

| HX360 Series

800 AMP 1500 VDC CONTACTOR



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.

Applications

- Energy Storage System
- DC fast charging
- Photovoltaic controls

SPECIFICATIONS

Specifications		Units	Data
Contact Arrangement	Main	Form X	SPST-NO
	Auxiliary	Form C	SPDT
Mechanical Life		cycles	300,000
Auxiliary Contact Load Life (3A @ 24Vdc) ⁴		cycles	300,000
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
Temperature	Operating ambient Temp Range	-55 to +85°C	
	Storage ambient Temp Range	-70 to +125°C	
Weight, typical		3.0Kg (6.6Lb)	
Environmental Seal		Exceeds IP67 & IP69K	
Salt Fog		MIL-STD-810	

POWER SWITCHING CYCLES

Make & Break	CYCLES
400A @ 1,500VDC	3,750 ²
500A @ 1,200VDC	3,750 ²
600A @ 1,000VDC	3,750 ²

CONTINUOUS CARRY CURRENT @ 85°C Ambient

Current	Conductor
400A ⁵	400mcm/203mm ²
600A ⁵	600mcm/304mm ²
1,000A ⁵	1,273mcm/633mm ²

FAULT INTERRUPT

Break Only	Iterations
1,500A @ 1,250VDC	7
2,700A @ 1,000VDC	1
5,000A @ 400VDC	2

MAX CLOSING CURRENT

Make Only	Iterations
8,000A @ 24VDC	7
6,000A @ 1,000VDC	1
1,000A @ 24VDC	7,000

SHORT CIRCUIT WITHSTAND

Closed Contacts	Iterations
8,000A / 50ms	10
10,000A / 2ms	3

COIL RATINGS at 25°C

Coil P/N Designation	B	C	F
Coil Voltage, Nominal (VDC)	12	24	48
Coil Type	Dual		
Coil Voltage, Max (V)	14	30	64
Pick-up, Volts, Max (V)	8	16	40
Drop-out, Volts, Max (V)	Coming soon	11	Coming soon
Coil Current ³ (A)	0.75	0.37	0.19
Coil Power ³ (W)	9		
Internal Coil Suppression	TVS		
Coil Back EMF (V)	55		125
Transients, Max (V) (13 ms)	55	55	130



DIMENSIONS

Mounting Hardware (customer supplied)

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

Power Connections

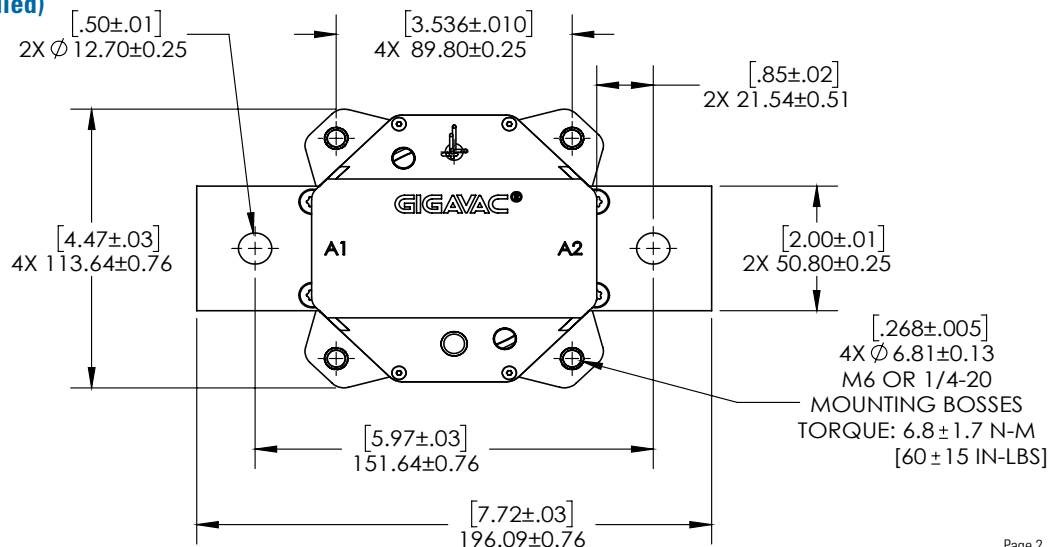
Nickel plated copper busbars

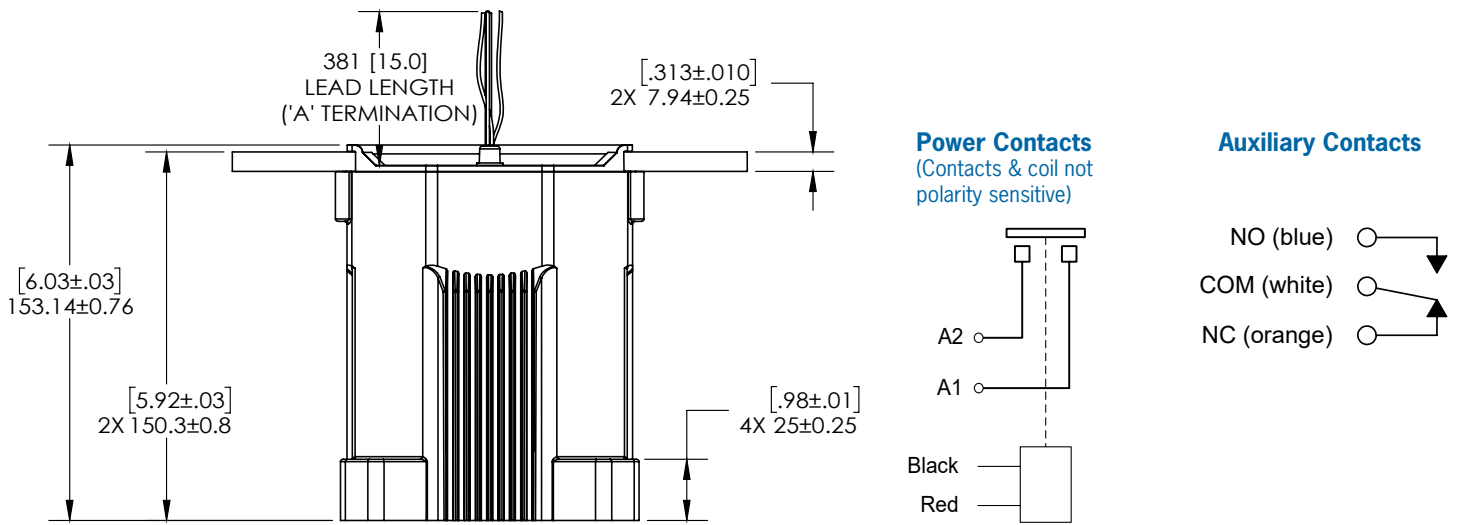
Case Material

DuPont Zytel FR50
(25% glass filled nylon)

Coil Wire / Aux Wire

M22579/43-22, 22AWG





ORDERING OPTIONS

Example : HX360CAB

	HX360	-	C	-	A	-	B
Family	HX360						
Coil Voltage							
Coil Termination							
Auxiliary Contacts							

B: 12 Vdc, continuous duty coil, internal coil suppression*

C: 24 Vdc, continuous duty coil, internal coil suppression

F: 48 Vdc, dual coil, internal coil suppression*

A: Flying leads 38 cm (15 in)

F: Molex 5-pin Connector 39-01-4050, lead length 28 cm (11 in)

B: SPDT

*These configurations will be available after August, 2023

GENERAL NOTES

- Contact resistance measured at currents $\geq 100A$.
- Insulation resistance is 50 Mohms after life.
- 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 Notes AN-020 and AN-030 for coil versus temperature graphs.
- Minimum current is 0.1mA, 5V. The auxiliary contact is mechanically linked to the main power contacts.
- Continuous currents assume a 65°C rise on the power terminals. Customer must limit terminal temperature to 150°C continuous.

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.
- 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.
- Main power contacts (A1, A2) are not polarity sensitive.

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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