


Control Panels

Control Panels for Electric Heat Applications

Proper controller schematic and panel design goes a long way toward ensuring the trouble-free operation of a process system. Watlow® control panels are SCCR rated and compliant with Article 409 of the National Electrical Code® (NEC) and UL® 508A. This improves the safety of industrial facilities and meets or exceeds the available “fault current” for installation.

Watlow offers control panels that are shipped within 10 working days of order placement. These panels can drive up to 480VAC, three-phase, 120kW heating systems and are Type 4 rated enclosures that carry the  mark.

Performance Capabilities

Amperage

- Up to 144 amperes

Voltage

- 120/240VAC single phase
- 208/240/480VAC 3 phase

Operating Environment

- 32 to 95°F (0 to 35°C)

Features and Benefits

Main Disconnect Switch

- Utilizes a rotary handle with interlocking door
- Helps assure maximum operator safety

Safety Contactor

- Enables the definite purpose break of power
- Integrated with limit control safety shut down feature

Enclosure

- Built with Type 4 steel enclosures with gray paint
- Designed with rugged construction suitable for industrial and commercial locations
- Suitable for indoor or outdoor installation in non-hazardous locations




Branch Circuit Fusing

- Assures compliance with NEC and Canadian Electrical Code (CEC) electrical codes
- Increases SCCR rating
- Reduces risk of over-current related failures and hazards

SCCR Rating

- Assures compliance with Article 409 of the NEC and UL® 508A

UL® 508A Agency Certification

-  assures compliance with appropriate United States and Canadian codes
- Assures prompt product acceptance
- Reduces end product documentation costs

Customer Field Connections

- Dedicated terminals for supply, load and control interlock for fast and easy customer connection
- Dedicated terminals for sensor connection with matched alloys where applicable



Supported Controllers

Watlow controllers are an instrumental piece to managing the thermal loop. They are easily integrated in Watlow control panels.

EZ-ZONE® PM Panel Mount Controller

The EZ-ZONE® PM panel mount controller from Watlow offers control options to reduce system complexity and the cost of thermal loop ownership. It can be ordered as a PID controller or its functions can be combined into an integrated controller. An option to integrate a high amperage power controller output with a high-performance PID controller and an over/under limit controller in one space-saving, panel mount package is also available.



Capabilities and Benefits

- Three-year warranty assures Control Confidence
- Allows integrated PID and limit control
- Enables use of laptop for programming setup
- Increases user and equipment safety for over- and under-temperature conditions
- Reduces the component count
- Utilizes TRU-TUNE® adaptive control

DIN-A-MITE® C Power Controller



The Watlow DIN-A-MITE® Style C silicon controlled rectifier (SCR) power controller provides you with a low cost, compact and versatile solid state option for controlling electric heat. You also get the quality you expect from a Watlow designed and manufactured product.

Capabilities and Benefits

- Compact size reduces panel space
- One- and three-phase power permits use in a variety of applications
- Faster switching with solid state components. Better control saves energy and extends heater life
- Back-to-back SCR design for increased durability
- Three-year warranty assures Control Confidence
- Touch-safe terminals increase safety for installer/user

Supported Devices

Pilot Devices

- High limit pilot light assures quick indication of limit condition
- Three position illuminated ON-OFF-SETUP selector switch assures rapid and accurate operator interface

Documentation

- Complete wiring schematic and outline drawing
- Factory acceptance test
- I O & M manual

Supports Communication through EZ-ZONE® or SpecView Using USB Cable and USB to Serial Device

- Standard external bus connection allows easy connection to laptop for programming
- SpecView is a free downloadable programming software

Specifications

Voltage

- 120/240 single phase
- 208/240/480 three phase
- 120 control circuit

Amperage

- 144 amps max.
- 48 amps per branch circuit max.
- 3 branch circuits max.

Interrupt Rating

- 50,000 SCCR min.

Sensor Input

- ANSI Type J or K thermocouple

Environmental

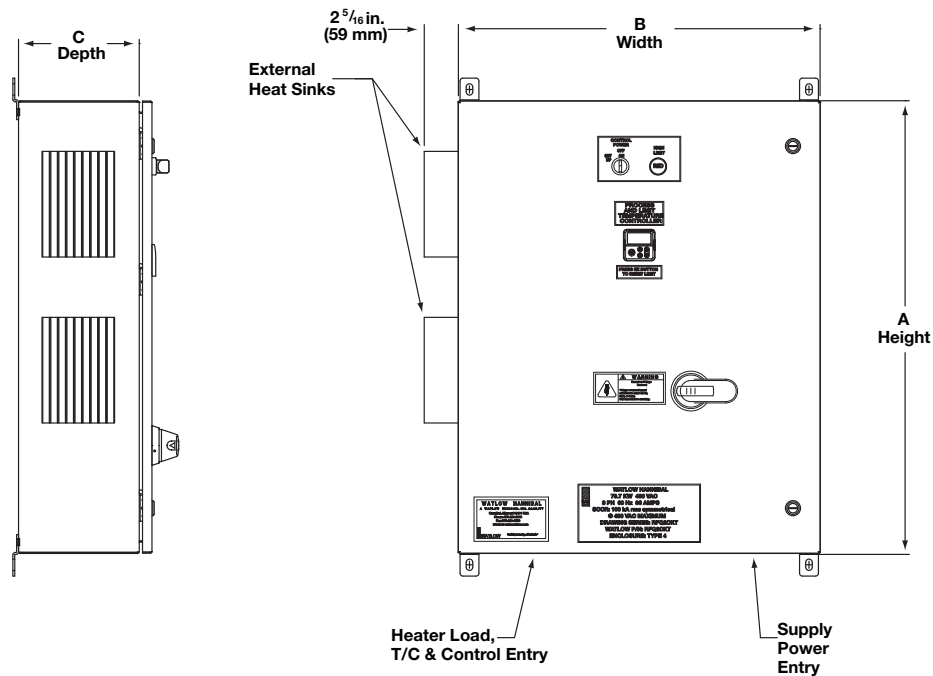
- Storage Temperature: 32° to 104°F (0° to 40°C)
- Relative Humidity: 10% to 90% (non-condensing)
- Ratings: Type 4
- Agency: UL® 508A

Mechanical

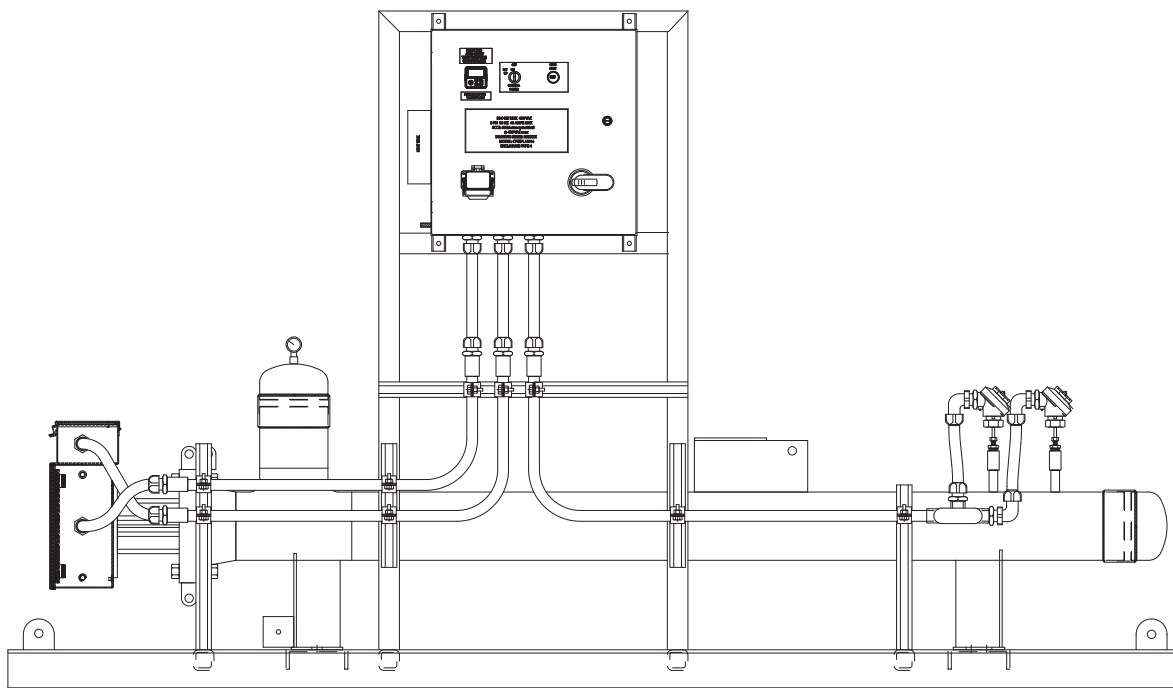
- Conduit entry: designed for bottom entry of supply, load and control
- Enclosure wall: blank for customer installations of conduit
- Dimensions: see part number chart on following page

Dimensional Drawings

Two Circuit Model Shown



Control Panel, Heat Exchanger System for Typical Process Applications



Ordering Information

Part Number

① ② Control Panel	③ ④ ⑤ ⑥ Process and/or Hi-Limit Control	⑦ Opt. Process & Hi-Limit Sensor	⑧ ⑨ ⑩ ⑪ Part Number
CP			

① ② Control Panel
CP = DIN-A-MITE® C power controller

③ ④ ⑤ ⑥ Process and/or Hi-Limit Control
EZPR = EZ-ZONE® PM process controller only
EZPL = EZ-ZONE PM process and hi-limit controller

⑦ Optional Process and Hi-Limit Sensors
J = Type J Input
K = Type K Input

⑧ ⑨ ⑩ ⑪ Part Number
See chart below for part number

Part Number Chart (Choose part number for Ordering Information 8, 9, 10 and 11 above.)

Nominal Volts	Max. Heater kW	Phase	Circuits	Branch* Circuit Max. Amps	A x B x C ** Enclosure Size in.	Est. Shipping Weight (lbs)	Part Number
208	8.6	3	1	24	16 x 16 x 8	110	2312
208	17.3	3	2	24	36 x 24 x 8	220	2322
208	25.9	3	3	24	36 x 30 x 8	290	2332
240	10.0	3	1	24	16 x 16 x 8	110	3312
240	19.9	3	2	24	36 x 24 x 8	220	3322
240	29.9	3	3	24	36 x 30 x 8	290	3332
480	19.9	3	1	24	16 x 16 x 8	110	4312
480	39.9	3	2	24	36 x 24 x 8	220	4322
480	59.8	3	3	24	36 x 30 x 8	290	4332
208	17.3	3	1	48	24 x 20 x 8	160	2314
208	34.5	3	2	48	36 x 36 x 8	330	2324
208	51.8	3	3	48	42 x 36 x 12	400	2334
240	19.9	3	1	48	24 x 20 x 8	160	3314
240	39.9	3	2	48	36 x 36 x 8	330	3324
240	59.8	3	3	48	42 x 36 x 12	400	3334
480	39.9	3	1	48	24 x 20 x 8	160	4314
480	79.7	3	2	48	36 x 36 x 8	330	4324
480	119.6	3	3	48	42 x 36 x 12	400	4334
120	2.9	1	1	24	16 x 16 x 8	110	1112
240	5.8	1	1	24	16 x 16 x 8	110	3112
240	11.5	1	2	24	36 x 24 x 8	220	3122
240	17.3	1	3	24	36 x 30 x 8	290	3132
120	5.8	1	1	48	24 x 20 x 8	160	1114
240	11.5	1	1	48	24 x 20 x 8	160	3114
240	23.0	1	2	48	36 x 24 x 8	230	3124
240	34.6	1	3	48	42 x 36 x 12	400	3134

* 24 amp circuits fused at 30A
48 amp circuits fused at 60A
Installation must comply to local electrical codes

** Add 2⁵/₁₆ in. (59 mm) to "C" dimension for external heat sink

Catalog part numbers include the following features:

- Type 4 enclosure (carbon steel with gray paint)
- Control transformer
- Fused disconnect switch
- Control and load fusing (feed and branch circuit)
- Three position lighted selector switch (on, off, control power only)
- High limit pilot light (EZPL models only)
- Through-wall bus communications input (standard bus with 485)
- Load power, remote interlock and sensor terminal blocks

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