

- 600V Blocking
- Low Leakage
- SCR Output
- Zero and Random Voltage Switching
- LED Status Indicator
- Panel Mount
- Intergrated Removable Fingerproof Cover
- User Friendly, Universal Connectors
- EMC Compliant Design

Crydom's CW24 line of solid state relays offer an SCR AC switch output featuring low off-state leakage (1mA, snubberless), zero and random voltage switching and a broadened operating range (24-280Vac). This wide range permits optimum performance at both 120Vac and 240Vac line voltages.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

MODEL NUMBERS	DC Control AC Control	CWD2410 CWA2410	CWD2425 CWA2425	CWD2450 CWA2450	CWD2490 CWA2490	CWD24125 CWA24125
OUTPUT SPECIFICATIONS ①						
Operating Voltage (47-63 Hz) [Vrms]		24-280	24-280	24-280	24-280	24-280
Load Current Range ③ [Arms]		0.15-10	0.15-25	0.15-50	0.25-90	0.25-125
Transient Overvoltage [Vpk]		600	600	600	600	600
Max. Surge Current, (16.6ms) [Apk]		400	600	850	1350	2000
Max. Surge Current (20ms) [Apk]		380	570	810	1290	1900
Max. On-State Voltage Drop @ Rated Current [Vpk]		1.3	1.3	1.3	1.3	1.25
Thermal Resistance Junction to Case (R _{θJC}) [°C/W]		0.35	0.35	0.2	0.14	0.13
Maximum I ² t for Fusing, (8.3 ms) [A ² s]		660	1500	3000	7560	16600
Maximum I ² t for Fusing, (10ms) [A ² s]		720	1620	3280	8320	18000
Max. Off-State Leakage Current @ Rated Voltage [mA] ⑥		1.0	1.0	1.0	1.0	1.0
Min. Off-State dv/dt @ Max. Rated Voltage [V/μs] ②		500	500	500	500	500
Max. Turn-On Time ④⑤		1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle
Max. Turn-Off Time ⑤		1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle
Power Factor (Min.) with Max. Load		0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS ①	DC Control	AC Control 24 Vac nominal E - suffix	AC Control 120/240Vac nominal Std. (no suffix)
	Control Voltage Range	3-32 Vdc	18-36 Vrms
Max. Turn-On Voltage	3 Vdc	18 Vrms	90 Vrms
Min. Turn-Off Voltage	1.0 Vdc	2 Vrms	10 Vrms
Nominal Input Impedence	See note 7	1 k ohm	21.5 k ohms
Typical Input Current	10 mA @ 12 Vdc	24mA@24Vrms	6 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 random turn-on version is 0.02 msec.
- ⑤ Turn-on and turn-off time for AC input models is 50ms.
- ⑥ 10mA for models with snubber.
- ⑦ Input circuit incorporates active current limiter.

crydom™ ISO9001 certified

For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 **Tech Support** (877) 702-7700 FAX (619) 710-8540
 Crydom Inc., 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154
Email: sales@crydom.com **WEB SITE:** http://www.crydom.com
UK: +44 (0)1202 606030 • **FAX:** +44 (0)1202 606035 Crydom SSR Ltd., Arena Business Centre,
 Holyrood Close, Poole, Dorset BH17 7FJ, Email: intsales@crydom.com.
GERMANY: +49 (0)180 3000 506

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	Screw Type, Finger Proof Output: 8-32, Combo Drive Input: 6-32, Combo Drive
Max. Torque	Output: 20 in lb (2.2Nm) Input: 10 in lb (1.1Nm)
Max. Wire Size	Output: 2 x AWG 8 (3.8mm) Input: 2 x AWG 12 (2.5mm)

Available Options

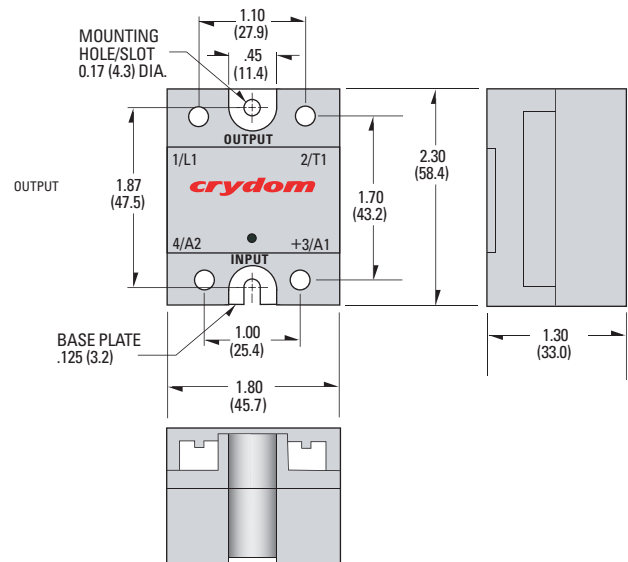
- 10** Random Turn-On.
Example: **CWD2425-10**
- E** 24 Vac Input (18-36 Vac)
Example: **CWA2425E**
- P** Internal Overvoltage Protection.
Relay Will Self Trigger Between
450-600 Vpk. Not Suitable For Capacitive Loads.
Example: **CWD2425P**
- S** Internal Snubber Example: **CWD2425S**
- H** Heat Transfer Pad (Attached)
Example: **CWD2425H**

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.

EMC Compatibility

Input:	EN61000-4-2, Level 3	ESD
	EN61000-4-4, Level 3	Burst
Output:	EN61000-4-2, Level 3	ESD
	Level 4	ESD (with P option)
	EN61000-4-4, Level 3	Burst
	Level 4	Burst (with P option)
	EN61000-4-5, Level 4	Surge

MECHANICAL OUTLINE



All dimensions are in inches (millimeters)

APPROVALS

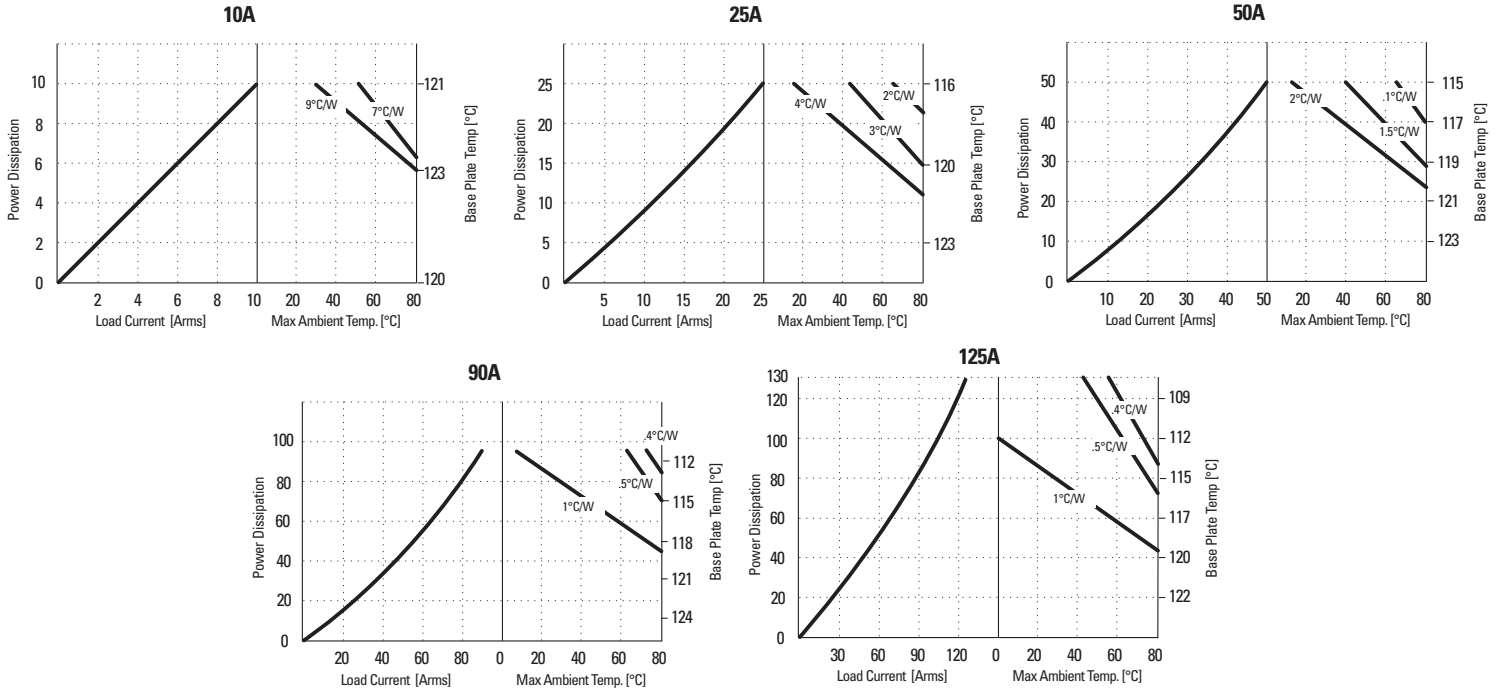
UL E116949
CSA 1405925
VDE 40007242



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CURRENT DERATING CURVES



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**DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO**

<p>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</p> <ul style="list-style-type: none"> • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. <p>Failure to follow these instructions will result in death or serious injury.</p>	<p>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</p> <ul style="list-style-type: none"> • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. <p>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</p>	<p>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</p> <ul style="list-style-type: none"> • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous <p>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.</p>	<p>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</p> <ul style="list-style-type: none"> • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. <p>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</p>	<p>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</p> <ul style="list-style-type: none"> • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione <p>L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie</p>	<p>RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO</p> <ul style="list-style-type: none"> • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento to • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento <p>O não cumprimento destas instruções pode levar à morte ou lesões sérias.</p>
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**WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO**

<p>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</p> <ul style="list-style-type: none"> • The product's side panels may be hot, allow time for product to cool before touching. • Follow proper mounting instructions including torque values. • Do not allow liquids or foreign objects to enter this product. <p>Failure to follow this instruction can result in serious injury, or equipment damage.</p>	<p>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</p> <ul style="list-style-type: none"> • Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. • Respecter les consignes de montage, et notamment les couples de serrage. • Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. <p>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</p>	<p>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</p> <ul style="list-style-type: none"> • Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. • Beachten Sie die Montageanweisungen, • Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. <p>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</p>
<p>RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD</p> <ul style="list-style-type: none"> • Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. • Respetar las instrucciones de montaje, y en particular los pares de apretado. • No dejar que penetren líquidos o cuerpos extraños en el producto. <p>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</p>	<p>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</p> <ul style="list-style-type: none"> • I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. • Seguire le istruzioni di montaggio corrette. • Non far entrare liquidi o oggetti estranei in questo apparecchio. <p>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</p>	<p>RISCO DE DANO MATERIAL E DE AQUECIMENTO</p> <ul style="list-style-type: none"> • Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. • Siga devidamente as instruções de montagem. • Não permita a entrada de líquidos e de objectos estranhos no produto. <p>A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.</p>

ANNEX – ENVIRONMENTAL INFORMATION:

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环保信息符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**, 电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

