SA-1

Automatic Snow/Ice Melting Controller
Installation & Operation Instructions

GENERAL

The SA-1heating cable controller has been designed and manufactured for the sole intended use of controlling heating cables in residential and commercial snow melting applications such as: sidewalks, driveways, parking garage entrances and drive-through. The SA-1 uses microcontroller technology to reduce energy consumption by energizing the heating cable only when the right conditions of temperature and snowfall occur.

The main components of the SA-1are shown in Fig.1. The snow and temperature sensors detect snow or ice conditions and activate, through a power relay, a heating cable.

Another feature of SA-1 is the LED indicator light. This light turns red if the snow sensor is dirty and needs to be cleaned. The red light will switch off automatically when the snow sensor is cleaned. The LED turns green every time the power relay is activated and will switch off if the power relay is off.

Improper installation, use and/or maintenance of the SA-1 can cause fire, electrical shock and/or result in snow build-up.

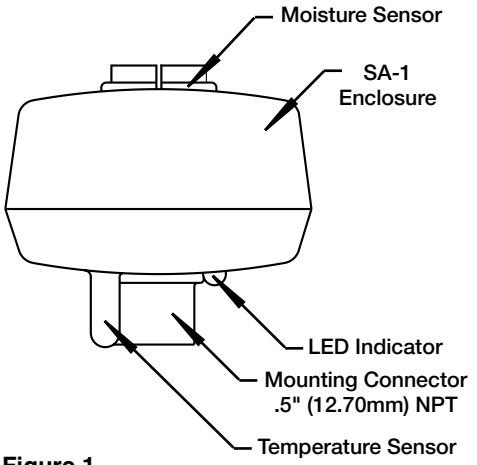


Figure 1

WARNINGS

1. This is not a “do-it-your-self” product. A qualified electrician must install the SA-1.
2. If after carefully reading these instructions you still have questions regarding installation, operation or maintenance of this product, call the numbers listed for assistance.
3. Prior to installation, check the SA-1 body enclosure or wires for possible shipping damages. Do not install a damaged SA-1 controller.
4. All heating cables, controls & associated systems must be installed in compliance with the latest editions of all applicable electrical codes and ordinances.
5. These instructions must be saved and made available to owners or users of this product and/or transferred to future owners.
6. Any heating cable that is to be connected to the SA-1 must be installed according to the manufacturer’s instructions.
7. Do not connect more than 16 Amp load to the SA-1 (See Fig. 2 & 3). Risk of fire, electric shock or accumulation of snow can result from a larger cable or from multiple cables being connected.
8. Secure the SA-1 in an area free of obstructions such as trees, shrubs, etc. to prevent any damages to the snow sensor.
9. Avoid excessive shock or vibration.
10. Do not touch the surface of the moisture sensor, it is a hot surface.

US T. (800) 537-4732 / F. (888) 324-2440
CAN T. (800) 794-3766 / F. (800) 361-4574

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INSTALLATION INSTRUCTIONS

1. Mount the SA-1 securely in upright position in an open space, in direct contact with snowfall pattern with a .5" (12.70mm) NPT mounting connector. The unit is water-resistant, but it is not designed to be submerged or immersed in water. Ensure that the mounting location is close, less than 2.5 ft (76.20cm) to the electrical junction box. See Fig. 4a &4b.
2. The SA-1 can be connected to the building power supply as per Fig. 2 or Fig. 3. Before connecting the controller to the electrical power supply, consult the local, state or provincial, and national electrical code. The electrical code may require a Ground Fault Protection device to be used.
3. Ensure that all pipe connections are sealed to prevent any penetration of water inside of conduit or electrical junction box.

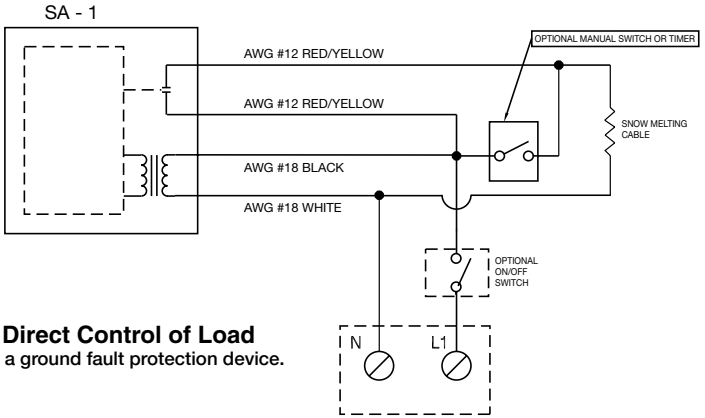


Figure 2 — Installation for Direct Control of Load
*Electrical code may require use of a ground fault protection device.

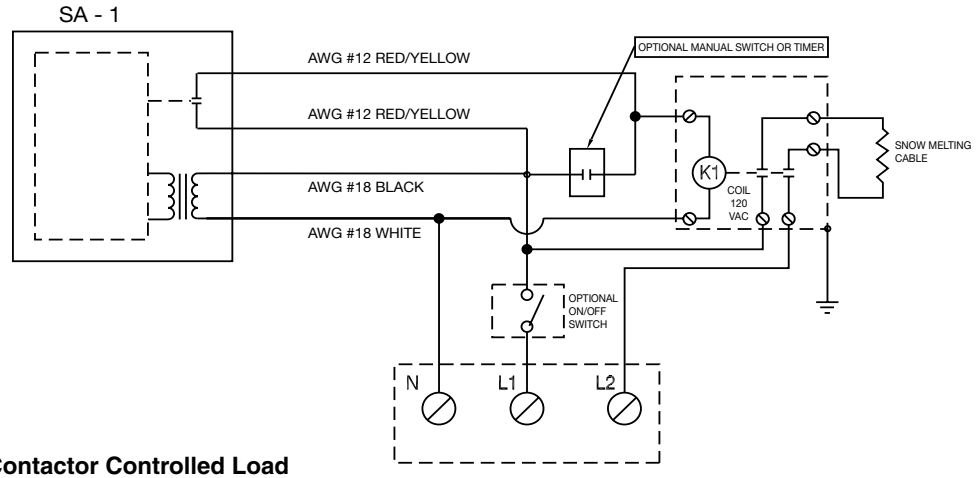


Figure 3 —
Installation for Contactor Controlled Load
*Electrical code may require use of a ground fault protection device.

OPERATION INSTRUCTIONS

The SA-1 snow melting control is designed to energise the heating cable only when snow or ice conditions exist and there is risk of freezing. If the temperature is below 3°C (38°F) and snow is falling, the controller will apply power to heating cable. The cable remains energised until 2.75 hours after the snow stops. The delay is necessary to ensure the heated area dries. If at any time the snow starts falling again the controller restarts the heating cycle.

In spring or fall when the snow conditions are not very heavy, the controller may switch on the heated area. For this situation we recommend having a manual switch connected in series with the SA-1 to turn it off.

In wintertime the wind may cover the heated area with snow. The SA-1 can not sense this situations and will not energise the heating cable. Putting snow on the sensor surface can energise the SA-1.

The SA-1 may be tested for functionality if the outside temperature is below 25°C (77°F), Submerge the temperature sensor into a glass with ice water for 5 to 10 minutes, wet the surface of the moisture sensor, the SA-1 should energise the heating cable. After this test, dry off the sensor, disconnect the power for one minute and then reconnect it back. The cables should remain deenergised.

Every year, in the fall the SA-1 must be inspected for physical damage and to clean up the snow sensor surface. To clean the snow sensor surface:

1. Disconnect SA-1 from the power supply.
2. With a clean, soft bristle tooth brush clean up the surface of the snow sensor.
3. Reconnect SA-1 to the power supply.

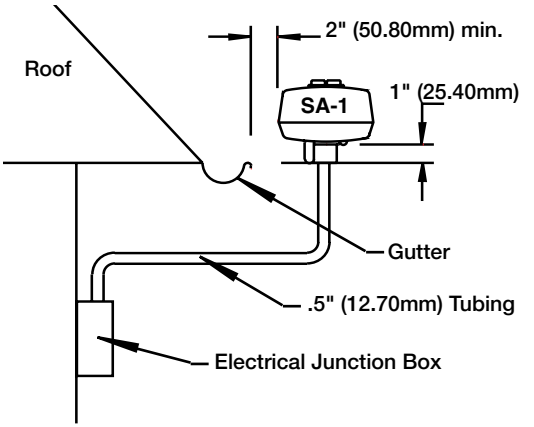


Figure 4a



Figure 4b

ELECTRICAL SPECIFICATIONS

Functional	
Operating temperature	+3°C (38°F +/-1°F)
Power switch OFF temperature	+45°C (112°F)
Power switch ON temperature	+30°C (86°F)
Environmental	
Working temperature	-40°C (-40°F) to 65°C (150°F)
Storage temperature	-45°C (-49°F) to 70°C (160°F)
Humidity environment	0 to 100 %

Supply requirements	
Power supply voltage	120VAC
Frequency	50/60 Hz
Maximum power consumption	60W
Output characteristics	
Output type	relay (dry contact)
Contact output	N.O. max. 16 Amps @ 120VAC
Mounting connector	.5" (12.70mm) NPT
Power wire length	3 feet

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Industrial Automation

LIMITED WARRANTY

Easy Heat warrants that if there are any defects in material or workmanship in any heating cable or accessory during the first year after the date of purchase, We will provide new products to replace any defective items, or we will refund the purchase price paid for the accessory or cable, not including any labor or other installation costs. As an alternate, we may elect to repair the cable or accessory at our factory with all shipping and other removal costs borne by the purchaser.

We further warrant that for a period of twelve (12) months after the date of performance any services performed hereunder will be in good and skillful manner, based on our understanding of pertinent technical data as of the date of performance of such services. Easy Heat's sole responsibility and liability in the event of any defect, error, omission, or failure in the services rendered hereunder shall be to provide corrected services of the type provided for herein, designed to correct such defect, error, omissions, or failure, and in no event shall Easy Heat's liability with respect to such warranty exceed the amount received by it from the Buyer on account of such services.

Our obligation to provide corrected services, new products, refund the purchase price, or perform the repair described above is conditioned upon (a) the installation of the accessory or cable conforming to the specifications set forth in our installation instructions and (b) the accessory or cable not having been damaged by mechanical or electrical activities unrelated to the operation of the accessory or cable.

A refund of your purchase price, provision of replacement products, repair of the accessory or cable or provision of corrected services as described above, shall be your sole and exclusive remedy for a breach of this warranty. THESE ARE THE SOLE AND EXCLUSIVE WARRANTIES GIVEN BY EASY HEAT WITH RESPECT TO THE GOODS AND SERVICES AND ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, MERCHANTABILTIY AND FITNESS FOR A PARTICULAR PURPOSE WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO EASY HEAT IN SPECIFICATIONS, DRAWINGS OR OTHERWISE, AND WHETHER OR NOT EASY HEAT'S PRODUCTS ARE SPECIFICALLY DESIGNED AND /OR MANUFACTURED BY EASY HEAT FOR YOUR USE OR PURPOSE.

This warranty does not extend to any losses or damages due to misuse, accident, abuse, neglect, normal wear and tear, negligence, unauthorized modification or alteration, use beyond rate capacity, or improper installation, maintenance or application. To the extent that you or your agents have supplied specifications, information, representation of operating conditions or other data to Easy Heat in the selection or design of the Goods and the preparation of Easy Heat's quotation, and in the event that actual operating conditions or other conditions differ from those represented by you, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.

If within thirty (30) days after your discovery of any warranty defects within the warranty period, you notify Easy Heat thereof in writing, Easy Heat shall, at it's option, repair, correct or replace F.O.B. point of manufacture, or refund the purchase price for that portion of the Goods found by Easy Heat to be defective. Failure by you to give such written notice within the applicable time period shall be deemed an absolute and unconditional waiver of your claim for such defects. Goods repaired or replaced during the warranty period shall be covered by the foregoing warranty for the remainder of the original warranty period or ninety (90) days from the date of shipment of the repaired or replaced goods, whichever is longer.

This limited warranty does not cover any costs relating to the repair or replacement of any accessory or cable at the installation site. Our accessories and cables are not easily accessible. A failed accessory or cable usually cannot be easily repaired. Replacement of a failed accessory or cable will require that the materials under which it is installed be removed to permit replacement of the accessory or cable. **We will not reimburse any costs relating to the repair or replacement of any accessory or cable at the installation site.**

IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILTIY, OTHER TORT OR OTHERWISE), SHALL EASY HEAT'S LIABILTY TO YOU AND/OR YOUR CUSTOMERS EXCEEED THE PRICE PAID BY YOU FOR THE SPECIFIC GOODS PROVIDED BY EASY HEAT GIVING RISE TO THE CLAIM OR CAUSE OF ACTION. YOU AGREE THAT WE SHALL NOT BE LIABLE TO YOU OR YOUR CUSTOMERS FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL OR PUNITIVE DAMAGES. No agent, employee or representative of ours has authority to bind us to any affirmation, representation or warranty concerning the goods sold unless such affirmation, representation or warranty is specifically incorporated by written agreement.

To obtain new products, arrange repair of existing product, or a refund under this warranty, please contact Easy Heat with a description of the defect and proof of purchase at the address noted herein.

ATTN: WARRANTY DEPARTMENT:

US - EasyHeat Inc, 2 Connecticut South Drive, East Granby, CT 06026
CAN - EasyHeat Ltd, 99 Union Street, Elmira, ON N3B 3L7

DISCLAIMER

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