

Solid-State Contactors Series ZC and PC

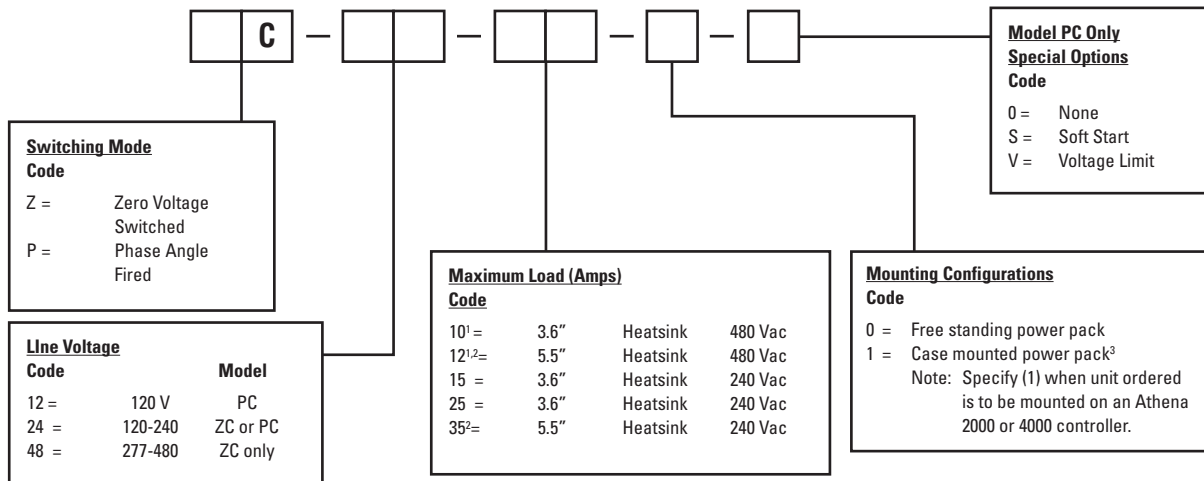
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The Athena ZC and PC contactors are available as zero voltage switched (ZC) and phase angle-fired (PC) contactors that can be used for control of resistive heater loads. The controller provides full power rating at 102°F (49°C) ambient temperature, and extends heater life while eliminating thermal shock.

- ▲ All Solid-State Design – No Maintenance Required
- ▲ Soft-Start and Voltage Limit (Optional on PC)

Ordering Information



Example: Model ZC-2425-1-a controller with a zero voltage switching mode; a line voltage of 120-240 V; a maximum load (amps) of a 3.6" heatsink, 240 Vac; and a case-mounted power pack configuration.

CAUTION Possible fire hazard. Because these controls or associated equipment may not always fail safe, an approved temperature and/or pressure safety control should be used for safe operation.

NOTES:

- ¹ Only 480 Vac available. None higher. ZC only.
- ² Panel mounting only.
- ³ Not available on 35A model

Technical Specifications

Inputs (minimum voltage) 3 V input signal, minimum, is needed. Standard Athena "S" or "F" output controllers can energize up to three units in series. Model ZC- 3-32 Vdc pulsed voltage, optically isolated from output (2500 V). Requires Athena output type "S". Model PC- 4-20 mA proportional current, optically isolated from output (2500 V). Requires Athena output type "F".

Ambient Temperature 120°F (49°C) maximum for rated amperes
Output Ampere Rating Resistive loads only, 277-480 Vac is ZC Unit Only

Note For greater ampere loads, consult factory.

Model	Supply Voltage	Nominal Rating Max.			Voltage Drop	Max. Leakage
		3.6" Heat Sink	5.5" Heat Sink	Peak Surge		
ZC	120-240	15 A	N/A	250 A	1.6 V	15 mA
	120-240	25 A	35 A	650 A	1.6 V	15 mA
	277-480	10 A	12 A	150 A	3.2 V	1 mA
PC	120/240	15 A	N/A	310	5.0 V	10 mA
	120/240	25 A	35 A	310	8.0/5.0 V	10 mA

Options available for PC units only

Soft-Start Option 0 to maximum output within 30 seconds standard. Consult factory for slower or faster turn-on times.

Voltage Limit Option Output limit is adjustable from 35% to 95% of line input voltage.

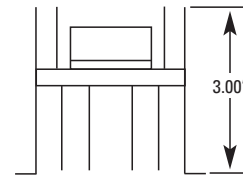
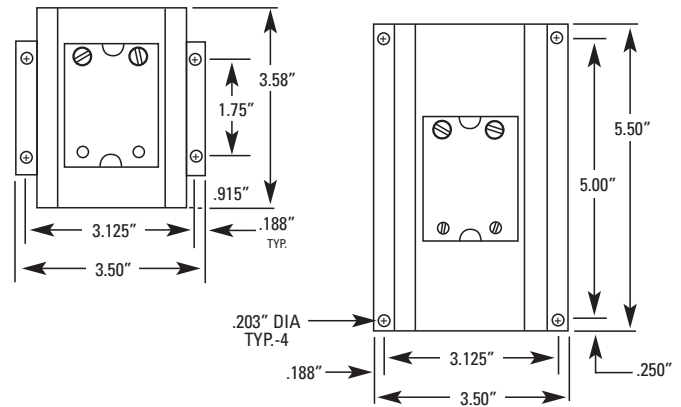
Zero Voltage Switching

Series ZC contactors offer zero voltage switching for EMI/RFI free operation. A time proportional 3-32 Vdc input signal is required to energize these contactors (use with Athena "S" output controller).

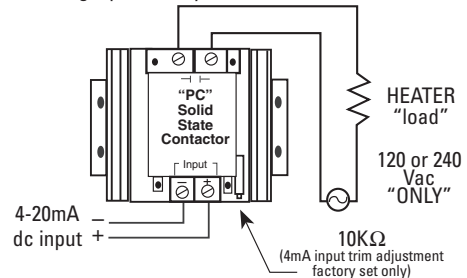
Phase Angle-Fired Switching

Phase angle-fired switching provides continuously variable voltage output by governing the point of turn-on (firing) of each half cycle of the full AC sine wave. Low mass heating elements such as heating lamps and hot wires are recommended applications. Use with Athena "F" output (4-20 mA) controller.

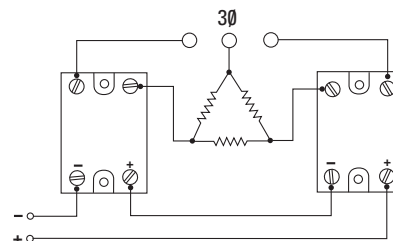
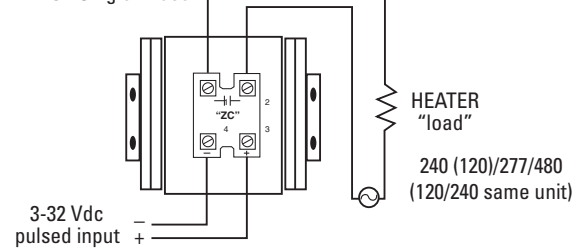
Phase angle firing allows for two options not available with ZC solid state contactors. Soft-Start provides slow turn on for high inrush loads, such as quartz lamps and Tungsten elements. Voltage limit restricts load current by capping the peak-to-peak output voltage.



PC (single phase only)



ZC - Single Phase



ZC - Three Phase