

## CMR Series

Crydoms CMR Series Solid State Relays were developed to offer the advantages of semiconductor switching technology in a compact, self contained package. Quick and easy installation is coupled with low drive power requirements and efficient, reliable power SCR output. Box Clamp terminals and LED status indication complete the package. This compact new design offers up to 65Arms in ambient temperatures of 25°C.

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

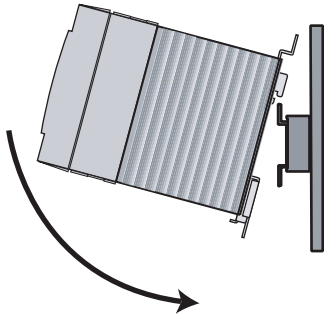
APPROVALS: UL, CSA, VDE, CE Mark.

### MOUNTING OF CMR SERIES OF SOLID STATE RELAYS

CMR Series SSRs are designed to fit to an industry standard TS35 DIN Rail. Mounting clip incorporates tabs for screw mounting to panel.

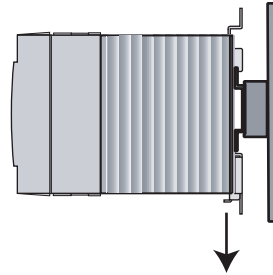
#### MOUNTING TO THE DIN RAIL

Locate rail and align with non moveable end of CMR DIN clip Using reasonable force, push CMR in the direction of the arrow shown.



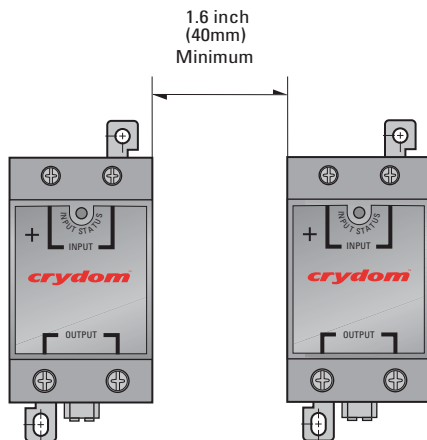
#### REMOVAL FROM DIN RAIL

Pull release tag in direction of arrow using blade of screwdriver.



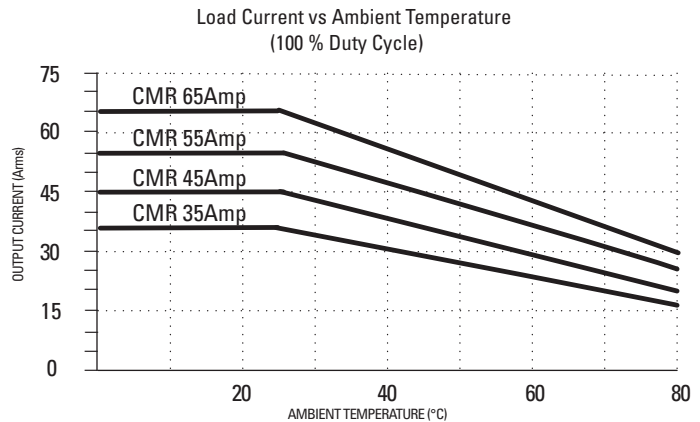
#### MOUNTING CONSIDERATIONS

To achieve maximum ratings, there must be a minimum spacing of 1.6 inch (40mm) between the devices in free air.



#### THERMAL CONSIDERATIONS

The CMR power switching range is based on semiconductor technology and therefore generates heat during operation. The following deating curves must be observed before installation. Crydom products are rated for 100% Duty Cycle.



## ORDERING INFORMATION

<b>Part Number</b>	<b>CMR</b>	<b>A</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>E</b>	<b>P</b>	<b>-</b>	<b>1</b>	<b>0</b>
<b>Package Style</b>	_____										
<b>CMR</b> = CMR Series											
<b>Input (Control) Type</b>	_____										
<b>D</b> = 3-32 Vdc (CMRD24)											
= 4-32 Vdc (CMRD48, CMRD60)											
<b>A</b> = 90-140 Vrms											
= 18-36 Vrms (suffix E)											
<b>Output Voltage</b>	_____										
<b>24</b> = 24 - 280 Vrms											
<b>48</b> = 48 - 530 Vrms											
<b>60</b> = 48 - 660 Vrms											
<b>Output Current</b>	_____										
<b>35</b> = 35 Amp											
<b>45</b> = 45 Amp											
<b>55</b> = 55 Amp											
<b>65</b> = 65 Amp											

**Control Mode**  
**Blank** = Zero Cross  
**10** = Random

**AC Control Range**  
**Blank** = 90-140 Vrms  
**E** = 18-36 Vrms

**Integrated Overvoltage Protection**  
**Blank** = Not Included  
**P** = Included

**Note:** For detailed electrical specifications see Crydom individual data sheets.

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## PROTECTION

### Over Current and Short Circuit

A solid state relay should be protected by a semiconductor fuse. This type of fuse provides extremely fast opening of the circuit. A fuse should be selected that has an I t let-through rating that is less than the I t capability of the SSR, for the same duration.

### Transient Over Voltage (P OPTION)

Select "P" option for internal overvoltage protection. At the presence of high voltage transient the output of the SSR will be triggered on, and the transient will be passed on to the load circuit. This is a non-degrading method of protection that ensures that other SSR benefits are maintained.

### Earth Bonding (Grounding)

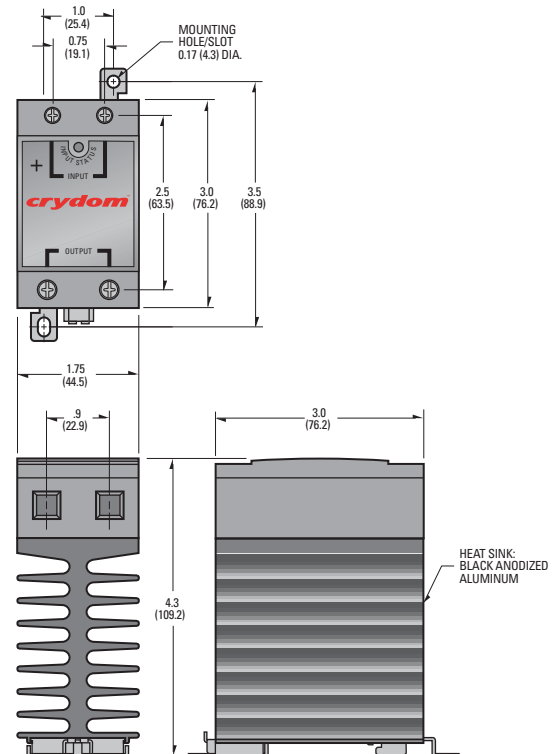
The CKR heatsink is equipped with an earth bonding screw as is required for Class 1 Protection, in accordance with EN 60950 (VDE 0804).

### Terminations

- Wire Size**
  - Maximum wire size of AWG#12 (2.5mm) on input and AWG#8 (4.8mm) output terminals.
- Connections**
  - Ensure that wires ends are stripped to a minimum length of 0.4 inch (10 mm).
- Recommended Screw Torque Range**
  - 5-6 in lb (0.6-0.7 Nm) on input and 10-15 in lb (1.1-1.7 Nm) on output terminations.

## MECHANICAL SPECIFICATIONS

All dimensions are in inches (millimeters)



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

<p><b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</b></p> <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><b>Failure to follow these instructions will result in death or serious injury.</b></p>	<p><b>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</b></p> <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><b>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</b></p>	<p><b>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</b></p> <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><b>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.</b></p>	<p><b>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</b></p> <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 dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.</li> </ul> <p><b>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</b></p>	<p><b>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</b></p> <ul style="list-style-type: none"> <li>• Spenga 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><b>L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie</b></p>	<p><b>RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO</b></p> <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><b>O não cumprimento destas instruções pode levar a morte ou lesões sérias.</b></p>
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**⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO**

<p><b>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</b></p> <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><b>Failure to follow this instruction can result in serious injury, or equipment damage.</b></p>	<p><b>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</b></p> <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><b>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</b></p>	<p><b>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</b></p> <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, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.</li> </ul> <p><b>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</b></p>
<p><b>RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD</b></p> <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><b>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</b></p>	<p><b>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</b></p> <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><b>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</b></p>	<p><b>RISCO DE DANO MATERIAL E DE AQUECIMENTO</b></p> <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><b>A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.</b></p>