



FEATURES

- Robust High Voltage/High Power load break bi-directional DC contactor
- Designed for high voltage Power conversion equipment OEM's: Photovoltaic/Battery inverters, battery pack designers, DC combiner boxes and other HVDC industrial drive systems
- Excellent isolation performance: 10kv withstand between open contacts for critical safety applications
- Mechanically linked SPDT auxiliary contacts for critical safety applications. Reliable indication of the main contacts in the closed position
- Hermetically Sealed - Exceeds IP67-69 specifications. No exposed arcing to open air environments. Designed to meet UL1604 for hazardous locations.
- Made in the USA - Designed and Manufactured in Carpinteria, CA USA

PRODUCT SPECIFICATIONS

Specifications	Units	Data
Contact Arrangement (main)	Form X	SPST-NO
Mechanical Life (main)	cycles	100,000
Aux Contact Load Life (3A @ 24Vdc) ⁴	cycles	100,000
Contact Resistance ¹		
Max @ rated carry current	mohms	0.3
Typical @ rated carry current	mohms	0.15
Operate time, 25°C		
Close (includes bounce) Max	ms	85
Close (includes bounce) Typical	ms	70
Release time (includes arc time at max. break current)	ms	70
Insulation Resistance ²	Mohms	100
Dielectric at sea level (leakage < 1mA)	V	5,375
Impulse Withstand Voltage (per IEC 61000-4-5)	kV	10
Voltage Withstand (open contacts, 1 min. <1mA leakage)	kV	10
Shock, 1/2 Sine, 11ms	G peak	10
Vibration, Sinusoidal (500-2000 Hz peak)	G	10
Operating ambient Temp Range	°C	-55 to +85
Storage ambient Temp Range	°C	-70 to +125
Weight, Typical	Kg (Lb)	4.17 (9.2)
Environmental Seal		Exceeds IP67 & IP69K
Salt Fog		MIL-STD-810

POWER SWITCHING CYCLES

Make & Break	CYCLES
400A @ 1500VDC	5000 ²
500A @ 1200VDC	5000 ²
600A @ 1000VDC	5000 ²


CONTINUOUS CARRY CURRENT @ 85°C Ambient

Current	Conductor
400A ⁵	400mcm
600A ⁵	600mcm
1000A ⁵	1273mcm

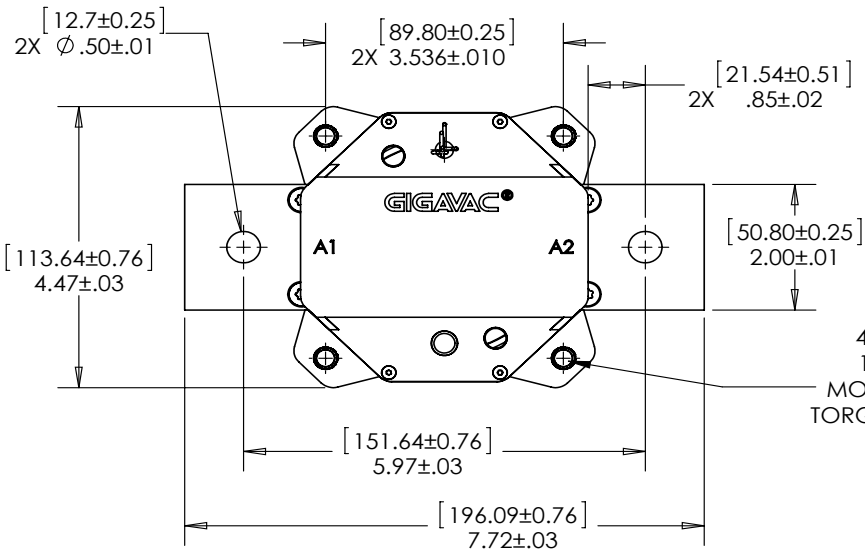
FAULT INTERRUPT

Max Break	Iterations
5000A @ 400VDC	5

COIL RATINGS

Coil P/N Designation	C
Coil Voltage Nominal	24 VDC
Coil Voltage Max	28 VDC
Pick-up, Volts, Max	16 VDC
Drop-out, Volts	7.5 VDC
Coil Current ³	0.63A
Coil Power ³	15.1 W
Internal Coil Suppression	TVS 
Coil Back EMF	55 V
Transients, Max (13 ms)	±50 V

DIMENSIONS



$[6.81 \pm 0.13]$
 $4X \ \phi .268 \pm .005$
 $1/4-20 \text{ OR } M6$
 MOUNTING BOSSES
 TORQUE: $60 \pm 15 \text{ IN-LBS}$
 $[6.8 \pm 1.7 \text{ N-M}]$

Mounting Hardware (customer supplied)

M6 or 1/4-20
 Torque: 6.8 Nm (60 in-lb)

Power Connections

Nickel plated copper busbars

Case Material

DuPont Zytel FR50
 (25% glass filled nylon)

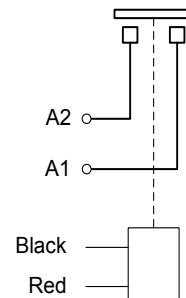
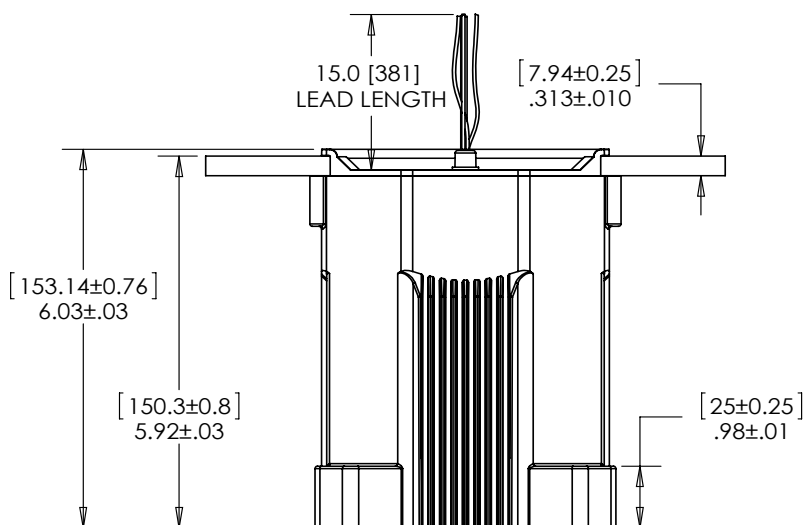
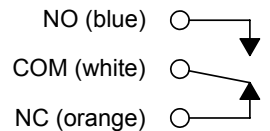
Coil Wire / Aux Wire

M22579/43-22, 22AWG

Power Contacts

(Contacts & coil not
 polarity sensitive)

Auxiliary Contacts



PART NUMBER SYSTEM

HX460	C	A	A
Coil Voltage	C = 24 Vdc, continuous duty coil, internal coil suppression		
Coil Termination		A = Flying leads 38 cm (15 in)	
Auxiliary Contact			A = SPDT

APPLICATION NOTES

- **Contactors feature internal transorb for coil suppression. For continuous duty coil operation, no external diodes should be added across the coil. The use of additional external coil suppression can slow the release time and invalidate the life cycle ratings, or can cause the contactor not to be able to interrupt the maximum current specified. If lower coil back EMF is required, please contact GIGAVAC for assistance.**
- **Applications with capacitors will require a pre-charge circuit. [Click here](#) for more information.**
- **Electrical life rating is based on resistive load with 27 μ H 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.**
- **Main power contacts (A1, A2) are not polarity sensitive.**

Notes & Definitions:

- 1 Contact resistance measured at currents $\geq 100A$.
- 2 Insulation resistance is 50 Mohms after life.
- 3 Coil ratings are listed for continuous duty operation. External PWM economization can be used following instructions in Applications Note [AN-019](#). Contactor is operated by a coil that changes resistance with temperature. See Applications Note [AN-020](#) for coil versus temperature graphs.
- 4 Minimum current is 0.1mA, 5V. The auxiliary contact is mechanically linked to the main power contacts.
- 5 Continuous currents assume a 65°C rise on the power terminals. Customer must limit terminal temperature to 150°C continuous.