



## GNR 22.5mm Series

- Current ratings of 10, 20 and 30 amps
- Output voltage ratings: 24-280 and 48-600 VAC
- Direct Bond Copper (DBC) Substrate
- LED input status indicator
- UL 508 Endurance Rating for Enhanced Reliability
- UL/CSA Approved, CE Compliant
- Built-in overvoltage protection
- DIN Rail or Panel Mount
- Zero voltage or Instantaneous turn-on output

### PRODUCT SELECTION

Control Voltage	10A	20A	30A
4-32 VDC	GNR10DHZ	GNR20DHZ	GNR30DHZ
90-140 VAC	GNR10BHZ	GNR20BHZ	GNR30BHZ
180-280 VAC	GNR10AHZ	GNR20AHZ	GNR30AHZ

### AVAILABLE OPTIONS



- Required for valid part number
- For options only and not required for valid part number

### OUTPUT SPECIFICATIONS <sup>(1)</sup>

Description	GNR10	GNR20	GNR30
Operating Voltage (47-440Hz) [Vrms]	24-280	48-600	48-600
Transient Overvoltage [Vpk, t=1 min.]	600	1100	1100
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1	0.1
Static Off-State dv/dt ( V/μsec, Ta=25°C) (2)	500	500	500
Maximum Load Current [Arms]	10	20	30
Minimum Load Current [mArms]	100	100	100
Maximum Surge Current (50/60 Hz, 1 cycle) [Apk]	190/200	286/300	716/750
1 Second Surge Current (Apk Ta=25°C) 50/60 Hz	65	85	150
Forward Voltage Drop (Vpk @ max, Ta=25°C)	1.5	1.35	1.35
Maximum I <sup>2</sup> t for Fusing (50/60Hz, 1/2 cycle) [A <sup>2</sup> sec]	182/166	410/374	2562/2334
HP Ratings at 120V / FLC [Arms]	-	1.2/9.8	3/4 / 13.8
HP Ratings at 240V / FLC [Arms]	-	1/8	2/12
Min/Max stranded wire	16/8 AWG	16/8 AWG	16/8 AWG
Min/Max solid wire	16/10 AWG	16/10 AWG	16/10 AWG

**INPUT SPECIFICATIONS <sup>(1)</sup>**

Description	GNRxxDx	GNRxxBx	GNRxxAx
Control Voltage Range <sup>(3)</sup>	4.0-32 VDC	90-140 Vrms	180-280 Vrms
Minimum Turn-On Voltage	4.0 VDC	90 Vrms	180 Vrms
Must Turn-Off Voltage	1.0 VDC	10 Vrms	10 Vrms
Minimum Input Current (for on-state)	6 mA	5 mArms	6 mA
Maximum Input Current	10 mA	23 mArms	2 mA
Input Resistance	Current Regulated	Current Regulated	Current Regulated
Maximum Turn-Off Time [msec]	1/2 Cycle	20	20
Maximum Turn-On Time [msec] <sup>(4)</sup>	1/2 Cycle	30	30
Min/Max stranded/solid wire	24/16 AWG	24/16 AWG	24/16 AWG

**GENERAL SPECIFICATIONS <sup>(1)</sup>**

Description	Parameters
Ambient Operating Temperature Range <sup>(3)</sup>	-20 to 80°C
Ambient Storage Temperature Range	-40 to 100 °C
Dielectric Strength, Input to Output (50/60Hz)	4000 Vrms
Dielectric Strength, Input/Output to Ground (50/60Hz)	2500 Vrms
Maximum Capacitance, Input/Output	8 pF
Housing Material	UL 94V0 (self extinguishing)
Input Status Indicator	Green LED
Weight (typical)	7.94 oz (225g)

**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) For 180-280 VAC Control. Maximum Ambient operating temperatures is 60°C.
- (4) Turn-on time for Instantaneous version (R suffix) is 0.1 msec (for DC control only).

For additional information or specific questions, contact Crydom Technical Support.

**MECHANICAL SPECIFICATIONS <sup>(1)</sup>**

Tolerances: ±0.02 in / 0.5 mm  
All dimensions are in: inches [millimeters]

**Contactor Configuration**



**Relay Configuration**



**WIRING DIAGRAM**



**THERMAL DERATE INFORMATION**



\*GNR10A Series rated to 60°C max ambient



\*GNR20A Series rated to 60°C max ambient



\*GNR30A Series rated to 60°C max ambient

**AGENCY APPROVALS**

Designed in accordance with the requirements of IEC 62314



**EMC Compatibility**

Designed in accordance with the requirements of IEC 62314

- IEC 62314
- IEC 60068-2-6 35mm/10-55Hz
- IEC 60068-2-27 15G / 11ms
- IEC 61000-4-2 Level 3 Electrostatic Discharge
- IEC 61000-4-3 Level 3 Radiated Electromagnetic Noise
- IEC 61000-4-4 Level 3 Immunity to Electrically Fast Transients
- IEC 61000-4-5 Level 3 Immunity to Electrical Surges
- IEC 61000-4-6 Level 3 Conducted Electromagnetic Noise
- CISPR 11 Class A Conducted and Radiated Noise for Industrial Environments

**⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危險**

<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 olace 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 che fornisce questa apparecchiatura prima di lavorare a questa apparecchiatura</li> <li>• Verificare tutti i collegamenti e sostituire tutte le coperture prima dell'accensione</li> </ul> <p><b>L'omissione di queste istruzioni provocherà la morte o lesioni serie</b></p>	<p><b>存在电击、爆炸或电弧闪烁危险</b></p> <ul style="list-style-type: none"> <li>• 在操作此设备之前请先关闭电源。</li> </ul> <p><b>若不遵守这些说明,可能会导致严重的人身伤害甚至死亡。</b></p>
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**⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告**

<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 the 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 these instructions 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. Laissez 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,</li> <li>• 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>材料损坏和高温外壳的危险性</b></p> <ul style="list-style-type: none"> <li>• 产品的一侧面板可能很热，在其冷却前请不要触碰。</li> <li>• 遵照正确的安装说明，包括扭矩值。</li> <li>• 请勿让液体及其他异物进入本产品。</li> </ul> <p><b>如不能正确执行这些操作说明,极有可能造成严重人体伤害或者设备的损坏。</b></p>