

## GN Series

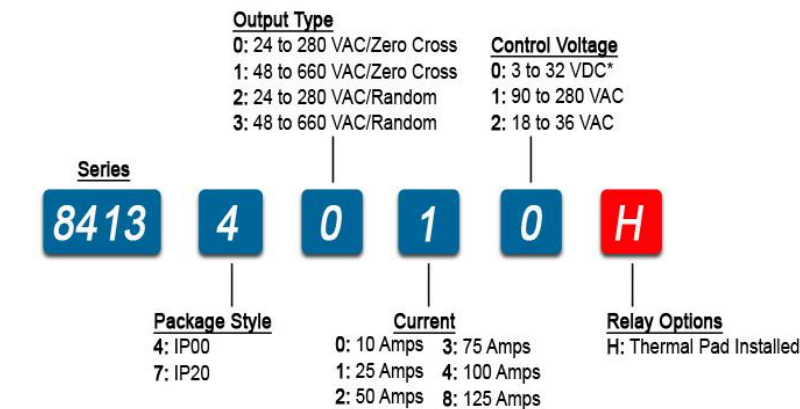


- Current ratings from 10 to 125 amps
- Output voltage 24-280 and 48-660 VAC
- Direct bond copper substrate
- LED input status indicator
- Available with IP20 "touch-safe" cover
- Transient protection built-in
- 100K cycle UL508 Endurance Rating (10-50A)
- UL/CSA/ TUV Approved, CE Compliant to EN60950-1

### PRODUCT SELECTION

| Control Voltage | 10A      | 25A      | 50A      | 75A      | 100A     | 125A     |
|-----------------|----------|----------|----------|----------|----------|----------|
| 3-32 VDC        | 84134000 | 84134010 | 84134020 | 84134030 | 84134040 | 84134080 |
| 18-36 VAC       | 84134002 | 84134012 | 84134022 | 84134032 | 84134042 | 84134082 |
| 90-280 VAC      | 84134001 | 84134011 | 84134021 | 84134031 | 84134041 | 84134081 |

### AVAILABLE OPTIONS



■ Required for valid part number

■ For options only and not required for valid part number

\*4 to 32 VDC for 48 to 660 VAC models

### OUTPUT SPECIFICATIONS (Voltage) (1)

| Description                                               | 280 VAC | 660 VAC |
|-----------------------------------------------------------|---------|---------|
| Operating Voltage (47-63Hz) [Vrms]                        | 24-280  | 48-660  |
| Transient Overvoltage [Vpk, t = 1 min.]                   | 600     | 1200    |
| Maximum Off-State Leakage Current @ Rated Voltage [mAmps] | 0.1     | 0.25    |
| Static off-state dv/dt (V/μs, Ta = 25°C)                  | 500     | 500     |

### OUTPUT SPECIFICATIONS (Current) (1)

| Description                                                        | 10A        | 25A        | 50A        | 75A        | 100A       | 125A       |
|--------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Maximum Load Current (3) [Arms]                                    | 10A        | 25A        | 50A        | 75A        | 100A       | 125A       |
| Minimum Load Current [mAmps]                                       | 50         | 50         | 100        | 100        | 100        | 100        |
| 1 cycle surge current (50Hz)                                       | 150        | 275        | 710        | 1050       | 1120       | 1600       |
| 1 cycle surge current (60Hz)                                       | 175        | 300        | 750        | 1100       | 1200       | 1700       |
| 1 second surge current (Apk, Ta = 25°C) 50/60 Hz                   | 50         | 85         | 150        | 225        | 300        | 375        |
| Forward Voltage Drop (Vpk @ I <sub>max</sub> , Ta = 25°C)          | 1.35       | 1.35       | 1.35       | 1.3        | 1.3        | 1.3        |
| I <sup>2</sup> T (50Hz, 1/2 cycle)                                 | 110        | 380        | 2520       | 5500       | 6270       | 12800      |
| I <sup>2</sup> T (60Hz, 1/2 cycle)                                 | 120        | 370        | 2320       | 5000       | 6000       | 12050      |
| Thermal Resistance Junction to baseplate (R <sub>jb</sub> ) [°C/W] | 0.5        | 0.4        | 0.25       | 0.155      | 0.155      | 0.15       |
| Minimum heat sink @ Ambient (for max current = °C/W & Ta)          | 3.0 @ 70°C | 1.5 @ 50°C | 1.0 @ 40°C | 0.7 @ 40°C | 0.5 @ 40°C | 0.5 @ 40°C |

## INPUT SPECIFICATIONS (1)

| Description                          | 8413xxx0          | 8413xxx2  | 8413xxx1       |
|--------------------------------------|-------------------|-----------|----------------|
| Input Voltage Range (2)              | 3-32 VDC          | 18-36 VAC | 90-280 VAC (3) |
| Minimum Turn-On Voltage              | 3.0 VDC           | 18 Vrms   | 90 Vrms        |
| Drop out Voltage                     | 1.0 VDC           | 2 Vrms    | 10 Vrms        |
| Maximum Input Current                | 14mA              | 20mArms   | 10mArms        |
| Minimum input current (for on-state) | 7mA               | 16mArms   | 5mArms         |
| Input Resistance                     | Current Regulated |           |                |
| Turn-on time (4)                     | 8.33ms            | 20ms      | 20ms           |
| Turn-off time                        | 8.33ms            | 30ms      | 30ms           |

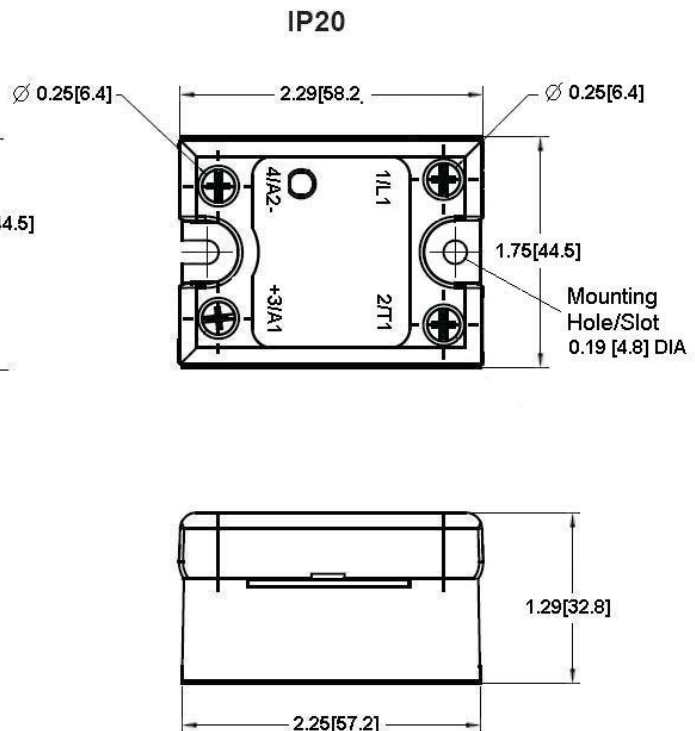
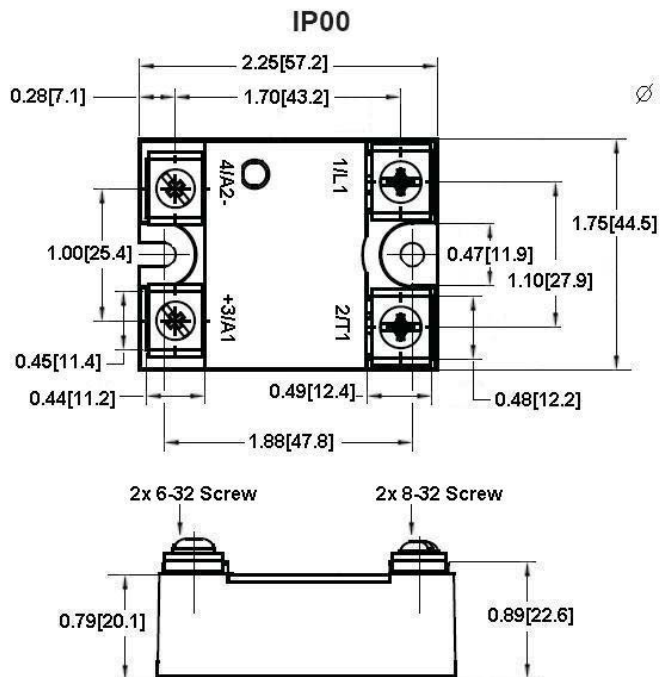
## GENERAL SPECIFICATIONS

| Description                                           | Parameters                   |
|-------------------------------------------------------|------------------------------|
| Ambient Operating Temperature Range (5)               | -20 to 80 °C                 |
| Ambient Storage Temperature Range                     | -40 to 100 °C                |
| Input to output isolation                             | 4000 Vrms                    |
| Input/output to ground isolation                      | 2500 Vrms                    |
| Input to output capacitance                           | 8 pF                         |
| Housing Material                                      | UL 94V0 (self extinguishing) |
| Status Indicating Display                             | Green LED                    |
| Weight (typical)                                      | 3.0 oz (86.5 g)              |
| Input Terminal Screw Torque (6-32 screw) [in lbs/Nm]  | 8-10 / 0.9-1.1               |
| Output Terminal Screw Torque (8-32 screw) [in lbs/Nm] | 15-20 / 1.7-2.2              |

## GENERAL NOTES

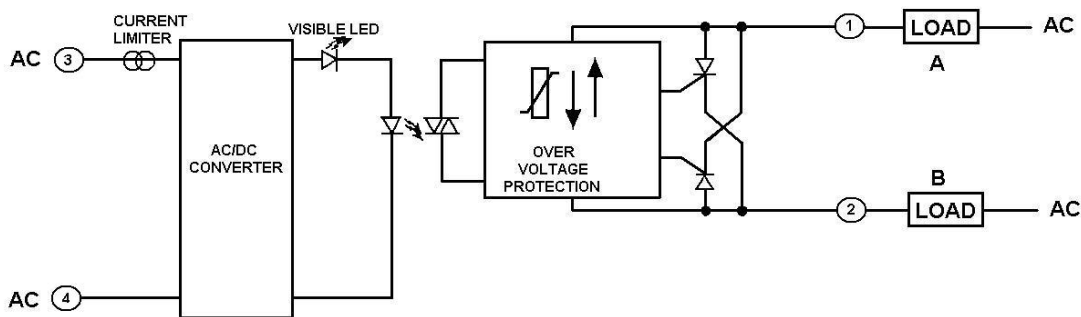
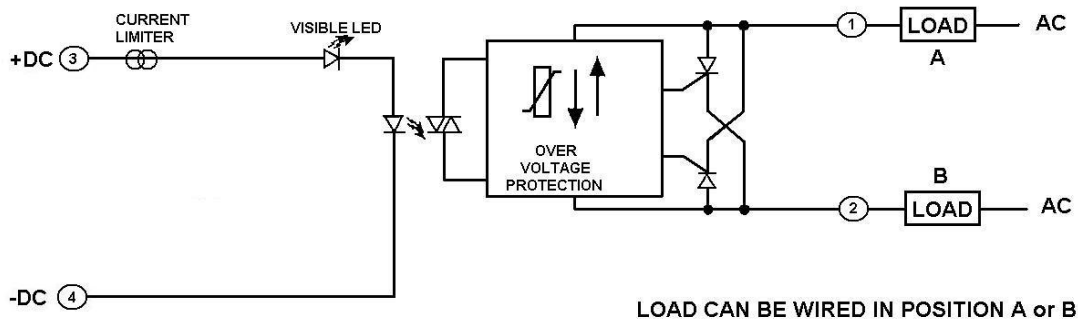
- 1) All parameters at 25°C unless otherwise specified.
- 2) 4-32Vdc for 48-660Vac models
- 3) For ambient temperatures above 40°C the maximum control voltage must not exceed 250Vac.
- 4) Random turn-on time is 100µs (for DC control only).
- 5) Increase minimum input voltage by 1 Vdc for operation from -20° to -40°C

## MECHANICAL SPECIFICATIONS

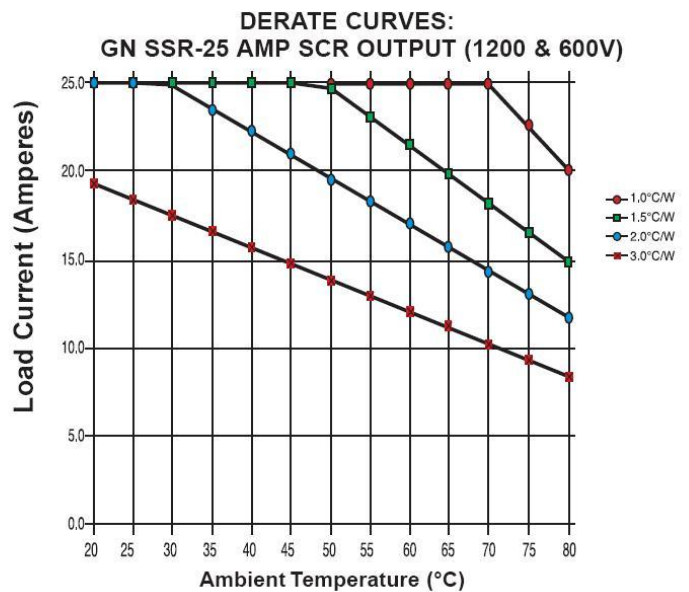
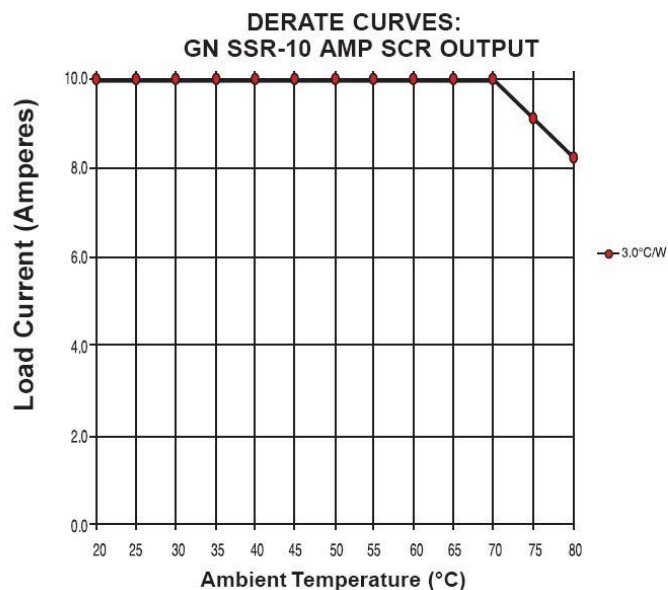


**All dimensions are in inches [millimeters]**

## WIRING DIAGRAM

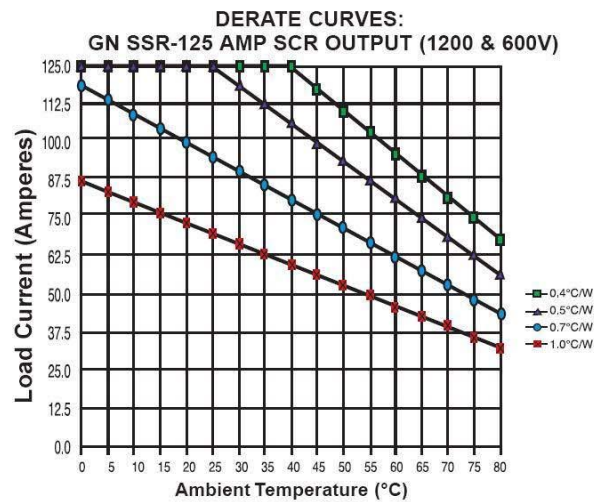
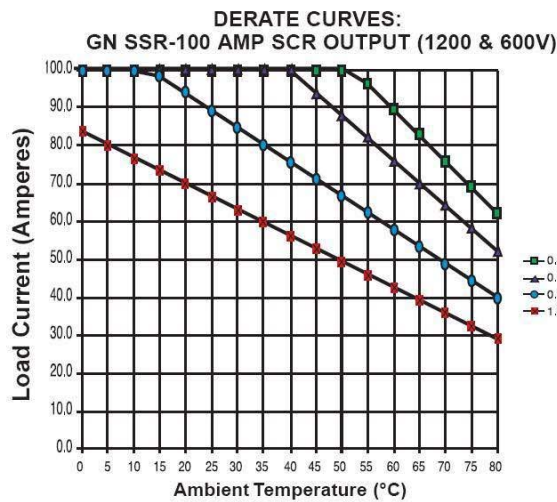
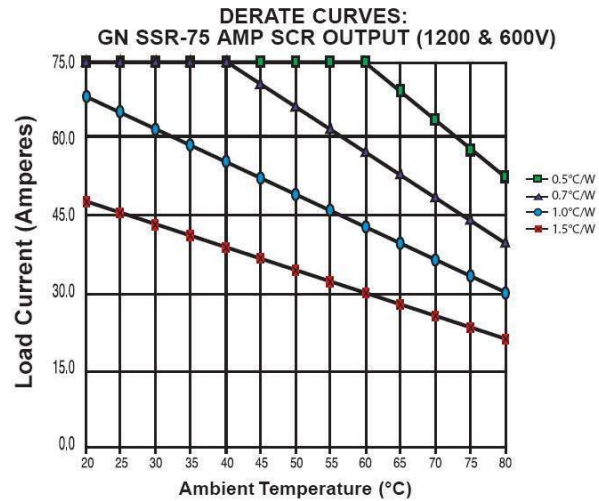
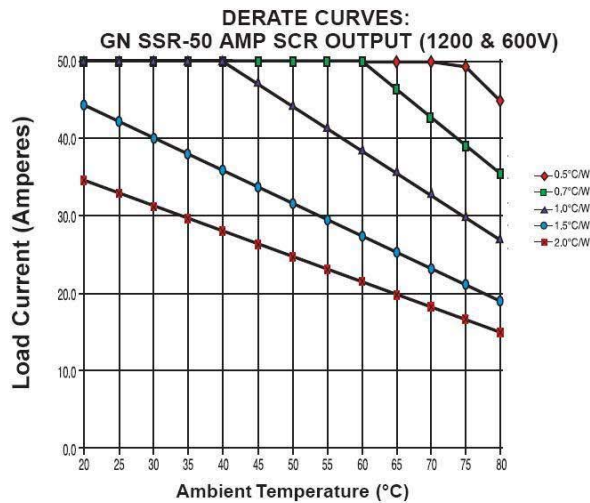


## THERMAL DERATE INFORMATION



Heat sink part numbers corresponding to °C/W rating above: 3°C/W = HS301 1.5°C/W = HS151  
2°C/W = HS201 1.0°C/W = HS103

## THERMAL DERATE INFORMATION



Heat sink part numbers corresponding to °C/W rating above:

|                 |                           |
|-----------------|---------------------------|
| 2°C/W = HS201   | 0.7°C/W = HS072           |
| 1.5°C/W = HS151 | 0.5°C/W = HS053           |
| 1.0°C/W = HS103 | 0.4°C/W = Consult Factory |

## AGENCY APPROVALS

EN60950 : Meets the requirements of sections 1.5: 1.7: 2.9: 2.10.5.3: 4.2: 4.5: 4.7:  
 IEC 1000-4-2 : Electrostatic Discharge – Level 3  
 IEC 1000-4-3 : Radiated Electromagnetic Noise – Level 3  
 IEC 1000-4-4 : Electrically Fast Transients – Level 3  
 IEC 1000-4-5 : Electrical Surges – Level 3  
 IEC 1000-4-6 : Conducted Electromagnetic Noise – Level 3  
 CISPIR 11 – Class A: Allowable Levels of Conducted and Radiated Noise for Industrial Environments

**UL** E79183, **SP** LR38595

**TÜV** **CE** **RoHS**  
Compliant

Rev. 1.10210



|  <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.</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>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>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            |