

Control Panels

Product	Description	Supported Controllers	Operating Environment	Page
Control Panels	Control panels designed to link with Watlow immersion and circulation heaters	EZ-ZONE controllers	32 to 95°F (0 to 35°C)	401





Control Panels

Proper controller schematic and panel design goes a long way toward ensuring the trouble-free operation of a process system. Watlow® has supplied UL® 508 control panels for a variety of process control applications.

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 cULus mark. Component installation and wiring conform to applicable NEC and/or CEC standards.

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
- Prevents abnormal condition failure utilizing an over temperature shutdown

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 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

- cULus 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

Control Panels

Supported Controllers and Devices

Watlow EZ-ZONE Integrated Controllers

- Three-year warranty assures Control Confidence™
- Allows integrated PID and limit control
- Decreases required panel space
- 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

Watlow DIN-A-MITE® Power Controllers

- 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
- Accurate and tight set point control

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
- A time-limited trial version of SpecView is available free of charge at www.watlow.com.

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

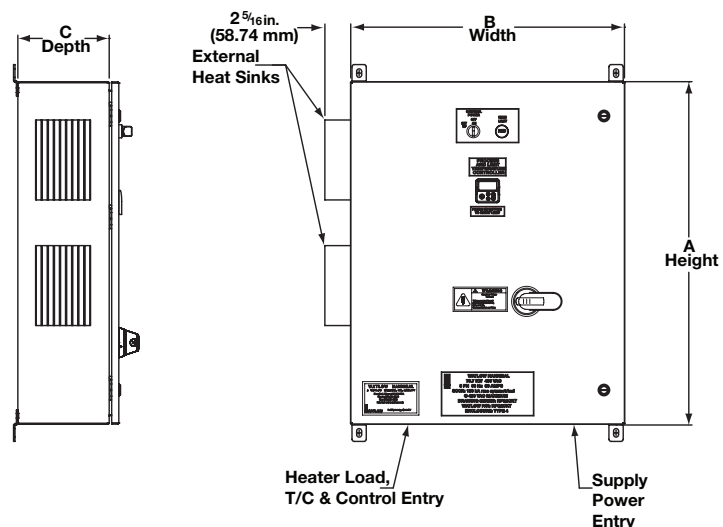
Environmental

- 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 Drawing



Control Panels

Standard Control Panels

Ordering Information

Part Number

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

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)
- Pilot light (EZPL models only)
- High limit
- Through-wall bus communications input (standard bus with 485)
- Load power, remote interlock and sensor terminal blocks

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 30 amps
 48 amp circuits fused at 60 amps
 Installation must comply to local electrical codes

** Add 2⁵/₁₆ inch to "C" dimension for external heat sink