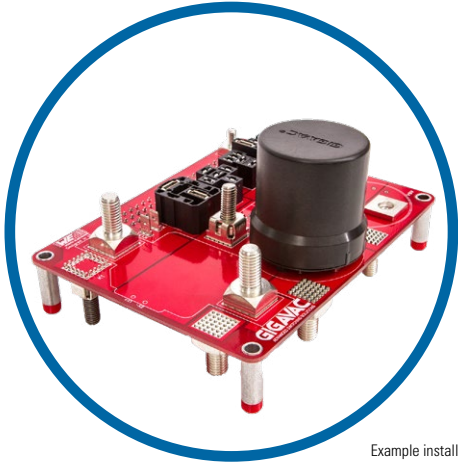




## GVL14 Series

400+ AMP 100 VDC LATCHING CONTACTOR



Example installation shown.  
PCB not included.

### Features

- PCB mountable option allows lowest cost OEM solution by eliminating need for cables, wires and connector.
- Hermetically Sealed – Designed to meet: UL1604 for Class I & II, Div 2 and Class III for use in hazardous locations, IP67 for temporary water immersion for 30 min, SAE J1171 - external ignition protection, and ISO8846 for protection against ignition around flammable gasses.
- Meets CE Conformance standards.
- Built-in coil suppression for all DC coils – Saves you engineering time and parts cost to add external coil suppression.
- Stainless steel hardware and brass mounting inserts, for years of corrosion free service.
- Not position sensitive – can be mounted in any position for ease of installation.



## SPECIFICATIONS

Specifications		Units	Data
Rated Voltage		V	100
Contact Arrangement	Main	Form P	Bi-Stable
	Auxiliary <sup>1</sup>	Form A or B	SPST-NO or SPST-NC
Mechanical Life		cycles	1,000,000
Contact Resistance	Max	mohms	0.4
	Typical	mohms	0.3
Insulation Resistance <sup>2</sup>		Mohms	100
Dielectric at sea level (leakage < 1mA)		VRMS	2500
Shock, 1/2 Sine, 11ms	Actuated (closed)	G	30
	Non Actuated (open)	G	18
Vibration, Sinusoidal (10-2000 Hz peak)		G	20
Environmental Seal		Exceeds IP67 & IP69K	
Salt Fog		MIL-STD-810	
Temperature	Operating ambient Temp Range	-55 to +85°C <sup>4</sup>	
	Storage ambient Temp Range	-70 to +150°C	
Weight, typical	Upright Mount	0.45 kg (0.99 lb)	
	PCB Mount	0.39 kg (0.86 lb)	
Packaging		24 units per shipping box 21 in x 18 in x 4 in shipping box	
Set (Close) Time <sup>3</sup>	Max	ms	20
	Typical	ms	13
Reset (Open) Time, Max		ms	12

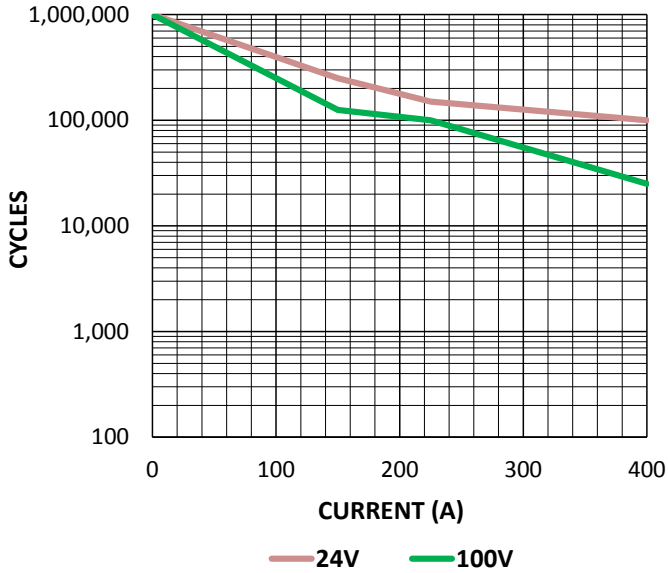
## Coil Ratings at 25°C

Coil P/N Designation	B	C
Coil Voltage, Nominal (VDC)	12	24
Coil Voltage, Max (V)	16	32
Set and Reset Voltage, Max(V) <sup>5,6</sup>	7.5	15
Set and Reset Current, Max(A) <sup>5,6</sup>	2	1



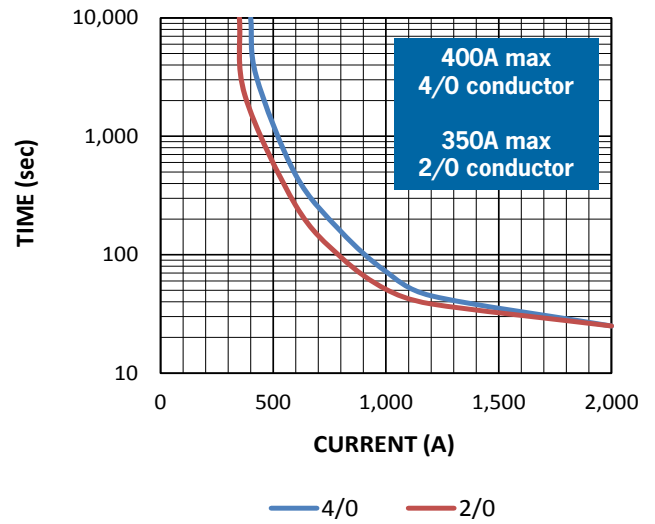
## POWER SWITCHING

### DC POWER SWITCHING CYCLES<sup>7</sup>

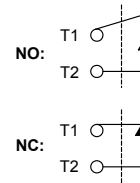


## CURRENT CARRY RATINGS

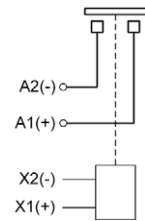
### CURRENT CARRY vs TIME with 85°C terminal temperature rise



### Auxiliary contacts (optional)



### Power Contacts





# UPRIGHT MOUNT DIMENSIONS

All dimensions are +/- 0.5mm unless stated otherwise

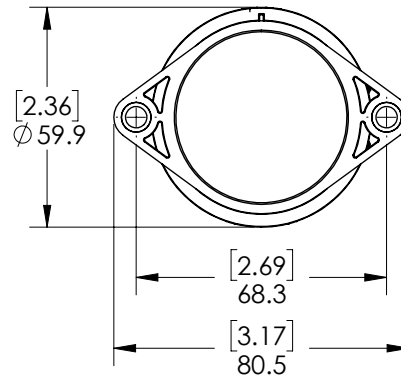
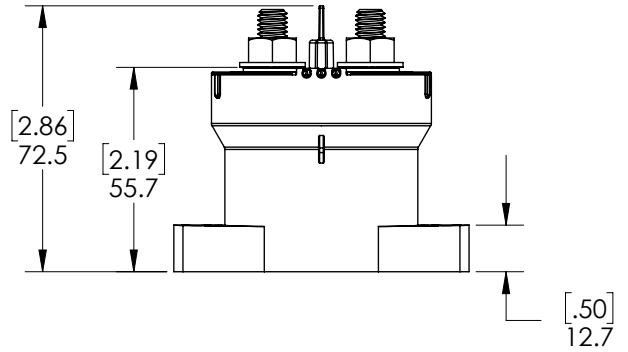
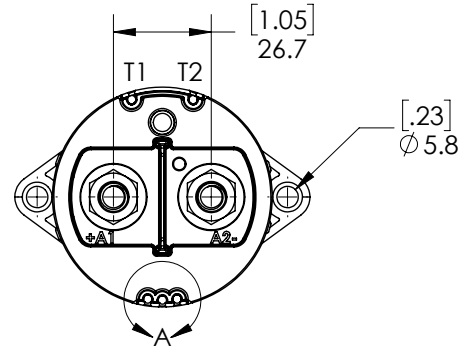
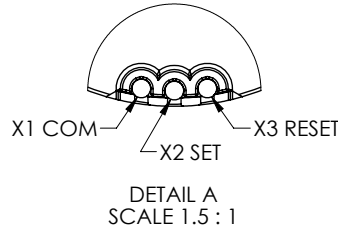
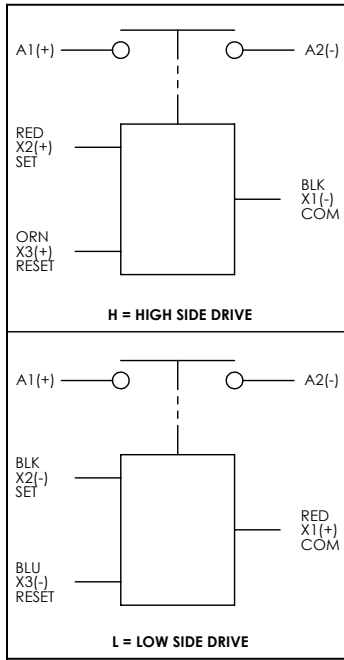
## Upright Mounting

M5 or No. 10 Screws  
Torque 1.7-4 Nm [15-35 in-lb]

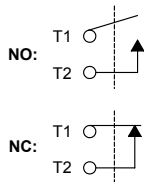
## Upright Mount Power Connection

Silver Plated Copper M8x1.25 stud  
Stainless M8x1.25 flanged nut  
Torque 10 Nm [90 in-lb] max

## Power Contacts



## Auxiliary contacts (optional)





# PCB MOUNT DIMENSIONS

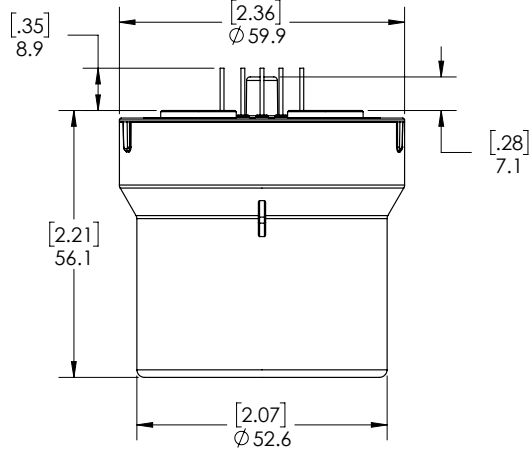
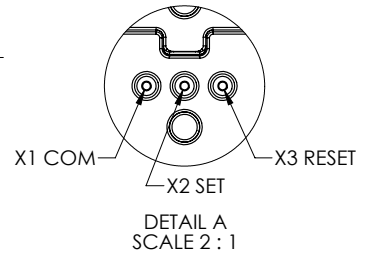
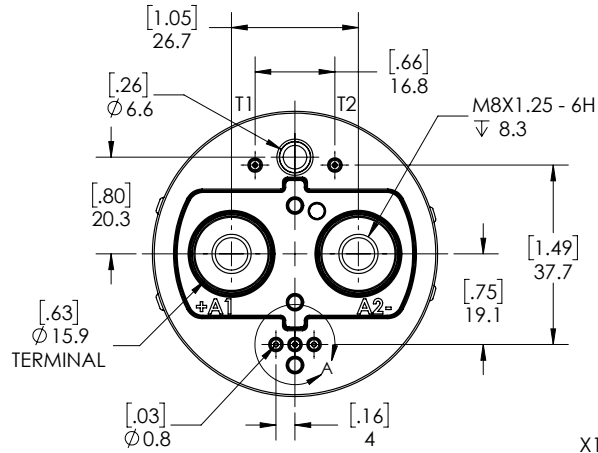
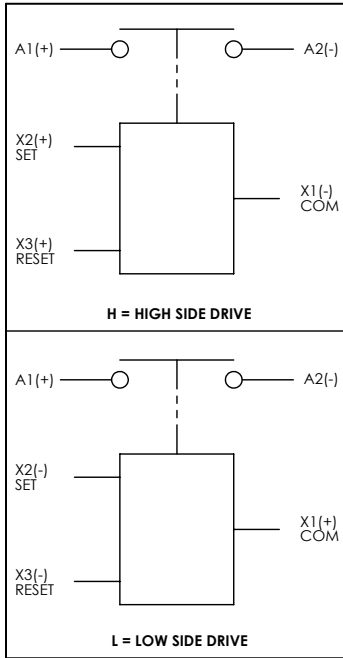
## PCB Mounting / Power Connection

M8x1.25 bolt  
Torque 10 Nm [90 in-lb] max

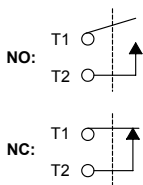
## PCB Coil and Auxiliary Pin Material

510 Phosphor Bronze, Tin Plated

## Power Contacts



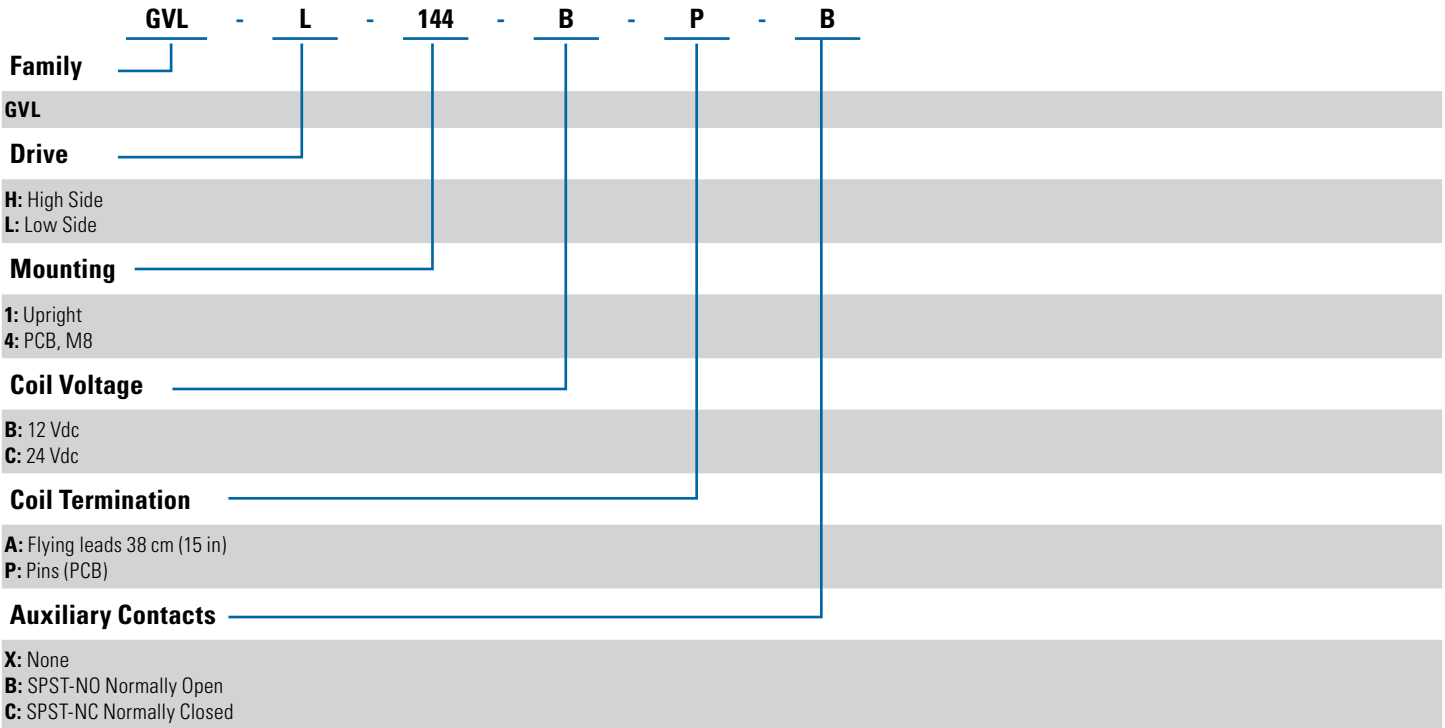
## Auxiliary contacts (optional)





## ORDERING OPTIONS

Example : GVLL144BPB



## GENERAL NOTES

1. Auxiliary contact rating is 2A, 24Vdc Resistive load, 100,000 cycles. Minimum current is 0.1mA, 5V. The auxiliary contact is mechanically linked to the main power contacts.
2. Insulation resistance is 50 Mohms at contactor end-of-life.
3. Operation time is measured at 25°C and includes maximum 7ms bounce.
4. Contactor can operate up to 125°C in special cases - contact GIGAVAC for details.
5. Set voltage is voltage required to ensure contacts close. Minimum pulse of 100ms required.
6. Contactor is operated by a coil that changes resistance with temperature. Since coil voltage, set and reset voltage, and set and reset current are specified at nominal voltage, they will be lower than indicated at temperatures above 25°C and higher than indicated at temperatures below 25°C.
7. Limit make current to 600A to avoid contact welding. For AC power switching cycles, contact factory.



## APPLICATION NOTES

- Power switching lifecycles are based on [current flow](#) from A1(+) to A2(-). For best breaking performance, the contactor should be installed so that current flows from A1(+) to A2(-). There are cases where the contactor will interrupt power in the opposite direction but please contact GIGAVAC to confirm suitability. Direction of current flow is not relevant during make or when flowing on closed contacts. For bi-directional contactors, please contact GIGAVAC.
- Applications with [capacitors](#) will require a pre-charge circuit.
- Electrical life rating is based on resistive load with 27μH maximum inductance in circuit. Because your application may be different, we suggest you test the contactor in your circuit to verify life is as required.
- End of life is defined as when the dielectric, insulation resistance or contact resistance exceeds the specifications listed.



## 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.**

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

## CONTACT US

### Americas

+1 (805) 684-8401  
[info@gigavac.com](mailto:info@gigavac.com)