

Compact Design Provides Versatile Solid State Option

The SERIES CZR solid state contactor 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 control, the CZR allows for simple and quick installation.

The extensive capabilities of the SERIES CZR include single-phase, 18 to 50 amp zero-cross and random switching up to 600V~(ac) (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. SERIES CZR contactors are available in V~(ac/dc) input contactor versions. All configurations are model number dependent and factory selectable.

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

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Your Authorized Watlow Distributor is:



Features and Benefits

DIN-rail or standard panel mount

- Versatile, quick and low-cost installation

Compact size

- Reduces panel space; less cost

Touch-safe terminals

- Increases safety for installer and operator

Mercury free

- Environmentally safe

Faster switching with solid state

- Saves energy and extends heater life

UL®508 recognized, CSA LR700195 certified and CE 60950

- Applications requiring agency approval

Back-to-back SCR design

- Rugged design



ISO 9001



Registered Company
Winona, Minnesota USA

WIN-CZR-0907

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 4V=(dc) max., turn off voltage 1V=(dc) min.
 - Input current: dc typically 10mA @ 4V=(dc), 13mA @ 32V=(dc)
- Input Type AC1
 - 90 to 140Vrms, must turn on at 90V~(ac), must turn off at 10V~(ac)
 - Input current: 15mA typical @ 120V~(ac)
- Input Type AC2
 - 18 to 36V~(ac) input, must turn on at 18V~(ac), must turn off at 10V~(ac)
 - Input current: 10mA typical @ 24V~(ac)

Output Voltage

- 24 volt; 24V~(ac) min. to 280V~(ac) max.
- 480 volt; 48V~(ac) min. to 530V~(ac) max.
- 600 volt; 48V~(ac) min. to 660V~(ac) max.
- Off state leakage
 - 1mA at 25°C (77°F) max. for 600V~(ac) models; 10mA at 25°C (77°F) max. for 24 through 480V~(ac) 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	50
Maximum Surge Current 16.6 mSec	625	250	625	1,000	1,200
Maximum I ² t for fusing	1,620	260	1,620	4,150	6,000

Agency Approvals

- Class II construction
- UL® 508 recognition, File #E73741 and CSA File LR 700195
- 73/23/EEC CE Low Voltage Directive

Output Terminals

- Compression type
- For 18 amp models:
 - Maximum wire size 3.0 mm (10 AWG), torque to 0.6Nm (5.3 in. lbs)
- For 24 to 50 amp models:
 - Maximum wire size 16.0 mm (6 AWG stranded) torque to 1.5-1.7Nm (13-15 in. lbs)

Operating Environment

- Up to 80°C (176°F). See output rating curves for your application.
- 0 to 90 percent RH, non-condensing
- Insulation only 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, 35 mm x 7.5 mm (1.38 in. x 0.30 in.)
- Minimum clipping distance: 34.8 mm (1.37 in.)
- Maximum clipping distance: 35.3 mm (1.39 in.)
- Mount cooling fins vertical

Weight/Dimensions

- 260g (9.2 oz)
- 24 to 50 amp models: 100 mm (3.95 in.) high x 45 mm (1.75 in.) wide x 109 mm (4.3 in.) deep
- 18 amp models: 100 mm (3.95 in.) high x 22.6 mm (0.89 in.) wide x 99 mm (3.9 in.) deep

Ordering Information

SERIES CZR

C **- A** **V -** **0**

Control Mode

- R = Random
- Z = Zero-cross

Output Amperage

- 18 = 18 amp
- 24 = 24 amp
- 34 = 34 amp
- 42 = 42 amp
- 50 = 50 amp

Output Voltage

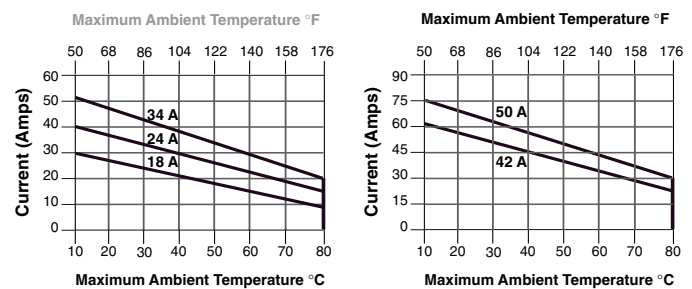
- 24 = 24 to 280V~(ac)
- 48 = 48 to 530V~(ac)
- 60 = 60 to 660V~(ac)

Input Type (Contactor)

- DC1 = 4 to 32V=(dc)
- AC1 = 90 to 140V~(ac)
- AC2 = 18 to 36V~(ac)

Note: Do not use the AC1 and AC2 input type models with temperature control outputs that include an AC snubber filter. This could cause the CZR to stay full on.

Output Rating Curves



To be automatically connected to the nearest North American Technical and Sales Office:

1-800-WATLOW2 • www.watlow.com • info@watlow.com

International Technical and Sales Offices: Australia, +61-3-9335-6449 • China, +86-21-3950-9510 • France, +33 (0) 3073-2425 • Germany, +49 (0) 7253-9400-0 • Italy, +39 (0) 2 458-8841 • Japan, +81-3-3518-6630 • Korea, +82-2-575-9804 • Malaysia, +60-3-7980-7741 • Mexico, +52 (442) 217-6235 • Shanghai, +86-21-3950-9504 • Singapore, +65-6777-1266 • Spain, +34 91 675 1292 • Sweden, +46 35-27-11-66 • Taiwan, +886-7-288-5168 • United Kingdom, +44 (0) 115-964-0777