

## | 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



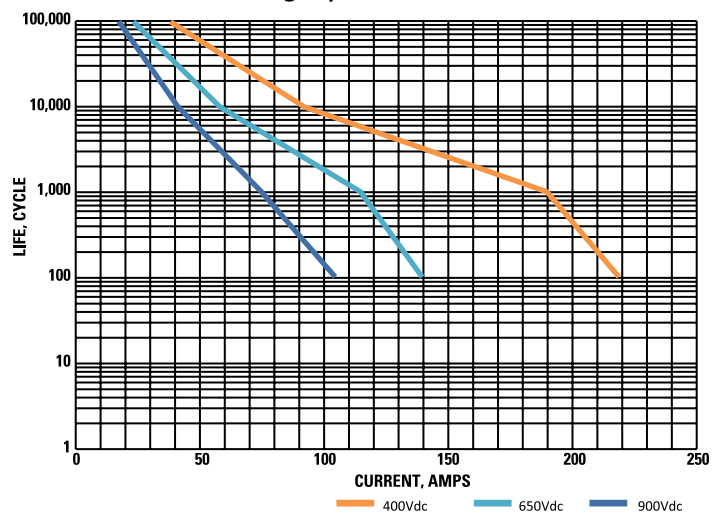
### SPECIFICATIONS

<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 <math>\pm 5\%</math> (ohms)</b>	26	96	392
<b>Operate Time</b>	25ms		
<b>Release Time</b>	10ms		

## DC Power Switching Cycles



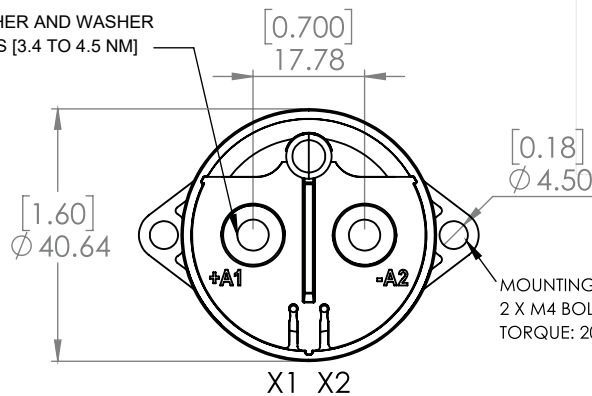
## DIMENSIONS

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

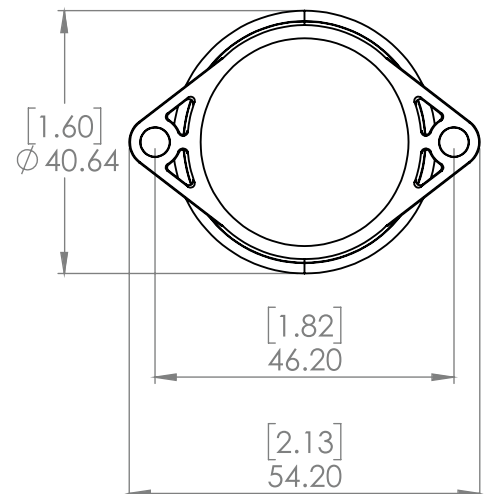
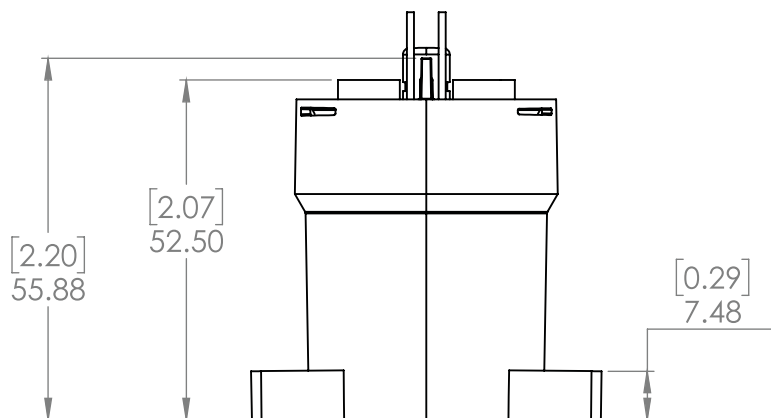
M5 FEMALE LOAD TERMINALS - 2 PLACES

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

	GV21	1	B	A	X
<b>Family</b>					
<b>GV21</b>					
<b>Mounting</b>					
<b>1: Upright</b>					
<b>Coil Voltage</b>					
<b>B: 12 Vdc</b>					
<b>C: 24 Vdc</b>					
<b>F: 48 Vdc</b>					
<b>Coil Termination</b>					
<b>A: Flying leads 38 cm (15 in)</b>					
<b>Auxiliary Contacts</b>					
<b>X: None</b>					



## 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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