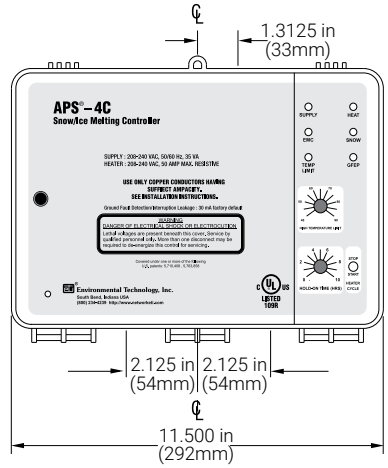
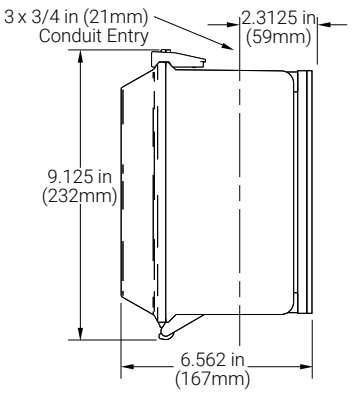
APS-4C

SNOW MELTING AND GUTTER DE-ICING CONTROLLER WITH GROUND-FAULT PROTECTION





PRODUCT OVERVIEW

The ETI® APS–4C snow melting and gutter de-icing controller with ground-fault protection, when used with one or more compatible sensors, automatically controls surface snow melting and roof and gutter de-icing heating cables for minimum energy costs. Applications include pavement, sidewalk, loading dock, roof, gutter, and down spout snow/ice melting in commercial and industrial environments.

The adjustable hold-on timer continues heater operation for up to 10 hours after snow stops to ensure complete melting. The optional RCU–4 Remote Control Unit can be located where system operation can be conveniently observed. It duplicates many of the APS–4C front panel functions.

The APS–4C provides advanced patented and patent pending ground-fault equipment protection (GFEP) as required by the national electrical codes. The GFEP automatically tests itself every time the contactors operate and once every 24 hours. The trip current can be set at 60 or 120 mA via a DIP an internal switch or retained at the 30 mA default value. As an aid to troubleshooting heating cable ground faults, the APS–4C provides an output that can indicate the ground current on a service person's portable DVM.

The calibrated 40°F to 90°F (4°C to 32°C) high limit thermostat prevents excessive temperatures when using constant wattage and MI heating cables. It also permits safe testing at outdoor temperatures too high for continuous heater operation. The temperature sensor is included.

The APS–4C provides a complete interface for use in environments supervised by an energy management computer (EMC). This feature can also be used for general purpose remote control and annunciation.

All sensor and communications wiring is NEC Class 2. This simplifies installation while enhancing fire and shock safety. Multiple sensors provide superior performance by better matching the controller to site performance requirements. The APS–4C can interface up to six sensors.

The APS–4C is an exceptionally capable surface snow melting and roof and gutter de-icing controller. For complete information describing its application, installation and features, please contact your nVent representative or visit our web site at nVent.com.

GENERAL

Area of use	Nonhazardous locations
Approvals	c UL us LISTED 109R Type 873 Temperature Regulating Equipment

ENCLOSURE

Protection	NEMA 3R
Cover attachment	Hinged polycarbonate cover, lockable
Entries	One 1-1/16" entry (top) for NEC Class 2 connections Two 1-11/16" entries (bottom) for supply and load power, except 277 V single phase Two 1-1/16" entries (bottom) for supply and load power, 277 V single phase only
Material	Polycarbonate
Mounting	Wall mounted

CONTROL

Supply voltage	APS-4C-208/240 V:	208–240 V 50/60 Hz 3-phase
	APS-4C-277 V:	277 V 50/60 Hz single phase
	APS-4C-277/480 V:	277/480 V 50/60 Hz 3-phase
	APS-4C-600 V:	600 V 50/60 Hz 3-phase
Contact type	3 Form A	
Maximum ratings	Voltage: 600 V Current: 50 A except 277 V single phase, 40 A for 277 V single phase	
Heater hold-on timer	0 to 10 hours; actuated by snow stopping or toggle switch	
System test	Switch toggles the heater contact on and off. If temperature exceeds high limit, heater cycles to prevent damage.	

GROUND-FAULT EQUIPMENT PROTECTION (GFEP)

Set point	30 mA (default); 60 mA and 120 mA selectable by DIP switch
Automatic self-test	Mode A: Verifies GFEP function before contactors operate Mode B: Verifies GFEP and heaters every 24 hours
Manual test/reset	Toggle switch provided for this function
Maintenance facility	DC output proportional to ground current provided for troubleshooting the heater system

SNOW/ICE SENSORS

Sensor input	Up to 6 sensors: CIT-1, GIT-1, SIT-6E
Circuit type	NEC Class 2
Lead length	Up to 500 ft (152 m) using 18 AWG 3-wire jacketed cable Up to 2,000 ft (609 m) using 12 AWG 3-wire jacketed cable

HIGH LIMIT THERMOSTAT

Adjustment range	40°F to 90°F (4°C to 32°C)
Dead band	1°F (0.6°C)
Circuit type	Thermistor
Sensor interface	NEC Class 2
Lead length	Up to 500 ft (152 m) using 18 AWG 2-wire jacketed cable Up to 1,000 ft (504 m) using 12 AWG 2-wire jacketed cable

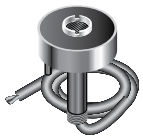
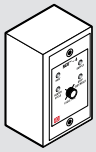
ENERGY MANAGEMENT COMPUTER (EMC) INTERFACE

Inputs	OVERRIDE ON	(10 mA dry switch contact)
	OVERRIDE OFF	(10 mA dry switch contact)
Outputs	SUPPLY	(10 mA dry switch contact)
	SNOW	(10 mA dry switch contact)
	HEAT	(10 mA dry switch contact)
	HIGH TEMP	(10 mA dry switch contact)
	REMOTE	(10 mA dry switch contact)

ENVIRONMENTAL

Operating temperature	–40°F to 160°F (–40°C to 71°C)
Storage temperature	–50°F to 180°F (–45°C to 82°C)

ORDERING DETAILS

Catalog number	Part number	Description
APS-4C-208/240V	P000000783	APS-4C Snow melting and de-icing controller with ground-fault protection, 208-240 Vac 50/60 Hz three phase
APS-4C-277V	P000000784	APS-4C Snow melting and de-icing controller with ground-fault protection, 277 Vac 50/60 Hz single phase
APS-4C-277V/480V	P000000785	APS-4C Snow melting and de-icing controller with ground-fault protection, 277/480 Vac 50/60 Hz three phase
APS-4C-600V	P000000786	APS-4C Snow melting and de-icing controller with ground-fault protection, 600 Vac 50/60 Hz three phase
Snow/Ice Sensors		
 CIT-1	512289-000	CIT-1 Snow sensor
 GIT-1	126795-000	GIT-1 Gutter sensor
z  SIT-6E	P000000112	SIT-6E Pavement snow sensor
 RCU-4	P000000884	RCU-4 Remote control unit

LIMITED WARRANTY

ETI's two year limited warranty covering defects in workmanship and materials applies.

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ETI-DS-H58112-APS4C-EN-1812