



| 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 Mechanical 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		2.87Kg (6.3Lb)	
Environmental Seal		Exceeds IP67 & IP69K	
Salt Fog		MIL-STD-810	

POWER SWITCHING CYCLES

Make & Break	CYCLES
350A @ 1,500VDC	6,000 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
800A ⁵	1,273mcm/633mm ²

COIL RATINGS at 25°C

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

FAULT INTERRUPT

Break Only	Iterations
1,000A @ 1,500VDC	1

SHORT CIRCUIT CURRENT

Current	Time
8,000A	150ms
10,000A	100ms
12,000A	80ms



DIMENSIONS

Mounting Hardware (customer supplied)

M6 or 1/4-20

Torque: 6.8 Nm (60 in-lb)

Power Connections

Nickel plated copper busbars

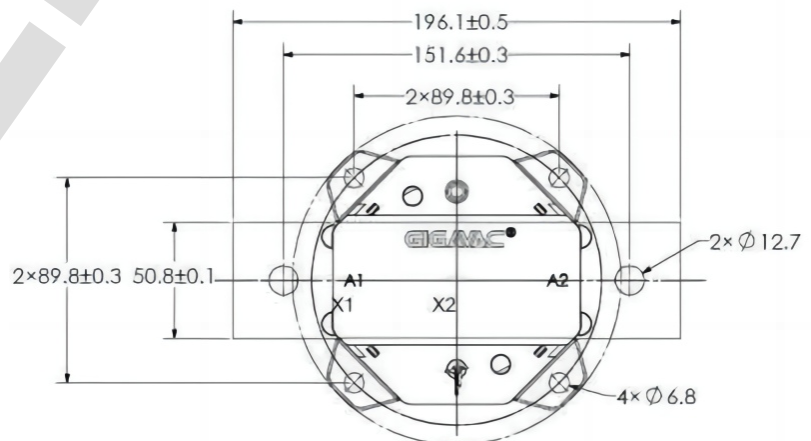
Case Material

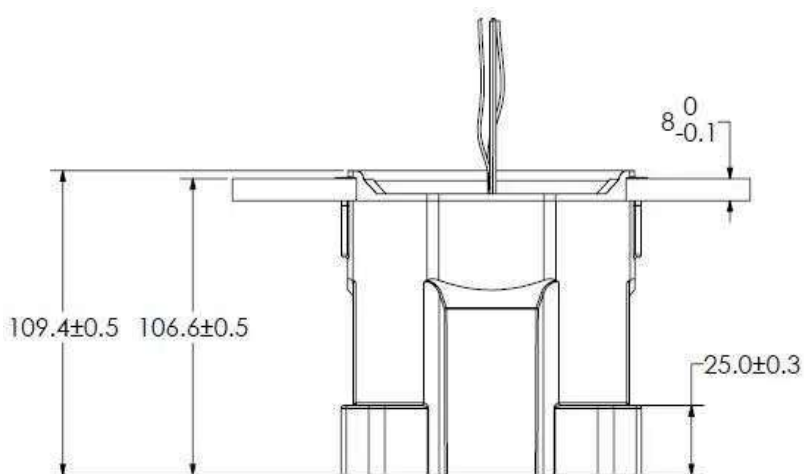
DuPont Zytel FR50

(25% glass filled nylon)

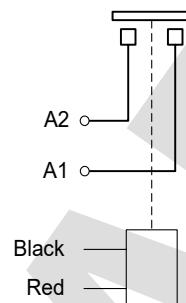
Coil Wire / Aux Wire

M22579/43-22, 22AWG





Power Contacts
(Contacts & coil not
polarity sensitive)



Auxiliary Contacts



ORDERING OPTIONS

Example : HX360CAB

	HX360	-	C	-	A	-	B
Family							
HX360							
Coil Voltage							
B: 12 Vdc, dual coil, internal coil suppression							
C: 24 Vdc, dual coil, internal coil suppression							
F: 48 Vdc, dual coil, internal coil suppression							
Coil Termination							
A: Flying leads 38 cm (15 in)							
B: Flying leads 61 cm (24 in)							
C: Flying leads 122 cm (48 in)							
Auxiliary Contacts							
B: SPDT							
X: None							



GENERAL NOTES

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 Notes AN-020 and AN-030 for coil versus temperature graphs.
4. Minimum current is 0.1A, 24V. 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



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 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.



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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