



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 ⁽¹⁾

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 ² t for Fusing (50/60Hz, 1/2 cycle) [A ² 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 ⁽¹⁾

Description	GNRxxDx	GNRxxBx	GNRxxAx
Control Voltage Range ⁽³⁾	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] ⁽⁴⁾	1/2 Cycle	30	30
Min/Max stranded/solid wire	24/16 AWG	24/16 AWG	24/16 AWG

GENERAL SPECIFICATIONS ⁽¹⁾

Description	Parameters
Ambient Operating Temperature Range ⁽³⁾	-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 ⁽¹⁾

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

<p>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</p> <ul style="list-style-type: none"> • The product's side panels may be hot, allow the 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 these instructions 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>材料损坏和高温外壳的危险性</p> <ul style="list-style-type: none"> • 产品的一侧面板可能很热, 在其冷却前请不要触碰。 • 遵照正确的安装说明, 包括扭矩值。 • 请勿让液体及其他异物进入本产品。 <p>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。</p>