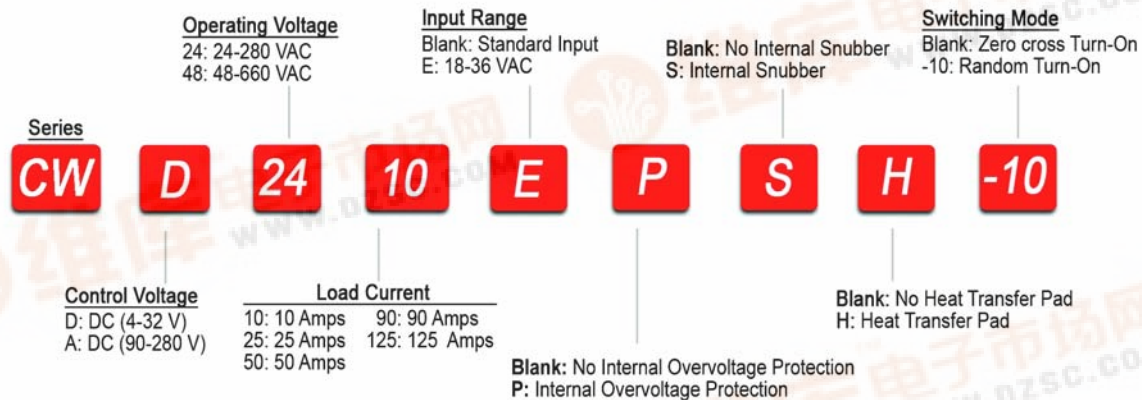


## CW24 Series



- The newest family to the SSR range; Ratings from 10A to 125A @ 12-660 V AC
- SCR output for heavy industrial loads
- EMC Compliant for reliable operation in harsh environments
- Removable IP 20 touch-safe cover
- DBC substrate for superior thermal performance
- LED input status indicator
- AC or DC input
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

### PRODUCT SELECTION



| Description | 10A      | 25A      | 50A      | 90A      | 125A      |
|-------------|----------|----------|----------|----------|-----------|
| 3-32 VDC    | CWD2410  | CWD2425  | CWD2450  | CWD2490  | CWD24125  |
| 90-280 Vrms | CWA2410  | CWA2425  | CWA2450  | CWA2490  | CWA24125  |
| 18-36 Vrms  | CWA2410E | CWA2425E | CWA2450E | CWA2490E | CWA24125E |

### OUTPUT SPECIFICATIONS (1)

| Description                                                         | 10A    | 25A    | 50A    | 90A    | 125A   |
|---------------------------------------------------------------------|--------|--------|--------|--------|--------|
| Operating Voltage (47-63Hz) [Vrms]                                  | 24-280 | 24-280 | 24-280 | 24-280 | 24-280 |
| Transient Overvoltage [Vpk]                                         | 600    | 600    | 600    | 600    | 600    |
| Maximum Off-State Leakage Current @ Rated Voltage [mA rms](6)       | 1      | 1      | 1      | 1      | 1      |
| Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)        | 500    | 500    | 500    | 500    | 500    |
| Maximum Load Current (3) [Arms]                                     | 10     | 25     | 50     | 90     | 125    |
| Minimum Load Current [Arms]                                         | 0.15   | 0.15   | 0.15   | 0.25   | 0.25   |
| Maximum Surge Current (16.6ms) [A pk]                               | 400    | 600    | 850    | 1350   | 2000   |
| Maximum Surge Current (20ms) [A pk]                                 | 380    | 570    | 810    | 1290   | 1900   |
| Maximum On-State Voltage Drop @ Rated Current [Vpk]                 | 1.3    | 1.3    | 1.3    | 1.3    | 1.25   |
| Thermal Resistance Junction to Case (Rjc) [°C/W]                    | 0.35   | 0.35   | 0.2    | 0.14   | 0.13   |
| Maximum I <sup>2</sup> t for Fusing (8.3 msec) [A <sup>2</sup> sec] | 660    | 1500   | 3000   | 7560   | 16600  |
| Minimum Power Factor (with Maximum Load)                            | 0.5    | 0.5    | 0.5    | 0.5    | 0.5    |

## INPUT SPECIFICATIONS (1)

| Description                        | CWD            | CWA             | CWxxxxE         |
|------------------------------------|----------------|-----------------|-----------------|
| Control Voltage Range              | 3-32 VDC       | 90-280 Vrms     | 18-36 Vrms      |
| Minimum Turn-On Voltage            | 3 VDC          | 90 Vrms         | 18 Vrms         |
| Minimum Turn-Off Voltage           | 1.0 VDC        | 10 Vrms         | 2 Vrms          |
| Typical Input Current              | 10 mA @ 12 VDC | 6 mA @ 120 Vrms | 24 mA @ 24 Vrms |
| Nominal Input Impedance            | See note 7     | 14.2 K Ohms (8) | 1.0 K Ohms      |
| Maximum Turn-On Time [msec] (4)(5) | 1/2 Cycle      | 1/2 Cycle       | 1/2 Cycle       |
| Maximum Turn-Off Time [msec] (5)   | 1/2 Cycle      | 1/2 Cycle       | 1/2 Cycle       |

## GENERAL SPECIFICATIONS

| Description                                      | Parameters                                                                  |
|--------------------------------------------------|-----------------------------------------------------------------------------|
| Dielectric Strength, Input/Output/Base (50/60Hz) | 4000 Vrms                                                                   |
| Minimum Insulation Resistance (@ 500 VDC)        | 10 <sup>9</sup> Ohm                                                         |
| Maximum Capacitance, Input/Output                | 8 pF                                                                        |
| Ambient Operating Temperature Range              | -40 to 80 °C                                                                |
| Ambient Storage Temperature Range                | -40 to 125 °C                                                               |
| Weight (typical)                                 | 3.0 oz (86.5 g)                                                             |
| 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)                         |

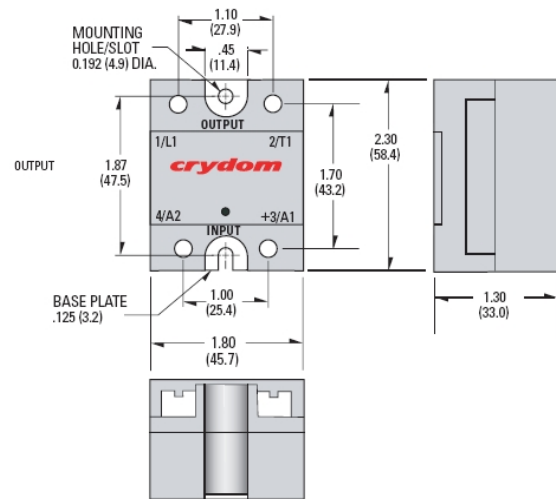
## GENERAL NOTES

- 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) Turn-on time for random turn-on version is 0.02 msec.
- 5) Turn-on and turn-off time for AC input models is 50 ms.
- 6) 10mA for models with snubber.
- 7) Input circuit incorporates active current limiter.
- 8) 21.5K ohms for random turn-on version (-10 suffix).

## MECHANICAL SPECIFICATIONS

### EMC Compatibility

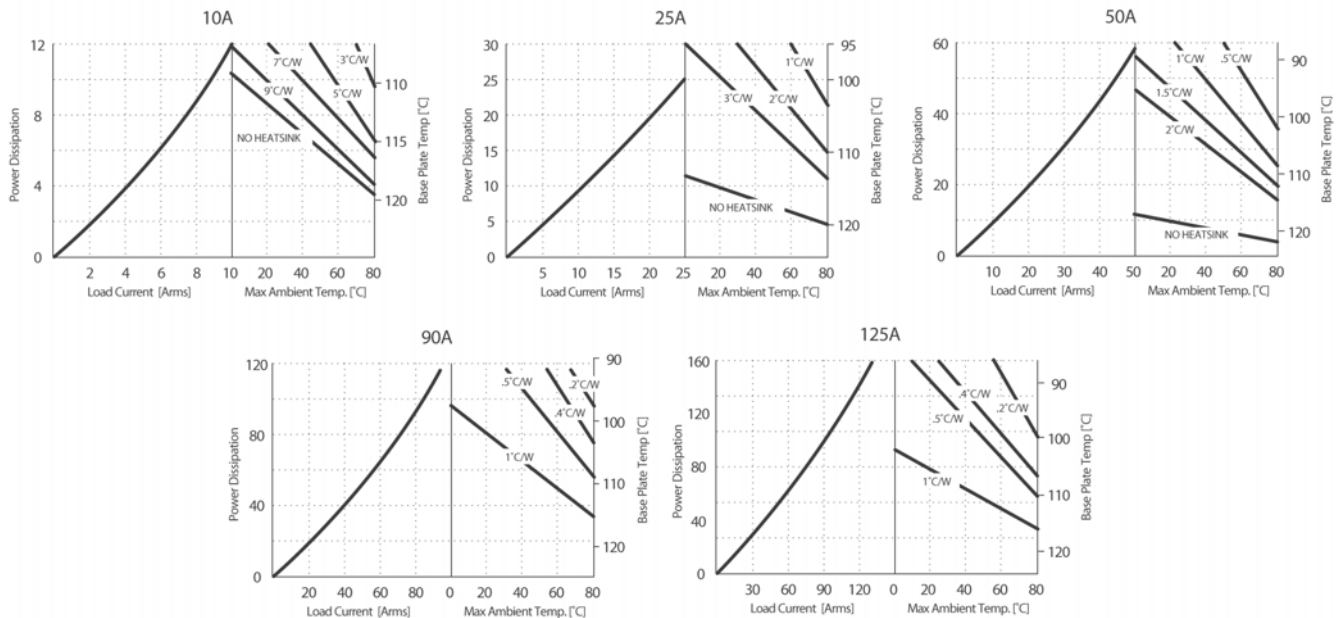
Input: EN61000-4-2, Level 3 ESD  
 EN61000-4-4, Level 3 Burst  
 Output: EN61000-4-2, Level 3 ESD  
 Level 4 ESD (with P option)  
 EN61000-4-4, Level 3 Burst  
 Level 4 Burst (with P option)  
 EN61000-4-5, Level 4 Surge



All dimensions are in inches (millimeters)

## THERMAL DERATE INFORMATION

### CURRENT DERATING CURVES



## AGENCY APPROVALS

UL E116949  
 CSA 1405925  
 VDE 40007242



Rev. 020509

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

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

## ANNEX - ENVIROMENTAL 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                                     |

此附件所标示的包括电子信息产品污染图标的环境信息  
 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            |