

Instructions for Installing ProMelt Contactor Pro Relay Panels

For ProMelt CP-50, CP-100, and CP-200 Panels

⚠ WARNING



Read this Manual **BEFORE** using this equipment. Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment. Keep this Manual for future reference.



The CP-50, CP-100, and CP-200 are turn-key panels for activating a ProMelt snow melting system when used in conjunction with the ProMelt series of controls. They allow simple connection from the circuit breaker panel and have a manual override timer and heating indicator. Any CP series panel can be used as an "extension" panel that connects to another CP series panel and allows additional circuits to be controlled.

⚠ WARNING

These panels must be installed in accordance with local building codes, the National Electrical Code, or Canadian Electrical Code by qualified persons.

Disconnect power from all circuits prior to making any connections.

⚠ WARNING

- Do not energize circuits until all connections are made and all ProMelt mats/cables are fully installed and covered as required. Read and follow the installation instructions for both the ProMelt snow melt mat/cable and the ProMelt sensor for additional information. Mount the panel indoors on a wall or equivalent.
- Do not place in a confined air space where heat is not able to escape, such as a small closet.
- Properly secure the panel to the wall using the mounting holes provided. Wire the panel according to the provided schematics.
- A GFEP (Ground Fault Equipment Protection) type device **must be used** to protect each ProMelt circuit. Size circuits for 125% of the load.
- This panel must be bonded to ground, as well as all conduit, junction boxes and other associated items per local code.

Installation

Wiring CP series panels

1. Provide 120, 208, 240, or 277 VAC circuits to the panel contactor(s) **L1 and L2** terminals as required by the rating of the ProMelt snow melting mats/cables connected to this circuit. As shown in the wiring schematics, the panel draws internal power from Contactor **C1** terminals, so make sure power is supplied to this contactor.
2. For 120, 208, and 240 VAC systems, make sure to connect the appropriate transformer lead wire to the **F1** fuse terminal **F12**. The lead wire must match the supply voltage. **Please see transformer color chart, below right.**
3. For 277 VAC systems, a separate 120 VAC circuit will need to be supplied to the transformer 120 VAC and **COM** lead wires directly. This may be a standard 15 A or 20 A circuit.

NOTICE

Remove the jumper wire from **F11** to **L2** and jumper wire from **F21** to **L1**. Failure to do this will damage the transformer.

⚠ CAUTION: Incorrect voltage supplied to the transformer may cause damage, fire, or shock.

4. Use outdoor rated 3-conductor cable to make connections between this panel and the sensor control. See the wiring schematic and instructions provided with the control for proper connections. Connect the control wiring to the terminal block terminals **24VAC, COMMON, and PM**. This will be a Class 2, 24 VAC circuit. See "**Terminal Block Wire Insertion Detail**" on reverse.



The ProMelt Contactor Pro Relay Panel is available in three configurations. CP-50 (single contactor), CP-100 (dual contactors), and CP-200 (quad contactors).

Control Descriptions

Control	No. Contactors	Max. Amp Load
Contactor Pro CP-50	1	50
Contactor Pro CP-100	2	2 x 50
Contactor Pro CP-200	4	4 x 50

5. Make wire connection between the contactor **T1 and T2** terminals and the ProMelt mats/cables. More than one mat/cable intended to be connected to the same contactor should first be connected together in parallel at a junction box. Then run lead wires to the contactor terminals.

Wiring CP series panels to be "Extension Panels".

A CP series panel can be used in conjunction with another CP series panel to serve as an "extension panel". This "extension" panel then turns on at the same time as the main panel. Up to ten "extension" panels can be added. Follow the steps below for proper installation:

1. Wire the "extension panel" in the same manner as the main panel (see steps 1, 2, 3, and 5 above). It requires its own power for its internal transformer to operate correctly.
2. Use a 2-conductor cable to make connections between terminals **24VAC and PM** in the "extension" panel and terminals **X1 and X2** in the "main" CP series panel. This will be a Class 2, 24 VAC circuit.

NOTICE

Do not connect a sensor to the "extension" panel. The sensor connected to the "main" panel will operate both panels.

Transformer Colors

Primary Voltage	Lead Colors
120 Volts	Black & White
208 Volts	Black & Red
240 Volts	Black & Orange
*277 Volts	No Transformer Connections

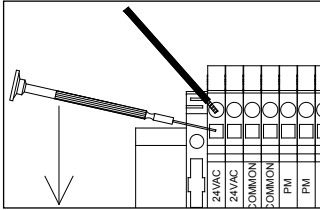
* See "Wiring CP series panels" Section, Step 3 for 277VAC connections.

Operation

Once all wiring connections have been completed, the sensor and ProMelt mats/cables have been fully installed, and any inspections made as required per local code, energize the circuit breaker(s) supplying the panel.

Automatic Operation

This is the recommended mode of operation. The sensor will activate the panel, energize the connected ProMelt mats/cables indicated by the "Heating On" light on the front of the panel.



Terminal Block Wire Insertion Detail

Manual Operation

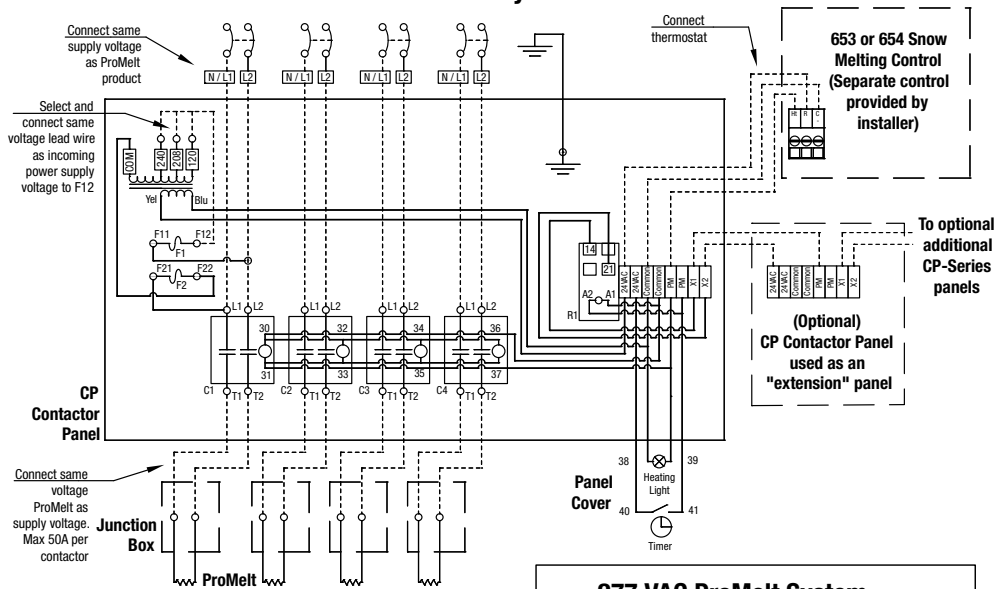
This mode may be used to briefly test the system or temporarily override the sensor control to complete melting or drying of a snow melted area. If this is required often to help complete the snow melting of an area, it is recommended to adjust the sensor control or consult your system designers for possible improved automatic sensing and control.

Turn the Timer to the desired time. This overrides the sensor and activates the panel, energizing the connected ProMelt mats/cables, shown by the "Heating On" light.

NOTICE

Do not manually energize the ProMelt mats/cables with outdoor temperatures above 68°F (20°C) except for a brief test up to 10 minutes in duration. Damage to the mats/cables or slab/surface materials may result.

120 / 208 / 240 VAC ProMelt System



POWER SUPPLY WIRING:

Wire per NEC or CEC and local codes.
Circuit size 125% of load.
Use Copper Conductors Only, 75C.
20 lb-in (2.3 Nm) on contactor lugs.

FUSES:

Replace fuse F1 and F2 with
250V 2A fast-blo

TRANSFORMER CONNECTION:

Select the correct primary wire and connect to fuse terminal F12.
CAUTION: Ensure the voltage lead wire matches the power supply voltage to C1. Improper connection may cause damage.

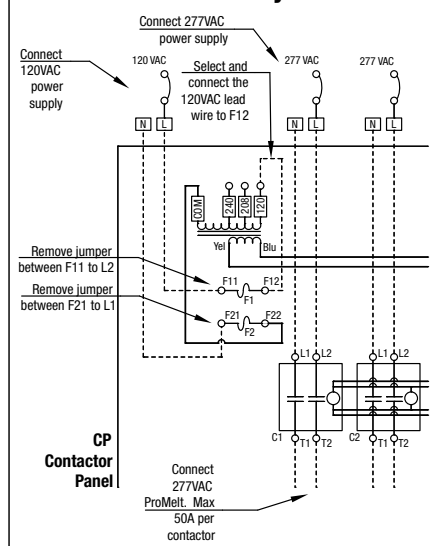
White = 120VAC
Red = 208VAC
Orange = 240VAC

WIRE TO SNOW MELTING CONTROL:

Class 2 control circuit.
Use shielded, outdoor rated wire.
See control manual for minimum wire gauge and maximum wire lengths.

X1 & X2 are dry contact, N.O.

277 VAC ProMelt System



CP series of controls can be used directly with any ProMelt cable or mat system. Power is connected directly to each contactor in the control.

Each ProMelt system can be operated by a variety of sensor, including the PM-L1, PM-L2, PM-L3 kits, and the PM-519:

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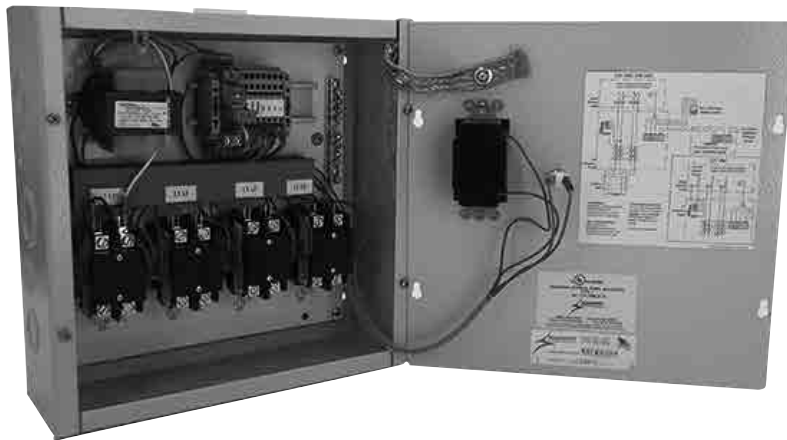
Each sensor option is designed to operate a single system. Use a dedicated sensor and CP Control group for each snow melt zone.

CP-50, CP-100, CP-200 Specifications		
Terminals		Wiring Type
L1, L2 T1, T2	120, 208, 240, 277 VAC	Use appropriate branch circuit wire size required by local codes
PM	Class 2, 24 VAC	18-24 AWG (See sensor instructions for size and length limits)
24VAC, COMMON		
X1, X2	Dry Contact, N.O.	
Compatible Sensors	PM-L1 kit PM-L2 kit PM-L3 kit PM-519	
UL Listing	File E483460, UL 508A, CAN/CSA-C22.2 No. 14	
Environment	Indoor, NEMA 1 enclosure, operating temperature 0°F to 100°F (-18°C to 38°C)	

⚠ WARNING: General Safety Instructions

- THIS UNIT SHOULD BE INSTALLED ONLY BY QUALIFIED PERSONNEL!**
- Disconnect all power from the control before opening the front cover plate.

Transformer Colors	
Primary Voltage	Lead Colors
120 Volts	Black & White
208 Volts	Black & Red
240 Volts	Black & Orange



Each CP series relay panel comes pre-wired to the included transformer, terminal blocks, and the coil terminals on the provided contactors. It is not recommended to unwire, or tamper with existing wiring without pre-authorization from the factory.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
For more information: Watts.com/prop65

Limited Warranty: SunTouch (the "Company") warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

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