snow-melting-mat-rubber-cable-system

Thick rubber-jacketed mat with a pre-built internal cable layout that stays flexible at very low temperatures and carries pedestrian and light-vehicle traffic.

Key Specifications

Parameter	Value
Product type	rubber snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Durable black rubber outer jacket, textured non-slip
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Pre-built resistive cable layout laminated inside the sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Thick rubber jacket that does not crack in extreme cold; rugged enough for pedestrian and light-vehicle traffic; roll up and move season to season.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Electric Snow Melting Mat

Product slug: snow-melting-mat-outdoor-electric

General-purpose flexible electric outdoor mat that melts snow and ice on driveways, walkways, roofs and ramps when powered.

Key Specifications

Parameter	Value
Product type	outdoor electric snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Weatherproof outdoor outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Default all-round outdoor electric mat; surface-laid or embedded under concrete/asphalt/pavers.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Non-Slip Walkway Snow Melting Mat

Product slug: snow-melting-mat-walkway-non-slip

Walkway mat with a textured non-slip rubber/PVC surface that gives sure footing even while it is actively melting ice at entrances and public approaches.

Key Specifications

Parameter	Value
Product type	non-slip walkway snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Textured non-slip rubber / PVC outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Prioritised for retail, hospitality and public entrances where pedestrians walk on the heated surface.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Snow Melting Mat System

Product slug: snow-melting-mat-outdoor-system

Whole-site outdoor snow melting mat system supplied as matched kits with the mats, sensors and controllers for a complete winter installation.

Key Specifications

Parameter	Value
Product type	snow melting mat system
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Weatherproof outer jacket; system kits available
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat (bundled)
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: System-kit build: mats plus matched sensors/thermostats priced together for property-wide projects.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Corridor Snow Melting Mat

Product slug: snow-melting-mat-corridor

Non-slip outdoor mat sized for covered corridors and public approaches, keeping walkways slip-free through winter.

Key Specifications

Parameter	Value
Product type	corridor snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Non-slip outdoor outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Corridor / covered-walkway variant with non-slip jacket for foot traffic.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Sidewalk Snow Melting Mat

Product slug: snow-melting-mat-sidewalk

Weatherproof non-slip mat for sidewalks and public footways, melting walking-route snow and ice on contact.

Key Specifications

Parameter	Value
Product type	sidewalk snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Weatherproof non-slip outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Sidewalk / public footway variant; non-slip jacket for pedestrian use.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Snow Melting Mat – 220 V, 300 W/m²

Product slug: snow-melting-mat-220v-300w

Fixed 220-240 V build at a balanced 300 W/m², matched to 50/60 Hz mains used across Europe and Asia.

Key Specifications

Parameter	Value
Product type	220 V snow melting mat
Rated voltage	220-240 V AC
Heat output	300 W/m ²
Outer jacket	Weatherproof outdoor outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Fixed-voltage 220-240 V / 300 W/m² build for Europe and Asia; recommended with GFCI and snow sensor.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Snow Melting Mat – 240 V, 500 W/m²

Product slug: snow-melting-mat-240v-500w

High-density 208-240 V mat at 500 W/m² built for heavy-snow regions, steep slopes and commercial North-American service.

Key Specifications

Parameter	Value
Product type	high-power 500 W snow melting mat
Rated voltage	208-240 V AC (North American / commercial)
Heat output	500 W/m ²
Outer jacket	Heavy-duty weatherproof outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: High-power 500 W/m² for slopes and heavy snow; circuit sizing and protection devices recommended for the higher load.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Snow Melting Mat – 110 V, 300 W/m²

Product slug: snow-melting-mat-110v-300w

Fixed 110-120 V build at 300 W/m² sized so typical North-American household circuits handle several mats safely.

Key Specifications

Parameter	Value
Product type	110 V snow melting mat
Rated voltage	110-120 V AC (North American household)
Heat output	300 W/m ²
Outer jacket	Weatherproof outdoor outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat; GFCI circuit
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Fixed 110-120 V household build; use on a GFCI-protected circuit with a snow/ice sensor.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Walkway & Driveway Snow Melting Mat

Product slug: snow-melting-mat-walkway-driveway

Weatherproof mat for combined walkway and driveway coverage, melting snow on both pedestrian approaches and vehicle aprons.

Key Specifications

Parameter	Value
Product type	walkway and driveway snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Weatherproof outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Combined walkway + driveway build; covers footpath and apron from one mat family.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Driveway Snow & Ice Melting Mat

Product slug: snow-melting-mat-driveway-ice

Heavy-duty embed-grade mat for driveways and access roads, laid under pavers, asphalt or concrete at 300-500 W/m².

Key Specifications

Parameter	Value
Product type	driveway snow and ice melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300-500 W/m ²
Outer jacket	Heavy-duty embed-grade outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Embed-grade jacket for driveways/roads under pavers, asphalt or concrete; 300-500 W/m² by climate.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Roof & Gutter Snow Melting Mat

Product slug: snow-melting-mat-roof-gutter

UV-stabilised flexible mat for roof edges and gutters that keeps meltwater draining instead of refreezing into ice dams.

Key Specifications

Parameter	Value
Product type	roof and gutter snow melting mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	UV-stabilised, flexible outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67 (standing gutter water)
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Roof-edge and gutter de-icing / ice-dam prevention; cover from gutter up to the heated interior ceiling line.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Walkway De-Icing Snow Melting Mat

Product slug: snow-melting-mat-walkway-deicing

Non-slip weatherproof mat for walkway de-icing at entrances and approaches, keeping footways clear all winter.

Key Specifications

Parameter	Value
Product type	walkway de-icing mat
Rated voltage	110-120 V / 220-240 V AC (selectable)
Heat output	approx. 300 W/m ²
Outer jacket	Non-slip weatherproof outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Walkway de-icing variant for entrances; non-slip jacket for pedestrians.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Anti-Freeze Snow Melting Mat

Product slug: snow-melting-mat-antifreeze

Custom-voltage anti-freeze mat run on an anti-icing strategy that keeps the surface just below freezing, using far less energy than de-icing after storms.

Key Specifications

Parameter	Value
Product type	anti-freeze snow melting mat
Rated voltage	12/24 V ... 110 V ... 220-240 V AC (custom)
Heat output	approx. 300 W/m ²
Outer jacket	Weatherproof anti-freeze outer jacket
Mat width	0.5 m; strips 1-12 m ²
Waterproof rating	IP67
Heating element	Resistive conductor laminated inside the flexible sheet
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Anti-icing (keep surface just below freezing) build; custom voltage; sensor-driven for low energy use.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 6 — Step Snow Melting Mats

A step snow melting mat is a slim, weatherproof heated panel cut to the size of an individual stair tread or entrance platform; powered in winter it melts snow and ice on contact. The range covers 110 V and 220-230 V builds in 30x90 cm and 50x90 cm tread sizes, with non-slip textured surfaces, PVC-jacketed variants and ground/roof/road-grade panels. Each unit is hi-pot and insulation tested before packing, and can be run from a switch or paired with a smart thermostat or snow/ice sensor.

Common Routine Maintenance — applies to all models in this family

- Lift the mat after the freeze season, clean off mud and grit, roll or fold it flat, and store it indoors dry before redeployment next winter.
- Before each winter, inspect the jacket, lead cable and plug for cuts or abrasion; do not energize a mat with damaged insulation.
- Keep the non-slip walking surface clean of leaves, gravel and de-icing chemicals so the texture stays grippy when wet.
- Lay the mat flat on a clean tread with the textured side up and route the lead cable along the riser into a weatherproof outlet or junction box.
- Pair the circuit with a snow/ice sensor or smart thermostat so power flows only when precipitation arrives; keep the total chained load within the 1500 W per 120 V reference limit.

Common Troubleshooting — applies to all models in this family

Symptom	Possible Cause	Solution
Mat does not heat when switched on	No supply, tripped RCD/GFCI, or a damaged lead cable or plug	Check the outlet and circuit breaker/RCD, inspect the lead and plug; do not energize a mat with a damaged jacket.
Only part of the mat warms	Localized damage to the embedded element or a loose chain connection	Stop use and check the chained connector and branch circuit; if the element is damaged, replace the mat.
Branch circuit trips repeatedly	Too many mats chained on one circuit, over the 1500 W per 120 V reference limit	Spread the mats across more than one branch circuit and keep each load within its rated limit.
Snow melts slowly or the mat stays cool	Voltage mismatch between the mat build and the mains supply	Confirm the mat voltage matches the supply: 120 V builds for North America, 220-240 V for Europe/UK/global.
Walking surface feels slippery when wet	Non-slip texture clogged with mud or ice residue	Clean the textured walking surface; it is designed to stay grippy once clean.

All step snow melting mat models are pre-made anti-slip stair/walkway panels; differences are voltage, power, size and jacket finish. 1346/1347 are embed/surface road and roof-grade variants with IP67 and W/m2 ratings rather than per-mat wattage.

Step Snow Melting Mats

Product slug: step-snow-melting-mat

A slim, weatherproof heated panel cut to the size of an individual stair tread or entrance platform; powered in winter it melts snow and ice on contact.

Key Specifications

Parameter	Value
Tread sizes	30 x 90 cm and 50 x 90 cm standard; custom sizes on ODM order
Voltage	110 V (North American supply) or 220-230 V (EU/UK/global markets)
Melt performance	About 5 cm of snow cleared within one hour of power-on at rated wattage
Surface	Textured non-slip top; PVC-jacketed weatherproof variants available
Controls	Plug-in operation; sensor or smart-thermostat pairing recommended
Certification	CE and RoHS; 100% batch-tested in the Qingdao factory

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Family hub page: 110 V and 220-230 V builds in standard tread sizes, non-slip textured surfaces and ground-level mats for landings.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Sidewalk Step Snow Melting Mat

Product slug: step-snow-melting-mat-sidewalk

Purpose-built outdoor electric mat that melts snow and ice on stair treads, steps and walkways, chainable edge-to-edge across a flight, landing or connecting path.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Standard single-tread sidewalk / step mat, chainable across a whole flight.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Winter Snow Melting Mat

Product slug: step-snow-melting-mat-winter

Winter-ready heated step mat offered in both tread sizes for seasonal entrance and staircase de-icing.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm and 50 x 90 cm
Power per mat	108 W / 180 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Two-size winter programme: 108 W treads plus 180 W wider landing mats.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Sidewalk Snow Melting Mat

Product slug: step-snow-melting-mat-outdoor-sidewalk

Weather-sealed outdoor sidewalk mat laid over exterior steps to keep walkways ice-free through winter.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Outdoor sidewalk tread mat; textured surface stays grippy when wet.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Electric Step Snow Melting Mat

Product slug: step-snow-melting-mat-outdoor-electric

Plug-in 120 V outdoor electric step mat for quick deployment on exterior stairs and entrances.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V AC (plug-in)
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: North-American plug-and-play 120 V build; runs from a standard outdoor outlet.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Driveway & Underfloor Snow Melting Mat

Product slug: step-snow-melting-mat-driveway

Custom-width 240 V heated panel built for driveway, apron and underfloor de-icing zones.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	240 V AC
Mat size	Custom widths and lengths
Power per mat	Per project, engineered
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Bespoke driveway / underfloor panel sized to the project drawing.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Driveway & Stair Snow Melting Mat

Product slug: step-snow-melting-mat-driveway-stair

Combination set of 30 x 90 cm stair tread mats plus wider landing panels for driveway approaches.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm treads; landing widths to order
Power per mat	108 W per tread mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Tread mats for stairs, custom-width panels for the driveway landing.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

PVC-Jacketed Stair Snow Melting Mat

Product slug: step-snow-melting-mat-stair-pvc

Heavy-duty PVC-jacketed 240 V stair mat for rougher outdoor and wet-area duty.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: PVC-jacketed heavy-duty variant of the 30 x 90 cm stair mat.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Ground Snow Melting Blanket

Product slug: step-snow-melting-mat-ground-blanket

Wide custom ground blanket panel laid flat over landings, paths and level ground areas.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	240 V AC
Mat size	Wide blanket panels, custom
Power per mat	Per panel, engineered
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Flat ground / landing blanket rather than a single stair tread.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Durable Outdoor Snow & Ice Melting Mat

Product slug: step-snow-melting-mat-ice-system

Modular outdoor ice-melting system built from engineered circuits for extended winter sites.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	240 V AC
Mat size	Modular system builds
Power per mat	Per circuit, engineered
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Modular multi-panel outdoor ice-melting system build.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Step Snow Melting Mat - 110 V, 30x90 cm

Product slug: step-snow-melting-mat-110v-30x90

110 V-market 120 V step mat in the 30 x 90 cm tread size for North-American residential steps.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V AC (110 V markets)
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: North-American 110 V build; matches a standard residential stair tread.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Step Snow Melting Mat - 110 V, 50x90 cm

Product slug: step-snow-melting-mat-110v-50x90

Wider 50 x 90 cm 110 V mat for deeper commercial treads, porches and landing platforms.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V AC (110 V markets)
Mat size	50 x 90 cm
Power per mat	180 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Wider 180 W version for commercial treads, porches and landings.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Stair Snow Melting Mat - 220 V

Product slug: step-snow-melting-mat-220v-stair

220-240 V stair mat built for European, UK and Asian circuits wired by an electrician.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	220-240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: CE-marked 220-240 V stair build for export markets.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Step Snow Melting Mat - 220 V, 30x90 cm

Product slug: step-snow-melting-mat-220v-30x90

220-240 V 30 x 90 cm step mat in the standard tread size for global stair de-icing.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	220-240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: 220-240 V build in the standard 30 x 90 cm tread size.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Outdoor Stair Snow Melting Mat

Product slug: step-snow-melting-mat-outdoor-stair

Dual-voltage outdoor stair mat for exposed exterior steps and stair flights.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Exposed outdoor stair tread mat; 120 V or 220-240 V builds.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Ground Snow Melting Mat - 220 V

Product slug: step-snow-melting-mat-ground-220v

Custom 220-240 V ground panel for level outdoor de-icing areas.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	220-240 V AC
Mat size	Custom ground panels
Power per mat	Per panel, engineered
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: 220-240 V custom ground panel, not a fixed tread size.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Black Corridor Snow Melting Mat

Product slug: step-snow-melting-mat-black-corridor

Black-finish 220-240 V mat for covered corridors and walkways where appearance matters.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	220-240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Low-visibility black corridor jacket finish.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Winter Stair & Aisle Snow Melting Mat

Product slug: step-snow-melting-mat-stair-aisle

220-240 V mat sized for both stairs and connecting aisles through the winter season.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	220-240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Stair and aisle coverage in one winter programme.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Non-Slip Stair Snow Melting Mat

Product slug: step-snow-melting-mat-stair-non-slip

Textured non-slip 120/240 V stair mat for retail, hospitality and healthcare entrances.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm
Power per mat	108 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Anti-slip profile recommended where slip liability is highest.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Road Snow Melting Mat

Product slug: snow-melting-mat-road

Flexible factory-built road-grade heating mat that lays flat and melts snow and ice on driveways, ramps and road surfaces, surface-laid or embedded.

Key Specifications

Parameter	Value
Product type	Road snow melting mat
Rated voltage	208-400 V AC (custom)
Heat output	300-400 W/m ²
Mat width	Custom widths and lengths to project drawing
Outer jacket / insulation	FEP-insulated, embed-grade heavy-duty jacket
Waterproof rating	IP67 (outdoor, wet-location rated)
Heating element	Resistive conductor laminated inside the flexible sheet
Mounting	Surface-laid or embedded under concrete / asphalt / pavers
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Embed / surface road grade: IP67, 300-400 W/m², custom voltage.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Roof Snow Melting Mat - FEP Insulated

Product slug: snow-melting-mat-roof-fep

Flexible FEP-insulated heating mat for roofs, gutters and sloped surfaces, melting snow and ice without shovelling.

Key Specifications

Parameter	Value
Product type	FEP-insulated roof snow melting mat
Rated voltage	110-120 V / 220-240 V AC (custom)
Heat output	Approx. 300-400 W/m ²
Mat width	Custom widths and lengths to project drawing
Outer jacket / insulation	FEP insulation rated to 200 °C
Waterproof rating	IP67 (outdoor, wet-location rated)
Heating element	Resistive conductor laminated inside the flexible sheet
Mounting	Surface-laid or embedded under concrete / asphalt / pavers
Control	Snow/ice sensor, frost-stat or matched thermostat
Compliance	CE, RoHS; ISO 9001 manufacturing

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Roof-grade FEP-insulated mat: IP67, approx. 300-400 W/m², custom voltage.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Step Snow Melting Mat

Product slug: step-snow-melting-mat-standard

Standard dual-voltage step mat offered in both 30 x 90 cm and 50 x 90 cm tread sizes.

Key Specifications

Parameter	Value
Product type	Outdoor electric step / stair snow melting mat
Rated voltage	120 V / 240 V AC
Mat size	30 x 90 cm and 50 x 90 cm
Power per mat	108 W / 180 W per mat
Heating element	Dual-conductor resistance heating element on robust mesh backing
Insulation	FEP insulation rated to 200 °C
Outer jacket	Flexible weather-sealed polymer jacket; non-slip textured walking surface
Waterproof rating	IPX-rated construction for outdoor wet-area use
Circuit limit	Chainable up to 1500 W per branch circuit (120 V reference design)
Certification	CE, RoHS; manufactured under ISO 9001 quality management

Routine Maintenance — see the family common block above.

Troubleshooting — see the family common block above.

Note: Standard two-size step mat range.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 7 — Accessories & Installation Kits

SunAura installation kits bundle the heating element, a matched thermostat with floor sensor, mounting tape, fixing clips, insulation underlay and an illustrated guide in one box, so a DIY installer or contractor has every part on site. Kits are sized to the measured heated area, floor finish and voltage, with WiFi thermostats and commissioning support available.

DIY Underfloor Heating Installation Kits

Product slug: installation-kits

A boxed kit pre-sized by SunAura engineers that bundles the heating element, matched thermostat, mounting tape, connection clips, insulation underlay and step-by-step guide for a complete room-heating install.

Key Specifications

Parameter	Value
Heating element	Graphene heating film or mat, pre-sized to room area
Thermostat	Smart thermostat with floor sensor; WiFi option available
Fixings	Mounting tape and connection clips
Insulation	Underlay / insulation to direct heat upward
Voltage	110 V or 230 V, matched to region
Floor type	Film for laminate/wood/LVT; mat for tile/stone; cable for screed
Warranty	15-25 year product warranty; CE/RoHS, ISO 9001:2015 documentation

Routine Maintenance

- Before closing the floor, run the commissioning checklist: test element resistance, balance the zone and confirm the floor sensor reads correctly.
- Keep the insulation underlay dry and free of debris during install; lay the element flat without overlapping at doorways or over fixed furniture.
- Have the electrical connection to the thermostat made by a qualified electrician following local wiring rules, especially in wet rooms.
- Set the floor-sensor thermostat to the target slab temperature and leave the sensor cable unbroken so the system reacts to the floor, not room air.

Troubleshooting

Symptom	Possible Cause	Solution
Floor does not heat after install	Loose wiring, thermostat not switched on, or floor sensor not connected	Check supply and thermostat setting, confirm the floor-sensor lead is connected, and re-test element resistance before tiling.
Uneven floor temperature	Element laid with gaps or overlaps, or missing insulation underlay	Verify element spacing per the layout drawing and confirm the underlay is fitted across the whole heated area.
Thermostat shows a wrong floor reading	Floor sensor placed under a joint or touching a cold pipe	Relocate the sensor to the middle of the heated zone, away from walls and pipes.
Circuit trips under load	Zone total load above the thermostat/breaker rating	Split large areas into multiple zones matched to the load-rated thermostat.

Note: Kits are configured by measured heated area (fixed furniture excluded), floor finish and voltage; engineers confirm contents within 24 hours.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Indoor Digital Thermometer & Hygrometer

Product slug: thermometer-hygrometer

A compact dual-display room monitor (KC01) showing current and target temperature side by side with white backlight and child lock, used to check indoor climate and calibrate heating schedules.

Key Specifications

Parameter	Value
Display	Dual display: current temperature and target temperature
Features	White backlight, child lock, simple key operation, low power consumption
Temperature sensing	Stable NTC-style reading for indoor comfort monitoring
Humidity range	Relative-humidity sensor aimed at the 20-80 % RH band
Variants	16 A Standard, 16 A WiFi, 25 A Standard, 25 A WiFi (load-matched to the zone)
Mounting	Wall-mount on screws or free-standing on a desk/shelf
Certification	CE and RoHS; manufactured under ISO 9001 and ISO 14001
Warranty	2-year warranty with direct after-sales support

Routine Maintenance

- Mount on an interior wall at about 1.2-1.5 m height, at least 0.5 m from radiators, external doors, extractor fans and kitchen kettles.
- Keep the housing vents unobstructed; do not tuck it behind a curtain or inside a closed cabinet so the sensor samples real room air.
- Avoid direct sunlight, underfloor-heat outlets and draughts, which create local hot/dry spots that distort the reading.
- For nursery or wine-cellar accuracy, compare the reading against a trusted reference hygrometer for a week and offset-calibrate if needed.

Troubleshooting

Symptom	Possible Cause	Solution
Temperature or humidity reading drifts or looks wrong	Mounted too near a heat source, draught, window or sun-facing wall	Relocate to an interior wall away from radiators, windows and direct sun and let it settle 1-2 hours.
Humidity reading stuck or slow to change	Sensor vents blocked by dust or a covering	Keep the vents clear and wipe the housing; do not cover the unit.
Backlight/display appears dim or inactive	Low internal supply	Check the internal supply / battery; the backlight wakes only on demand to save power.
WiFi variant does not show on the phone app	Not paired with the matched WiFi thermostat / app	Pair the room with a SunAura WiFi thermostat; the KC01 itself is a local display with no relay outputs and does not switch loads.

Note: Monitoring instrument only: it shows climate but has no relay outputs and does not switch heaters, humidifiers or dehumidifiers.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Chapter 8 — Packaging Machinery

This help center covers SunAura carton sealers, shrink wrappers, vacuum sealers and complete end-of-line packaging lines - from buying and sizing through shipping, installation, warranty and hands-on maintenance and fault diagnosis. Machine-specific maintenance schedules and fault tables are organized by machine type.

Carton Sealing Machines

Product slug: help-center-carton-sealers

Semi-automatic (uniform or random-size) and fully automatic carton sealers that fold and seal cartons with BOPP tape or hot-melt glue, offered for line integration with case erectors and conveyors.

Key Specifications

Parameter	Value
Semi-auto uniform carton range	Min L200 x W150 x H120 mm; max L600 x W500 x H400 mm
Auto random-size carton range	Up to L800 x W700 x H600 mm, auto height/width adjustment
Oversized custom	Up to W1200 x H800 mm on heavy-duty custom frames
Standard power	220 V / 110 V single phase; standard semi-auto needs no compressed air
Pneumatic supply	Random / fully-auto models: 0.5-0.7 MPa (70-100 PSI)
Conveyor height	750-850 mm adjustable
Random-size adjustment	Detects and adjusts each box in under 2 seconds
Throughput reference	Semi-auto under 500 boxes/day; automatic 1000+ boxes/day

Routine Maintenance

- Daily: clean the tape head and conveyor of paper scraps and adhesive residue, check the tape roll, and test the emergency stop and safety guards.
- Weekly: check conveyor belt tension and all fastening screws, lubricate chains/gears/slide rails, and check electrical terminals for looseness or overheating.
- Monthly: check the tape-head cutter sharpness and replace if dull; inspect belt wear and replace if cracked.
- Every 6 months: change gearbox oil (first at 3 months), check motor insulation resistance, and calibrate conveyor level and belt parallelism.

Troubleshooting

Symptom	Possible Cause	Solution
Tape jams in the tape head	Tape installed wrong way, adhesive residue on rollers, 3-inch vs 2-inch roll mismatch, dull/shifted cutter, or tension too tight	Reinstall tape adhesive-side down per the diagram, clean guide rollers with alcohol, use standard 76 mm / 3-inch BOPP tape (40-50 micron), and reset or replace the cutter.
Machine will not feed tape	Sticky roll, worn/oily feed rollers, cutter not fully retracted, or tape tension wrong	Confirm the roll spins freely, clean feed rollers with alcohol and adjust spring pressure, manually retract the cutter, and set moderate tension.
Seal comes out skewed or folded	Conveyor width/height not matched to the carton	Re-adjust the side belts and tape-head height to the carton size and run a test carton.
Tape does not cut cleanly	Dull or mis-positioned cutter	Adjust cutter position so it fully retracts, or replace the cutter blade.

Note: Standard semi-auto sealers are plug-and-play on 220 V/110 V; random and automatic pneumatic models need a 0.5-0.7 MPa air supply.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Shrink Wrapping Machines

Product slug: help-center-shrink-wrappers

L-bar sealers with heat tunnels, side-sealers/sleeve wrappers and automatic shrink lines that wrap products in POF shrink film for single items, multi-packs and high-speed bundling.

Key Specifications

Parameter	Value
Typical setup	L-bar sealer + heat tunnel for small items; side-sealer/sleeve wrapper for larger packs
Film	POF (polyolefin) for food and general products
Reference seal setting	Shrink film 120-160 °C / 0.5-1 sec
Cool-down before cleaning	Let heating tubes cool at least 30 minutes after power off

Routine Maintenance

- Daily: power off and let heating tubes cool (at least 30 min), wipe the sealing table and blade area, and clear film debris from the tunnel entrance/exit and conveyor.
- Weekly: clean the sealing blade and Teflon cloth with alcohol (replace if damaged), clean fan blades and intake filters, and check for film wrapped around rollers.
- Monthly: open tunnel side panels and remove accumulated film scraps (a fire hazard), wipe heating tubes gently with a soft cloth, and clean electrical-cabinet dust with power off.

Troubleshooting

Symptom	Possible Cause	Solution
Film does not cut through	Temperature too low, time too short, dull blade or damaged Teflon cloth	Raise temperature 10 °C, extend seal time, and replace the blade or Teflon cloth.
Film sticks to the blade	Temperature too high or Teflon cloth damaged	Lower the temperature, replace the Teflon cloth, and use quality POF film.
Wrinkles after shrinking	Tunnel temperature too low, conveyor too fast, or film too large	Raise tunnel temperature 10-20 °C, slow the conveyor, and use properly sized film.
Holes or burns in the film	Tunnel too hot, sharp product edges, or film too thin	Lower tunnel temperature, protect sharp edges, and use thicker film.
Tunnel will not heat	Heating tube burned out, thermostat failed, or contactor damaged	Test with a multimeter and replace the faulty heating tube, thermostat or contactor.

Note: All cleaning must be done with power off and the machine fully cooled; wear heat-resistant gloves.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Vacuum Packaging Machines

Product slug: help-center-vacuum-sealers

Chamber vacuum sealers for liquids, marinades and small batches, and continuous belt-type vacuum sealers for high-volume dry or semi-dry products.

Key Specifications

Parameter	Value
Seal bar	Single chamber 400 mm; double chamber 600 mm and longer
Continuous throughput	200-600 bags/hour on the belt type
Reference seal settings	PE/PA bags 180-220 °C / 2-3 s; PE 150-180 °C / 1.5-2 s; aluminium 200-240 °C / 3-4 s
Pump oil	Use only vacuum pump oil ISO VG100, never ordinary motor oil
Oil change	First at 50 hours / 1 month, then every 500 hours or 3 months

Routine Maintenance

- Weekly: check the vacuum-pump oil level sits at or above the sight-glass centerline, and inspect quality (milky = water ingress, black/thick = oxidized; change immediately).
- Every 6 months: clean or replace the intake filter; on dry pumps check carbon vanes and replace if worn by one third or more, and clean exhaust/intake filters every 3 months.
- Keep the pump off oil-starvation: running dry scores the rotor and cylinder; warm the oil 15 min before draining and refill to centerline.
- Replace the Teflon cloth / heating bar as a wear item and test-seal an empty bag at 180-220 °C for 2-3 s.

Troubleshooting

Symptom	Possible Cause	Solution
Not pulling enough vacuum	Bag pinholes, oversize bag, oily/wet seal mouth, or low/degraded pump oil, aged gasket, loose hose or worn vanes	First test an empty new bag; if fine, use thicker/properly sized bags and wipe the seal area. Otherwise check and change pump oil, replace the gasket, tighten hoses or replace vanes.
Weak seal that tears by hand	Temperature too low or seal time too short	Raise temperature 10 °C or extend time 0.5 s, retest until the seal is firm and transparent.
White/bubbly or charred seal	Temperature too high (white/bubbly) or severely too high / damaged Teflon cloth (charred)	Lower temperature 10 °C or shorten 0.5 s; for charring check and replace the Teflon cloth.
Uneven seal, one side weak	Pressure bar uneven or heating-bar terminal loose	Adjust the pressure-bar screws and check the heating-bar terminal connections.

Note: Never run the rotary-vane pump dry on oil; severe damage occurs within 6-12 months without oil changes.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Complete End-of-Line Packaging Lines

Product slug: help-center-end-of-line-lines

Integrated lines that take product from the end of production to a palletized, stretch-wrapped load, combining case erector, sealer, checkweigher/labeler, strapping, palletizer and stretch wrapper under one PLC.

Key Specifications

Parameter	Value
Typical stations	6-8 machines: case erector, loading, carton sealer, checkweigher/metal detector, labeler, strapping, palletizer, stretch wrapper
Control	PLC with standard Modbus protocol; conveyor height 750-850 mm
Pneumatic supply	0.5-0.7 MPa for pneumatic stations
Build lead time	About 45-60 days for a standard 4-6 machine line from deposit

Routine Maintenance

- Apply the universal daily/weekly/monthly/6-month checklist across every station: clean work areas, test e-stops, lubricate moving parts, and inspect wear parts.
- Monthly: check all terminal connections for looseness/overheating, check motor/gearbox for oil leaks, calibrate machine level, and test safety grounding.
- Maintain the pneumatic system at 0.5-0.7 MPa: drain the air filter and refill the lubricator, and check for leaks.
- After warranty, keep the PLC control system accessible for remote diagnosis of fault codes.

Troubleshooting

Symptom	Possible Cause	Solution
Line stops with a fault code	PLC / interlock fault between stations	Read the fault code via remote desktop access to the PLC, then check upstream and downstream conveyor interlocks first.
Stations run at mismatched speeds	Powered-belt conveyor speed not synchronized	Re-sync conveyor speed synchronization between the linked machines.
Pneumatic station cycles weakly	Air supply below 0.5-0.7 MPa or a leaky filter/lubricator	Restore 0.5-0.7 MPa supply, drain the filter and refill oil, and trace and fix leaks.
Intermittent stop with no obvious code	Photoelectric/proximity sensor out of sensitivity or blocked	Clean sensor lenses and re-check sensor sensitivity during the 6-month service.

Note: Lines are designed, manufactured, FAT-tested, installed and commissioned as one project with operator training.

Support: WhatsApp +86 136 4542 9121 | Email: Ethan@sunaura.com.cn, Monica@sunaura.com.cn | English & Chinese support, after-sales response within 2 hours (working hours)

Product Index (all slugs covered by this manual)

Underfloor Heating Film & Mats — 8 products

Slug	Product
heating-film	Graphene Heating Film
heating-mat	Electric Heating Mats
tile-floor-heating	Tile Floor Heating System
wood-floor-heating	Wood Floor Heating System
aluminum-film-heating-mat	0.5mm Ultra-Thin Aluminum Film Heating Mat
floor-heating-mat-bathroom	Bathroom Floor Heating Mat
floor-heating-mat-hotel	Hotel Floor Heating Mat
floor-heating-mat-underfloor	Underfloor Heating Mat

Heating Cables — 9 products

Slug	Product
heating-cable	Heating Cables
self-regulating-heating-cable	Self-Regulating Heating Cables
self-regulating-heating-cable-fire-pipe	Self-Regulating Fire Pipe Heating Cable
self-regulating-heating-cable-sewage	Self-Regulating Sewage Pipe Heating Cable
self-regulating-heating-cable-water-pipe	Self-Regulating Water Pipe Heating Cable
silicone-heating-cable	Silicone Heating Cables
silicone-heating-cable-50w	Silicone Rubber Heating Cable - 50 W/m
silicone-heating-cable-25w	Silicone Rubber Heating Cable - 25 W/m
silicone-heating-cable-40w-drain-line	Antifreeze Silicone Heating Cable for Drain Lines - 40 W/m

Smart Thermostats & Controls — 22 products

Slug	Product
smart-thermostat	Smart Thermostats
k1m-wifi-thermostat	K1M Smart WiFi Thermostat for Electric Heating
k1-thermostat	K1 Thermostat for Electric Heating
k2m-wifi-thermostat	K2M WiFi Smart Thermostat with Dual-Sensor Floor Probe
k9-thermostat	K9 WiFi Smart Thermostat with Colour Touchscreen and Voice Control
k5-thermostat	K5 WiFi Smart Thermostat with VA Colour Display
kc02-thermostat	KC02 WiFi Smart Heating Thermostat
k6h-thermostat	K6H WiFi LED Touch Screen Underfloor Heating Thermostat
knob-wifi-thermostat	Knob WiFi Smart Thermostat
piano-key-wifi-thermostat	Piano-Key WiFi LCD Thermostat for Floor Heating and Boiler
rf-wireless-thermostat	WITH3 RF Wireless Wall-Hung Boiler Thermostat
touch-wifi-thermostat	Black Glass Touch WiFi Thermostat
sdm5-thermostat	SDM5 WiFi Smart Thermostat with LED Display
sdm6-thermostat	SDM6 WiFi Smart Thermostat with Ring Display
thermostat-hy312-wifi-touch	HY312 WiFi Touch Screen Thermostat
thermostat-programmable-touch	Programmable Touch Thermostat
thermostat-floor-heating-controller	Floor Heating System Thermostat

Slug	Product
thermostat-y603h-wifi	Y603H/16 WiFi Thermostat
thermostat-y819h-wifi	Y819H/16 WiFi Thermostat
thermostat-e51716-button	E51.716/16 Button Thermostat
thermostat-y308-knob	Y308/16 Knob Thermostat
thermostat-e91716-touch	E91.716/16 Touch Thermostat

Pet & Plant Heating — 3 products

Slug	Product
pet-reptile-heating	Reptile Heat Mats & Heating Pads for Terrariums & Vivariums
seedling-heating-mat	Seedling & Plant Heating Mat
cat-dog-heating-pad	Cat & Dog Heating Pad

Snow Melting Mats — 18 products

Slug	Product
snow-melting-mat	Snow Melting Mats
snow-melting-mat-roof	Outdoor Roof Snow Melting Mat
snow-melting-mat-wide-voltage	Outdoor Snow Melting Mat – 12–380 V
snow-melting-mat-pvc-roof-driveway	PVC Roof & Driveway Snow Melting Mat
snow-melting-mat-rubber-cable-system	Rubber Snow Melting Mat with Cable System
snow-melting-mat-outdoor-electric	Outdoor Electric Snow Melting Mat
snow-melting-mat-walkway-non-slip	Non-Slip Walkway Snow Melting Mat
snow-melting-mat-outdoor-system	Outdoor Snow Melting Mat System
snow-melting-mat-corridor	Corridor Snow Melting Mat
snow-melting-mat-sidewalk	Sidewalk Snow Melting Mat
snow-melting-mat-220v-300w	Outdoor Snow Melting Mat – 220 V, 300 W/m ²
snow-melting-mat-240v-500w	Outdoor Snow Melting Mat – 240 V, 500 W/m ²
snow-melting-mat-110v-300w	Outdoor Snow Melting Mat – 110 V, 300 W/m ²
snow-melting-mat-walkway-driveway	Walkway & Driveway Snow Melting Mat
snow-melting-mat-driveway-ice	Driveway Snow & Ice Melting Mat
snow-melting-mat-roof-gutter	Roof & Gutter Snow Melting Mat
snow-melting-mat-walkway-deicing	Walkway De-Icing Snow Melting Mat
snow-melting-mat-antifreeze	Anti-Freeze Snow Melting Mat

Step Snow Melting Mats — 22 products

Slug	Product
step-snow-melting-mat	Step Snow Melting Mats
step-snow-melting-mat-sidewalk	Sidewalk Step Snow Melting Mat
step-snow-melting-mat-winter	Winter Snow Melting Mat
step-snow-melting-mat-outdoor-sidewalk	Outdoor Sidewalk Snow Melting Mat
step-snow-melting-mat-outdoor-electric	Outdoor Electric Step Snow Melting Mat
step-snow-melting-mat-driveway	Driveway & Underfloor Snow Melting Mat
step-snow-melting-mat-driveway-stair	Driveway & Stair Snow Melting Mat
step-snow-melting-mat-stair-pvc	PVC-Jacketed Stair Snow Melting Mat
step-snow-melting-mat-ground-blanket	Ground Snow Melting Blanket

Slug	Product
step-snow-melting-mat-ice-system	Durable Outdoor Snow & Ice Melting Mat
step-snow-melting-mat-110v-30x90	Step Snow Melting Mat - 110 V, 30x90 cm
step-snow-melting-mat-110v-50x90	Step Snow Melting Mat - 110 V, 50x90 cm
step-snow-melting-mat-220v-stair	Stair Snow Melting Mat - 220 V
step-snow-melting-mat-220v-30x90	Step Snow Melting Mat - 220 V, 30x90 cm
step-snow-melting-mat-outdoor-stair	Outdoor Stair Snow Melting Mat
step-snow-melting-mat-ground-220v	Ground Snow Melting Mat - 220 V
step-snow-melting-mat-black-corridor	Black Corridor Snow Melting Mat
step-snow-melting-mat-stair-aisle	Winter Stair & Aisle Snow Melting Mat
step-snow-melting-mat-stair-non-slip	Non-Slip Stair Snow Melting Mat
snow-melting-mat-road	Road Snow Melting Mat
snow-melting-mat-roof-fep	Roof Snow Melting Mat - FEP Insulated
step-snow-melting-mat-standard	Step Snow Melting Mat

Accessories & Installation Kits — 2 products

Slug	Product
installation-kits	DIY Underfloor Heating Installation Kits
thermometer-hygrometer	Indoor Digital Thermometer & Hygrometer

Packaging Machinery — 4 products

Slug	Product
help-center-carton-sealers	Carton Sealing Machines
help-center-shrink-wrappers	Shrink Wrapping Machines
help-center-vacuum-sealers	Vacuum Packaging Machines
help-center-end-of-line-lines	Complete End-of-Line Packaging Lines