

# > GN 84137120

## Panel/DIN Mount

### SSR/Heatsink 48-660 VAC

# 32171-RL

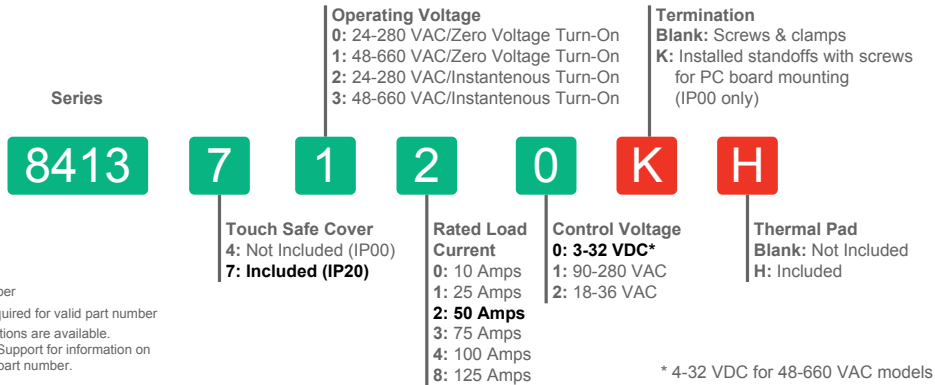
- > Current rating 50 Amps
- > Output voltage 48-660 VAC
- > SCR Output for heavy industrial loads
- > IP20 touch-safe cover
- > LED Status Indicator
- > UL Approved, CE Compliant to EN60950-1
- > Improved SEMS screw and washer
- > Redesigned housing with anti-rotation barriers
- > 3-32 DCV control
- > EMC Compliant to Level 3
- > Epoxy Free Design



IP20 Package  
Screw Terminal

#### Specific characteristics

Part Number	Control Voltage	Rated Current	Rated Voltage			
84 137 120	3-32 VDC	50 Amp	48-660VAC			



- Required for valid part number
- For options only and not required for valid part number
- > Not all part number combinations are available. Contact Crouzet Technical Support for information on the availability of a specific part number.

#### Output Specification > ...

Description	660 VAC
Operating Voltage (47-440Hz) [Vrms]	48-660
Transient Voltage [Vpk] <sub>(2)</sub>	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.25
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	500

Output Specifications (1)	
Description	Parameters
Maximum Load Current [Arms] (3)	50
Minimum Load Current [mArms]	100
Maximum 1 Cycle Surge Current (50/60Hz) [Apk]	710/750
1 Second Surge Current (Apk. Ta=25°C) 50/60 Hz	150
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.35
Thermal Resistance Junction to Case (Rjc) [°C/W]	0.25
Maximum 1/2 Cycle I <sup>2</sup> t for Fusing (50/60Hz) [A <sup>2</sup> sec]	2520/2320
Minimum Heat Sink for Rated Current @ 40°C [°C/W]	1

Input Specifications (1)	
Description	Parameters
Control Voltage Range	3-32 VDC
Maximum Reverse Voltage	-32 VDC
Minimum Turn-On Voltage	3 VDC (4)
Minimum Turn-Off Voltage	1 VDC
Minimum Input Current (for on-state)	10 mA
Maximum Input Current [mA]	15 mA
Nominal Input Impedance [Ohms]	Current Regulated
Maximum Turn-On Time [msec]	8.33 (6)
Maximum Turn-Off Time [msec]	8.33

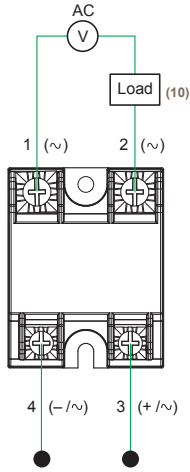
General Specifications (1)	
Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 <sup>9</sup> Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range (7)	-40 → +80 °C
Ambient Storage Temperature Range	-40 → +125 °C
Weight (typical)	2.53 oz (72 g)
Housing Material	UL94 V-0
Baseplate Material	Aluminum
Input Terminal Screw Torque Range (in-lbs/Nm)	13-15 / 1.5-1.7
Load Terminal Screw Torque Range (in-lbs/Nm)	18-20 / 2-2.2
SSR Mounting Screw Torque Range (in-lbs/Nm)	18-20 / 2-2.2
Input/Load Terminal Screw Torque Range (in-lbs/Nm) (8)	w/"K" option 8-10 / 0.9-1.13
Humidity	85% non-condensing
LED Input Status Indicator	Green
MTBF (Mean Time Between Failures) at 40°C ambient temperature (9)	11,641,553 hours (1,328 years)
MTBF (Mean Time Between Failures) at 60°C ambient temperature (9)	7,210,376 hours (823 years)

### General Notes

- 1) All parameters at 25°C unless otherwise specified.
- 2) Output will self trigger between 450-600Vpk / 900-1200Vpk for 280VAC/660VAC models not suitable for capacitive loads.
- 3) Heat sinking required, see derating curves. For "K" option maximum current up to 50 Amp.
- 4) 4-32VDC for 48-660VAC models.
- 5) For ambient temperatures above 40°C the maximum control voltage must not exceed 250VAC.
- 6) Turn-on time for Instantaneous turn-on versions is 0.1 msec.
- 7) AC input models operating range is -20 to 80 °C.
- 8) Option "K" is intended only for use in attaching a printed circuit board to the SSR or mounting the SSR to a printed circuit board (PCB thicknesses from 0.031 to 0.093 inches [0.79 to 2.36 mm]).
- 9) All parameters at 50% power rating and 100% duty cycle (contact Crouzet technical support for detailed report).
- 10) Load can be wired to either SSR output terminal 1 or 2.
- 11) For single surge pulse Tc=25°C; Tj=125°C. For AC Output SSRs, AC Rms value of surge current equals the peak value divided by  $\sqrt{2}$  (1.414).

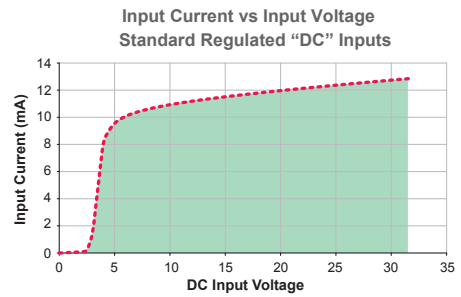
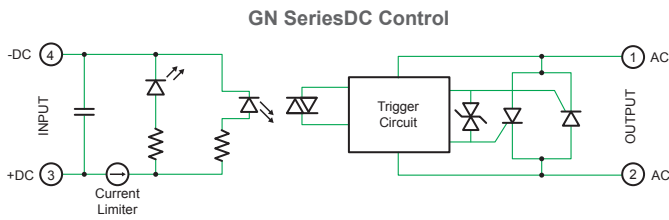
Diagrams

Wiring



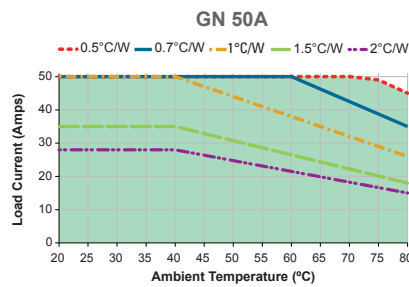
Recommended Wire Sizes		
Terminals	Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lbs)[N]
Input	24 AWG (0.2 mm <sup>2</sup> ) / 0.2 [minimum]	10 [44.5]
	2 x 12 AWG (3.3 mm <sup>2</sup> ) / 3.3 [maximum]	90 [400]
Output	20 AWG (0.5 mm <sup>2</sup> ) / 0.518 [minimum]	30 [133]
	2 x 10 AWG (5.3 mm <sup>2</sup> ) / 5.3	110 [490]
	2 x 8 AWG (8.4 mm <sup>2</sup> ) / 8.4 [maximum]	90 [400]

Equivalent Circuit Block

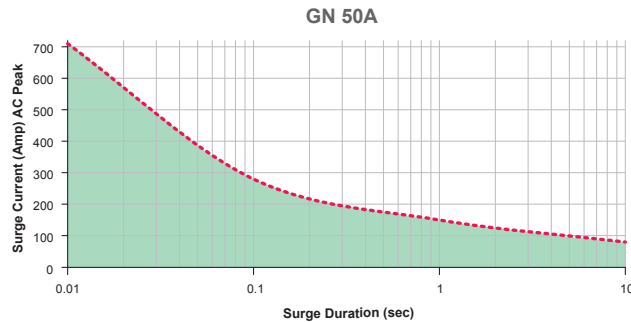


Curves

Thermal Derate Information



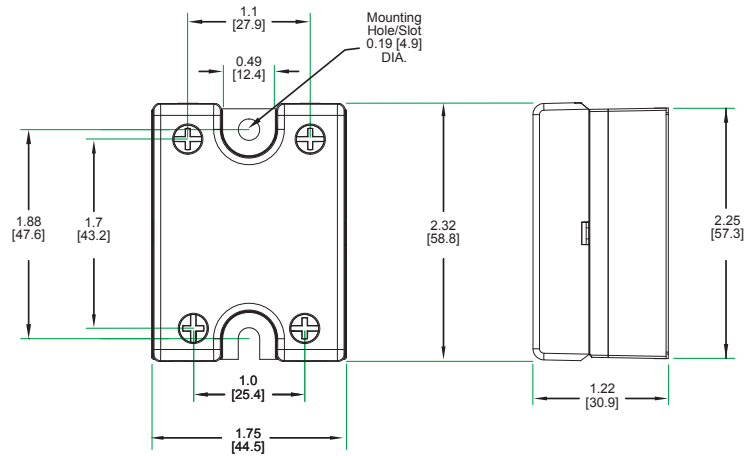
Surge Current Information --- Single Pulse (11)



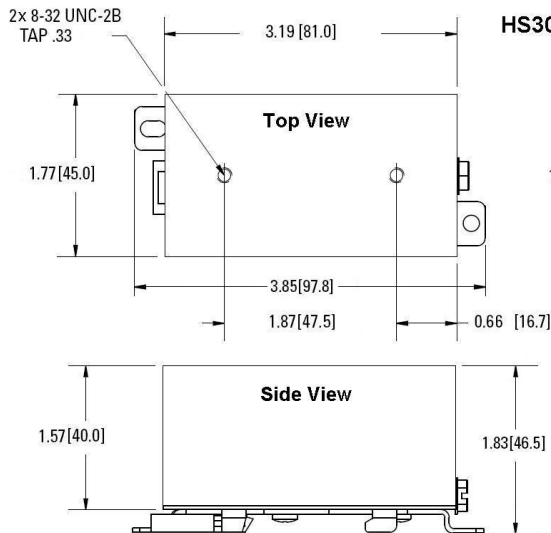
SSR Dimensions in[mm]

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

Screw Termination, IP20

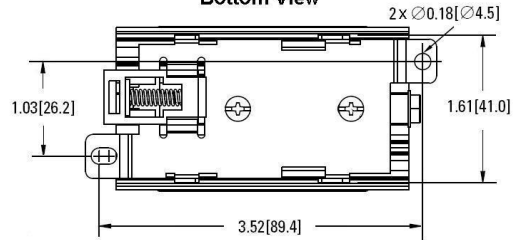


Heatsink Dimensions in[mm]



HS301DR

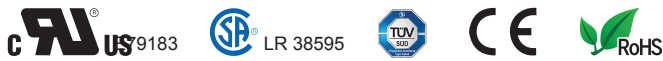
Bottom View




Thermal resistance [°C/W]	3.0
Surface area [in <sup>2</sup> /cm <sup>2</sup> ]	59/381
Heat sink mounting	Panel or Din-Rail Mount
Weight [lbs/grs]	0.47/209
Material	Aluminum
Finish	None
SSR Mounting Holes/ threads	2, 8x32
Mounting screw torque [in lbs/nm]	15-20/1.7-2.2
Number and type of relay accepted	1 single or dual
Accepts Fan/size [mm]	Yes/ 1-40

Agency Approvals

- › EN60950: Meets the requirements of sections 1.5: 1.7: 2.9: 2.10.5.3: 4.2: 4.5: 4.7:
- Certified according to EN 62314:2006
- IEC 61000-4-2 Electrostatic Discharge Level 3 IEC
- 61000-4-4 Electrically Fast Transients Level 3 IEC
- 61000-4-5 Electrical Surges Level 3



GN Series has Environmental Product declarations type III conforming to ISO 14025.

 <b>DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危险</b>					
<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 ELEKTRISCHEN 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>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>

 <b>WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / 警告</b>		
<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. 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,</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>