

Watlow® SERIES CZR Solid State Relay Offers a Compact, Versatile Mercury-Free Solution

The SERIES CZR solid state relay from Watlow® provides a low-cost, highly compact and versatile solid state option for controlling electric heat. With DIN-rail and back panel mounting standard on every controller, the CZR allows for simple and quick installation.

The extensive capabilities of the SERIES CZR include single-phase, 18 to 42 ampere zero-cross switching up to 600VAC (see output rating curve). The unique integrated design removes the guesswork associated with selecting a proper heat sink and precise terminations for the application.

This controller holds many agency approvals and is ideal for applications that require UL®, CSA and CE approvals. The SERIES CZR is available in VAC/VDC input contactor versions. All configurations are model number dependent and factory selectable.

SERIES CZR is reliably backed by a two-year warranty from Watlow.



Features and Benefits

DIN-rail or standard panel mount

- Provides versatile, quick and low-cost installation

Compact size

- Reduces panel space and cost

Touch-safe terminals

- Increases installer and operator safety

Mercury free

- Offers environmentally safe solution

Faster switching with solid state

- Saves energy and extends heater life

UL® 508 recognized, CSA LR700195 certified and CE 60950

- Assures safety

Back-to-back SCR design

- Offers rugged design for different application environments

Specifications

Control Mode

- Zero-cross fired contactor output

Operator Interface

- Command signal input
- Input signal indication LED

Input Command Signal

- Input Type DC1
 - Turn on voltage 4VDC max., turn off voltage 1VDC min.
 - Input current: dc typically 10mA @ 4VDC, 13mA @ 32VDC
- Input Type AC1
 - 90 to 140Vrms, must turn on at 90VAC, must turn off at 10VAC
 - Input current: 15mA typical @ 120VAC

Output Voltage

- 24V; 24VAC min. to 280VAC max.
- 48V; 48VAC min. to 530VAC max.
- Off state leakage 10mA at 77°F (25°C) max. for 24 through 480VAC models
- Holding current: 250mA max.

Output Amperage

- See output rating curve. Ratings are into a resistive heater load.

Output Amperage Rating

Model	18	24	34	42
Maximum Surge Current 16.6 mSec	625	250	625	1000
Maximum I ² t for fusing	1620	260	1620	4150

Agency Approvals

- Class II construction
- UL® 508 recognition, File #E73741 and CSA File LR 700195
- CE per 2006/95/EC Low Voltage Directive
- 2011/65/EU RoHS

Output Terminals

- Compression type
- For 18A models:
 - Max. wire size 3.0 mm (10 AWG), torque to 0.6Nm (5.3 in. lbs)
- For 24 to 42A models:
 - Max. wire size 16 mm (6 AWG stranded) torque to 1.5-1.7Nm (13-15 in. lbs)

Operating Environment

- Up to 176°F (80°C). See output rating curves for your application.
- 0 to 90% RH (relative humidity), non-condensing
- Insulation tested to 3,000 meters
- Units are suitable for "pollution degree 2"
- Cycle time should be less than 3 seconds

Mounting

Options include DIN-rail or standard back panel mounting.

- The DIN-rail specification: DIN EN 50022, 1.38 in. x 0.30 in. (35 mm x 7.5 mm)
- Min. clipping distance: 1.37 in. (34.8 mm)
- Max. clipping distance: 1.39 in. (35.3 mm)
- Mount cooling fins vertical

Weight/Dimensions

- 9.2 oz (260g)
- 24 to 42A models: 3.95 in. (100 mm) high x 1.75 in. (45 mm) wide x 4.3 in. (109 mm) deep
- 18A models: 3.95 in. (100 mm) high x 0.89 in. (22.6 mm) wide x 3.9 in. (99 mm) deep

Ordering Information

Part Number

①	②	③ ④	⑤	⑥ ⑦	⑧	⑨ ⑩ ⑪	⑫
	Control Mode	Output Amperage		Output Voltage		Input Type (Contactor)	
C	Z	-	A	-	V	-	0

②	Control Mode
Z =	Zero cross

③ ④	Output Amperage
18 =	18A
24 =	24A
34 =	34A
42 =	42A

⑥ ⑦	Output Voltage
24 =	24 to 280VAC
48 =	48 to 530VAC

⑨ ⑩ ⑪	Input Type (Contactor)
DC1 =	4 to 32VDC
AC1 =	90 to 140VAC

Note: Do not use the AC1 input type with temperature controller outputs that include an AC snubber filter. This could cause the SERIES CZR to stay full on.

Output Rating Curve

