



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 ¹	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 ²		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 ⁴	
	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 ³	Max	ms	20
	Typical	ms	13
Reset (Open) Time, Max		ms	12

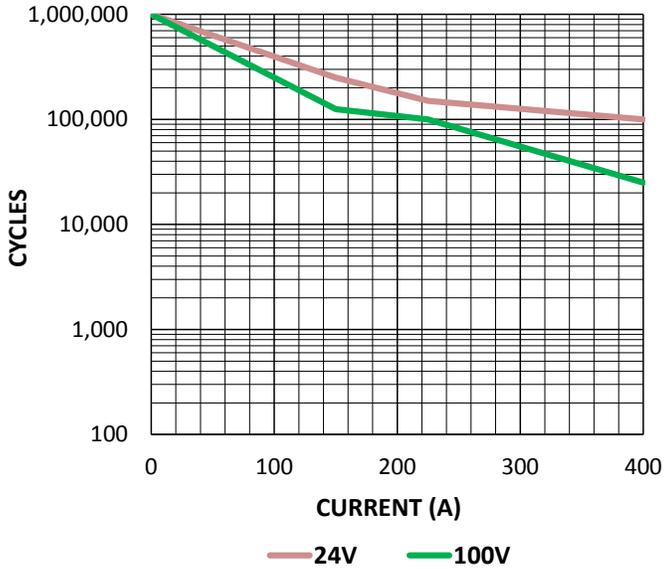
Coil Ratings at 25°C

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



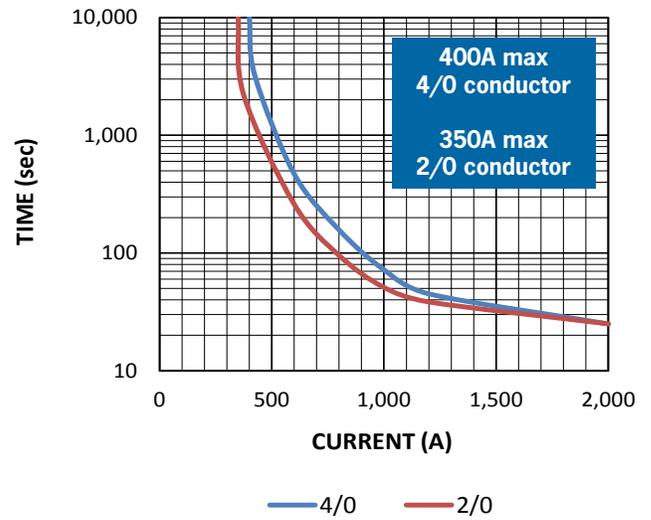
POWER SWITCHING

DC POWER SWITCHING CYCLES⁷

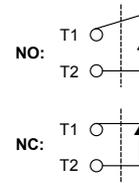


CURRENT CARRY RATINGS

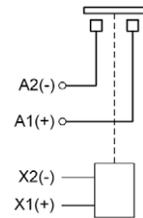
CURRENT CARRY vs TIME with 85°C terminal temperature rise



Auxiliary contacts (optional)



Power Contacts





UPRIGHT MOUNT DIMENSIONS

All dimensions are +/- 0.5mm unless stated otherwise

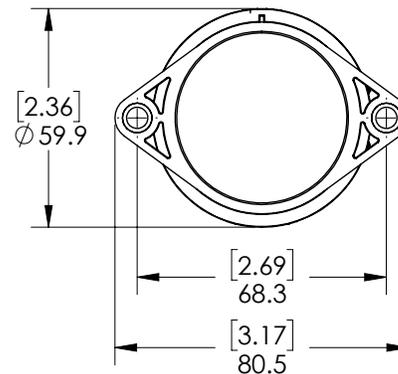
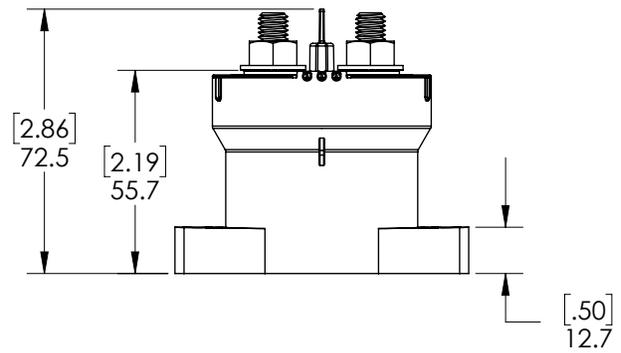
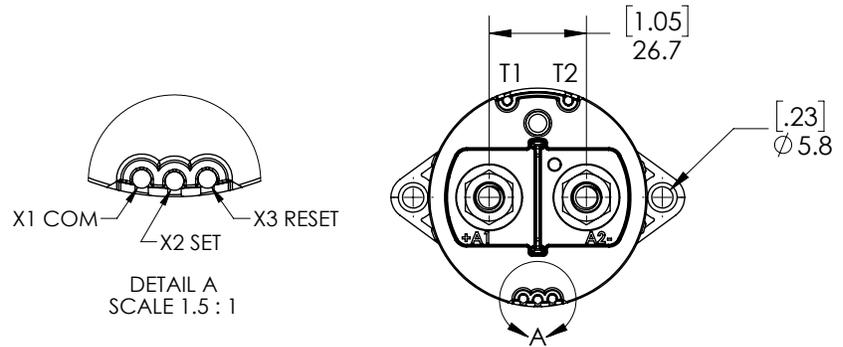
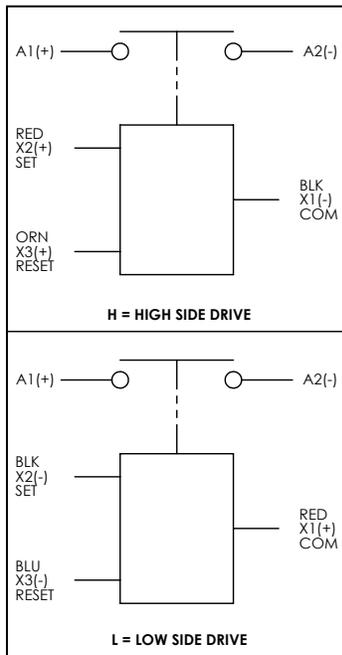
Upright Mounting

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

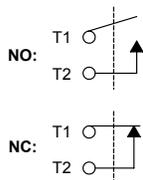
Upright Mount Power Connection

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

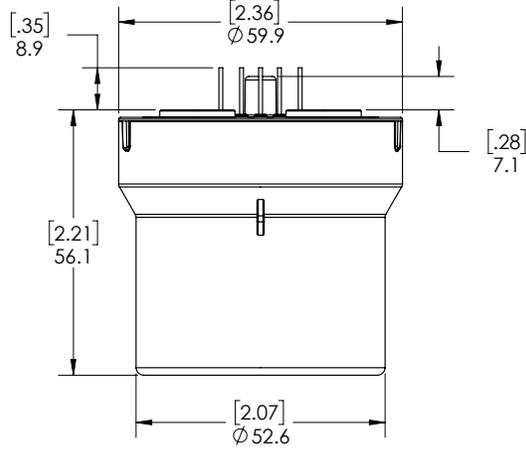
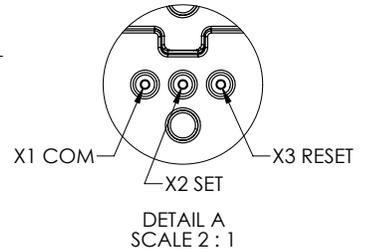
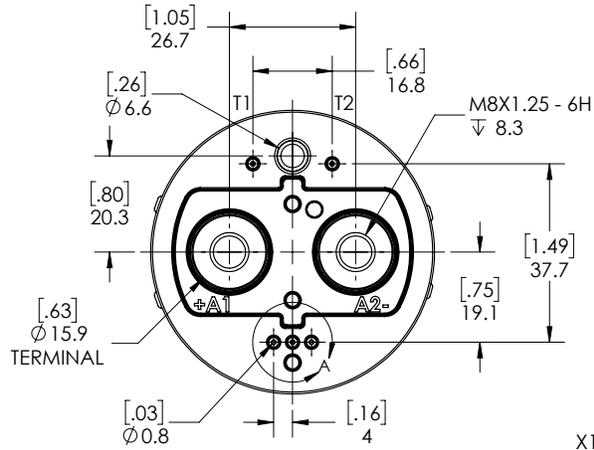
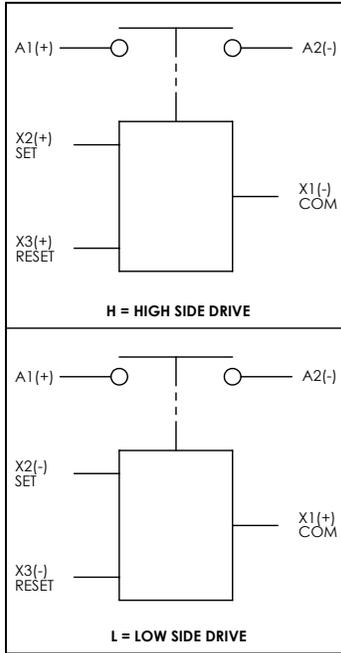
PCB Mounting / Power Connection

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

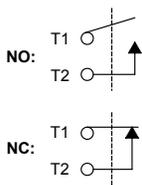
PCB Coil and Auxiliary Pin Material

510 Phosphor Bronze, Tin Plated

Power Contacts



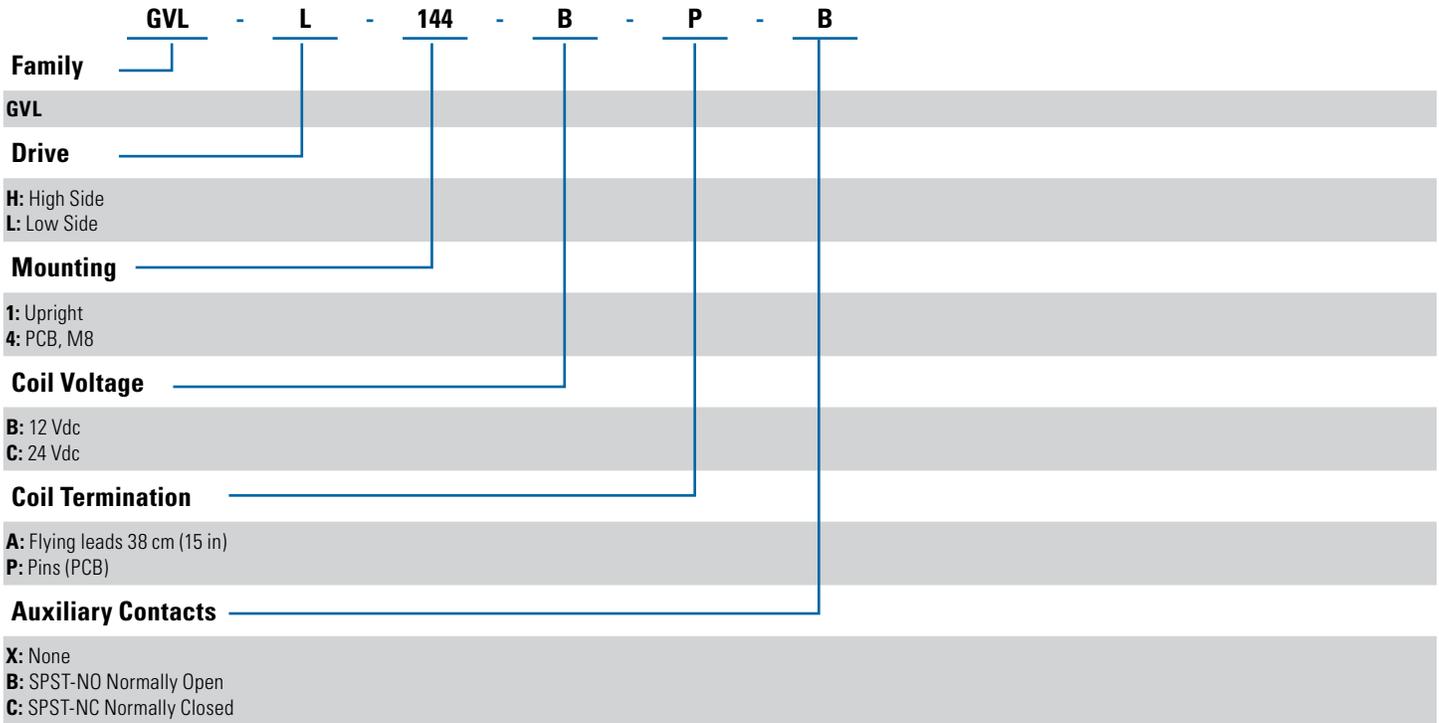
Auxiliary contacts (optional)





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.

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