



# Series H12

25-90Amp • 480 Vac • AC Output

- 1200 Volt Blocking
- Panel Mount
- Up to 660 Vac
- Zero Voltage Switching and Random Turn-On
- SCR Output

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, H12CD and H12WD are snubberless (reduced leakage current). Manufactured in Crydom's ISO 9002 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS | DC CONTROL | H12CD4850<br>H12WD4850 | H12CD4890<br>H12WD4890 | H12D4825 | H12D4850 | H12D4875 | H12D4890 |
|---------------|------------|------------------------|------------------------|----------|----------|----------|----------|
|               | AC CONTROL | H12CA4850              | H12CA4890              |          |          |          |          |

## OUTPUT SPECIFICATIONS ①

|   |  |        |        |        |        |        |
|---|--|--------|--------|--------|--------|--------|
| Operating Voltage (47-63 Hz) [Vrms]                                   | 48-660   | 48-660 | 48-530 | 48-530 | 48-530 | 48-530 |
| Max. Load Current ③ [Arms]  | 50   | 90     | 25     | 50     | 75     | 90     |
| Min. Load Current, [mArms]  | 150  | 150    | 150    | 150    | 150    | 150    |
| Transient Overvoltage [Vpk]   | 1200   | 1200   | 1200   | 1200   | 1200   | 1200   |
| Max. Surge Current, (16.6ms) [Apk]                                    | 625  | 1200   | 250    | 625    | 1000   | 1200   |
| Max. On-State Voltage Drop @ Rated Current [Vpk]                      | 1.6  | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    |
| Thermal Resistance Junction to Case (R <sub>θJC</sub> ) [°C/W]        | .63  | .28    | 1.02   | .63    | .31    | .28    |
| Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec] | 1620   | 6000   | 260    | 1620   | 4150   | 6000   |
| Max. Off-State Leakage Current @ Rated Voltage [mArms]                | 1.0  | 1.0    | 10     | 10     | 10     | 10     |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec]②                   | 500  | 500    | 500    | 500    | 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    | 0.5    | 0.5    | 0.5    | 0.5    |

## INPUT SPECIFICATIONS ①

|                         | DC CONTROL<br>(H12CD PREFIX) | DC CONTROL<br>(H12WD & H12D PREFIX) | AC CONTROL<br>(H12CA PREFIX) |
|-------------------------|------------------------------|-------------------------------------|------------------------------|
| Control Voltage Range   | 4-8 Vdc                      | 4-32Vdc                             | 90-140 Vrms (60Hz)           |
| Max. Turn-On Voltage    | 4.0 Vdc                      | 4.0 Vdc                             | 90 Vrms                      |
| Min. Turn-Off Voltage   | 1.0 Vdc                      | 1.0 Vdc                             | 10.0 Vrms                    |
| Nominal Input Impedance | 220 Ohms                     | See Note 5                          | 8K Ohms                      |
| Typical Input Current   | 15 mA @ 5 Vdc                | 15 mA @ 5 Vdc ⑤                     | 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.
- ⑤ Input circuitry incorporates active current limiter.

For recommended applications and more information contact:

USA: (800) 8 CRYDOM • (800) 827-9366 • (619) 715-7200 • fax (619) 715-7280  
 Crydom Corp, 9525 Chesapeake Drive, San Diego, CA 92123 • e-mail: sales@crydom.com  
 WEB SITE: <http://www.crydom.com> FASTFAX Product Information: (888) 267-9191  
 UK: (44)1202 812300 • fax (44)1202 812340 Crydom International Ltd., 85, Condor Close,  
 Woolsbridge Industrial Estate, Three-Legged Cross, Wimborne, Dorset, England BH21 6SU  
 GERMANY: (49) (0)6874 182580 • fax (49)(0)6874 182585 Crydom GmbH,  
 Gewerbegebiet Im Schachen, D-66687 Nunkirchen, Germany • e-mail: vertrieb@crydom.com



# CRYDOM

Control over power

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### GENERAL SPECIFICATIONS

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

Insulation Resistance (Min.) @ 500 Vdc  $10^9$  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 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  
(Up to 50 Amp Models)  
**-10** Random Turn-On  
Example: **H12WD4850-10**

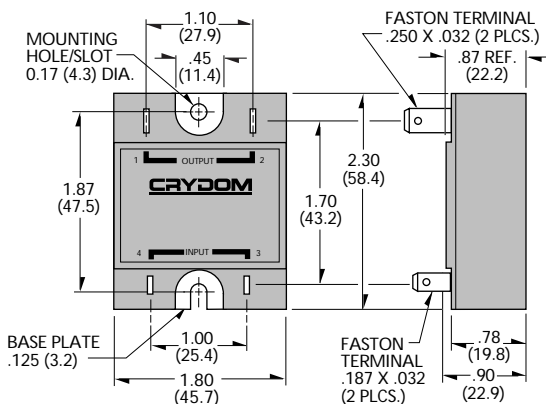
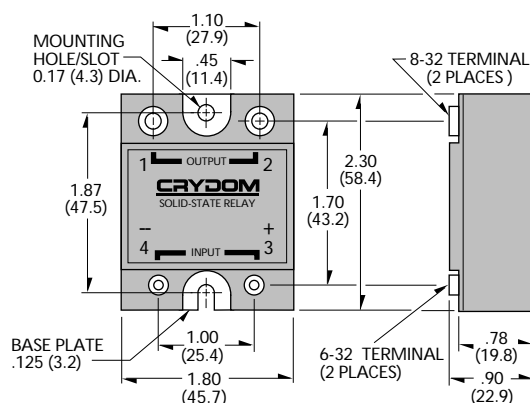
#### Screw Torque Requirements:

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

#### Fastons:

Single pair (up to 25A)  
Double pair\* (up to 50A).

\*Caution: User must connect to both pairs



All dimensions are in inches (millimeters)

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### APPROVALS

UL E116949  
CSA LR81689  
VDE 10143 UG



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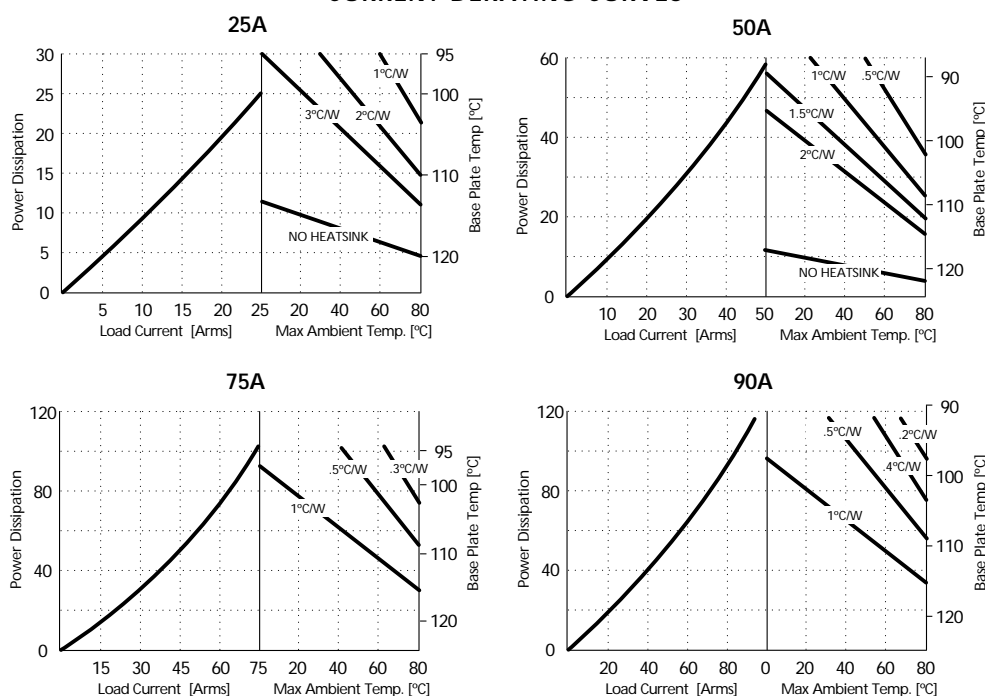
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## CURRENT DERATING CURVES



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