

# Series 1 - 110/125A

120/240, 480 Vac • AC Output

- Zero Voltage and Random Turn-On Switching
- Panel Mount
- Internal Snubber

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.

## CRYDOM

Control over power

MODEL NUMBERS	AC CONTROL DC CONTROL	A24110 D24110	A24125 D24125	HA48110 HD48110	HA48125 HD48125
<b>OUTPUT SPECIFICATIONS ①</b>					
Operating Voltage (47-63 Hz) [Vrms]		24-280	24-280	48-530	48-530
Max. Load Current ③ [Arms]		110	125	110	125
Min. Load Current, [mArms]		150	150	150	150
Transient Overvoltage [Vpk]		600	600	1200	1200
Max. Surge Current, (16.6ms) [Apk]		1500	1750	1500	1750
Max. On-State Voltage Drop @Rated Current [Vpk]		1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (R <sub>θJC</sub> ) [°C/W]		.25	.22	.25	.22
Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec]		9,340	12,700	9,340	12,700
Max. Off-State Leakage Current @Rated Voltage [mArms]		10	10	10	10
Min. Off-State dv/dt @Max. Rated Voltage [V/μsec]②		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

INPUT SPECIFICATIONS ①	DC CONTROL (D PREFIX)	AC CONTROL (A PREFIX)	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	1500 Ohms (120/240V Models) ⑤	60K Ohms	9.0K Ohms
Typical Input Current	3.4mA @5 Vdc, 20mA @28Vdc⑤	2mA @120 Vrms, 4mA @240 Vrms	3mA @24 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 random turn-on versions is 0.02 msec (DC Control Models).
- ⑤ Input circuitry for 480V models incorporates active current limiter with 2mA typical input current..

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





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## GENERAL SPECIFICATIONS

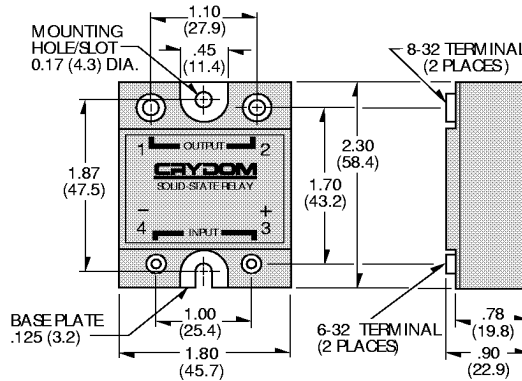
Dielectric Strength 50/60Hz Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @500 Vdc	10 <sup>9</sup> Ohm
Max. Capacitance Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C

## MECHANICAL SPECIFICATIONS

Weight: (typical)	3.0 oz. (86.5g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Screws and Saddle Clamps Furnished, Unmounted

## AVAILABLE OPTIONS

- E** 24 Vac Input (18-36 Vac)  
Example: **A24110E**
- 10** Random Turn-On (AC & DC Control)  
Phase Controllable (DC Control)  
Example: **D24110-10**

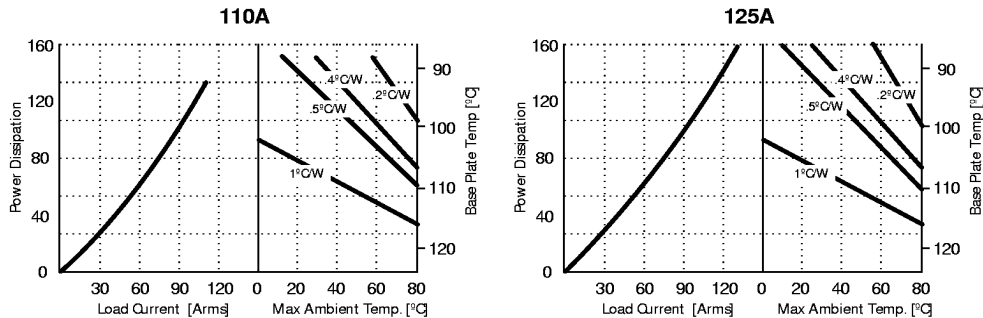


**Screw Torque Requirements:**  
6-32 Screws - 10 in./lbs.,  
8-32 and 10-32 Screws - 20 in./lbs.  
(Screws dry without grease.)

All dimensions are in inches (millimeters)

**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.

## CURRENT DERATING CURVES



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**APPROVALS**  
UL E116950



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