



Series HA, Series HD

12-90Amp • 480 Vac • AC Output

- **Zero Voltage and Random Turn-On Switching**
- **Panel Mount**
- **1200V Blocking Capability**

Featuring state-of-the-art Surface Mount Technology, these SPST-NO relays deliver proven reliability in the most demanding applications. Output consists of an SCR AC switch and is available in zero-cross, random turn-on (phase controllable) and versions with either AC or DC input (coil) control.

Manufactured in Crydom's ISO 9002 Certified facility for optimum product performance and reliability.

MODEL NUMBERS	AC CONTROL	HA4812	HA4825	HA4850	HA4875	HA4890
	DC CONTROL	HD4812	HD4825	HD4850	HD4875	HD4890

OUTPUT SPECIFICATIONS ①

Operating Voltage (47-63 Hz) [Vrms]	48-530	48-530	48-530	48-530	48-530
Max. Load Current ③ [Arms]	12	25	50	75	90
Min. Load Current, [mArms]	40	40	40	40	40
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]	140	250	625	1000	1200
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (R _{θJC}) [°C/W]	1.48	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing, (8.3 msec.) [A ² sec]	81	260	1620	4150	6000
Max. Off-State Leakage Current @ Rated Voltage [mArms]	10	10	10	10	10
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec]②	500	500	500	500	500
Max. Turn-On Time⑤	1/2 Cycle (DC Input), 10.0 msec (AC Input)				
Max. Turn-Off Time	1/2 Cycle (DC Input), 40.0 msec (AC Input)				
Power Factor (Min.) with Max. Load	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS ①

	DC CONTROL (D PREFIX)	AC CONTROL (A PREFIX) ④	AC CONTROL (E SUFFIX)
Control Voltage Range	3-32 Vdc	90-280 Vrms (60Hz)	18-36 Vrms
Max. Reverse Voltage	-32 Vdc	—	—
Max. Turn-On Voltage	3.0 Vdc	90 Vrms	18 Vrms
Min. Turn-Off Voltage	1.0 Vdc	10 Vrms	4.0 Vrms
Nominal Input Impedance	See Note ⑥	60K Ohms	9.0K Ohms
Typical Input Current	2.0 mA⑥	2mA @ 120 Vrms, 4mA @ 240 Vrms	3mA @ 24 Vrms

GENERAL NOTES

- 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 24 Vac Input option, E suffix.
 ⑤ Turn-on time for random turn-on versions is 0.02 msec (DC Control Models).
 ⑥ Input circuitry incorporates active current limiter.

©1998 CRYDOM CORP, Specifications subject to change without notice.

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





Control over power

Series HA, Series HD

12-90Amp • 480 Vac • AC Output

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

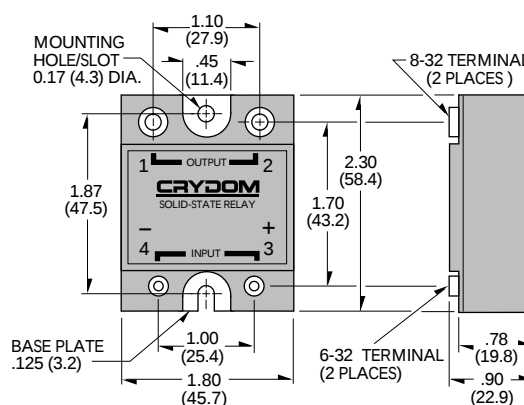
Weight: (typical) 3.0 oz. (86.5g)

Encapsulation: Thermally Conductive Epoxy

Terminals: Screws and Saddle Clamps Furnished, Unmounted

AVAILABLE OPTIONS

- E** 24 VAC Input (18-36 Vac)
Example: **HA4825E**
- 10** Random Turn-On (AC & DC Control)
Phase Controllable (DC Control)
Example: **HD4890-10**
- F** Faston Terminals (Up to 50 Amp Models)



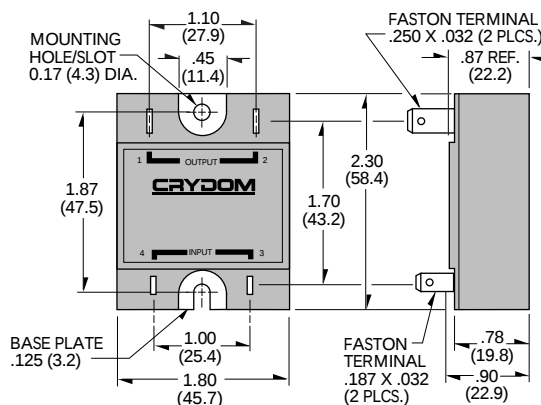
Screw Torque Requirements:

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

Fastons:

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

*Caution: User must connect to both pairs



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.

All dimensions are in inches (millimeters)

©1998 CRYDOM CORP, Specifications subject to change without notice.

APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG



FastFax Document No. 158
SERIES HA/HD.032698, PAGE 2 OF 3

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



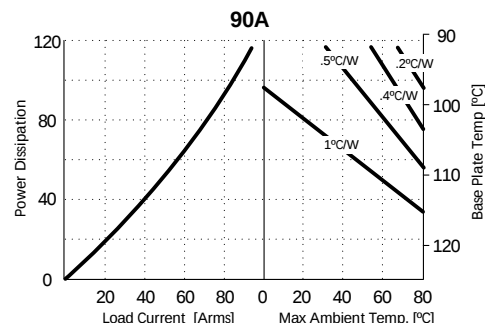
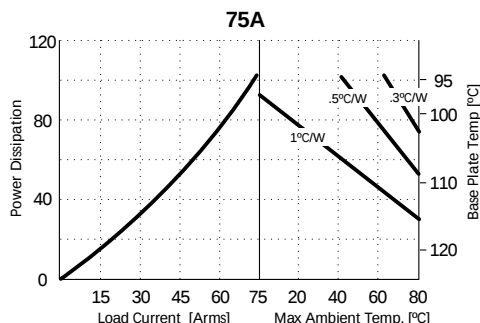
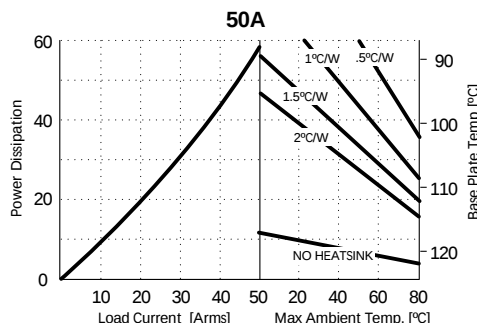
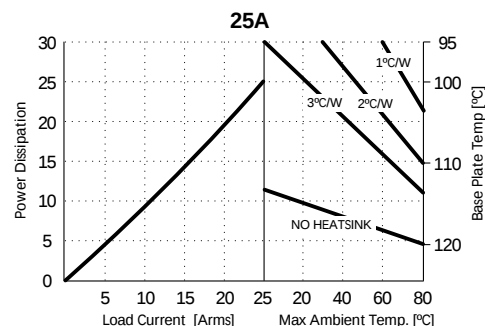
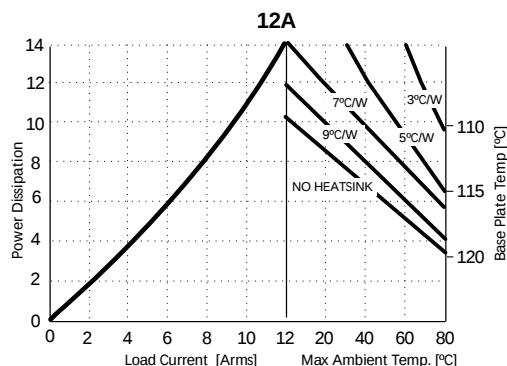


Control over power

Series HA, Series HD

12-90Amp • 480 Vac • AC Output

CURRENT DERATING CURVES



©1998 CRYDOM CORP, Specifications subject to change without notice.

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,

Woolbridge 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

