GX11 12 to 750 Vdc/Vac

Multi Purpose EPIC® Sealed Contactor - 150+ Amp Power Switching

RoHS Compliant, all date codes

Patent Pending

FEATURES

- Chassis level UL508 sized power terminals – No need for specially routed power cables, special bus bars, or special lugs
- Rugged **EPIC® Seal** rated to 175°C - Same technology used for advanced aerospace programs that reduces risk of fire or meltdown in over current conditions
- 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
- Electronics-free high efficiency coil – No EMI emissions or cross-talk on your system control power
- Built-in coil suppression for DC coils - Saves engineering time and parts cost to add external coil suppression
- Stainless steel hardware and mounting inserts, for years of corrosion free service
- UL508 ambient compliant to 75°C but can operate continuously at 85°C with a higher terminal temperature rise of 60°C. Can also operate up to 125°C in special cases - contact GIGAVAC for details.
- Not position sensitive – can be mounted in any position for ease of installation

ESTIMATED CONTACT POWER SWITCHING RATINGS

Make & Break Resistive Current with 1/0 cable and 50° terminal temp rise	Contact Voltages & Life Cycle Ratings DC or 50/60 Hz AC					
	24 V	48 V	72 V	120 V	350 V	750 V
150A - (75° C Ambient) 1/	**150,000**	**100,000**	**40,000**	**20,000**	**7,500**	**1,200**
125A - (75° C Ambient) 1/	180,000	120,000	48,000	24,000	9,000	1,440
100A - (75° C Ambient) 1/	225,000	150,000	60,000	30,000	11,250	1,800
75A - (75° C Ambient) 1/	300,000	200,000	80,000	40,000	15,000	2,400
50A - (75° C Ambient) 1/	435,000	290,000	116,000	58,000	21,750	3,480
30A - (75° C Ambient) 1/	750,000	500,000	200,000	100,000	37,500	6,000
20A - (75° C Ambient) 1/	900,000	600,000	240,000	120,000	45,000	7,200
225A - (50° C Ambient) 2/	127,500	85,000	34,000	17,000	6,375	1,020
Max Break A, 2 cycles (75° C Ambient) 1/	2,500A	2,000A	1,500A	1,000A	900A	600A
Max Make, 10 cycles (75° C Ambient) 1/	1,400A	1,100A	800A	600A	500A	350A

Electrical life rating is based on resistive load with TBD 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.

If your application requires a higher current rating, you may want to consider the **GIGAVAC GX12 EPIC® sealed contactor**.

1/ Assumes UL508 ratings with 1/0 cables, UL508 max ambient temperature of 75°C as shown, and max. UL508 terminal temperature rise of 50°C.

At 85°C ambient, contactor can also meet all of its 75°C specifications but the terminal temperature can rise can be up to 60°C, which is higher than the 50°C rise allowed by UL508 and can be higher than some cable insulation ratings.

2/ Assumes UL508 ratings with 1/0 cables, at a lower 50°C UL508 ambient temperature, and max. UL508 terminal temperature rise of 50°C.

CONTACT CURRENT CARRY RATINGS		
		75°C / 50°C
Cable size 1/		1 / 0
Continuous, UL508 Max 1/ 10 seconds (1 time) 100 Seconds (1 time) 300 Seconds (1 time)	**Amp** Amp Amp Amp	**150 / 225** 375 / 560 240 / 360 200 / 300
Starter Carry – Inrush 250 ms (10 repeats 1/ 2/)	Amp	NA / 2,000
Starter Carry - Cranking 10 sec (10 repeats 1/ 2/)	Amp	NA / 500
Maximum terminal Temp, Continuous	Deg C	175
Maximum terminal Temp, Intermittent	Deg C	225

If your application requires a higher current rating, you may want to consider the **GIGAVAC GX12 EPIC® sealed contactor**.

1/ Assumes UL508 ratings with 1/0 cables, ambient maximum UL 508 temperature of 75°C, and maximum UL508 terminal temperature rise of 50°C. Contactor can also carry the higher current as shown for 50°C ambient, and meet all of the UL508 temperature rise requirements.

At 85°C ambient, contactor can also meet all of its 75°C specifications but the terminal temperature can rise can be up to 60°C, which is higher than the 50°C rise allowed by UL508 and can be higher than some cable insulation ratings.

The maximum terminal temperature rating of the contactor is 175°C, which means much higher currents than shown can be carried and switched. However, this temperature is much higher than most cable insulation ratings, which mean busbars must be used. Contact GIGAVAC for assistance for higher current applications using this contactor.

2/ Rating consists of combined inrush + cranking current at the times specified, with 2 seconds off between cycles. This is higher current than is required for UL1107 for marine battery switches.

COIL RATINGS							
Nominal Volts	12Vdc	24Vdc	48Vdc	72Vdc	120Vdc	120Vac, 50/60Hz	240Vac, 50/60Hz
Coil P/N Designation	B	C	F	H	J	K	L
Max Volts	14	28	56	84	140	140	280
Pick-up, Volts, Max	7.5	15	28	46	72	72	144
Hold, Volts, Min	4	9	18	28	46	46	92
Drop-Out, Volts, Min	0.5	0.5	1.8	2.7	4.5	4.5	9
Coil Resistance @ 25ºC (Ohms ±10%)	17	85	335	850	2125	N/A	N/A
Coil Current, mA, Max at nominal Voltage	700	280	150	90	56	TBD	TBD
Coil Back EMF (volts) - Built in suppression 1/	55	55	100	150	288	N/A	N/A

Ratings are at worse case temperature extremes, except coil resistance and current are at 25ºC.

1/ DC coils have built-in coil suppression. 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.

PRODUCT SPECIFICATIONS		
Specifications	**Units**	**Specifications**
Contact Arrangement (main)	Form X	SPST-NO
Contact Arrangement (Auxilary) 1/	Form C	SPDT
Mechanical Life	cycles	1 million
Contact Resistance Max @ rated carry current Typical @ rated carry current	 mohms mohms	 .4 .15 to .3
Operate time, 25˚C Close (includes bounce) Max Close (includes bounce) Typical Bounce on close, Max **Release time (includes arc time at max. break current)**	 ms ms ms ms	 20 13 7 12
Insulation Resistance	Mohms	100 2/
Dielectric at sea level (leakage < 1mA)	VRMS	2,500
Shock	G's peak	20
Vibration, Sinusoidal (500-2000 Hz peak)	G's	15
Operating ambient Temp Range	˚C	-55 to +85 3/
Storage ambient Temp Range	˚C	-70 to +175
Weight, Typical	Kg (Lb)	0.50/(1.1)

1/ Auxillary contact rating - 2A, 24Vdc Resistive load, 100,000 cycles.

2/ 50 Mohms after life.

3/ Contactor can operate up to 125°C in special cases - contact GIGAVAC for details.

PART NUMBER SYSTEM

GX11 C A

Coil Voltage
B = 12 Vdc, internal coil suppression
C = 24 Vdc, internal coil suppression
F = 48 Vdc, internal coil suppression
H = 72 Vdc, internal coil suppression
J = 120 Vdc, internal coil suppression
K = 115 VAC, 50/60 Hz
L = 240 VAC, 50/60Hz

Coil Termination
A = Flying leads, 38 cm (15 in)
B = Flying leads, 61 cm (24 in)
C = Flying leads, 122 cm (48 in)

Auxiliary Contact (same length as coil wire selection)
Blank = None
A = SPDT

MOUNTING

M5 or NO.10 SCREWS

TORQUE 1.7-4Nm [15-35in-lb]

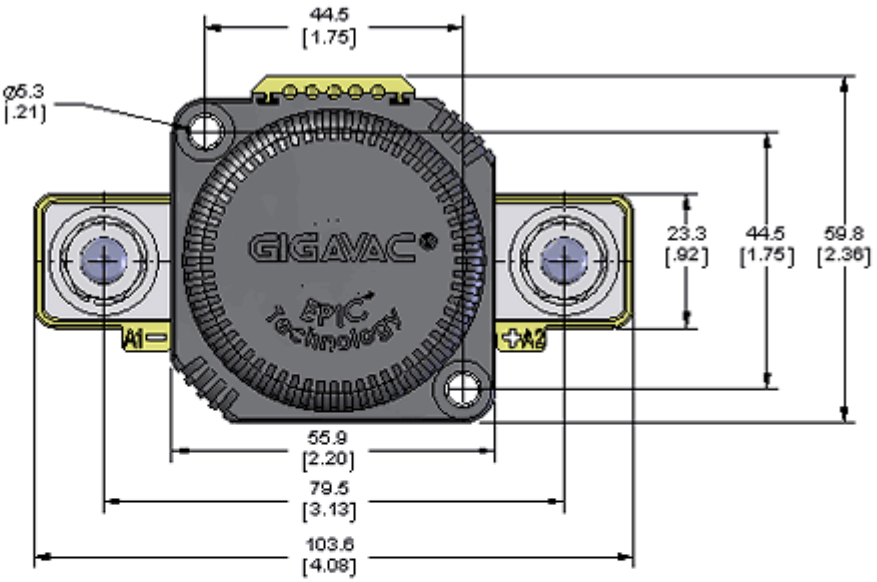
CASE MATERIAL

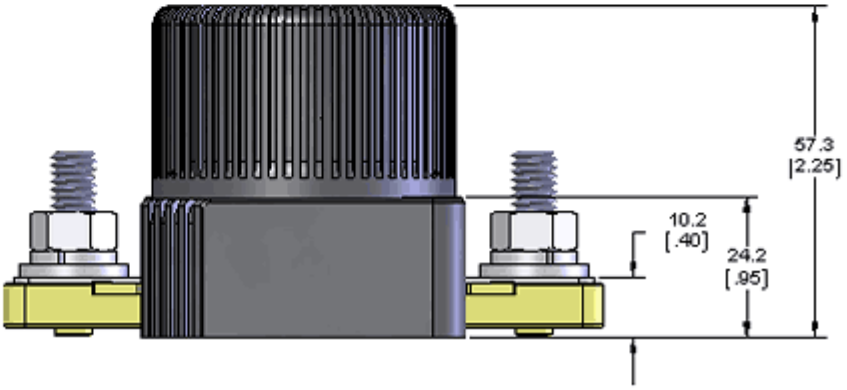
40-50% GF NYLON 6/6
UL94 V-O

POWER TERMINALS

HARDWARE INCLUDED:
STAINLESS M8X1.25 BOLT
STAINLESS M8X1.25 NUT
STAINLESS LOCK WASHER
STAINLESS FLAT WASTER

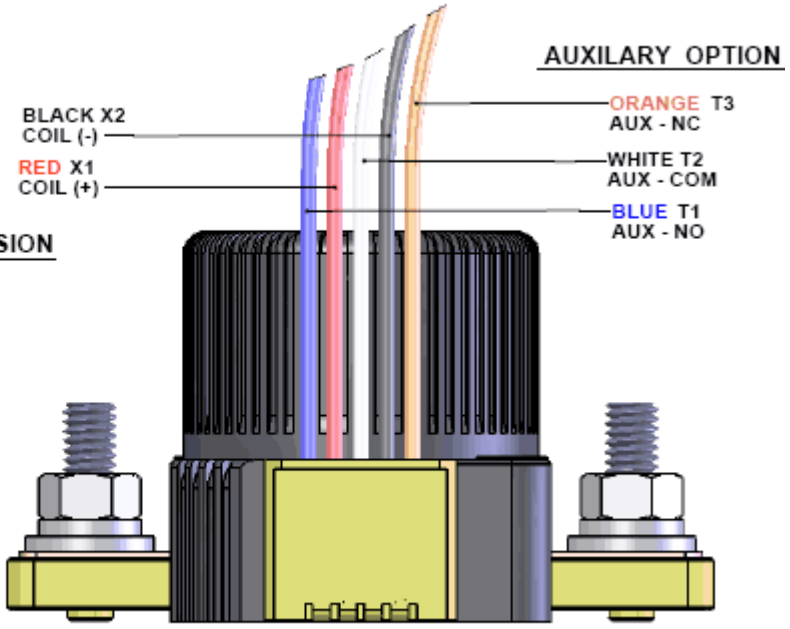
TORQUE 11-23Nm [100-200 in-lb]



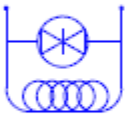


The polarity of the power terminals was previously shown reverse from what is correct and what is now indicated. The polarity is important only for switching the "Maximum Break, 2 cycles" when the voltage is over 100 Vdc.

AUXILARY OPTION



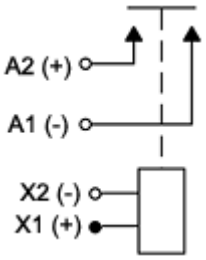
DC COIL SUPPRESSION



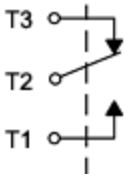
A/C COIL

WIRE SPEC: SILICONE, 22AWG, -40C-150C, UL: VW-1

Power contacts



Auxiliary contacts *(optional)*



Application Information:

1. **WARNING -** When using more than one lug on a power terminal, make sure the primary power is closest to the contactor busbar, with the lower current lug on top, then the washer, then the lock washer, then the nut. **Improper order can cause severe over-heating resulting in the possible melting of the connecting cable insulation.**

2. EPIC® sealing technology

3. Relay Schematics and Forms

05/12/08

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