

# MODEL ZF1 SERIES

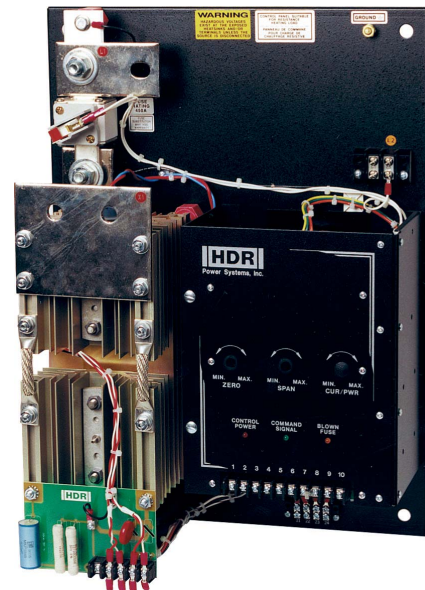
## Power Controls

Single-Phase Zero-Fired Models  
Rated 60 - 1200 Amperes

The **ZF1 Series** are single-phase zero-fired SCR Power Controls designed to deliver maximum power control with all the features normally found in much larger units. Utilizing only four frame sizes, these units are conservatively engineered for years of trouble-free service while providing the benefits of precise, reliable control for your electrical process.

The ZF1 Series accepts all standard voltage and current command signals or a remote potentiometer input. The 4-20 mA command signal is optically isolated. Standard operating voltages are 120, 240, 400, 480 & 575 Vac, 3 Phase, 50/60 Hz. Other voltages are available.

Multi-turn zero and span adjustments are provided for matching the SCR power control to the command signal. Control power, command signal and blown fuse indicators are provided as a means for trouble shooting. The control power indicator (red) indicates power has been applied to the unit. The command signal indicator's (green) brilliance is proportional to the output voltage. The blown fuse indicators (3-yellow) light if a fuse is cleared.



## MODEL ZF1

- Electrically Isolated Heat Sinks (60-225A)
- Conservative Thermal Design
- Compact Size
- Voltage Squared Linearity
- Line Voltage Compensation
- Transient Voltage Protection (RC & MOV)
- 1400 PIV SCRs
- Semiconductor ( $I^2t$ ) Fuse
- Diagnostic Indicators
- Optically Isolated Input Command Signal (4-20 mA)
- Multi-Turn Zero & Span Adjustments
- Silkscreen Printed Circuit Boards
- UL,cUL Listed, CE Compliant
- 5 year "No Hassle" warranty
- Fan Cooled (90A and higher)

## Applications:

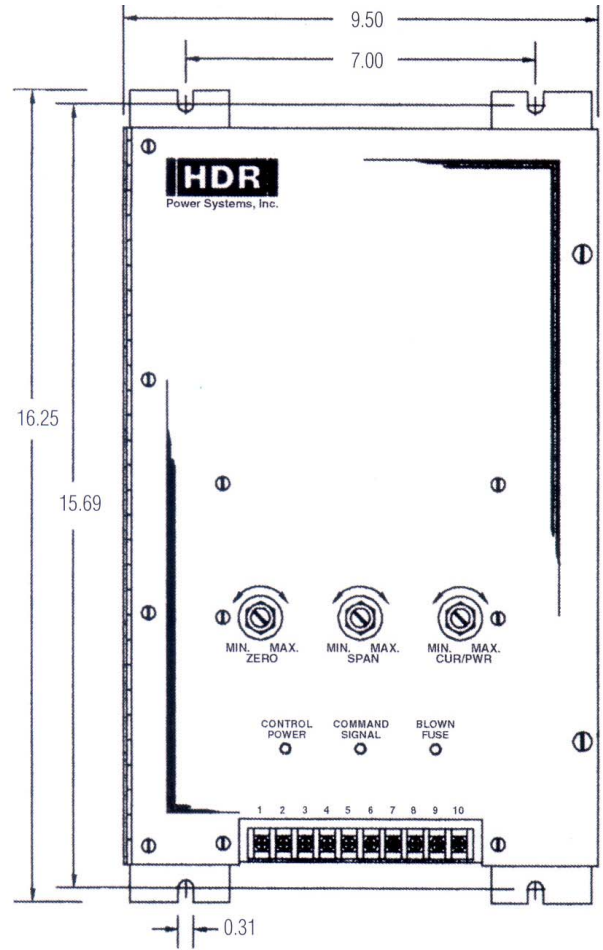
Primarily used to control static resistive or non-inductive loads.

- Small electric furnaces
- Electric ovens, kilns & heaters
- Extrusion or injection molding

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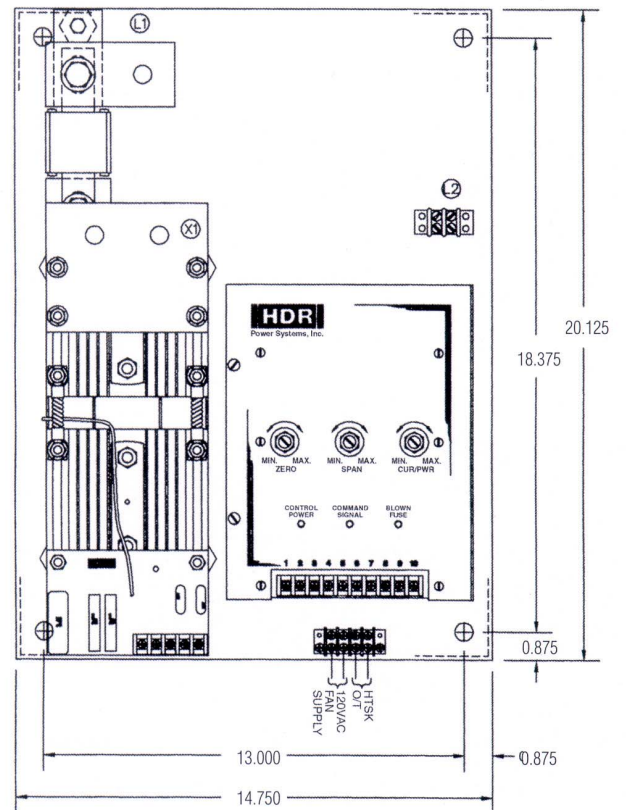
# Model ZF1 60-225A

Depth: 9.25



# Model ZF1 350-500A

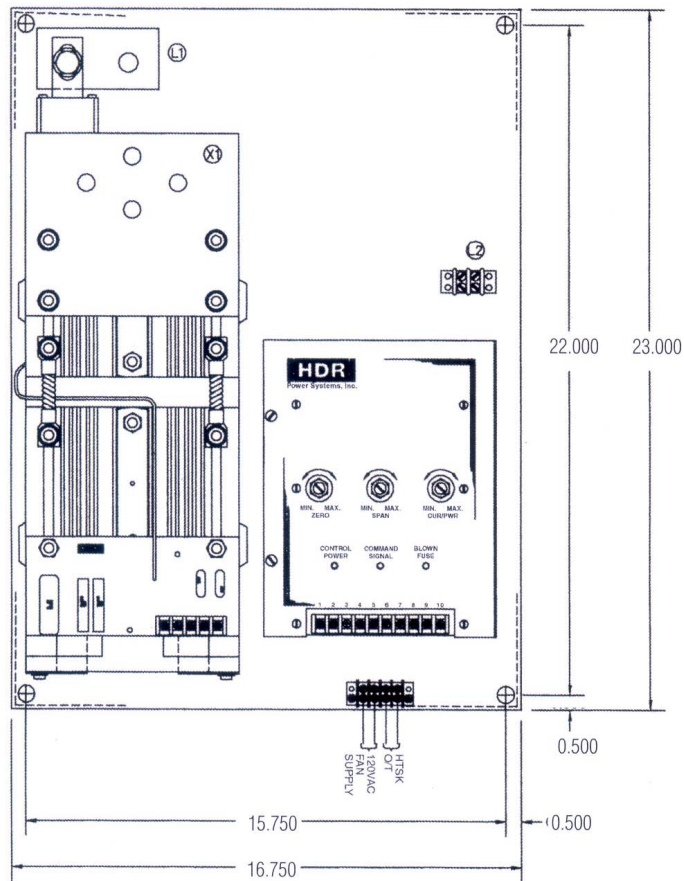
Depth: 8.500



## Model ZF1650A

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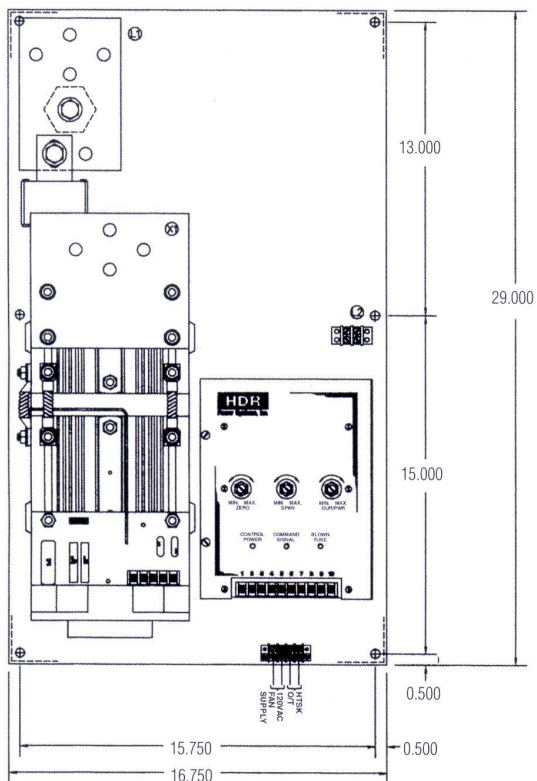
Depth: 8.5



## Model ZF1 800-1200A

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Depth: 8.5



## SPECIFICATIONS:

<b>Control Method:</b>	Zero-firing of back-to-back SCRs	<b>Isolation:</b>	2500 volts rms from power circuit to command signal and to ground
<b>Voltage Rating:</b>	120, 240, 400, 480, 575 Vac, 50/60 Hz,	<b>Adjustments:</b>	Zero and span, multi-turn
<b>Current Ratings:</b>	60, 90, 120, 180, 225, 350, 500, 650, 800, 1000, 1200 Amperes	<b>Ambient Temperature:</b>	Operating: 0° to 50° C Storage: -10° to 70° C
<b>Command Signal:</b>	Most standard process signals	<b>Relative Humidity:</b>	0 to 95% (non-condensing)
		<b>Weights:</b>	60-225A            22 lbs. 350-500A        24 lbs. 650A              47 lbs. 800-1200A      71 lbs.

## HOW TO ORDER:

Make one selection from each of the tables shown. Place the selections in the corresponding boxes to build your model number.

ZF1-  -  -  -   
5    1    2    3    4

### 1 VOLTAGE TABLE\*

120 Vac	<input type="text" value="120"/>
240 Vac	<input type="text" value="240"/>
400 Vac	<input type="text" value="400"/>
480 Vac	<input type="text" value="480"/>
575 Vac	<input type="text" value="575"/>

\*Other voltages available

### 2 CURRENT TABLE

60 Amps	<input type="text" value="60"/>
90 Amps	<input type="text" value="90"/>
120 Amps	<input type="text" value="120"/>
180 Amps	<input type="text" value="180"/>
225 Amps	<input type="text" value="225"/>
350 Amps	<input type="text" value="350"/>
500 Amps	<input type="text" value="500"/>
650 Amps	<input type="text" value="650"/>
800 Amps	<input type="text" value="800"/>
1000 Amps	<input type="text" value="1000"/>
1200 Amps	<input type="text" value="1200"/>

### 3 OPTION TABLE <sup>Δ</sup>

N.O. Thermostat	<input type="text" value="NO"/>
N.C. Thermostat	<input type="text" value="NC"/>
SCR Failure Alarm	<input type="text" value="SF"/>
Load Unbalance Alarm	<input type="text" value="UB"/>
Lug Kit (greater than 225A)	<input type="text" value="LG"/>

<sup>Δ</sup>Thermostat included above 60A  
Specify N.O. or N.C.

### 4 COMMAND SIGNAL TABLE

4-20 mA (Self Powered)	<input type="text" value="01"/>
0-10 VDC	<input type="text" value="02"/>
0-5 VDC	<input type="text" value="03"/>
Auto/Man	<input type="text" value="04"/>
*Manual Pot Input	<input type="text" value="05"/>
Others	<input type="text" value="06-99"/>

\*Requires external potentiometer (5k)

Specifications subject to change without notice

### 5 WATER COOLING

(Not UL, cUL, CE approved)