

GL250

12 to 750 Vdc/Vac

Sealed HV DC/AC Contactor - 250Amp Power Switching RoHS Compliant



● Features

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| <ul style="list-style-type: none"> ◆ Ceramic to metal seal rated to 175°C-Reduced risk of fire or meltdown in over-current conditions. |
| <ul style="list-style-type: none"> ◆ Hermetic Seal – 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. |
| <ul style="list-style-type: none"> ◆ High Efficiency Coils –Coil with PWM economizer can lower power cost and it limits back EMF to 0V. The contactor can keep contact with very low coil power supply. |
| <ul style="list-style-type: none"> ◆ No Exposed Coil Electronics – The GL250 can operate almost anywhere, even under water – the coil electronics is fully sealed. |
| <ul style="list-style-type: none"> ◆ Fully RoHS Compliant – The GL250 is fully compliant and is better for the environment and future generations. |

● Product specifications

| Parameter | Ratings |
|--|---|
| Contact Arrangement (main) | SPST-NO |
| Rated Operating Voltage | 12-750VDC/VAC |
| Rated carrying current | 250A (4/0 cable- 107mm ² cross-section area) |
| Max carrying current (1time) | 1 Second ,1600A, 60 Seconds, 480A, 600 Seconds, 320A See Figure 2. Current carrying capacity |
| Switching Capacity | See Figure 1. Power switching capacity for resistive load |
| Max cut-off current | 1600A@320VDC, 1 time |
| Contact Resistance Max @ rated carry current Typical @ 250A | 0.4mΩ 0.3mΩ |
| Mechanical Life | 300, 000 Cycles |
| 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) | 20ms 13 ms 7 ms 12 ms |
| Contact Arrangement (Auxiliary) | SPST-NO (The auxiliary contact is mechanically linked to the main power contacts.) |
| Auxiliary contact rating | 2A@24VDC |
| Minimum current and voltage for Auxiliary contact | 100mA@8V |
| Insulation Resistance at 500VDC | 100 MΩ (50 MΩ after life test) |
| Dielectric at sea level (leakage < 1mA) | 2200 VRMS |
| Shock (Saw tooth or 1/2 Sine,11ms) | 20G's |
| Vibration, Sinusoidal (10-2000 Hz peak) | 20G's |
| Operating ambient Temp Range | -55-85°C |
| Storage ambient Temp Range | -55°C-125°C |

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| Weight, Typical | 0.38kg/(0.84Lb) (without nuts/washers) |
|------------------------|--|

● **Power switching capacity for resistive load**

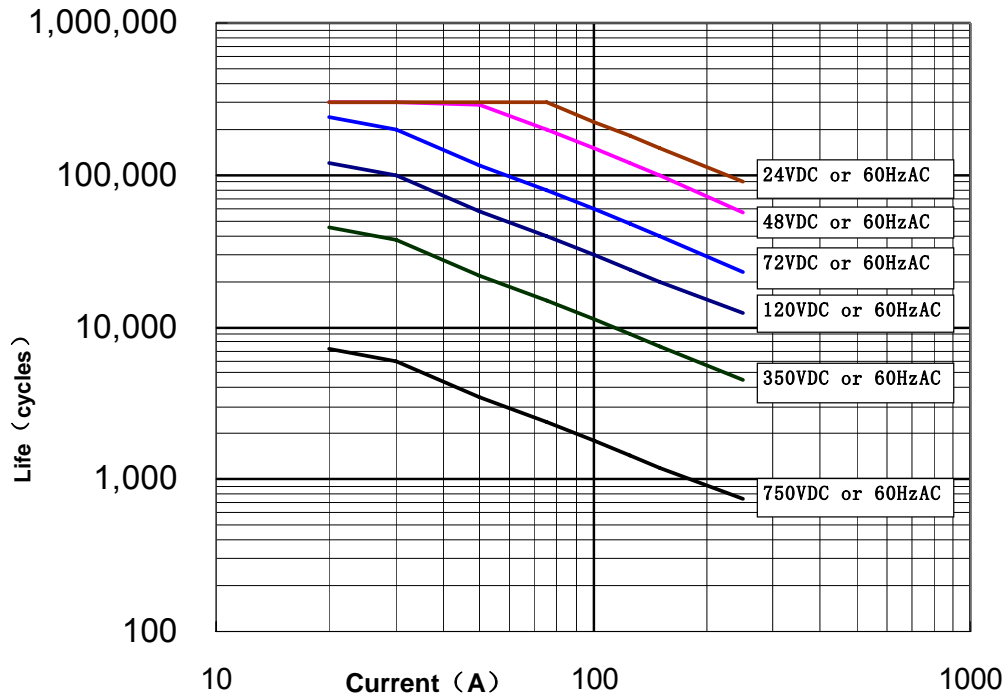


Figure 1 . Power switching capacity for resistive load

Note:

1. 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.
2. Contactor is connected by 4/0 cables (107mm² cross-section area).

● **Current carrying capacity**

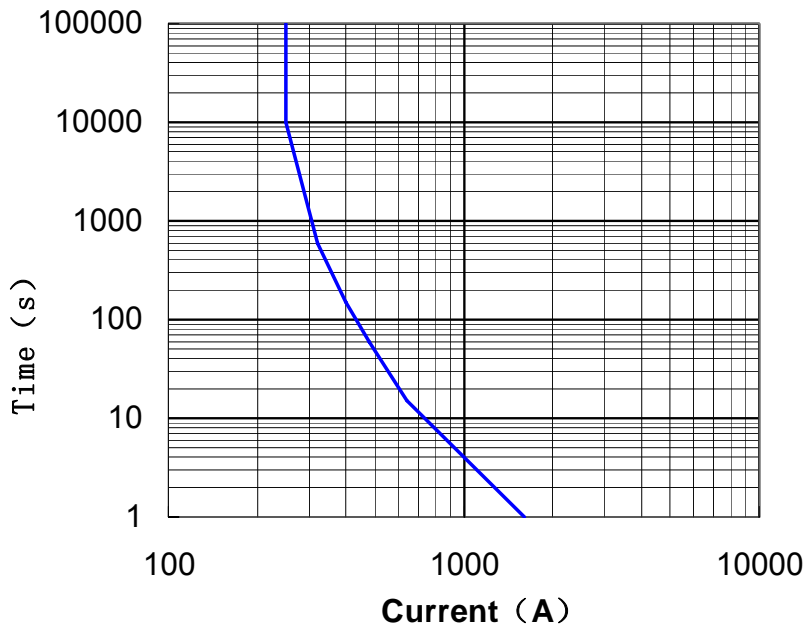


Figure 2、Current Carrying capacity

● Coil ratings

| | | |
|--|-----------------------------|-------------|
| Coil P/N Designation | A or 1 | D |
| Coil Voltage (Will operate) | 10-36Vdc | 32-95Vdc |
| Coil Voltage (Max) | 36Vdc | 95Vdc |
| In-Rush Current Max (100 ms) – Amps | 3.6 | 0.9A |
| Hold Current after in-rush (Avg.) - Amps | 0.13A@12Vdc, 0.07A@24Vdc | 0.04A@48Vdc |
| Pick-up Voltage @ 25C, Max | 8.5V | 32V |
| Dropout Voltage @ 25C, Min | 4.5V | 20V |

Ratings are valid over temperature range .

● Part number system

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|-------|---|---|---|---|---|
| GL250 | A | A | A | N | A |
| | | | | | |

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| Coil Terminal Connector: N=None |
| Mounting & Power Terminals: A=Bottom Mount & Male 10mm X M8 Terminals |

● **Electrical load life ratings for typical EV application**

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| Power voltage | 320VDC |
| Make life at 90% capacitive pre-charge | 50,000 cycles (See figure 3) |
| Make life at 80% capacitive pre-charge | 50 cycles |
| Make/break life at reversed 200A | 12 cycles |
| Maximum break capacity (positive direction) | 1600A , one time. Does not meet dielectric and IR after test. |

Note:

1. Resistive load includes inductance $L \leq 27\mu\text{H}$.
2. Life based on projected Weibull life with 95% reliability.

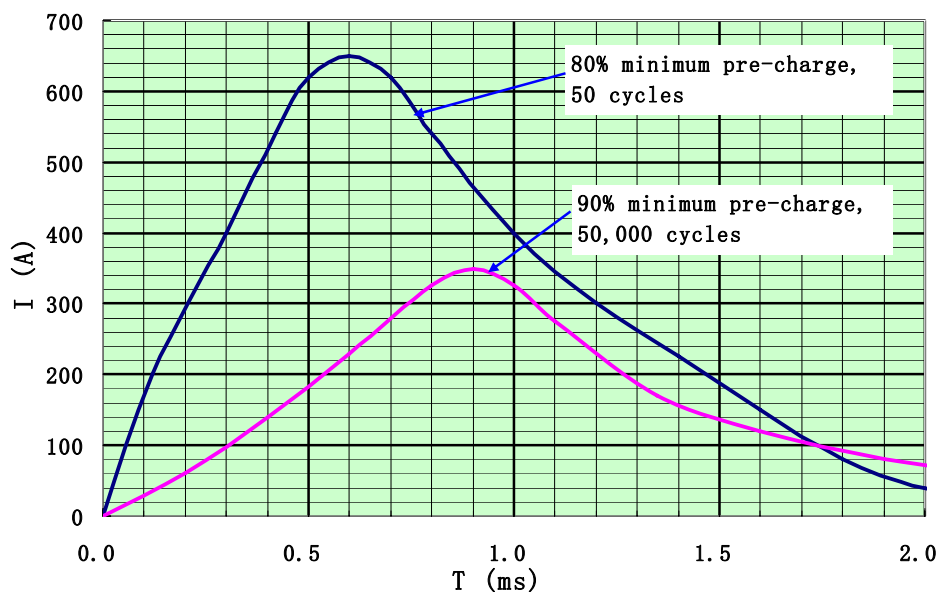
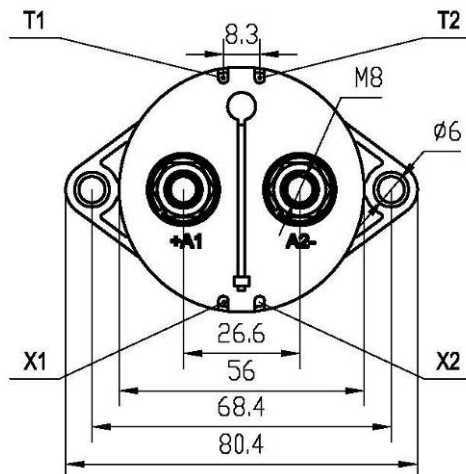
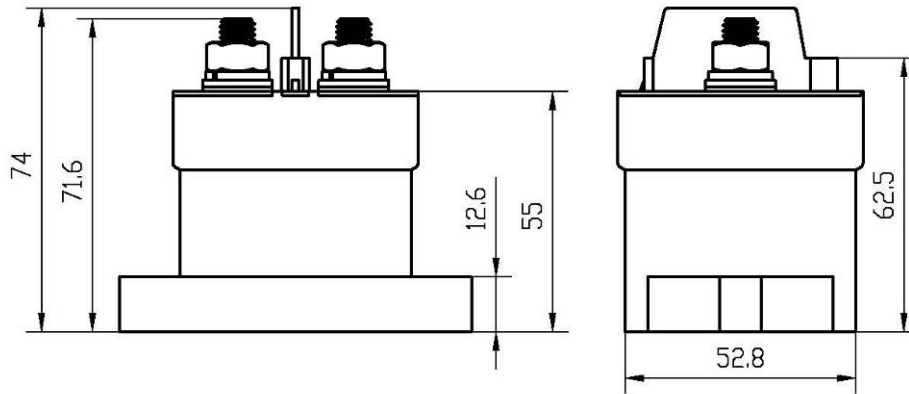


Figure 3、 Make test curves for pre charged capacitive load at 320VDC

● **Outline dimension**



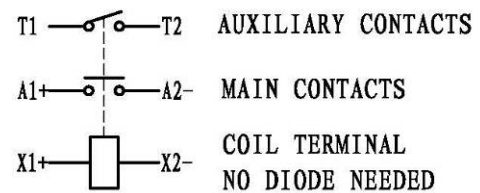
MOUNTING

M5 SCREWS TORQUE 1.7-4Nm

POWER TERMINAL

M8X1.25 HARDWARE INCLUDED

TORQUE 9-10Nm



TERMINAL SCHEME

● **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.**