



## | GV21 Series

### SPST-NO 900 VDC CONTACTOR

#### Introduction

Sensata | GIGAVAC GV21 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 GV21 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. GV21 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



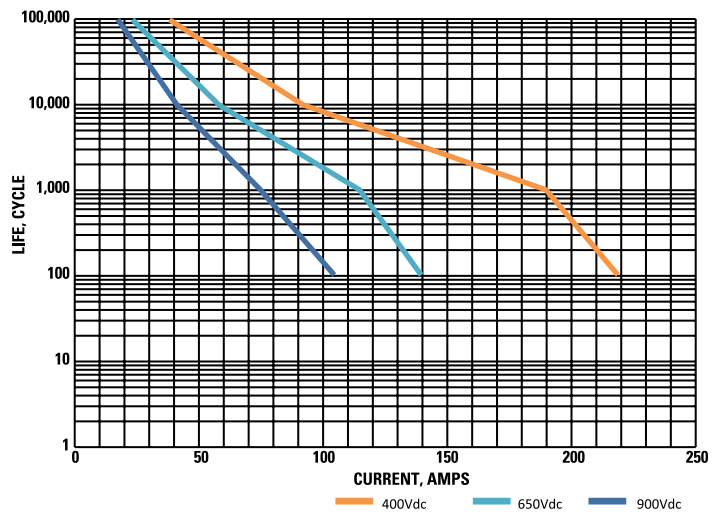
#### SPECIFICATIONS

|   |  |                                |
|---|--|--------------------------------|
| <b>Contact Arrangement</b>  |  | Main Contacts SPST-NO (Form X) |
| <b>Mechanical Life</b>  |  | 1 million cycles               |
| <b>Contact Resistance</b>   |  | 0.5mΩ (max) @ 100A             |
| <b>Shock, 11ms 1/2 sine (operating)</b>   |  | 20G peak                       |
| <b>Sine Vibration, 55-2,000 Hz.</b>   |  | 20G peak                       |
| <b>Weight</b>   |  | 6.7 oz (190g)                  |
| <b>Voltage Rating: Main Contacts (max)</b>  |  | 900VDC                         |
| <b>Current Rating: Main Contacts</b>  | <b>Continuous (8.4 mm<sup>2</sup> / 8 AWG)<sup>1</sup></b> | 100A                           |
|   | <b>Continuous (21 mm<sup>2</sup> / 4 AWG)<sup>1</sup></b>  | 150A                           |
|   | <b>Short Term -- 3 Minutes<sup>2</sup></b>                 | 200A                           |
| <b>Maximum Short Circuit Current (1/2 cycle, 60 Hz) (through closed contacts)</b> |  | 1,250A                         |
| <b>Dielectric Withstand Voltage (ASTM D149)</b>                                   | <b>Between Open Contacts</b>                               | >5,000Vrms                     |
|   | <b>Contacts to Coil</b>                                    | >3,000Vrms                     |
| <b>Insulation Resistance, Terminal to Terminal / Terminals to Coil</b>            | <b>When New</b>  | 500 MΩ, min. @ 500Vdc          |
|   | <b>At End of Life</b>                                      | 50 MΩ, min. @ 500Vdc           |
| <b>Operating Temperature Range</b>  |  | -40°C to +85°C                 |
| <b>Environmental Seal</b>   |  | Exceeds IP67 and IP69          |
| <b>Salt Fog Spray</b>   |  | MIL-STD-810G                   |

## COIL RATINGS at 25°C

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

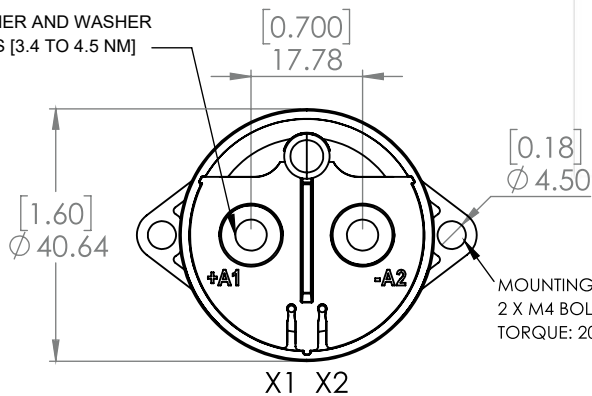
## DC Power Switching Cycles



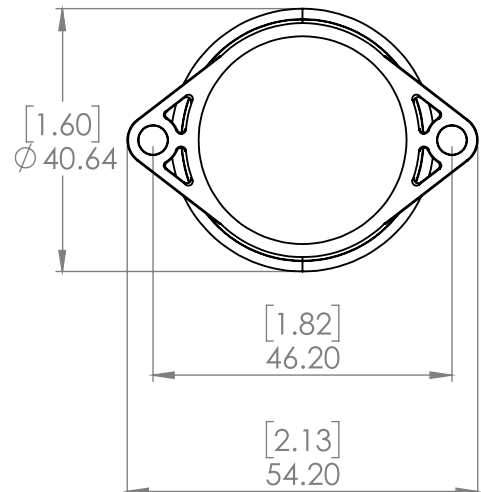
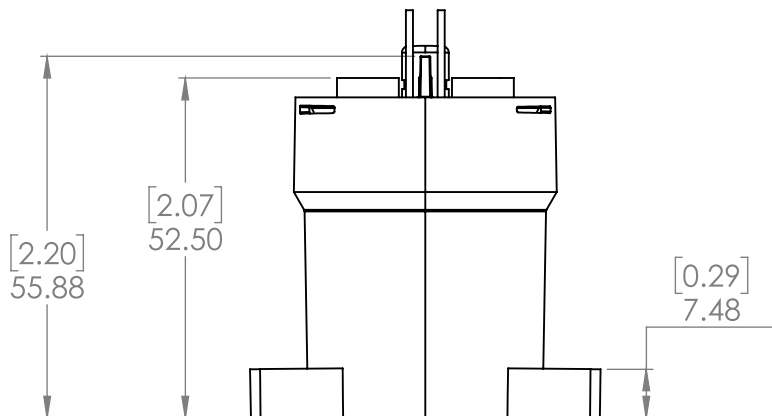
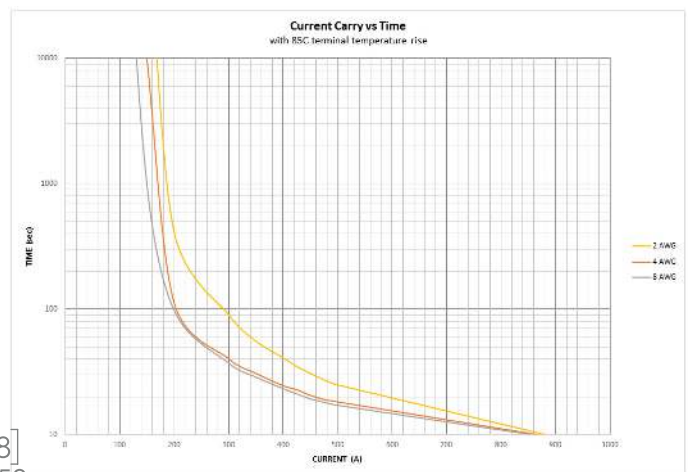
## DIMENSIONS

Dimensions are in millimeters [inches]  
 Coil terminal polarity is X1 (+) and X2 (-)  
 All dimensions are +/- 0.5mm unless stated otherwise.

M5 FEMALE LOAD TERMINALS - 2 PLACES  
 HARDWARE :  
 2 X M5 BOLT, LOCKWASHER AND WASHER  
 TORQUE: 30 TO 40 IN-LBS [3.4 TO 4.5 NM]



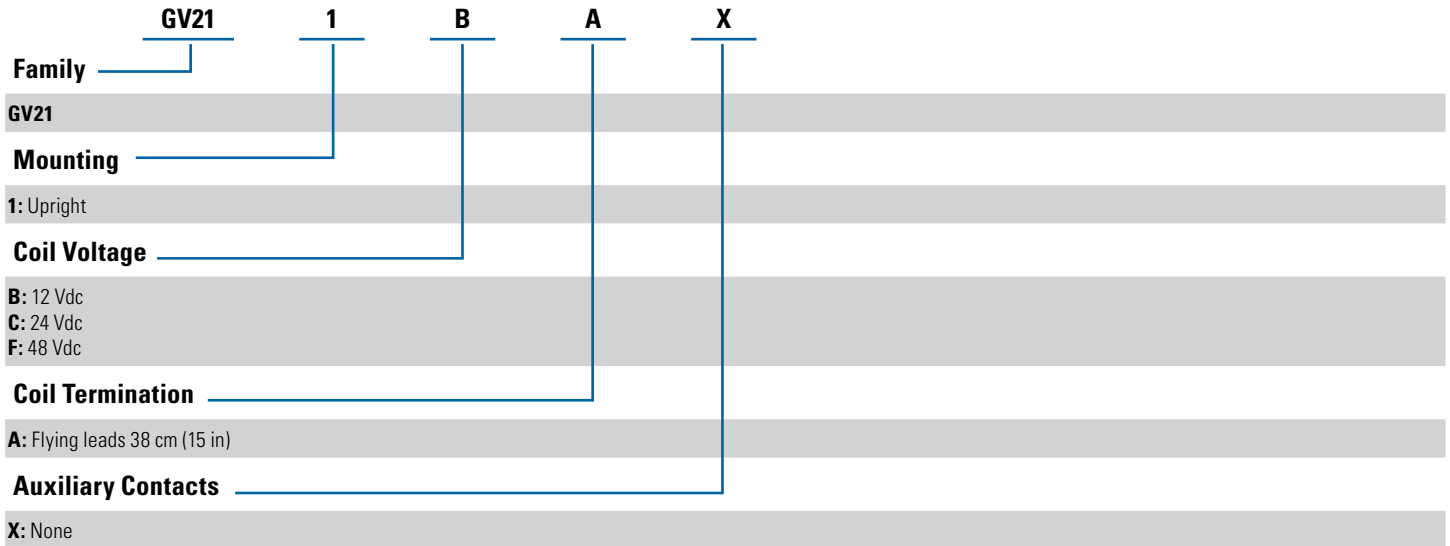
MOUNTING HARDWARE:  
 2 X M4 BOLT, LOCKWASHER AND WASHER  
 TORQUE: 20 IN-LBS MAX [2.3 NM MAX]





## ORDERING OPTIONS

Example : GV211BAX



## 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 mm<sup>2</sup> (#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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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

### Americas

Sensata GIGAVAC  
 Contactor Center of Excellence  
 6382 Rose Lane  
 Carpinteria, CA 93013  
 USA  
 Tel: +1 (805) 684 8401  
 Email: [gigavac@sensata.com](mailto:gigavac@sensata.com)  
 Sensata Global Headquarters  
 Sensata Technologies  
 529 Pleasant Street  
 Attleboro, MA 02703  
 USA

### Europe, Middle East & Africa

Sensata Technologies Holland B.V.  
 Jan Tinbergenstraat 80  
 7559 SP Hengelo  
 The Netherlands  
 Tel: +31743578000  
 Email: [gigavac-info-eu@list.sensata.com](mailto:gigavac-info-eu@list.sensata.com)

## CONTACT US

### Asia Pacific

China  
 Sensata Technologies China Co., Ltd.  
 BM Intercontinental Business Center  
 30th Floor  
 100 Yu Tong Road  
 Shanghai 200070  
 People's Republic of China  
 Tel: +8621 2306 1500  
 Email: [contactorasia@list.sensata.com](mailto:contactorasia@list.sensata.com)  
 Japan  
 Sensata Technologies Japan Ltd.  
 Shin Yokohama Square Bldg. 7F  
 2-3- 12 Shin-yokohama  
 Kohoku-ku, Yokohama-shi,  
 Kanagawa 222-0033  
 Tel: +81 45 277 7001  
 Email: [contactorasia@list.sensata.com](mailto:contactorasia@list.sensata.com)