



# Series H12C

50-90Amp • 480 Vac • AC Output

- 1200 Volt Blocking
- Panel Mount
- Up to 660 Vac
- Zero Voltage and Random Turn-On
- SCR Output
- Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)

High voltage relays use IC driven circuits for switching loads up to 660 VAC. All models come with 1200 Volts blocking and are available with either AC or DC input (coil) control. Types H12CA and H12CD are snubberless (reduced leakage current). Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

MODEL NUMBERS	DC CONTROL	H12CD4850	H12CD4890
	AC CONTROL	H12CA4850	H12CA4890
<b>OUTPUT SPECIFICATIONS</b> ①			
Operating Voltage (47-63 Hz) [Vrms]		48-660	48-660
Max. Load Current ③ [Arms]		50	90
Min. Load Current, [mArms]		150	150
Transient Overvoltage [Vpk]		1200	1200
Max. Surge Current, (16.6ms) [Apk]		625	1200
Max. On-State Voltage Drop @ Rated Current [Vpk]		1.6	1.6
Thermal Resistance Junction to Case ( $R_{\theta JC}$ ) [° C/W]		.63	.28
Maximum $I^2 t$ for Fusing, (8.3 msec.) [A <sup>2</sup> sec]		1620	6000
Max. Off-State Leakage Current @ Rated Voltage [mArms]		1.0	1.0
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec]②		500	500
Max. Turn-On Time ④		1/2 Cycle (DC Control), 10.0 msec (AC Control)	
Max. Turn-Off Time		1/2 Cycle (DC Control), 40.0 msec (AC Control)	
Power Factor (Min.) with Max. Load		0.5	0.5

INPUT SPECIFICATIONS	DC CONTROL (H12CD PREFIX)	AC CONTROL (H12CA PREFIX)
Control Voltage Range	4-15 Vdc	90-140 Vrms
Max. Turn-On Voltage	4.0 Vdc	90 Vrms
Min. Turn-Off Voltage	1.0 Vdc	10.0 Vrms
Nominal Input Impedance	300 Ohms	8K Ohms
Typical Input Current	15 mA @ 5 Vdc	15 mA @ 120 Vrms

## GENERAL NOTES

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- ① All parameters at 25°C unless otherwise specified.
- ② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- ③ Heat sinking required, for derating curves see page 2.
- ④ Turn-on time for DC control random turn-on versions is 0.02 msec.



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## GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz Input/Output/Base 4000 Vrms

Insulation Resistance (Min.) @ 500 Vdc 10<sup>9</sup> Ohm

Max. Capacitance Input/Output 8 pF

Ambient Operating Temperature Range -40 to 80°C

Ambient Storage Temperature Range -40 to 125°C

## MECHANICAL SPECIFICATIONS

Weight: (typical) 3.0 oz. (86.5g)

Encapsulation: Thermally Conductive Epoxy

Terminals: Screws and Saddle Clamps Furnished, Unmounted

# CRYDOM

Control over power

**Crydom Heat Sinks** offer excellent thermal management and are perfectly matched to the load current ratings of Crydom panel mount relays. Request Crydom's Heat Sink specification sheet for all the details.

### Available Options

**F** Faston Terminals.  
(50 Amp Models Only)  
Example: **H12CD4850F**

**G** Input Status LED.  
Agencies Approval Pending  
Example: **H12CD4850G**  
**Note:** Control Voltage Range 5.5-15Vdc  
for DC Control Models.

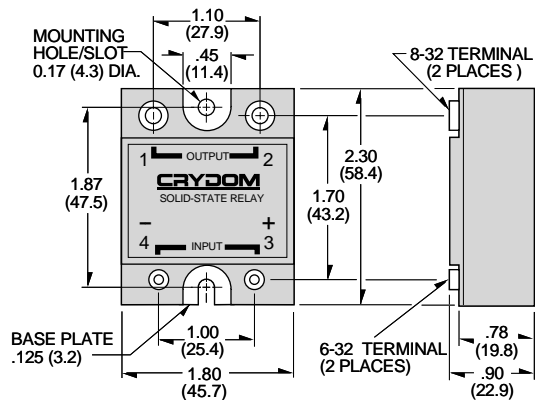
**P** Internal Overvoltage Protection.  
Relay Will Self Trigger Between  
900-1200Vpk. Not Suitable For  
Capacitive Loads.  
Agencies Approval Pending  
Example: **H12CD4850P**

**-10** Random Turn-On.  
Example: **H12CD4850-10**

**Ordering System:** Combination of the  
suffixes should be made in the following order:

**FPG-10.**

Example: **H12CD4850FPG-10**

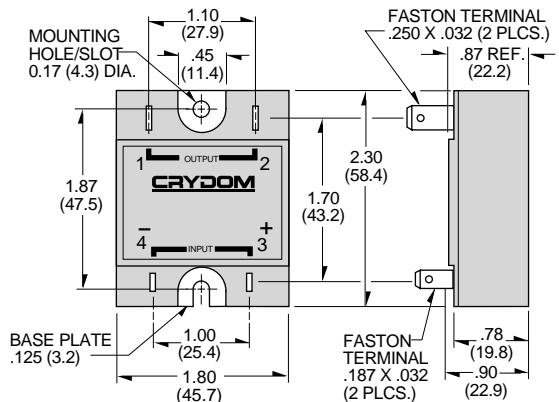


### Screw Torque Requirements:

\*6-32 Screws - 10 in. lbs.,  
8-32 and 10-32 Screws - 20in. lbs.  
(Screws dry without grease.)

### Fastons:

Double pair\* (50A model only).  
Caution: User must connect to both pairs



All dimensions are in inches (millimeters)

## APPROVALS

UL E116949  
CSA LR81689  
VDE 10143 UG



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REV. 031802  
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For recommended applications and more information contact:

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Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, **Email:** intsales@crydom.com.

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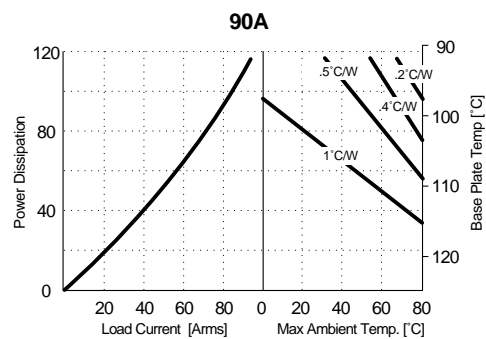
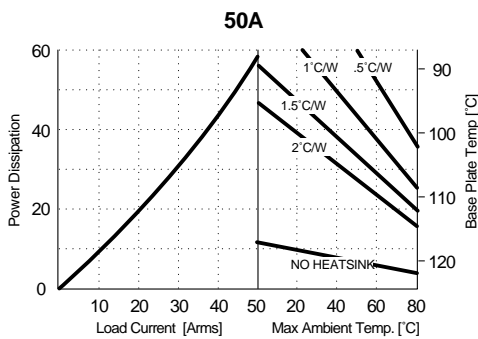


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## CURRENT DERATING CURVES



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