GV210 Series
SPST-NO 900 VDC CONTACTOR

Introduction
Sensata | GIGAVAC GV210 Series contactors are hermetically sealed, gas filled contactors suitable for use in harsh environments. With contact voltage ratings from 12Vdc to 900Vdc and a hot switchable continuous carry current of 100A, the compact GV210 Series is ready to solve your next challenging application problem. Like all Sensata | GIGAVAC advanced switching solutions these contactors can be mounted in any axis or orientation and are sealed to withstand a variety of harsh environments. GV210 Series contactors meet RoHS and CE Conformance requirements and are built in accordance to IATF-16949.

Features
- Hermetically sealed and intrinsically safe. Not mounting position sensitive.
- Operates in explosive/harsh environments without oxidation or contamination of contacts.
- Eligible for use in hazardous/classified operating environments
- High voltage isolation between open contacts, inert gas filled contact chamber
- Designed and built in accordance to IATF-16949
- Flying leads for coil connections

Applications
- Battery electric vehicles
- DC motor controller protection
- DC fast charging
- Photovoltaic controls
- Energy Storage systems

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Contact Arrangement</th>
<th>Main Contacts SPST-NO (Form X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Life</td>
<td>1 million cycles</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>0.5mΩ (max) @ 100A</td>
</tr>
<tr>
<td>Shock, 11ms 1/2 sine (operating)</td>
<td>20G peak</td>
</tr>
<tr>
<td>Sine Vibration, 55-2,000 Hz.</td>
<td>20G peak</td>
</tr>
<tr>
<td>Weight</td>
<td>6.7 oz (190g)</td>
</tr>
<tr>
<td>Voltage Rating: Main Contacts (max)</td>
<td>900VDC</td>
</tr>
<tr>
<td>Current Rating: Main Contacts</td>
<td>Continuous (8.4 mm² / 8 AWG)¹</td>
</tr>
<tr>
<td></td>
<td>Continuous (21 mm² / 4 AWG)²</td>
</tr>
<tr>
<td></td>
<td>Short Term -- 3 Minutes²</td>
</tr>
<tr>
<td>Maximum Short Circuit Current (1/2 cycle, 60 Hz) (through closed contacts)</td>
<td>1,250A</td>
</tr>
<tr>
<td>Dielectric Withstand Voltage (ASTM D149)</td>
<td>Between Open Contacts</td>
</tr>
<tr>
<td></td>
<td>Contacts to Coil</td>
</tr>
<tr>
<td>Insulation Resistance, Terminal to Terminal / Terminals to Coil</td>
<td>When New</td>
</tr>
<tr>
<td></td>
<td>At End of Life</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Environmental Seal</td>
<td>Exceeds IP67 and IP69</td>
</tr>
<tr>
<td>Salt Fog Spray</td>
<td>MIL-STD-810G</td>
</tr>
</tbody>
</table>
### COIL RATINGS at 25°C

<table>
<thead>
<tr>
<th></th>
<th>12Vdc</th>
<th>24Vdc</th>
<th>48Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Voltage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Voltage</td>
<td>16Vdc</td>
<td>28Vdc</td>
<td>52Vdc</td>
</tr>
<tr>
<td>Pick Up Voltage</td>
<td>Up to 9.6Vdc</td>
<td>16Vdc</td>
<td>33Vdc</td>
</tr>
<tr>
<td>Drop Out Voltage</td>
<td>1.2Vdc</td>
<td>2.4Vdc</td>
<td>4.8Vdc</td>
</tr>
<tr>
<td>Coil Current</td>
<td>461mA</td>
<td>250mA</td>
<td>122mA</td>
</tr>
<tr>
<td>Coil Power</td>
<td>5.5W</td>
<td>6.0W</td>
<td>6.0W</td>
</tr>
<tr>
<td>Coil Resistance ± 5% (ohms)</td>
<td>26</td>
<td>96</td>
<td>392</td>
</tr>
<tr>
<td>Operate Time</td>
<td>25ms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release Time</td>
<td>10ms</td>
<td></td>
<td></td>
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</tbody>
</table>

### DIMENSIONS

Dimensions are in millimeters [inches]

Coil terminal polarity is X1 (+) and X2 (-)

**M5 FEMALE LOAD TERMINALS - 2 PLACES**

**HARDWARE:**
2 X M5 BOLT, LOCK WASHER AND WASHER
TORQUE: 30 TO 40 IN-LBS [3.4 TO 4.5 NM]

**MOUNTING HARDWARE:**
2 X M4 BOLT, LOCK WASHER AND WASHER
TORQUE: 20 IN-LBS MAX [2.3 NM MAX]
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**GENERAL NOTES**

1. Current rating depends upon conductor size. Keep power terminals below 150°C (max).
2. 3 minutes at +40°C ambient with 8.4 mm² (#8 AWG) conductor.

**WARNINGS**

**RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE**
- 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

Failure to follow these instructions can result in serious injury, or equipment damage.

**HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**
- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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**ORDERING OPTIONS**

<table>
<thead>
<tr>
<th>Family</th>
<th>1</th>
<th>B</th>
<th>A</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>GV21</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Mounting**
- 1: Upright

**Coil Voltage**
- B: 12 Vdc
- C: 24 Vdc
- F: 48 Vdc

**Coil Termination**
- A: Flying leads 38 cm (15 in)

**Auxiliary Contacts**
- X: None

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Example: GV21BAX