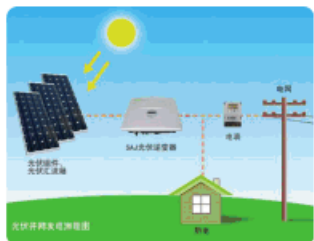


## Application



photovoltaic



Cloud server power area



engineering machinery



wind power generation



passenger vehicles



cargo van



low speed car



bus



pick-up



charging pile

GDCR7 DC Contactor





Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 30A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|              |                                                |                    |
|--------------|------------------------------------------------|--------------------|
| Main contact | Rated operational current Ie                   | 30A                |
|              | Rated operational voltage Ue                   | 12~1000 VDC        |
|              | Min. load                                      | 1A12VDC            |
|              | Main contact type                              | 1SH ( SPST NO DM ) |
|              | Nominal resistance of main circuit             | 2mΩ ( @30A )       |
|              | Main contact mounting                          | M4 internal thread |
|              | Connecting torque                              | 2~3 N·m            |
|              | Max. switching current ( more than one cycle ) | 300A320VDC         |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                   |
|-------------------------------------------------|-------------------|
| Mechanical life                                 | 300,000 cycles    |
| Resistive load life ( L/R≤1ms )                 | see next page     |
| Capacitive load life ( RC=1ms, only connected ) | 60A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Coil parameter

|                           |             |             |
|---------------------------|-------------|-------------|
| Rated voltage Us          | 12VDC       | 24VDC       |
| Operational voltage Range | 9~16 VDC    | 18~32 VDC   |
| Pick up voltage           | ≤9 VDC      | ≤18 VDC     |
| Release voltage           | 1.2~3.6 VDC | 2.4~7.2 VDC |
| Coil power                | 3.6W        | 3.6W        |
| Inrush current            | 0.3A        | 0.15A       |
| Holding current           | 0.3A        | 0.15A       |
| Close time ( @Us )        | ≤30ms       |             |
| Release time ( @Us )      | ≤10ms       |             |
| Bounce time ( @Us )       | ≤5ms        |             |

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10~200Hz, 5G                |
| Operating ambient Temperature |                | -40℃~+85℃                   |
| Operating ambient humidity    |                | 5%~85% RH                   |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                   |
|---------------------------------------------------|-------------------|
| Weight                                            | ≈104g             |
| The cross-sectional area of an external conductor | ≥6mm <sup>2</sup> |

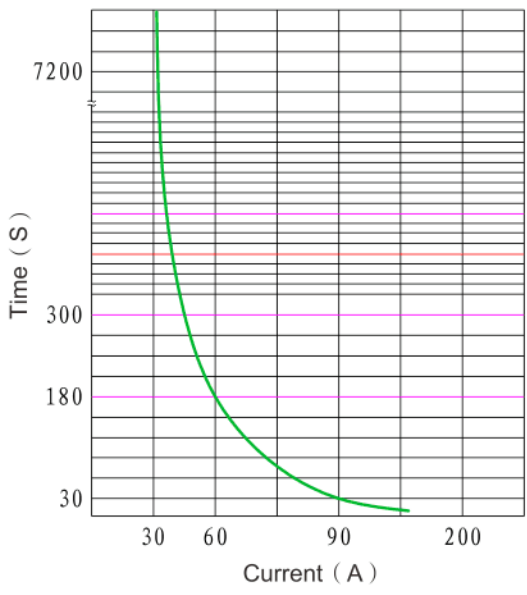
Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

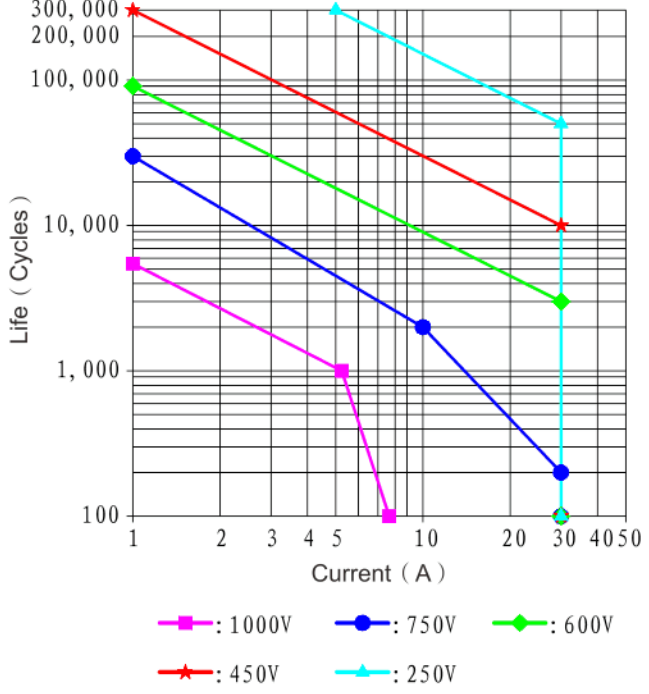
Ordering

|                              |  |                                                            |     |   |     |      |
|------------------------------|--|------------------------------------------------------------|-----|---|-----|------|
| GDCR                         |  | 7                                                          | -30 | B | -12 | /XXX |
| DC Contactor                 |  |                                                            |     |   |     |      |
| Design No.                   |  |                                                            |     |   |     |      |
| Rated current                |  | ( 30; 30A )                                                |     |   |     |      |
| Rated operational voltage    |  | ( B: 12VDC~200VDC, Nil: 12VDC~1000VDC )                    |     |   |     |      |
| Rated control supply voltage |  | Us: ( 12: 12VDC, 24: 24VDC )                               |     |   |     |      |
| Customer No.                 |  | ( Customized code when customer has special requirements ) |     |   |     |      |

Short overload capacity curve



Cut-off life curve of resistive load



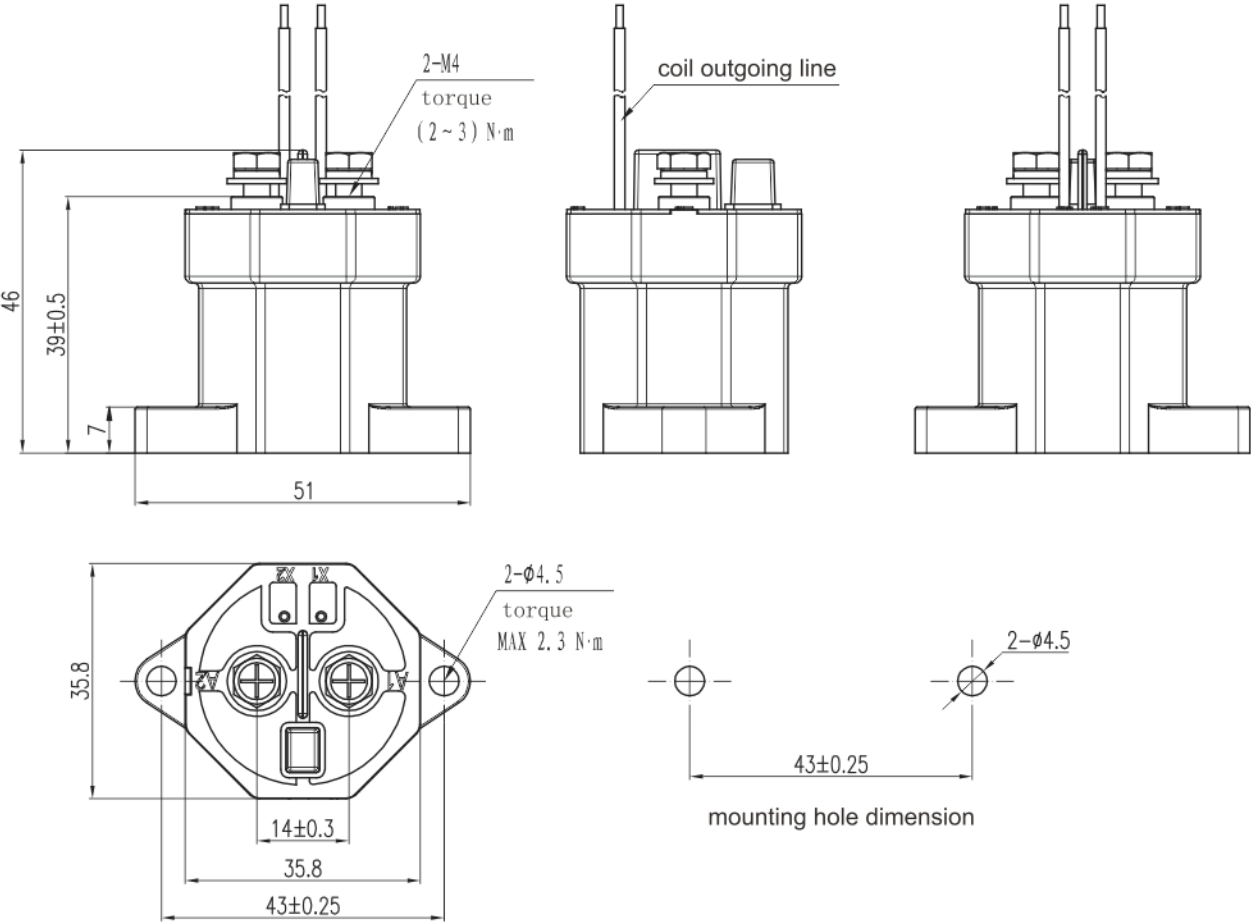
Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

DC Contactor

P/N GDCR7-30



Unit: mm



outline dimension

Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor

P/N GDCR7-50



Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 50A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable,convenient and reliable installation/wiring
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|              |                                                |                    |
|--------------|------------------------------------------------|--------------------|
| Main contact | Rated operational current Ie                   | 50A                |
|              | Rated operational voltage Ue                   | 12 ~ 1000 VDC      |
|              | Min. load                                      | 1A12VDC            |
|              | Main contact type                              | 1SH ( SPST NO DM ) |
|              | Nominal resistance of main circuit             | 2mΩ ( @50A )       |
|              | Main contact mounting                          | M4 internal thread |
|              | Connecting torque                              | 2 ~ 3 N·m          |
|              | Max. switching current ( more than one cycle ) | 500A320VDC         |

Coil parameter

|                           |               |               |
|---------------------------|---------------|---------------|
| Rated voltage Us          | 12VDC         | 24VDC         |
| Operational voltage Range | 9 ~ 16 VDC    | 18 ~ 32 VDC   |
| Pick up voltage           | ≤9 VDC        | ≤18 VDC       |
| Release voltage           | 1.2 ~ 3.6 VDC | 2.4 ~ 7.2 VDC |
| Coil power                | 3.6W          | 3.6W          |
| Inrush current            | 0.3A          | 0.15A         |
| Holding current           | 0.3A          | 0.15A         |
| Close time ( @Us )        | ≤30ms         |               |
| Release time ( @Us )      | ≤10ms         |               |
| Bounce time ( @Us )       | ≤5ms          |               |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                   |
|-------------------------------------------------|-------------------|
| Mechanical life                                 | 300,000 cycles    |
| Resistive load life ( L/R≤1ms )                 | see next page     |
| Capacitive load life ( RC=1ms, only connected ) | 90A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10 ~ 200Hz, 5G              |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

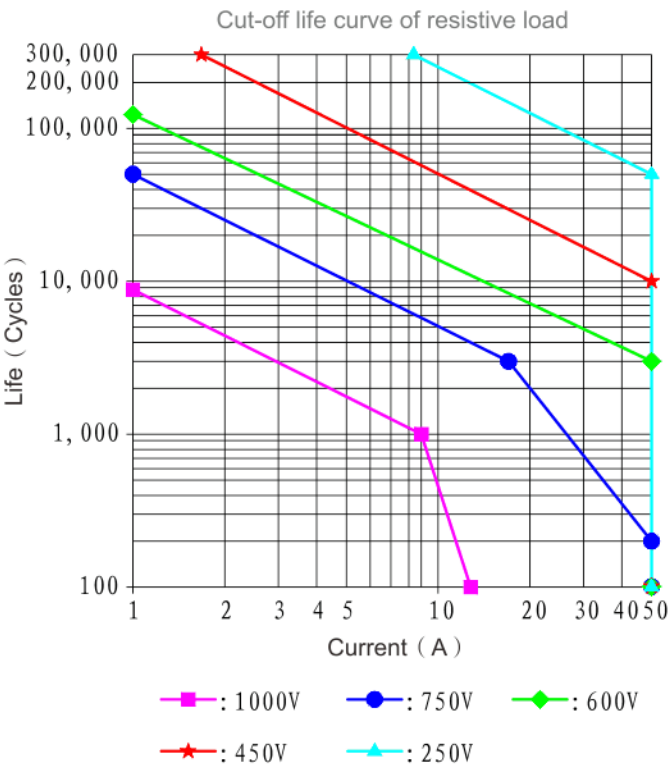
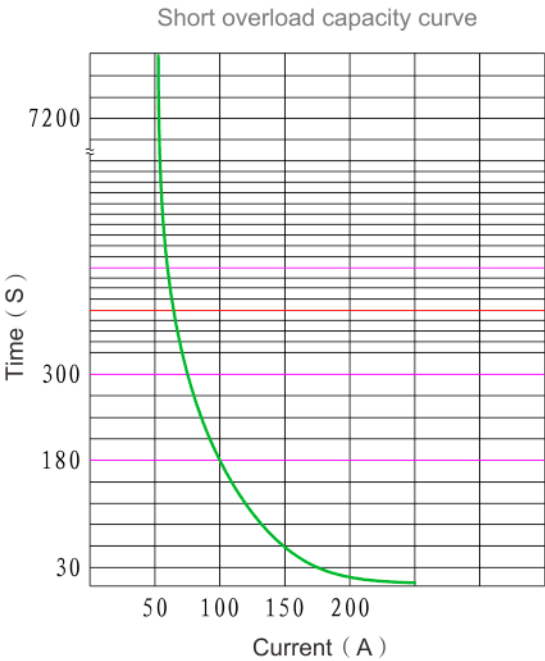
|                                                   |                    |
|---------------------------------------------------|--------------------|
| Weight                                            | ≈104g              |
| The cross-sectional area of an external conductor | ≥10mm <sup>2</sup> |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

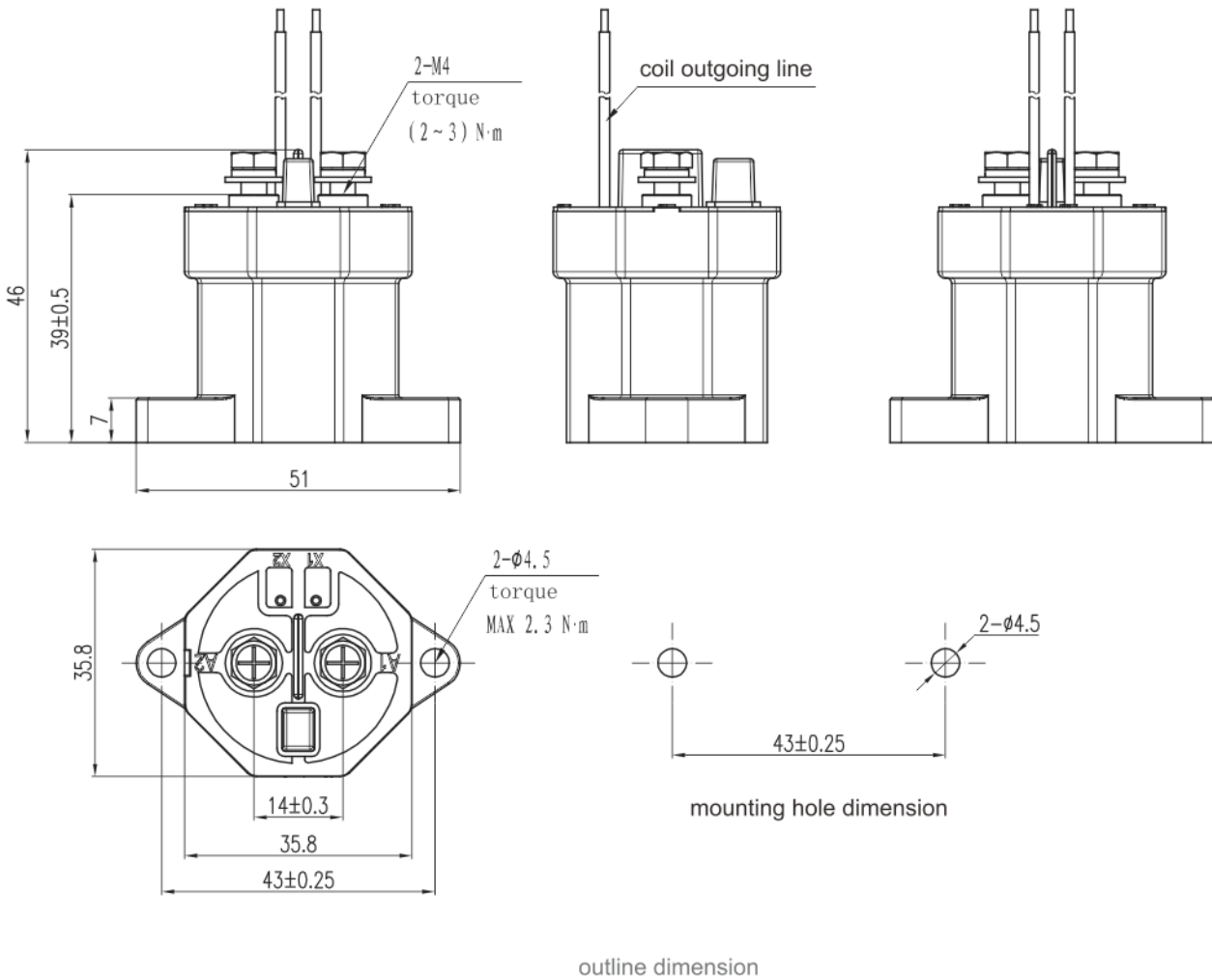
Ordering

|                              |  |  |  |      |   |                                                            |   |     |      |
|------------------------------|--|--|--|------|---|------------------------------------------------------------|---|-----|------|
|                              |  |  |  | GDCR | 7 | -50                                                        | B | -12 | /XXX |
| DC Contactor                 |  |  |  |      |   |                                                            |   |     |      |
| Design No.                   |  |  |  |      |   |                                                            |   |     |      |
| Rated current                |  |  |  |      |   | ( 50; 50A )                                                |   |     |      |
| Rated operational voltage    |  |  |  |      |   | ( B; 12VDC~200VDC; Nil; 12VDC~1000VDC )                    |   |     |      |
| Rated control supply voltage |  |  |  |      |   | Us; ( 12: 12VDC; 24: 24VDC )                               |   |     |      |
| Customer No.                 |  |  |  |      |   | ( Customized code when customer has special requirements ) |   |     |      |



Note: Except for special notes, the ambient temperature of electrical durability test is 23°C, and the on-breakratiois: 1s: 9s;

Unit: mm



Note: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10 ~ 50 ) mm, tolerance ±0.5mm;  
when dimension≥50mm, tolerance ±0.8mm.



P/N GDCR7-100



Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 100A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                    |
|-------------------|------------------------------------------------|--------------------|
| Main contact      | Rated operational current Ie                   | 100A               |
|                   | Rated operational voltage Ue                   | 12 ~ 1000 VDC      |
|                   | Min. load                                      | 1A12VDC            |
|                   | Main contact type                              | 1SH ( SPST NO DM ) |
|                   | Nominal resistance of main circuit             | 0.4mΩ ( @100A )    |
|                   | Main contact mounting                          | M5 internal thread |
|                   | Connecting torque                              | 3 ~ 4 N·m          |
|                   | Max. switching current ( more than one cycle ) | 1000A320VDC        |
| Auxiliary contact | Max. current                                   | 30VDC 0.8A         |
|                   | Min. current                                   | 8VDC 100mA         |
|                   | Contact resistance                             | < 0.15Ω            |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥ 1000MΩ@1000VDC |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R≤1ms )                 | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 180A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Coil parameter

|                           |               |               |
|---------------------------|---------------|---------------|
| Rated voltage Us          | 12VDC         | 24VDC         |
| Operational voltage Range | 9 ~ 16 VDC    | 18 ~ 32 VDC   |
| Pick up voltage           | ≤9 VDC        | ≤18 VDC       |
| Release voltage           | 1.2 ~ 3.6 VDC | 2.4 ~ 7.2 VDC |
| Coil power                | 6W            | 6W            |
| Inrush current            | 0.5A          | 0.25A         |
| Holding current           | 0.5A          | 0.25A         |
| Close time ( @Us )        | ≤30ms         |               |
| Release time ( @Us )      | ≤10ms         |               |
| Bounce time ( @Us )       | ≤5ms          |               |

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10 ~ 1000Hz, 10G            |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                               |
|---------------------------------------------------|-------------------------------|
| Weight                                            | ≈ 190g; with auxiliary ≈ 195g |
| The cross-sectional area of an external conductor | ≥ 35mm <sup>2</sup>           |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

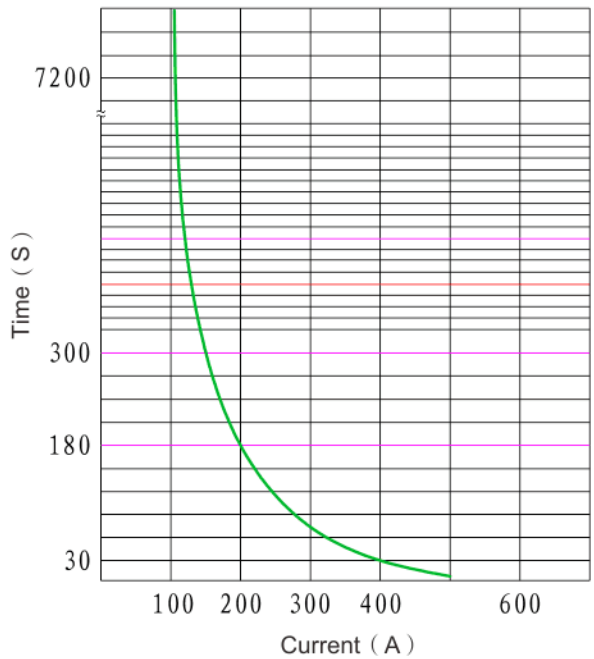
P/N GDCR7-100



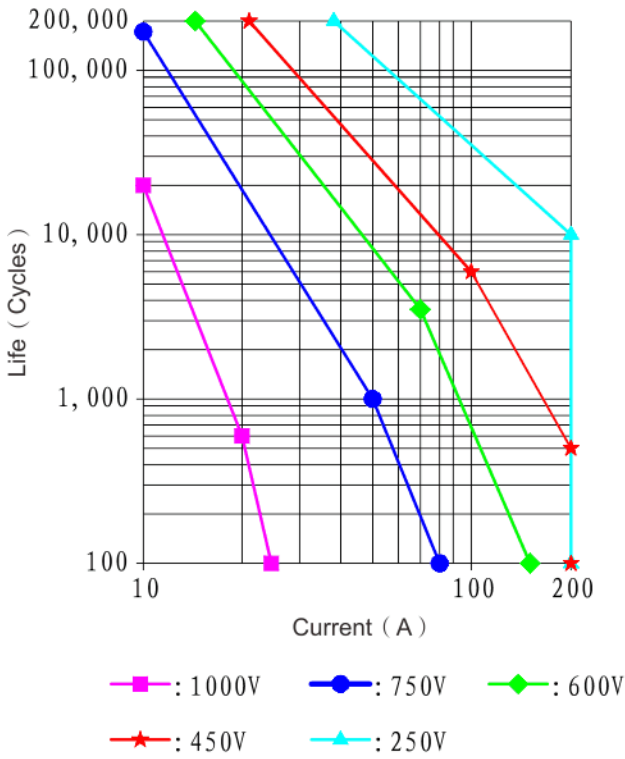
Ordering

|                              |                                                                   |   |      |   |   |     |   |      |
|------------------------------|-------------------------------------------------------------------|---|------|---|---|-----|---|------|
|                              | GDCR                                                              | 7 | -100 | B | H | -12 | W | /XXX |
| DC Contactor                 |                                                                   |   |      |   |   |     |   |      |
| Design No.                   |                                                                   |   |      |   |   |     |   |      |
| Rated current                | ( 100; 100A )                                                     |   |      |   |   |     |   |      |
| Rated operational voltage    | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                           |   |      |   |   |     |   |      |
| Auxiliary contact type       | ( H: with normally open; C: with normally closed; Omit: without ) |   |      |   |   |     |   |      |
| Rated control supply voltage | Us: ( 12: 12VDC; 24: 24VDC )                                      |   |      |   |   |     |   |      |
| Mounting type                | ( Nil: Vertical; W: Horizontal )                                  |   |      |   |   |     |   |      |
| Customer No.                 | ( Customized code when customer has special requirements )        |   |      |   |   |     |   |      |

Short overload capacity curve



Cut-off life curve of resistive load

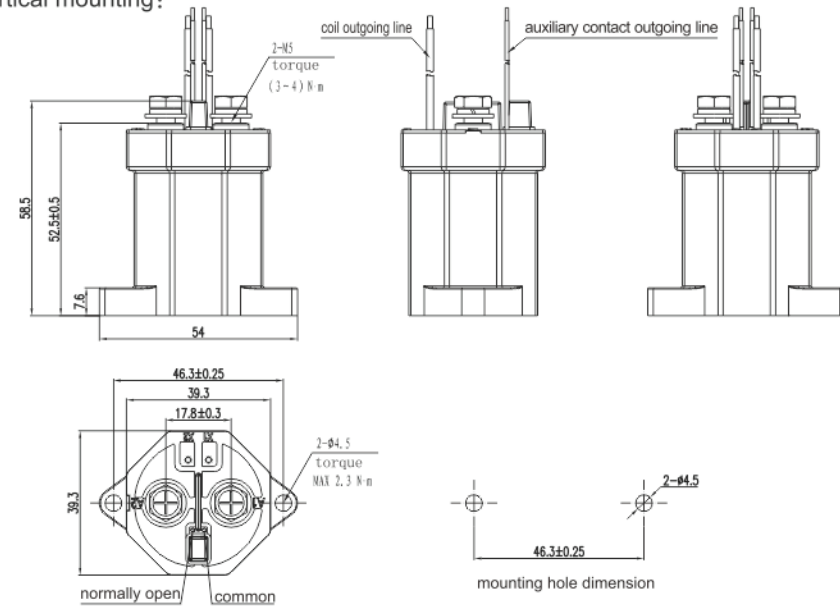


Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

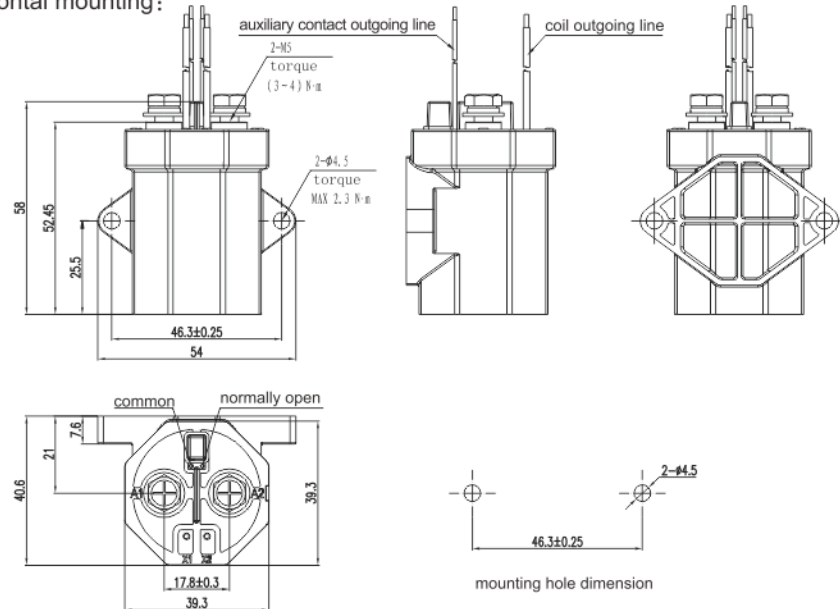
DC Contactor

Unit: mm

Vertical mounting:



Horizontal mounting:



outline dimension

Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when ≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

## DC Contactor



## Characteristic

- Strong control load capacity: rated operational voltage 12VDC~1000VDC, rated operational current 100A GDCR
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

## Contact parameter

|                   |                                                |                    |
|-------------------|------------------------------------------------|--------------------|
| Main contact      | Rated operational current Ie                   | 100A               |
|                   | Rated operational voltage Ue                   | 12~1000 VDC        |
|                   | Min. load                                      | 1A12VDC            |
|                   | Main contact type                              | 1SH ( SPST NO DM   |
|                   | Nominal resistance of main circuit             | 0.4mΩ ( @100A )    |
|                   | Main contact mounting                          | M5 internal thread |
|                   | Connecting torque                              | 3~4 N·m            |
| Auxiliary contact | Max. switching current ( more than one cycle ) | 1000A320VDC        |
|                   | Max. current                                   | 30VDC 0.8A         |
|                   | Min. current                                   | 8VDC 100mA         |
|                   | Contact resistance                             | < 0.15Ω            |

### Coil parameter

|                           |                           |
|---------------------------|---------------------------|
| Rated voltage Us          | 12/24VDC                  |
| Operational voltage Range | 8~36 VDC                  |
| Pick up voltage           | 7~8 VDC                   |
| Release voltage           | 5~6 VDC                   |
| Coil power                | keeping: 1.6W             |
| Inrush current            | 2A (0.1s) ( @12v )        |
| Holding current           | 0.133A@12V;<br>0.067A@24V |
| Close time ( @Us )        | ≤45ms                     |
| Release time ( @Us )      | ≤10ms                     |
| Bounce time ( @Us )       | ≤5ms                      |

## Electrical characteristics

|                                  |                                          |
|----------------------------------|------------------------------------------|
| Dielectric withstand voltage     | DC3110V, AC2200V                         |
| Insulation resistance            | $\geq 1000\text{M}\Omega@1000\text{VDC}$ |
| Nominal insulation voltage $U_i$ | 1000V                                    |

## Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10~1000Hz, 10G              |
| Operating ambient Temperature |                | -40℃~+85℃                   |
| Operating ambient humidity    |                | 5%~85% RH                   |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

## Life

|                                                              |      |                |
|--------------------------------------------------------------|------|----------------|
| Mechanical life                                              |      | 300,000 cycles |
| Resistive load life ( $L/R \leq 1\text{ms}$ )                |      | see next page  |
| Capacitive load life<br>( $RC=1\text{ms}$ , only connected ) | 180A | 50,000 cycles  |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

## Other

|                                                   |                               |
|---------------------------------------------------|-------------------------------|
| Weight                                            | ≈ 205g; with auxiliary ≈ 210g |
| The cross-sectional area of an external conductor | ≥ 35mm <sup>2</sup>           |

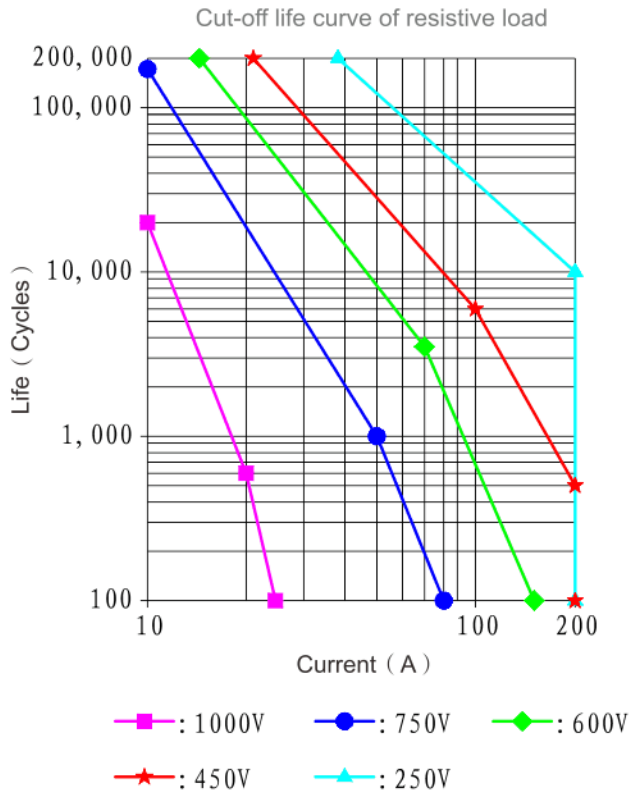
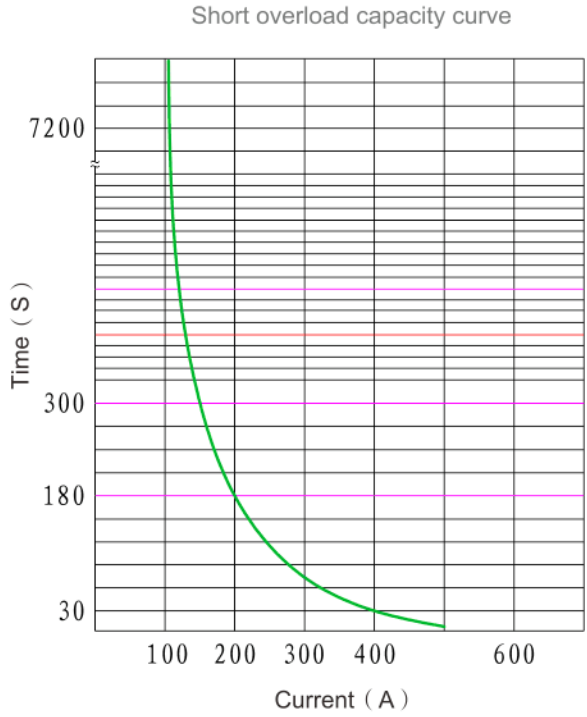
## DC Contactor

P/N GDCR7-100



Ordering

|                           |      |   |                                                                  |   |   |    |      |
|---------------------------|------|---|------------------------------------------------------------------|---|---|----|------|
|                           | GDCR | 7 | -100                                                             | B | H | -P | /XXX |
| DC Contactor              |      |   |                                                                  |   |   |    |      |
| Design No.                |      |   |                                                                  |   |   |    |      |
| Rated current             |      |   | ( 100; 100A )                                                    |   |   |    |      |
| Rated operational voltage |      |   | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                          |   |   |    |      |
| Auxiliary contact type    |      |   | ( H: with normally open; C: with normally closed; Nil: without ) |   |   |    |      |
| Coil type                 |      |   | ( P: Us=12/24VDC )                                               |   |   |    |      |
| Customer No.              |      |   | ( Customized code when customer has special requirements )       |   |   |    |      |



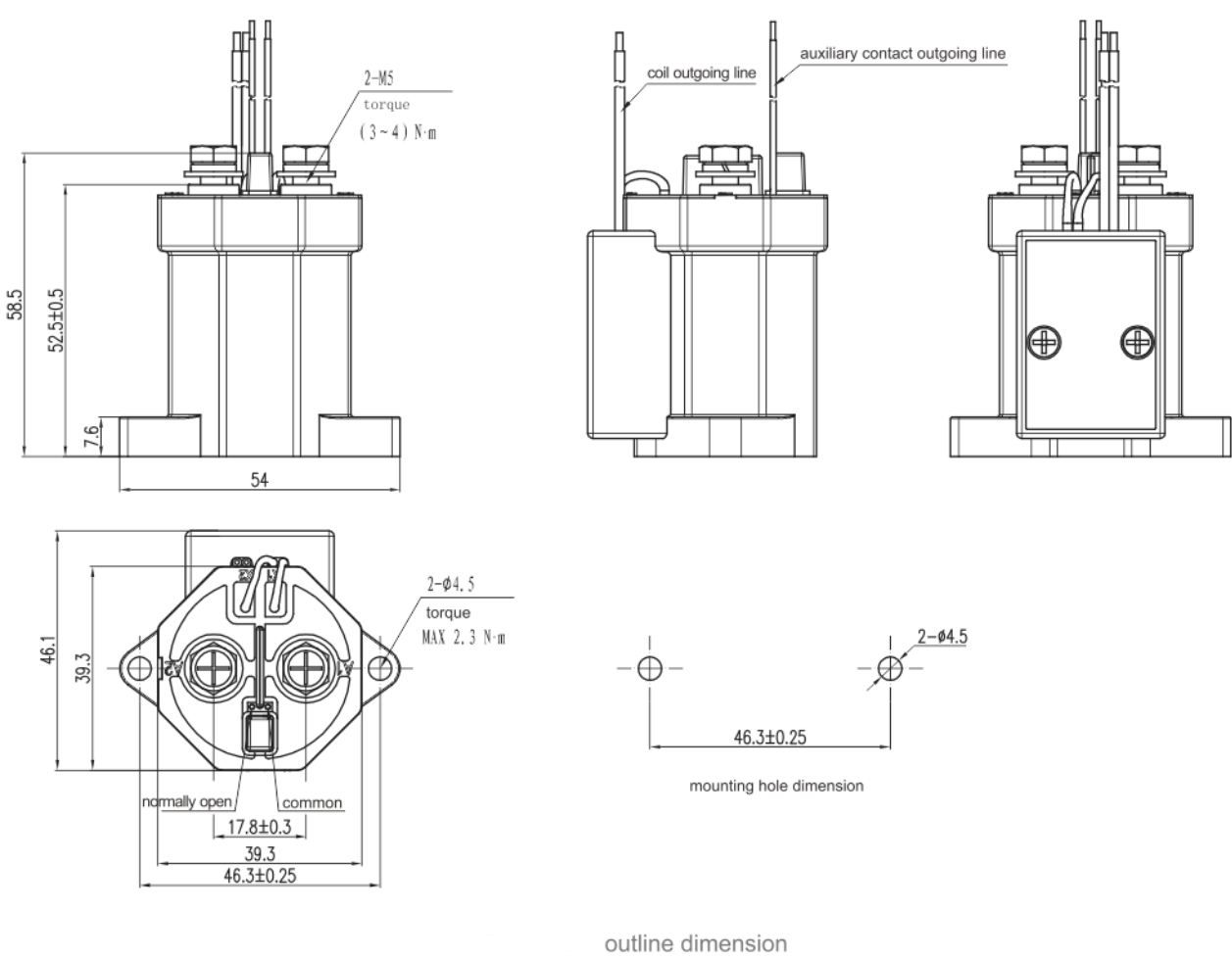
Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

DC Contactor

P/N GDCR7-100-P



Unit: mm



Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor



P/N GDCR7-150



Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 150A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                     |
|-------------------|------------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie                   | 150A                |
|                   | Rated operational voltage Ue                   | 12~1000 VDC         |
|                   | Min. load                                      | 1A12VDC             |
|                   | Main contact type                              | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit             | 0.2mΩ ( @150A )     |
|                   | Main contact mounting                          | M8 external thread  |
|                   | Connecting torque                              | 10~12 N·m           |
|                   | Max. switching current ( more than one cycle ) | 1500A320VDC         |
| Auxiliary contact | Max. current                                   | 30VDC 2A; 125VAC 3A |
|                   | Min. current                                   | 8VDC 100mA          |
|                   | Contact resistance                             | < 0.15Ω             |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R≤1ms )                 | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 270A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Coil parameter

|                           |                          |
|---------------------------|--------------------------|
| Rated voltage Us          | 12/24VDC                 |
| Operational voltage Range | 8~36 VDC                 |
| Pick up voltage           | 7~8 VDC                  |
| Release voltage           | 5~6 VDC                  |
| Coil power                | keeping: 2W              |
| Inrush current            | 3A ( 0.1s ) ( @12v )     |
| Holding current           | 0.17A@12V;<br>0.085A@24V |
| Close time ( @Us )        | ≤45ms                    |
| Release time ( @Us )      | ≤10ms                    |
| Bounce time ( @Us )       | ≤5ms                     |

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10~2000Hz, 20G              |
| Operating ambient Temperature |                | -40℃~+85℃                   |
| Operating ambient humidity    |                | 5%~85% RH                   |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Weight                                            | ≈425g, with auxiliary ≈430g |
| The cross-sectional area of an external conductor | ≥50mm <sup>2</sup>          |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

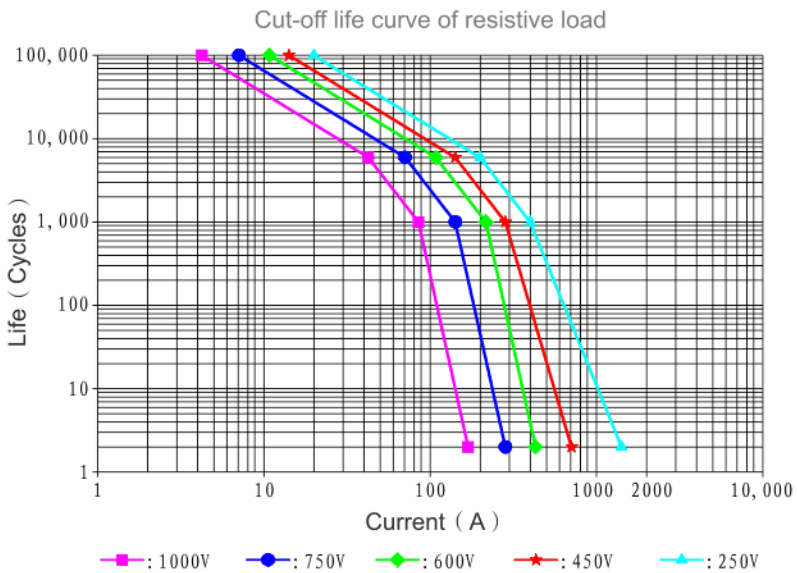
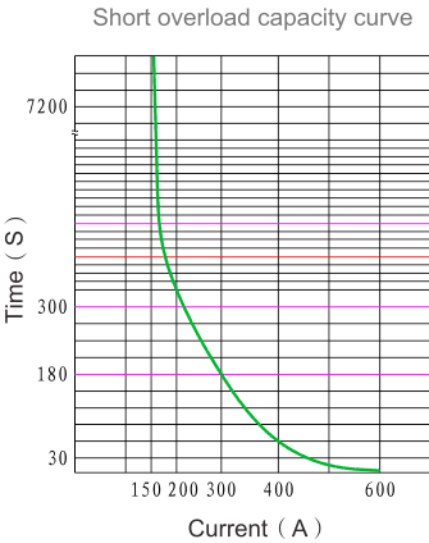
DC Contactor

P/N GDCR7-150



Ordering

|                           |      |                                                                                   |      |   |   |    |   |      |
|---------------------------|------|-----------------------------------------------------------------------------------|------|---|---|----|---|------|
|                           | GDCR | 7                                                                                 | -150 | B | H | -P | W | /XXX |
| DC Contactor              |      |                                                                                   |      |   |   |    |   |      |
| Design No.                |      |                                                                                   |      |   |   |    |   |      |
| Rated current             |      | ( 150: 150A )                                                                     |      |   |   |    |   |      |
| Rated operational voltage |      | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                           |      |   |   |    |   |      |
| Auxiliary contact type    |      | ( H: with normally open, C: with normally closed, Z: with convert, Nil: without ) |      |   |   |    |   |      |
| Coil type                 |      | ( P: Us=12/24VDC )                                                                |      |   |   |    |   |      |
| Mounting type             |      | ( Nil: Vertical mounting; W: Horizontal mounting )                                |      |   |   |    |   |      |
| Customer No.              |      | ( Customized code when customer has special requirements )                        |      |   |   |    |   |      |



Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

DC Contactor

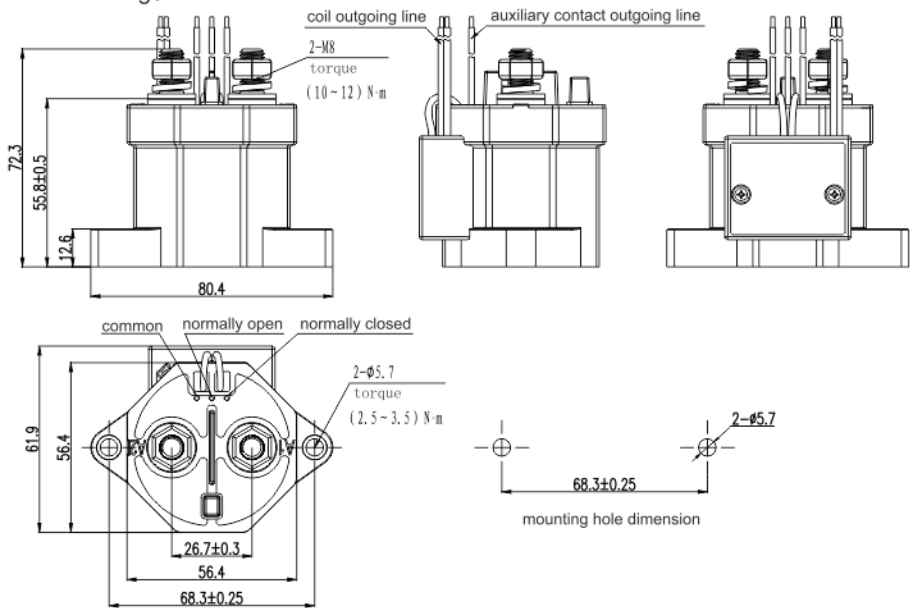


P/N GDCR7-150

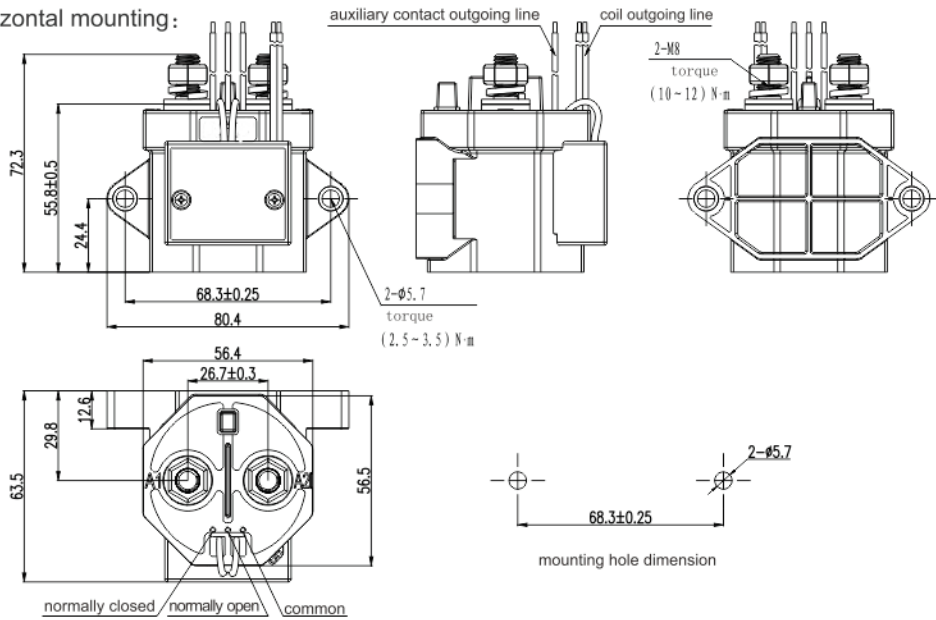


Unit: mm

Vertical mounting:



Horizontal mounting:



outline dimension

Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor

P/N GDCR7-200



Characteristic



- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 200A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                     |
|-------------------|------------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie                   | 200A                |
|                   | Rated operational voltage Ue                   | 12~1000 VDC         |
|                   | Min. load                                      | 1A12VDC             |
|                   | Main contact type                              | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit             | 0.2mΩ ( @200A )     |
|                   | Main contact mounting                          | M8 external thread  |
|                   | Connecting torque                              | 10~12 N·m           |
|                   | Max. switching current ( more than one cycle ) | 2000A320VDC         |
| Auxiliary contact | Max. current                                   | 30VDC 2A; 125VAC 3A |
|                   | Min. current                                   | 8VDC 100mA          |
|                   | Contact resistance                             | < 0.15Ω             |

Coil parameter

|                           |                          |
|---------------------------|--------------------------|
| Rated voltage Us          | 12/24VDC                 |
| Operational voltage Range | 8~36 VDC                 |
| Pick up voltage           | 7~8 VDC                  |
| Release voltage           | 5~6 VDC                  |
| Coil power                | keeping: 2W              |
| Inrush current            | 3A ( 0.1s ) ( @12v )     |
| Holding current           | 0.17A@12V;<br>0.085A@24V |
| Close time ( @Us )        | ≤45ms                    |
| Release time ( @Us )      | ≤10ms                    |
| Bounce time ( @Us )       | ≤5ms                     |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R≤1ms )                 | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 360A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10~2000Hz, 20G              |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

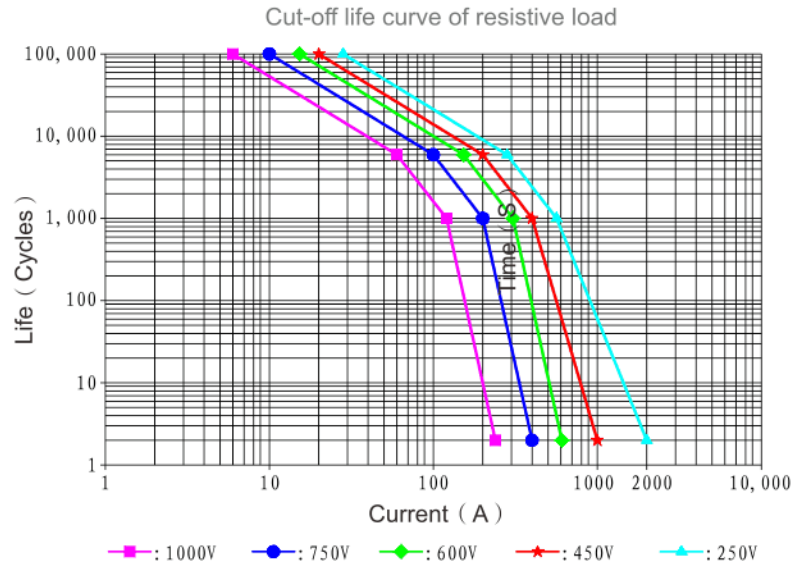
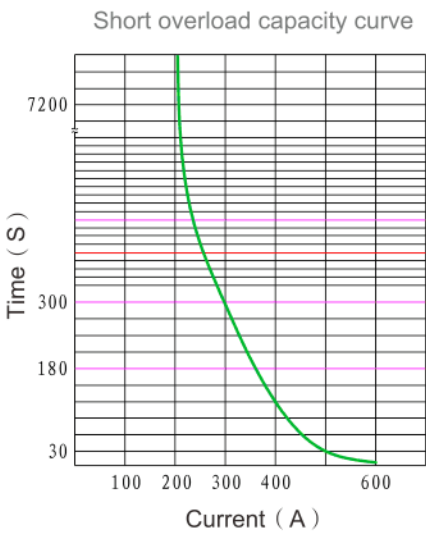
|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Weight                                            | ≈425g; with auxiliary ≈430g |
| The cross-sectional area of an external conductor | ≥65mm <sup>2</sup>          |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

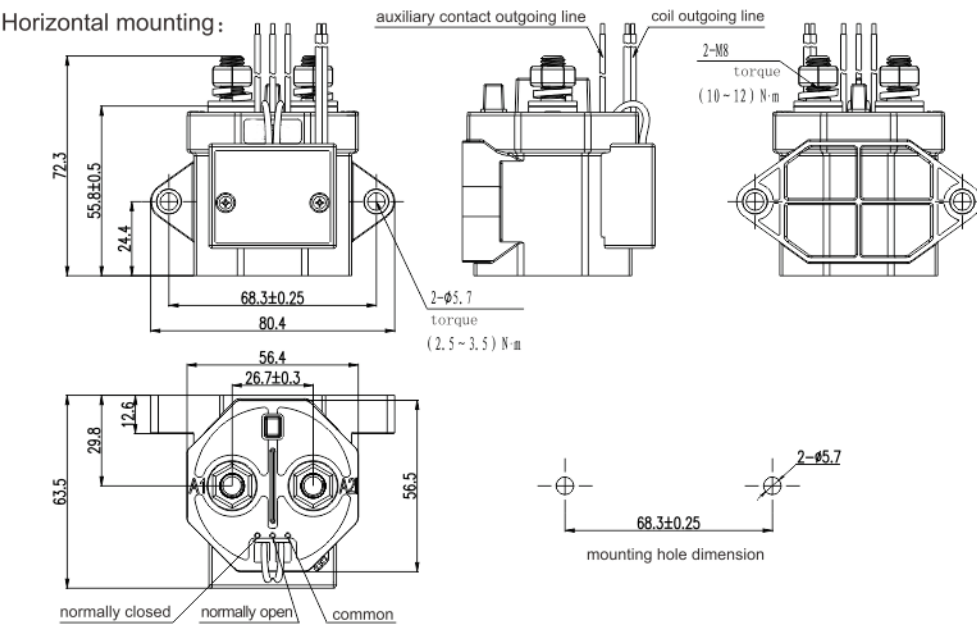
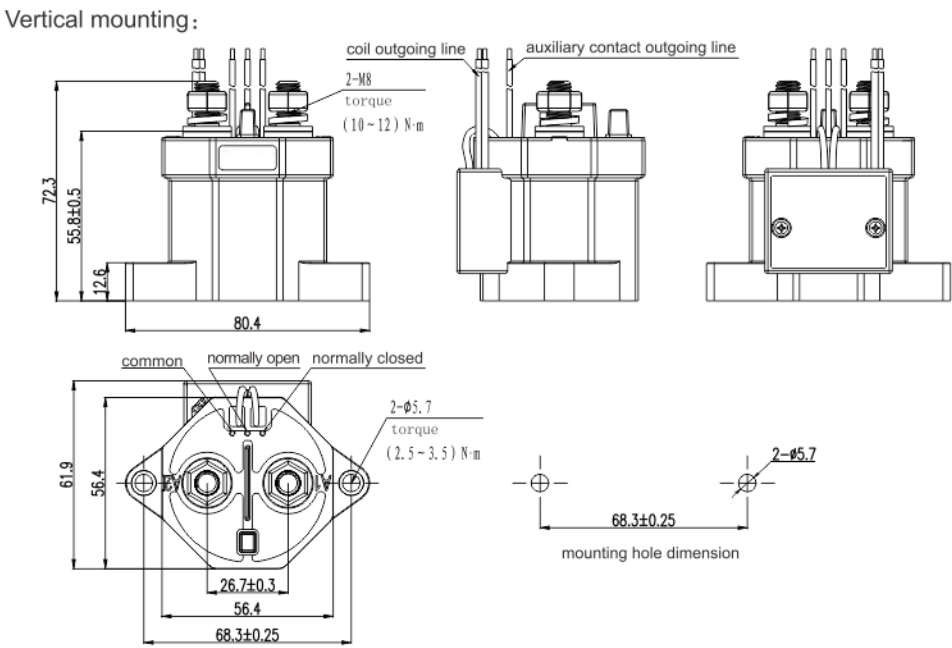
Ordering

|                           |      |   |                                                                                   |   |   |    |   |      |
|---------------------------|------|---|-----------------------------------------------------------------------------------|---|---|----|---|------|
|                           | GDCR | 7 | -200                                                                              | B | H | -P | W | /XXX |
| DC Contactor              |      |   |                                                                                   |   |   |    |   |      |
| Design No.                |      |   |                                                                                   |   |   |    |   |      |
| Rated current             |      |   | ( 200; 200A )                                                                     |   |   |    |   |      |
| Rated operational voltage |      |   | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                           |   |   |    |   |      |
| Auxiliary contact type    |      |   | ( H: with normally open, C: with normally closed, Z: with convert, Nil: without ) |   |   |    |   |      |
| Coil type                 |      |   | ( P: Us=12/24VDC )                                                                |   |   |    |   |      |
| Mounting type             |      |   | ( Nil: Vertical mounting; W: Horizontal mounting )                                |   |   |    |   |      |
| Customer No.              |      |   | ( Customized code when customer has special requirements )                        |   |   |    |   |      |



Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

Unit: mm



outline dimension

Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.



Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 250A.
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                     |
|-------------------|------------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie                   | 250A                |
|                   | Rated operational voltage Ue                   | 12~1000 VDC         |
|                   | Min. load                                      | 1A12VDC             |
|                   | Main contact type                              | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit             | 0.2mΩ ( @250A )     |
|                   | Main contact mounting                          | M8 external thread  |
|                   | Connecting torque                              | 10~12 N·m           |
|                   | Max. switching current ( more than one cycle ) | 2500A320VDC         |
| Auxiliary contact | Max. current                                   | 30VDC 2A; 125VAC 3A |
|                   | Min. current                                   | 8VDC 100mA          |
|                   | Contact resistance                             | < 0.15Ω             |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R≤1ms )                 | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 450A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Coil parameter

|                           |                          |
|---------------------------|--------------------------|
| Rated voltage Us          | 12/24VDC                 |
| Operational voltage Range | 8~36 VDC                 |
| Pick up voltage           | 7~8 VDC                  |
| Release voltage           | 5~6 VDC                  |
| Coil power                | keeping: 2W              |
| Inrush current            | 3A ( 0.1s ) ( @12v )     |
| Holding current           | 0.17A@12V;<br>0.085A@24V |
| Close time ( @Us )        | ≤45ms                    |
| Release time ( @Us )      | ≤10ms                    |
| Bounce time ( @Us )       | ≤5ms                     |

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10~2000Hz, 20G              |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

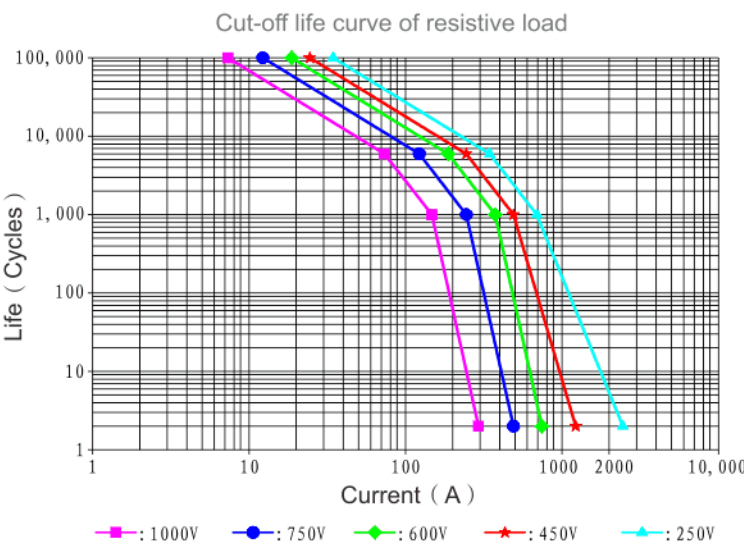
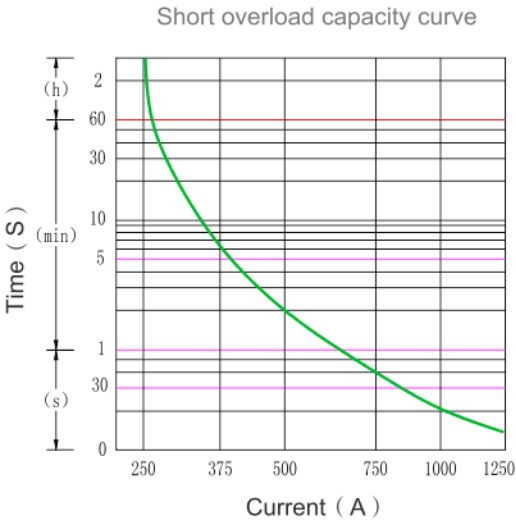
|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Weight                                            | ≈425g; with auxiliary ≈430g |
| The cross-sectional area of an external conductor | ≥75mm <sup>2</sup>          |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

Ordering

|                                                                                                          |      |   |      |   |   |    |   |      |
|----------------------------------------------------------------------------------------------------------|------|---|------|---|---|----|---|------|
|                                                                                                          | GDCR | 7 | -250 | B | H | -P | W | /XXX |
| DC Contactor                                                                                             |      |   |      |   |   |    |   |      |
| Design No.                                                                                               |      |   |      |   |   |    |   |      |
| Rated current ( 250: 250A )                                                                              |      |   |      |   |   |    |   |      |
| Rated operational voltage ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                        |      |   |      |   |   |    |   |      |
| Auxiliary contact type ( H: with normally open; C: with normally closed; Z: with convert; Nil: without ) |      |   |      |   |   |    |   |      |
| Coil type ( P: Us=12/24VDC )                                                                             |      |   |      |   |   |    |   |      |
| Mounting type ( Nil: Vertical mounting; W: Horizontal mounting )                                         |      |   |      |   |   |    |   |      |
| Customer No. ( Customized code when customer has special requirements )                                  |      |   |      |   |   |    |   |      |



Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

DC Contactor

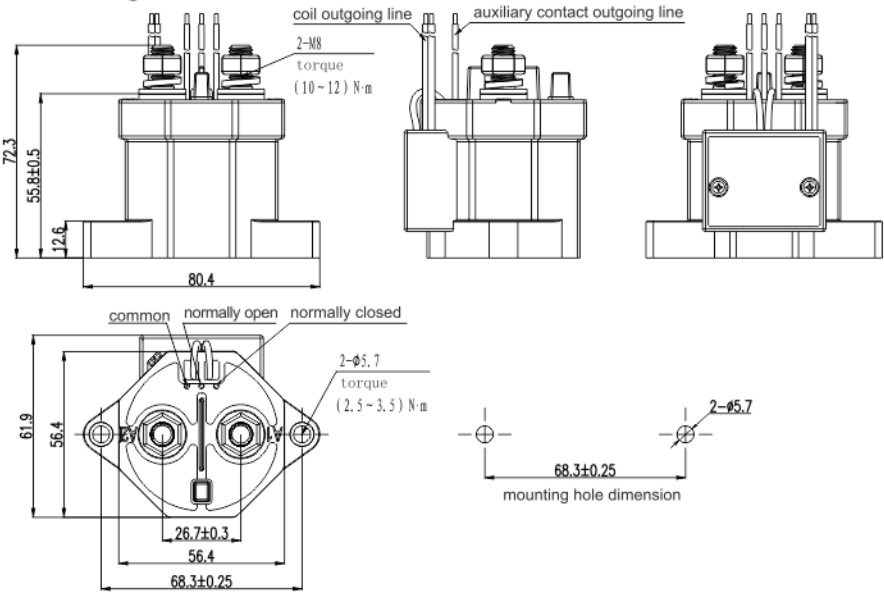


P/N GDCR7-250

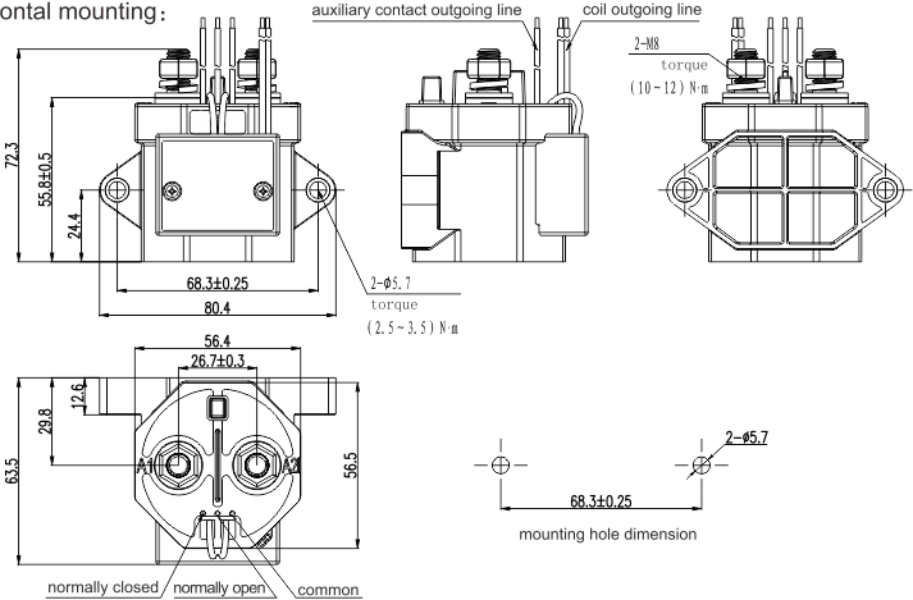


Unit: mm

Vertical mounting:



Horizontal mounting:



Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor

P/N GDCR7-300-P



Characteristic

- Strong control load capacity: rated operational voltage 12VDC~1000VDC, rated operational current 300A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                     |
|-------------------|------------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie                   | 300A                |
|                   | Rated operational voltage Ue                   | 12 ~ 1000 VDC       |
|                   | Min. load                                      | 1A12VDC             |
|                   | Main contact type                              | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit             | 0.2mΩ ( @300A )     |
|                   | Main contact mounting                          | M8 external thread  |
|                   | Connecting torque                              | 10 ~ 12 N·m         |
|                   | Max. switching current ( more than one cycle ) | 2500A320VDC         |
| Auxiliary contact | Max. current                                   | 30VDC 2A, 125VAC 3A |
|                   | Min. current                                   | 8VDC 100mA          |
|                   | Contact resistance                             | < 0.15Ω             |

Coil parameter

|                           |                          |
|---------------------------|--------------------------|
| Rated voltage Us          | 12/24VDC                 |
| Operational voltage Range | 8 ~ 36 VDC               |
| Pick up voltage           | 7 ~ 8 VDC                |
| Release voltage           | 5 ~ 6 VDC                |
| Coil power                | keeping: 2W              |
| Inrush current            | 3A ( 0.1s ) ( @12v )     |
| Holding current           | 0.17A@12V;<br>0.085A@24V |
| Close time ( @Us )        | ≤45ms                    |
| Release time ( @Us )      | ≤10ms                    |
| Bounce time ( @Us )       | ≤5ms                     |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R ≤ 1ms )               | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 450A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10 ~ 2000Hz, 20G            |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Weight                                            | ≈425g; with auxiliary ≈430g |
| The cross-sectional area of an external conductor | ≥95mm <sup>2</sup>          |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

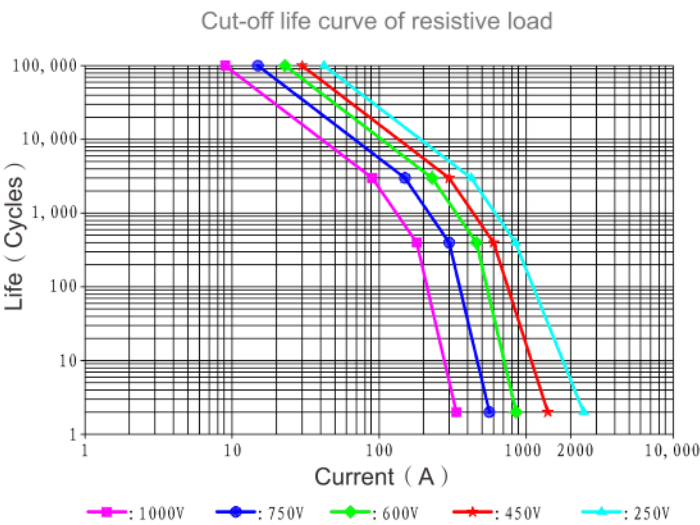
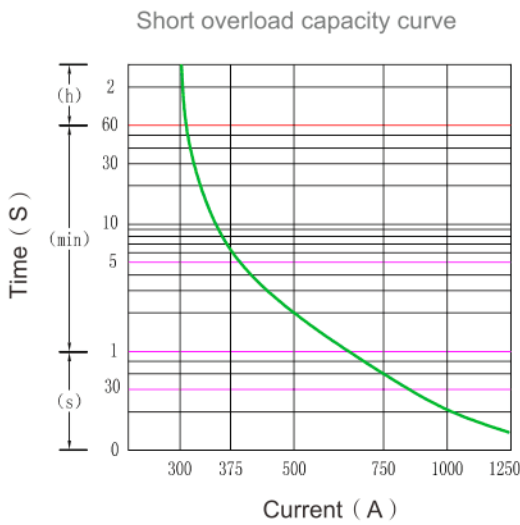


P/N GDCR7-300-P



Ordering

|                           |      |                                                                                   |      |   |   |    |   |      |
|---------------------------|------|-----------------------------------------------------------------------------------|------|---|---|----|---|------|
|                           | GDCR | 7                                                                                 | -300 | B | H | -P | W | /XXX |
| DC Contactor              |      |                                                                                   |      |   |   |    |   |      |
| Design No.                |      |                                                                                   |      |   |   |    |   |      |
| Rated current             |      | ( 300: 300A )                                                                     |      |   |   |    |   |      |
| Rated operational voltage |      | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                           |      |   |   |    |   |      |
| Auxiliary contact type    |      | ( H: with normally open; C: with normally closed; Z: with convert; Nil: without ) |      |   |   |    |   |      |
| Coil type                 |      | ( P: Us=12/24VDC )                                                                |      |   |   |    |   |      |
| Mounting type             |      | ( Nil: Vertical mounting; W: Horizontal mounting )                                |      |   |   |    |   |      |
| Customer No.              |      | ( Customized code when customer has special requirements )                        |      |   |   |    |   |      |



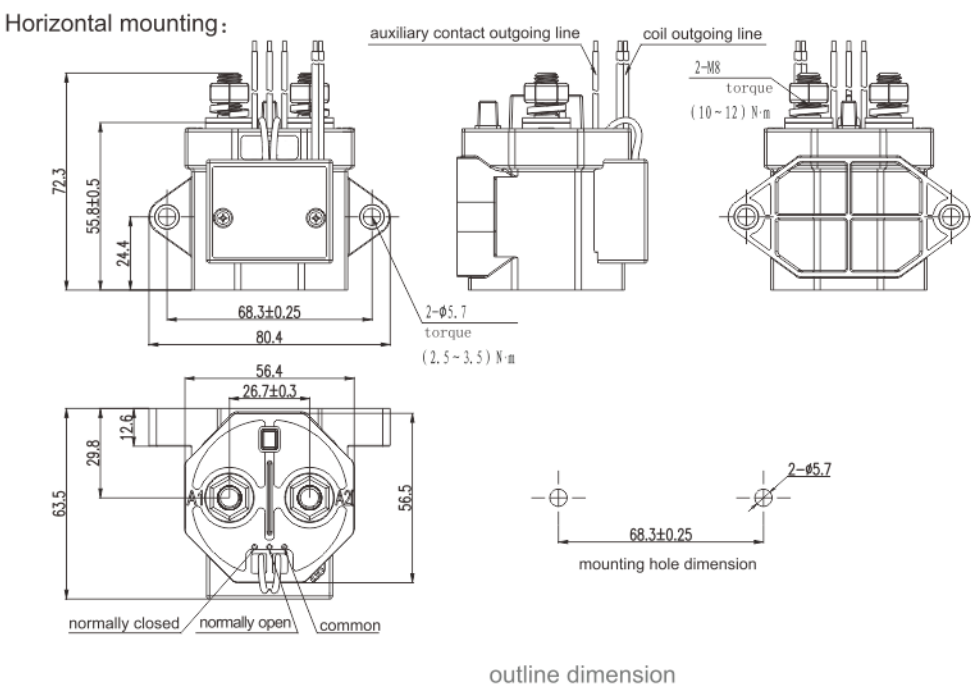
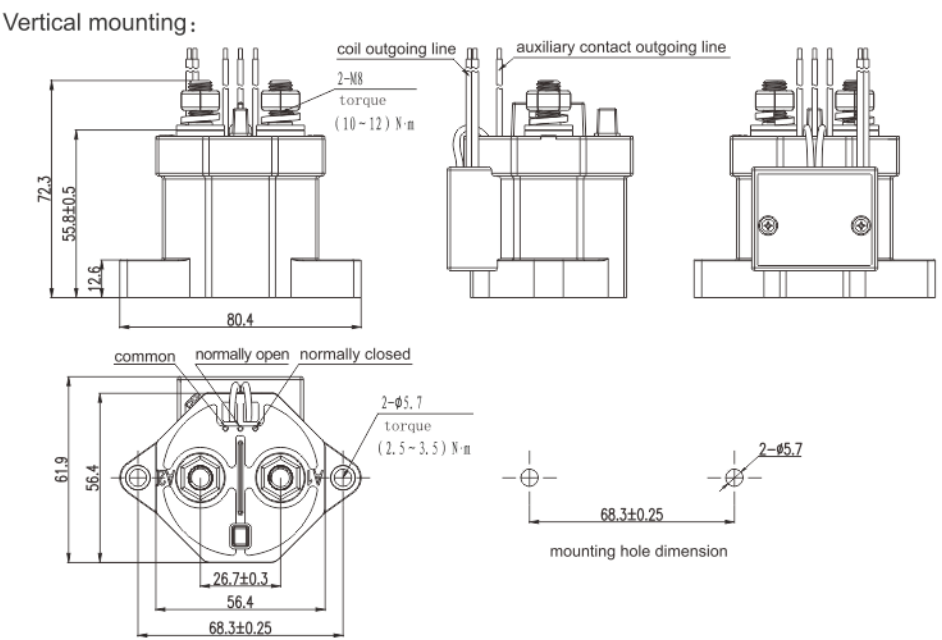
Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

DC Contactor

P/N GDCR7-300-P



Unit: mm



Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor

P/N GDCR7-350-P



Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current350A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                     |
|-------------------|------------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie                   | 350A                |
|                   | Rated operational voltage Ue                   | 12 ~ 1000 VDC       |
|                   | Min. load                                      | 1A12VDC             |
|                   | Main contact type                              | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit             | 0.2mΩ ( @350A )     |
|                   | Main contact mounting                          | M8 external thread  |
|                   | Connecting torque                              | 10 ~ 12 N·m         |
|                   | Max. switching current ( more than one cycle ) | 2500A320VDC         |
| Auxiliary contact | Max. current                                   | 30VDC 2A, 125VAC 3A |
|                   | Min. current                                   | 8VDC 100mA          |
|                   | Contact resistance                             | < 0.15Ω             |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R≤1ms )                 | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 450A 50,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Coil parameter

|                           |                          |
|---------------------------|--------------------------|
| Rated voltage Us          | 12/24VDC                 |
| Operational voltage Range | 8 ~ 36 VDC               |
| Pick up voltage           | 7 ~ 8 VDC                |
| Release voltage           | 5 ~ 6 VDC                |
| Coil power                | keeping: 2W              |
| Inrush current            | 3A ( 0.1s ) ( @12v )     |
| Holding current           | 0.17A@12V;<br>0.085A@24V |
| Close time ( @Us )        | ≤45ms                    |
| Release time ( @Us )      | ≤10ms                    |
| Bounce time ( @Us )       | ≤5ms                     |

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10 ~ 2000Hz, 20G            |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                               |
|---------------------------------------------------|-------------------------------|
| Weight                                            | ≈ 425g; with auxiliary ≈ 430g |
| The cross-sectional area of an external conductor | ≥120mm <sup>2</sup>           |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

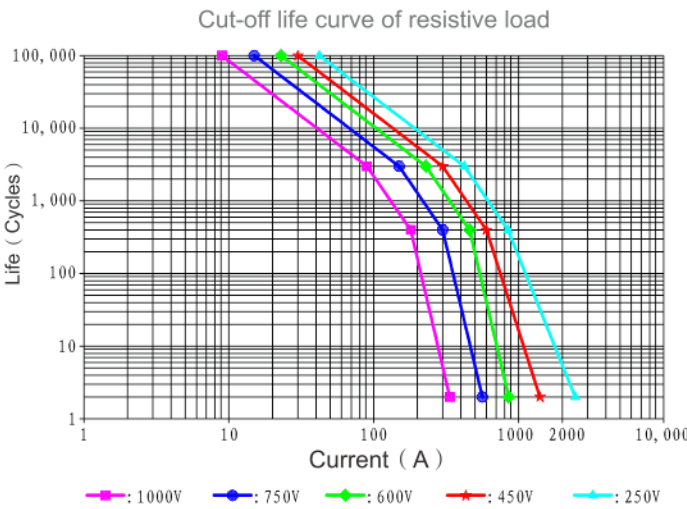
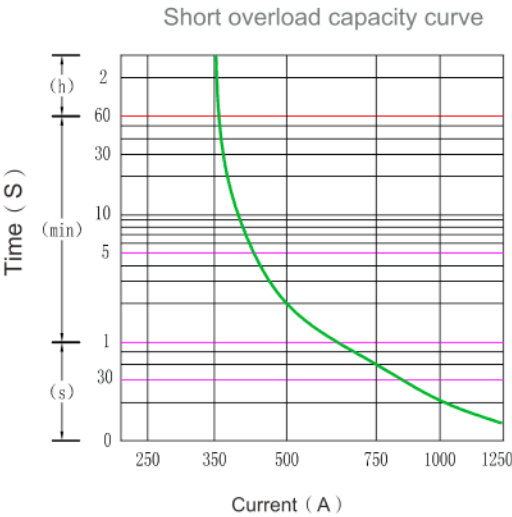
DC Contactor

P/N GDCR7-350-P



Ordering

|                           |      |                                                                                   |      |   |   |    |   |      |
|---------------------------|------|-----------------------------------------------------------------------------------|------|---|---|----|---|------|
|                           | GDCR | 7                                                                                 | -350 | B | H | -P | W | /XXX |
| DC Contactor              |      |                                                                                   |      |   |   |    |   |      |
| Design No.                |      |                                                                                   |      |   |   |    |   |      |
| Rated current             |      | ( 350; 350A )                                                                     |      |   |   |    |   |      |
| Rated operational voltage |      | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                           |      |   |   |    |   |      |
| Auxiliary contact type    |      | ( H: with normally open; C: with normally closed; Z: with convert; Nil: without ) |      |   |   |    |   |      |
| Coil type                 |      | ( P: Us=12/24VDC )                                                                |      |   |   |    |   |      |
| Mounting type             |      | ( Nil: Vertical mounting; W: Horizontal mounting )                                |      |   |   |    |   |      |
| Customer No.              |      | ( Customized code when customer has special requirements )                        |      |   |   |    |   |      |



Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

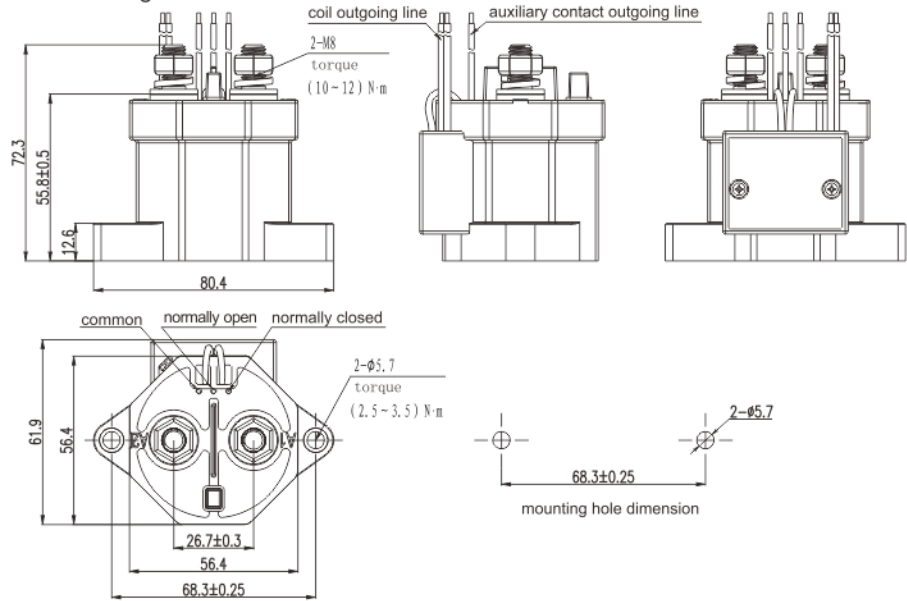
DC Contactor

P/N GDCR7-350-P

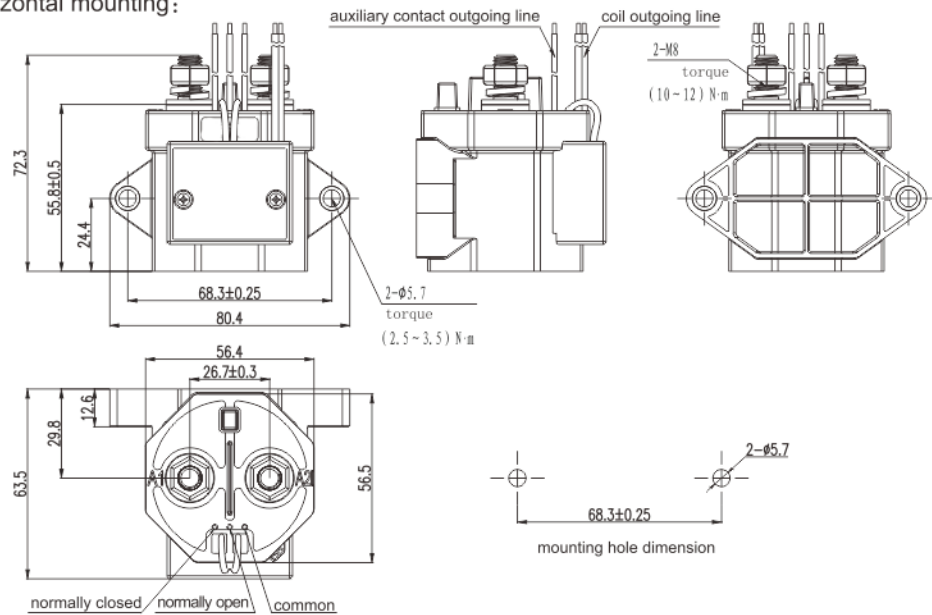


Unit: mm

Vertical mounting:



Horizontal mounting:



Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor

P/N GDCR7-400



Characteristic

- Strong control load capacity: rated operational voltage 12VDC~1000VDC, rated operational current 400A
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                                |                     |
|-------------------|------------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie                   | 400A                |
|                   | Rated operational voltage Ue                   | 12 ~ 1000 VDC       |
|                   | Min. load                                      | 1A12VDC             |
|                   | Main contact type                              | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit             | MAX 30mV ( @100A )  |
|                   | Main contact mounting                          | M8 external thread  |
|                   | Connecting torque                              | 10 ~ 12 N·m         |
| Auxiliary contact | Max. switching current ( more than one cycle ) | 2500A300VDC         |
|                   | Max. current                                   | 30VDC 2A; 125VAC 3A |
|                   | Min. current                                   | 8VDC 100mA          |
|                   | Contact resistance                             | < 0.15Ω             |

Coil parameter

|                           |                           |
|---------------------------|---------------------------|
| Rated voltage Us          | 12/24VDC                  |
| Operational voltage Range | 9 ~ 36 VDC                |
| Pick up voltage           | 8 ~ 9 VDC                 |
| Release voltage           | 6 ~ 7 VDC                 |
| Coil power                | keeping: 3.2W             |
| Inrush current            | 3.8A ( 0.1s ) ( @12v )    |
| Holding current           | 0.267A@12V;<br>0.133A@24V |
| Close time ( @Us )        | ≤45ms                     |
| Release time ( @Us )      | ≤10ms                     |
| Bounce time ( @Us )       | ≤5ms                      |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R ≤ 1ms )               | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 500A 30,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10 ~ 2000Hz, 20G            |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | IP67 ( inner space )        |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Weight                                            | ≈660g; with auxiliary ≈665g |
| The cross-sectional area of an external conductor | ≥120mm <sup>2</sup>         |

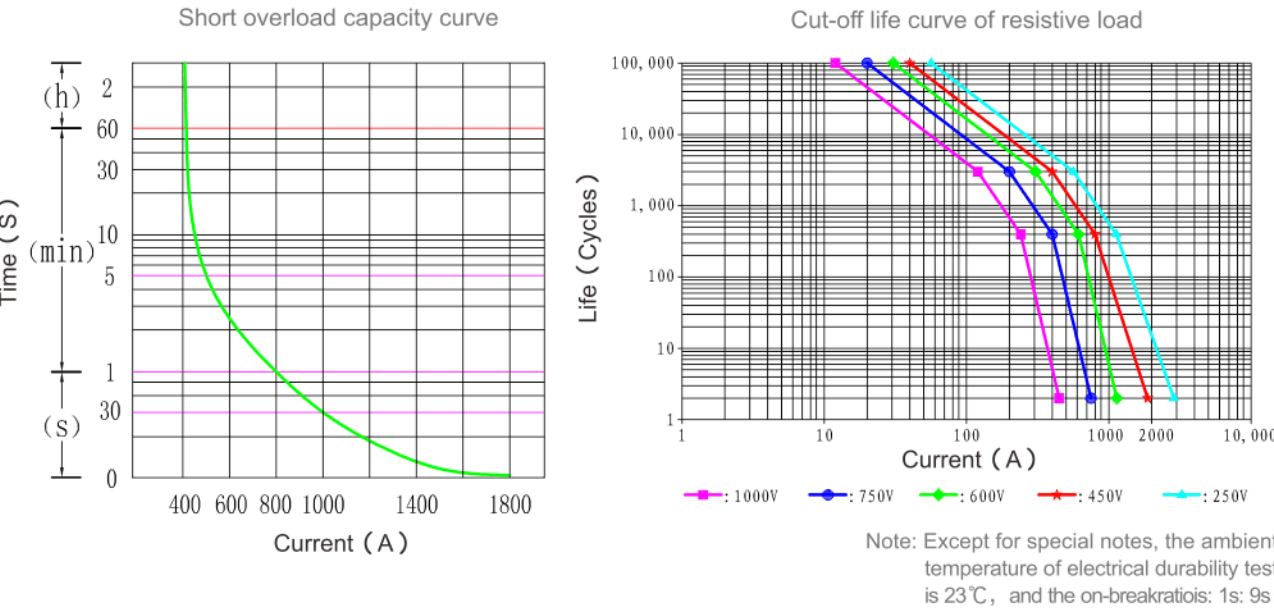
Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

DC Contactor

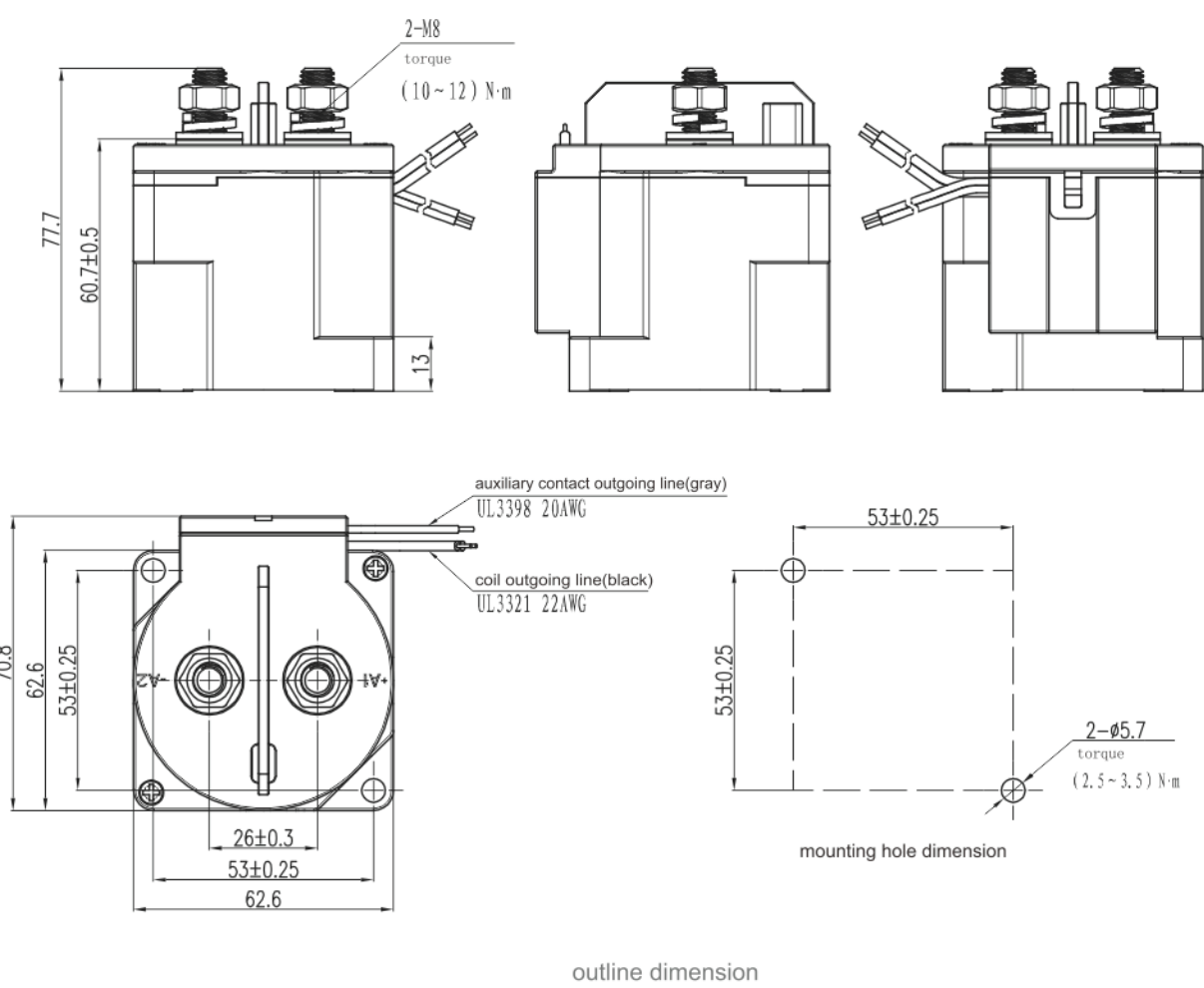


Ordering

|                           |      |                                                                                     |      |   |   |    |   |      |
|---------------------------|------|-------------------------------------------------------------------------------------|------|---|---|----|---|------|
|                           | GDCR | 7                                                                                   | -400 | B | H | -P | Y | /XXX |
| DC Contactor              |      |                                                                                     |      |   |   |    |   |      |
| Design No.                |      |                                                                                     |      |   |   |    |   |      |
| Rated current             |      | ( 400; 400A )                                                                       |      |   |   |    |   |      |
| Rated operational voltage |      | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                             |      |   |   |    |   |      |
| Auxiliary contact type    |      | ( H: with normally open; C: with normally closed; Z: with convert; Nil: without )   |      |   |   |    |   |      |
| Coil type                 |      | ( P: Us=12/24VDC )                                                                  |      |   |   |    |   |      |
| Polarity                  |      | ( Nil: Contact/Coil has no polarity; Y: contact has polarity/Coil has no polarity ) |      |   |   |    |   |      |
| Customer No.              |      | ( Customized code when customer has special requirements )                          |      |   |   |    |   |      |



Unit: mm



Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

P/N GDCR7-400



Characteristic

- Strong control load capacity: rated operational voltage12VDC~1000VDC, rated operational current 500A.
- Safe: Fully sealed with epoxy resin, contact and coil will not be oxidized, product performance is not affected by external environment, no arc outbursts, can be worked in explosive and harmful environment
- Reliable: Adopt DC high voltage non - polarity design, the breaking capacity is higher and more reliable, convenient and reliable installation/wiring
- Energy conservation: Using PWM control technology, effectively control the coil power and action characteristics, more energy saving
- ROHS: All components meet the latest EU RoHS environmental requirements

Contact parameter

|                   |                                            |                     |
|-------------------|--------------------------------------------|---------------------|
| Main contact      | Rated operational current Ie               | 500A                |
|                   | Rated operational voltage Ue               | 12 ~ 1000 VDC       |
|                   | Min. load                                  | 1A12VDC             |
|                   | Main contact type                          | 1SH ( SPST NO DM )  |
|                   | Nominal resistance of main circuit         | MAX 30mV ( @100A )  |
|                   | Main contact mounting                      | M8 external thread  |
|                   | Connecting torque                          | 10 ~ 12 N·m         |
|                   | Max. switching current ( above one cycle ) | 2500A300VDC         |
| Auxiliary contact | Max. current                               | 30VDC 2A; 125VAC 3A |
|                   | Min. current                               | 8VDC 100mA          |
|                   | Contact resistance                         | < 0.15Ω             |

Electrical characteristics

|                               |                  |
|-------------------------------|------------------|
| Dielectric withstand voltage  | DC3110V, AC2200V |
| Insulation resistance         | ≥1000MΩ@1000VDC  |
| Nominal insulation voltage Ui | 1000V            |

Life

|                                                 |                    |
|-------------------------------------------------|--------------------|
| Mechanical life                                 | 300,000 cycles     |
| Resistive load life ( L/R≤1ms )                 | see next page      |
| Capacitive load life ( RC=1ms, only connected ) | 600A 30,000 cycles |

Note: For capacitive load life, When the contactor is used to control the main circuit of charge and discharge, the pre-charge circuit should be added.If there is no pre-charging path, a transient large current will be generated when the contactor closes, which may cause the contactor to stick

Coil parameter

|                           |                           |
|---------------------------|---------------------------|
| Rated voltage Us          | 12/24VDC                  |
| Operational voltage Range | 9 ~ 36 VDC                |
| Pick up voltage           | 8 ~ 9 VDC                 |
| Release voltage           | 6 ~ 7 VDC                 |
| Coil power                | keeping: 3.2W             |
| Inrush current            | 3.8A ( 0.1s ) ( @12v )    |
| Holding current           | 0.267A@12V;<br>0.133A@24V |
| Close time ( @Us )        | ≤45ms                     |
| Release time ( @Us )      | ≤10ms                     |
| Bounce time ( @Us )       | ≤5ms                      |

Environmental characteristics

|                               |                |                             |
|-------------------------------|----------------|-----------------------------|
| Shock                         | Stability test | 196m/s <sup>2</sup> ( 20G ) |
|                               | Strength test  | 490m/s <sup>2</sup> ( 50G ) |
| Resistance to vibration       |                | 10 ~ 2000Hz, 20G            |
| Operating ambient Temperature |                | -40℃ ~ +85℃                 |
| Operating ambient humidity    |                | 5% ~ 85% RH                 |
| IP grade                      |                | LP 67 ( inner space )       |
| Altitude                      |                | ≤4000m                      |

Other

|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Weight                                            | ≈660g; with auxiliary ≈665g |
| The cross-sectional area of an external conductor | ≥185mm <sup>2</sup>         |

Note: The above parameters are normal temperature rating, if other parameters need, manufacturers can customize.

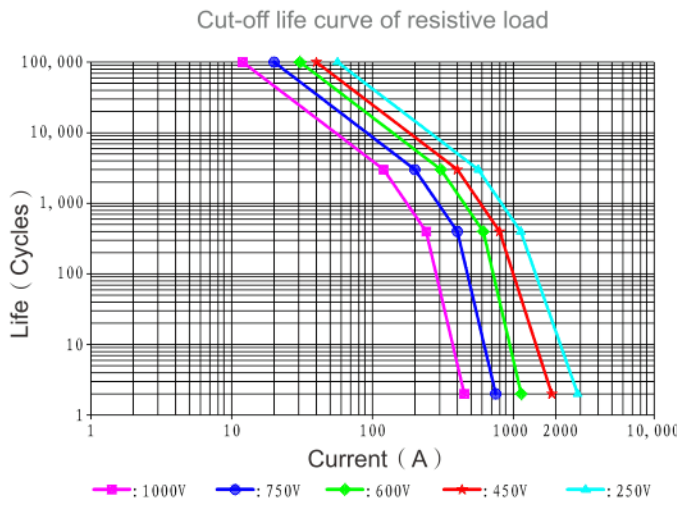
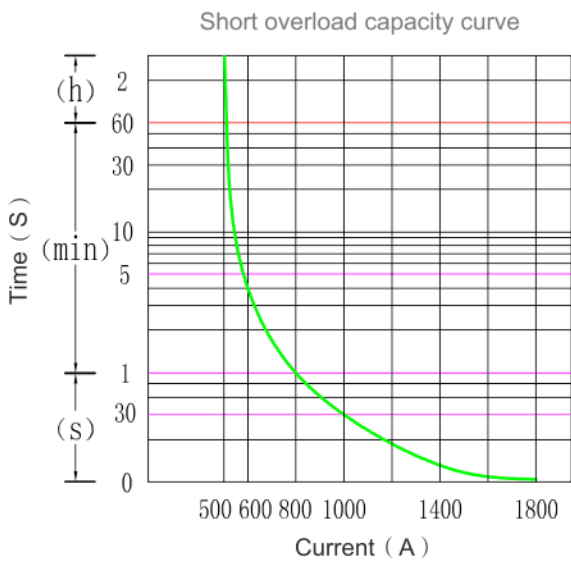
DC Contactor

P/N GDCR7-500



Ordering

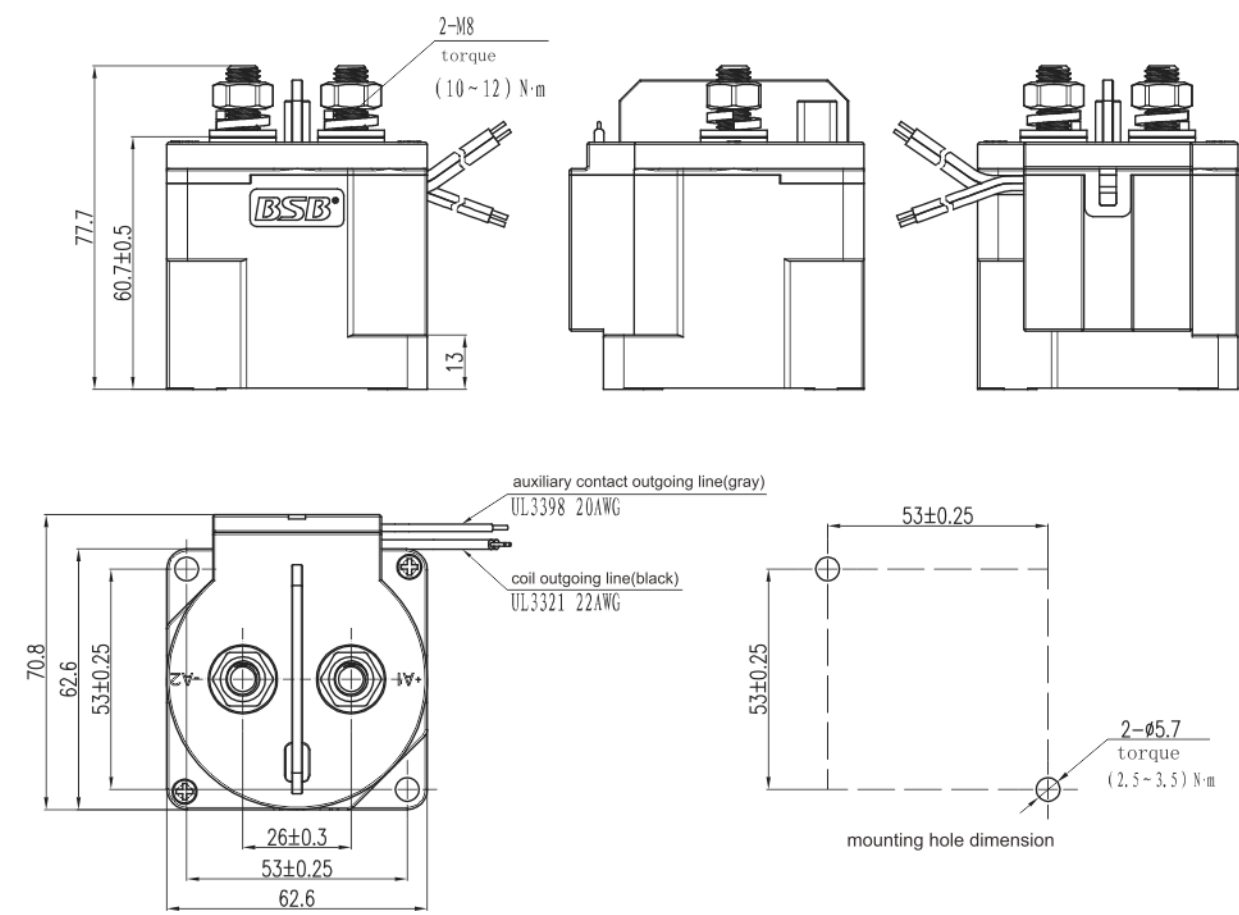
|                           |      |                                                                                     |      |   |   |    |   |      |
|---------------------------|------|-------------------------------------------------------------------------------------|------|---|---|----|---|------|
|                           | GDCR | 7                                                                                   | -500 | B | H | -P | Y | /XXX |
| DC Contactor              |      |                                                                                     |      |   |   |    |   |      |
| Design No.                |      |                                                                                     |      |   |   |    |   |      |
| Rated current             |      | ( 500; 500A )                                                                       |      |   |   |    |   |      |
| Rated operational voltage |      | ( B: 12VDC~200VDC; Nil: 12VDC~1000VDC )                                             |      |   |   |    |   |      |
| Auxiliary contact type    |      | ( H: with normally open; C: with normally closed; Z: with convert; Nil: without )   |      |   |   |    |   |      |
| Coil type                 |      | ( P: Us=12/24VDC )                                                                  |      |   |   |    |   |      |
| Polarity                  |      | ( Nil: Contact/Coil has no polarity; Y: contact has polarity/Coil has no polarity ) |      |   |   |    |   |      |
| Customer No.              |      | ( Customized code when customer has special requirements )                          |      |   |   |    |   |      |



Note: Except for special notes, the ambient temperature of electrical durability test is 23℃, and the on-breakratiois: 1s: 9s;

DC Contactor

Unit: mm



Notes: outgoing line length: 300mm±20mm;  
product without tolerance, when≤10mm, tolerance ±0.3mm;  
when dimension between ( 10~50 ) mm, tolerance ±0.5mm;  
when dimension ≥50mm, tolerance ±0.8mm.

DC Contactor

Notice

1. Using spring washers to prevent loose screws when installing contactors.
2. The torque of tightening screws should be within the specified range. Exceeding the maximum torque may lead to product breakage.
3. The main contact and control coil lead polarity requirements, can be customized.
4. The specification products with energy saving boards are equipped with a reverse surge absorption circuit, so there is no need to use surge protector any more. We suggest that the specification products without energy saving boards should be installed with varistors as surge protector, and the use of diodes should be avoided, because this will reduce the cutting ability of the products.
5. Do not use products that have been dropped.
6. Avoid placing the product near a strong magnetic field ( near a transformer or magnet ) or near an object with thermal radiation.
7. Electrical life  
This contactor is a high-voltage dc switch. In its final breakdown mode, it may lose its proper cutting function, so it should not be used beyond its switching capacity and life parameters ( please treat this contactor as a product with specified life, and replace it if necessary ) . Once the contactor loses its disconnection ability, it may not work properly, so design the circuit diagram to ensure that the power can be cut off within one second.
8. Diffusion life of internal gas  
This contactor adopts sealed bin contact, and the bin is filled with gas. The diffusion life of the gas is determined by the temperature in the contact bin ( ambient temperature + temperature rise generated by contact electrification ) , so the ambient temperature should be -40℃ to +85℃.
9. If the coil and contact of the contactor are continuously passed at the rated voltage ( or current ) , the power was cut off and switched on immediately. At this time, as the temperature of the coil increases, the resistance of the coil will increase, which will increase the product's closed voltage, may cause excess of rated closed voltage. In this case, the following measures should be taken: Reduce the load current, limit the duration of continuous power or use coil voltage higher than the rated suction voltage.
10. For resistive load, the rated main contact rating shall apply, and for inductive load ( L load ) with L/R> for 1 millisecond, an inrush current protection device shall be connected to the inductive load in parallel.
11. The drive circuit power of the product coil must be greater than that of the product coil, otherwise the cutting ability of the product will be reduced.
12. Be careful not to let sundries and grease on the main lead out end, and the external wiring terminal should be in reliable contact with the main lead out end of the product, or it may cause the lead out end heat.
13. For the specification products with energy saving plate, after being connected, the coil will start to switch automatically after about 0.1 seconds. Do not repeatedly turn off at that position, which may damage the contactor.



# GDCR8 DC Relay

P/N GDCR8-150



## Characteristic

- Ceramic brazing sealing technology, to achieve the contact part of airtight packaging, no risk of arc leakage, ensure no fire, no burst
- In the airtight package structure, the hydrogen-dominated gas is filled to effectively prevent the oxidation and burning of contact points, and the contact resistance is low and stable
- 150A 85°C long time current carrying capacity
- In response to abnormal conditions, it can break 10 times of over current
- Insulation resistance up to 1000MΩ ( 1000VDC ) , dielectric withstand voltage meet IEC60664-1 requirement

## Contact parameter

|                           |                                      |
|---------------------------|--------------------------------------|
| Contact type              | 1H                                   |
| Contact resistance        | ≤0.5mΩ ( at 20A )                    |
| Contact rated current     | 150A                                 |
| Max. switching voltage    | 750VDC                               |
| Max. breaking current     | 1500A ( 300VDC ) , more than 1 cycle |
| Max. switching power      | 450V: 67.5kW                         |
|                           | 750V: 112.5kW                        |
| Current carrying capacity | 150A: keeping                        |
|                           | 180A: 2h                             |
|                           | 225A: 15min                          |
|                           | 320A: 2min                           |
|                           | 400A: 60s                            |
|                           | 600A: 20s                            |
|                           | 900A: 8s                             |

Note: Current carrying capacity data is tested at ambient temperature of 85°C, cross section≥50mm², more detail, please see curve.

## Coil parameter

| Rated voltage<br>VDC | Operational voltage<br>VDC | Release voltage<br>VDC | Coil power<br>W |
|----------------------|----------------------------|------------------------|-----------------|
| 12                   | ≤9                         | ≥1                     | 6               |
| 24                   | ≤18                        | ≥2                     | 6               |

Note: The operational voltage and release voltage are conservative values in the full temperature range ( -40°C ~ +85°C ) .

## Environmental characteristics

|                     |           |                     |
|---------------------|-----------|---------------------|
| Shock               | Stability | 196m/s²             |
|                     | Strength  | 490m/s²             |
| Vibration           |           | 10Hz ~ 500Hz 49m/s² |
| Humidity            |           | 5% ~ 85%RH          |
| Ambient temperature |           | -40°C ~ +85°C       |
| IP grade            |           | IP67 ( contact )    |

## Life

| Mechanical endurance                           |                 | 3×10 <sup>5</sup> cycles                             |                                                  |
|------------------------------------------------|-----------------|------------------------------------------------------|--------------------------------------------------|
|                                                |                 | 450V                                                 | 750V                                             |
| Electricity endurance                          | Capacitive load | connect: 2.5×10 <sup>4</sup><br>( 22.5VDC, τ=1ms )   | connect: 2×10 <sup>4</sup><br>( 37.5VDC, τ=1ms ) |
|                                                |                 | impact 400A, keep 150A                               | impact 400A, keep 150A                           |
|                                                | Resistive load  | switch: 3×10 <sup>3</sup> cycles<br>( 450VDC, 150A ) | switch: 500 cycles<br>( 750VDC,150A )            |
|                                                |                 | switch: 500 cycles<br>( 450VDC,-150A )               | switch:100 cycles<br>( 750VDC,-150A )            |
| breaking capacity: 1 cycle<br>( 300VDC,1500A ) |                 | breaking capacity: 1 cycle<br>( 300VDC,1500A )       |                                                  |

Note 1 : Except for special notes, the ambient temperature of electrical durability test is 23°C and the on-break ratio is 0.6s:5.4s.  
Note 2 : When the relay is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the relay closes, which may cause the relay to stick.

## Electrical characteristics

| Insulation resistance           |                          | 1000MΩ ( 1000VDC ) |
|---------------------------------|--------------------------|--------------------|
| Dielectric withstand voltage    | between contact and coil | 4000VAC 1min       |
|                                 | between open contacts    | 3000VAC 1min       |
| Operate time ( at nomi. volt. ) |                          | ≤30ms              |
| Release time ( at nomi. volt. ) |                          | ≤10ms              |

Note: The data shown above are initial values.

## Other

|                             |                      |
|-----------------------------|----------------------|
| Terminal                    | M6 internal thread   |
| Mounting torque at load end | M6 5~6N · m          |
| Relay mounting torque       | M5 3~4N · m          |
| Weight                      | ≈350g                |
| Outline dimension           | 76.5mm×39.0mm×70.0mm |

DC Relay

P/N GDCR8-150



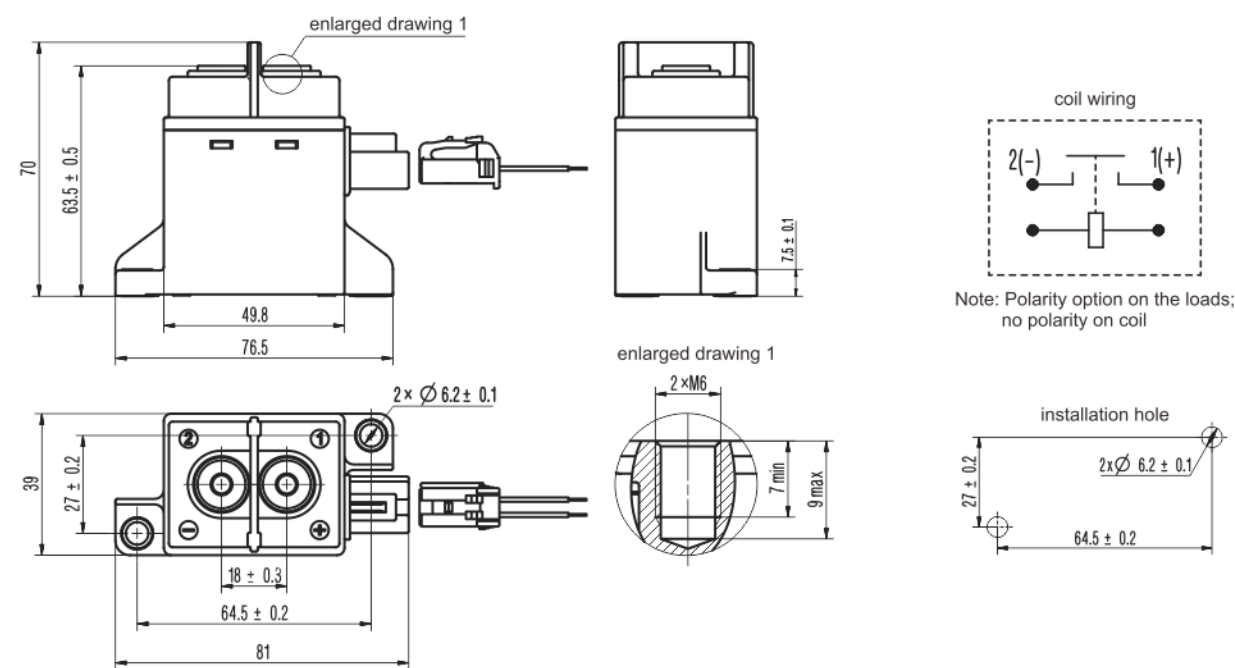
Ordering

|                     |                                               |       |   |      |      |     |    |   |   |   |     |
|---------------------|-----------------------------------------------|-------|---|------|------|-----|----|---|---|---|-----|
|                     |                                               | GDCR8 | V | -150 | /750 | -12 | -H | C | 5 | W | XXX |
| Application         | V: EV                                         |       |   |      |      |     |    |   |   |   |     |
| Load current        | 150:150A                                      |       |   |      |      |     |    |   |   |   |     |
| Load voltage        | Nil: 450VDC 750:750VDC                        |       |   |      |      |     |    |   |   |   |     |
| Coil voltage        | 12: 12VDC 24: 24VDC                           |       |   |      |      |     |    |   |   |   |     |
| Contact type        | H: With normally open                         |       |   |      |      |     |    |   |   |   |     |
| Coil input terminal | C: Connector                                  |       |   |      |      |     |    |   |   |   |     |
| Load input terminal | 5: internal thread                            |       |   |      |      |     |    |   |   |   |     |
| Mounting type       | Nil: Vertical mounting W: Horizontal mounting |       |   |      |      |     |    |   |   |   |     |
| Customer No.        | XXX: Customer requirement Nil: Standard       |       |   |      |      |     |    |   |   |   |     |

Note: The customer special requirement express as customer No. after evaluating between each party.

Outline, coil wiring , installation hole

Unit: mm



Remark: In case of no tolerance shown in outline dimension: outline dimensions≤10mm, tolerance should be ±0.3mm; outline dimension is between ( 10~50 ) mm, tolerance should be ±0.5mm; outline dimension ≥50mm, tolerance should be ±0.8mm.

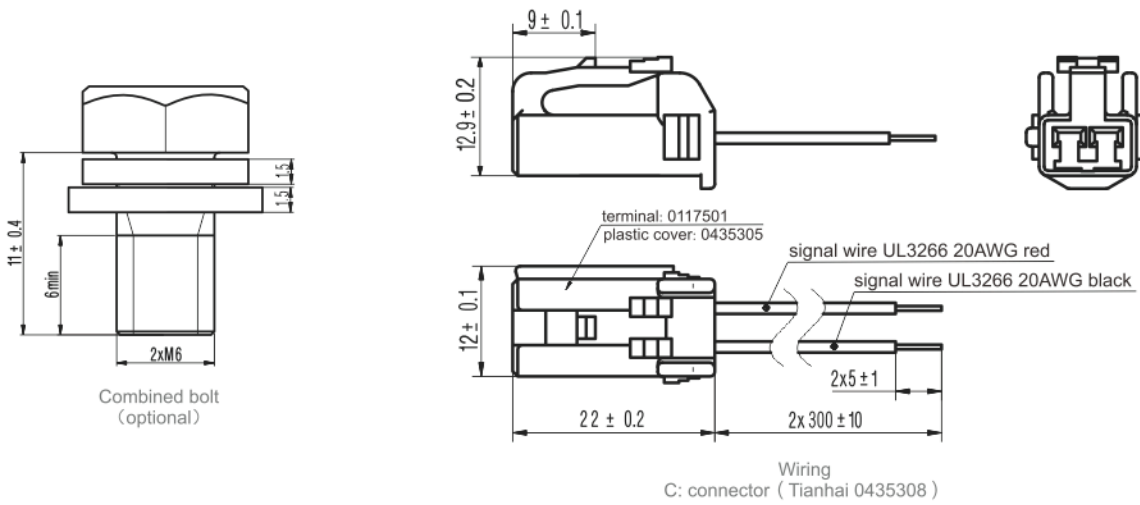
DC Relay

P/N GDCR8-150

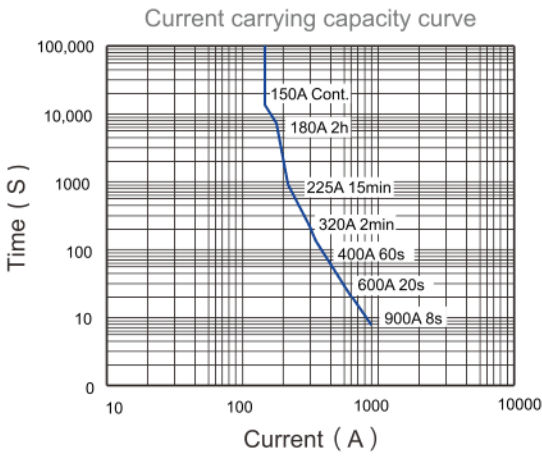


Combined bolt, connector

Unit: mm



Characteristic curve



Note: The data above is measured at the environment 85°C, with cross section area of wire≥50mm². The data is only for reference and please do not use it for fuse selection.

Cautions

1. In case of loosening, please use washer when install the relay with M5 screw, and the torque within 3N·m~4N·m; the torque of fixing screw at terminals shall be within 5N·m~6N·m. The torque beyond the range may cause damage.

| Installation for terminal with load |           |                             |                         | Relay installation |           |
|-------------------------------------|-----------|-----------------------------|-------------------------|--------------------|-----------|
| Installation way                    | Torque    | Hole diameter of copper bar | Thickness of copper bar | Installation way   | Torque    |
| M6 bolt                             | 5N·m~6N·m | Ø6~Ø6.5                     | 2mm~3mm                 | M5 bolt            | 3N·m~4N·m |

2. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area 50mm² min, otherwise the terminal parts may have abnormal heating.  
3. Cautions of relay installation: when use M5 screw, the thickness and strength of the washer needs to be guaranteed or it may deform and burst the cover.

DC Relay



Characteristic

- Ceramic brazing sealing technology, to achieve the contact part of airtight packaging, no risk of arc leakage, ensure no fire, no burst
- In the airtight package structure, the hydrogen-dominated gas is filled to effectively prevent the oxidation and burning of contact points, and the contact resistance is low and stable
- 200A 85°C long time current carrying capacity
- In response to abnormal conditions, it can break 10 times of over current
- Insulation resistance up to 1000MΩ ( 1000VDC ) , dielectric withstand voltage meet IEC60664-1 requirement

Contact parameter

|                           |                                      |
|---------------------------|--------------------------------------|
| contact type              | 1H                                   |
| Contact resistance        | ≤0.5mΩ ( at 20A )                    |
| Contact rated current     | 200A                                 |
| Max. switching voltage    | 750VDC                               |
| Max. breaking current     | 2000A ( 300VDC ) , more than 1 cycle |
| Max. switching power      | 450V: 90kW                           |
|                           | 750V: 150kW                          |
| Current carrying capacity | 200A: keeping                        |
|                           | 250A: 15min                          |
|                           | 320A: 5min                           |
|                           | 600A: 30s                            |
|                           | 900A: 10s                            |

Note: Current carrying capacity data is tested at ambient temperature of 85°C, cross section≥60mm<sup>2</sup>, more detail, please see curve.

Coil parameter

| Rated voltage<br>VDC | Operational voltage<br>VDC | Release voltage<br>VDC | Coil power<br>W |
|----------------------|----------------------------|------------------------|-----------------|
| 12                   | ≤9                         | ≥1                     | 6               |
| 24                   | ≤18                        | ≥2                     | 6               |

Note: The operational voltage and release voltage are conservative values in the full temperature range ( -40°C ~ +85°C ) .

Environmental characteristics

|                     |           |                                 |
|---------------------|-----------|---------------------------------|
| Shock               | Stability | 196m/s <sup>2</sup>             |
|                     | Strength  | 490m/s <sup>2</sup>             |
| Vibration           |           | 10Hz ~ 500Hz 49m/s <sup>2</sup> |
| Humidity            |           | 5% ~ 85%RH                      |
| Ambient temperature |           | -40°C ~ +85°C                   |
| IP grade            |           | IP67 ( contact )                |

Life

| Mechanical endurance  |                 | 2×10 <sup>5</sup> ops                                                   |                                                                         |
|-----------------------|-----------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                       |                 | 450V                                                                    | 750V                                                                    |
| Electricity endurance | Capacitive load | connect: 2×10 <sup>4</sup> ( 22.5VDC, τ=1ms )<br>impact 400A, keep 200A | connect: 2×10 <sup>4</sup> ( 37.5VDC, τ=1ms )<br>impact 400A, keep 200A |
|                       |                 | switch: 1×10 <sup>3</sup> ops ( 450VDC, 200A )                          | switch: 500 ops ( 750VDC, 200A )                                        |
|                       | Resistive load  | switch: 500 ops ( 450VDC, -200A )                                       | switch: 100 ops ( 750VDC, -200A )                                       |
|                       |                 | breaking capacity: 1 ops ( 300VDC, 2000A )                              | breaking capacity: 1 ops ( 300VDC, 2000A )                              |

Note 1: Except for special notes, the ambient temperature of electrical durability test is 23°C and the on-break ratio is 0.6s:5.4s.  
Note 2: When the relay is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the relay closes, which may cause the relay to stick.

Electrical characteristics

| Insulation resistance           |                          | 1000MΩ ( 1000VDC ) |
|---------------------------------|--------------------------|--------------------|
| Dielectric withstand voltage    | between contact and coil | 4000VAC 1min       |
|                                 | between open contacts    | 3000VAC 1min       |
| Operate time ( at nomi. volt. ) |                          | ≤30ms              |
| Release time ( at nomi. volt. ) |                          | ≤10ms              |

Note: The data shown above are initial values.

Other

|                             |                      |
|-----------------------------|----------------------|
| Terminal                    | M6 internal thread   |
| Mounting torque at load end | M6 5~6N · m          |
| Relay mounting torque       | M5 3~4N · m          |
| Weight                      | ≈350g                |
| Outline dimension           | 76.5mm×39.0mm×70.0mm |

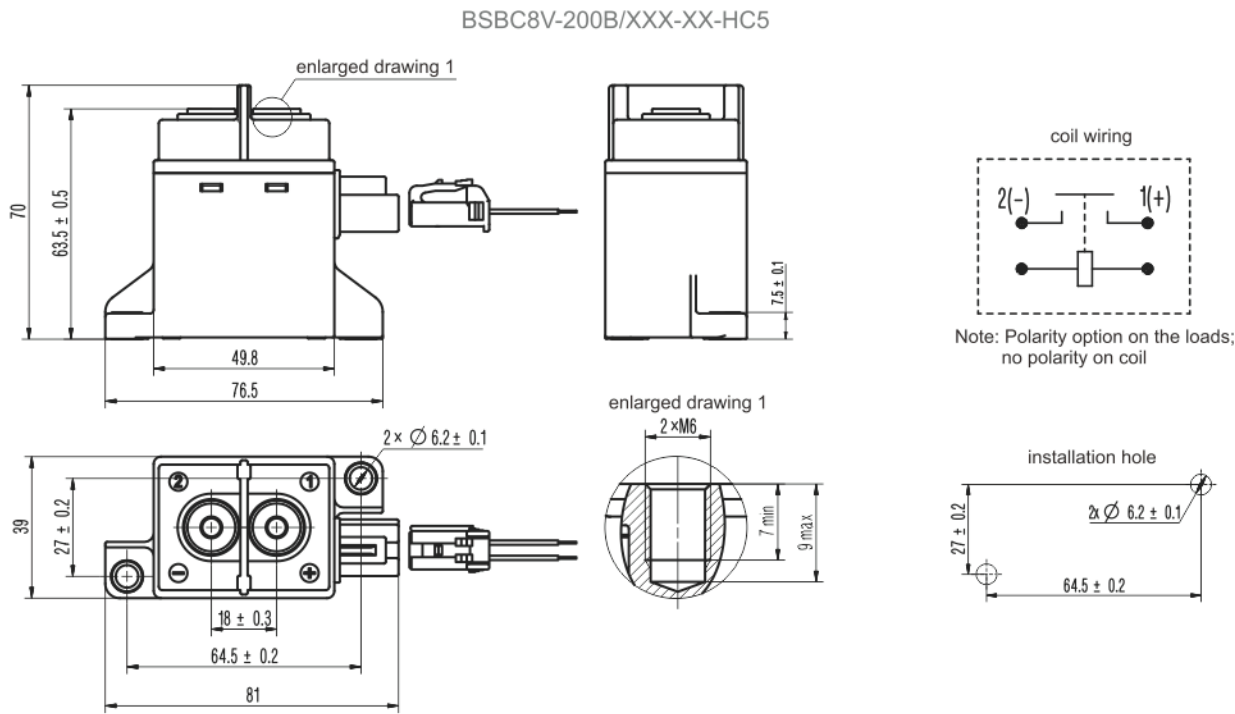
Ordering

|                     |                                               |       |   |      |   |      |     |    |   |   |   |     |
|---------------------|-----------------------------------------------|-------|---|------|---|------|-----|----|---|---|---|-----|
|                     |                                               | GDCR8 | V | -200 | B | /750 | -12 | -H | C | 5 | W | XXX |
| Application         | V: EV                                         |       |   |      |   |      |     |    |   |   |   |     |
| Load current        | 200:200A                                      |       |   |      |   |      |     |    |   |   |   |     |
| Series              | B: B Series                                   |       |   |      |   |      |     |    |   |   |   |     |
| Load voltage        | Nil: 450VDC 750: 750VDC                       |       |   |      |   |      |     |    |   |   |   |     |
| Coil voltage        | 12: 12VDC 24: 24VDC                           |       |   |      |   |      |     |    |   |   |   |     |
| Contact type        | H: With normally open                         |       |   |      |   |      |     |    |   |   |   |     |
| Coil input terminal | C: Connector                                  |       |   |      |   |      |     |    |   |   |   |     |
| Load input terminal | 5: Internal thread                            |       |   |      |   |      |     |    |   |   |   |     |
| Mounting type       | Nil: Vertical mounting W: Horizontal mounting |       |   |      |   |      |     |    |   |   |   |     |
| Customer No.        | XXX: Customer requirement Nil: Standard       |       |   |      |   |      |     |    |   |   |   |     |

Note: The customer special requirement express as customer No. after evaluating between each party.

Outline, coil wiring , installation hole

Unit: mm



Remark: In case of no tolerance shown in outline dimension: outline dimensions≤10mm, tolerance should be ±0.3mm; outline dimension is between ( 10~50 ) mm, tolerance should be ±0.5mm; outline dimension ≥50mm, tolerance should be ±0.8mm.

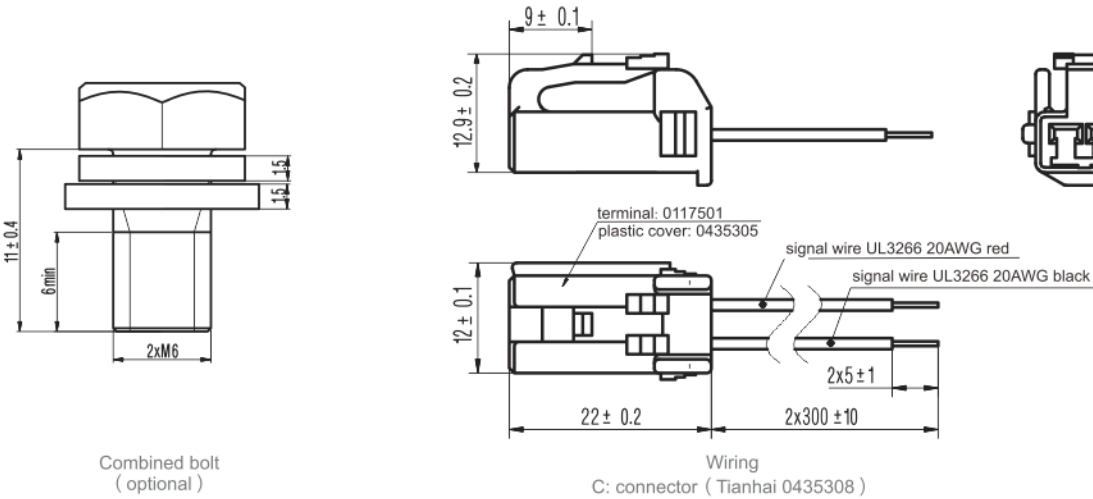


P/N GDCR8-200B

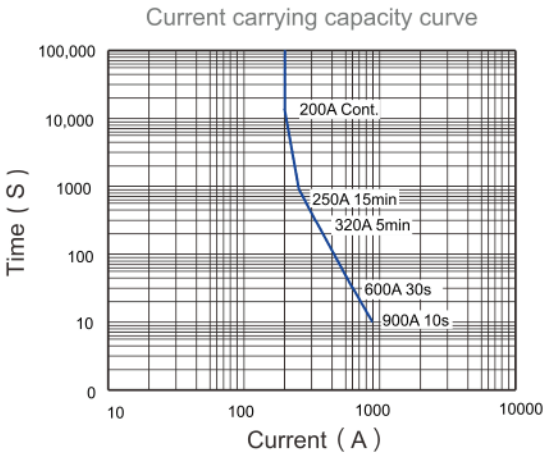


Combined bolt, connector

Unit: mm



Characteristic curve



Note: The data above is measured at the environment 85°C, with cross section area of wire ≥60mm². The data is only for reference and please do not use it for fuse selection.

Cautions

1. In case of loosening, please use washer when install the relay with M5 screw, and the torque within 3N · m~4N · m; The torque of fixing screw at terminals shall be within 5N·m~6N·m. The torque beyond the range may cause damage.

| Installation for terminal with load |               |                             |                         | Relay installation |               |
|-------------------------------------|---------------|-----------------------------|-------------------------|--------------------|---------------|
| Installation way                    | Torque        | Hole diameter of copper bar | Thickness of copper bar | Installation way   | Torque        |
| M6 bolt                             | 5N · m~6N · m | ∅6~∅6.5                     | 2mm~3mm                 | M5 bolt            | 3N · m~4N · m |

2. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area 60mm² min, otherwise the terminal parts may have abnormal heating.  
3. Cautions of relay installation: when use M5 screw, the thickness and strength of the washer needs to be guaranteed or it may deform and burst the cover.

DC Relay

P/N GDCR8-200



Characteristic

- Ceramic brazing sealing technology, to achieve the contact part of airtight packaging, no risk of arc leakage, ensure no fire, no burst
- In the airtight package structure, the hydrogen-dominated gas is filled to effectively prevent the oxidation and burning of contact points, and the contact resistance is low and stable
- 200A 85°C long time current carrying capacity
- In response to abnormal conditions, it can break 10 times of over current
- Insulation resistance up to 1000MΩ ( 1000VDC ) , dielectric withstand voltage meet IEC60664-1 requirement

Contact parameter

|                           |                                     |
|---------------------------|-------------------------------------|
| Contact type              | 1H                                  |
| Contact resistance        | ≤0.3mΩ ( at 20A )                   |
| Contact rated current     | 200A                                |
| Max. switching voltage    | 750VDC                              |
| Max. breaking current     | 2000A ( 450VDC ) ,more than 1 cycle |
| Max. switching power      | 450V: 90kW<br>750V: 150kW           |
| Current carrying capacity | 200A: keeping                       |
|                           | 300A: 15min                         |
|                           | 400A: 240s                          |
|                           | 800A: 30s                           |
|                           | 2000A: 0.6s                         |

Note: Current carrying capacity data is tested at ambient temperature of 85°C, cross section ≥60mm², more detail, please see curve.

Coil parameter

| Rated voltage<br>VDC | Operational voltage<br>VDC | Release voltage<br>VDC | Coil power<br>W |
|----------------------|----------------------------|------------------------|-----------------|
| 12                   | ≤9                         | ≥1                     | 6               |
| 24                   | ≤18                        | ≥2                     | 6               |

Note: The operational voltage and release voltage are conservative values in the normal temperature.

Environmental characteristics

|                     |           |                                        |
|---------------------|-----------|----------------------------------------|
| Shock               | Stability | switch off: 98m/s², switch on: 196m/s² |
|                     | Strength  | 490m/s²                                |
| Vibration           |           | 10Hz ~ 500Hz 49m/s²                    |
| Humidity            |           | 5% ~ 85%RH                             |
| Ambient temperature |           | -40°C ~ +85°C                          |
| IP grade            |           | IP67 ( contact )                       |

Life

| Mechanical endurance  |                 | 2×10⁵ ops                                                     |                                                               |
|-----------------------|-----------------|---------------------------------------------------------------|---------------------------------------------------------------|
|                       |                 | 450V                                                          | 750V                                                          |
| Electricity endurance | Capacitive load | connect: 2.5×10⁴ ( 22.5VDC, τ=1ms )<br>impact 400A, keep 200A | connect: 2.5×10⁴ ( 37.5VDC, τ=1ms )<br>impact 400A, keep 200A |
|                       |                 | switch: 3×10³ ops ( 450VDC,200A )                             | switch: 500 ops ( 750VDC,200A )                               |
|                       | Resistive load  | switch: 100 ops ( 450VDC,-200A )                              | switch: 10 ops ( 750VDC,-200A )                               |
|                       |                 | breaking capacity: 1 ops ( 450VDC,2000A )                     | breaking capacity: 1 ops ( 450VDC,2000A )                     |

Note 1: Except for special notes, the ambient temperature of electrical durability test is 23°C and the on-break ratio is 0.6s:5.4s.  
Note 2: When the relay is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the relay closes, which may cause the relay to stick.

Electrical characteristics

| Insulation resistance           |                          | 1000MΩ ( 1000VDC ) |
|---------------------------------|--------------------------|--------------------|
| Dielectric withstand voltage    | between contact and coil | 4000VAC 1min       |
|                                 | between open contacts    | 3000VAC 1min       |
| Operate time ( at nomi. volt. ) |                          | ≤50ms              |
| Release time ( at nomi. volt. ) |                          | ≤30ms              |

Note: The data shown above are initial values.

Other

|                             |                      |
|-----------------------------|----------------------|
| Terminal                    | M6 internal thread   |
| Mounting torque at load end | M6 9~11N · m         |
| Relay mounting torque       | M5 3~4N · m          |
| Weight                      | ≈570g                |
| Outline dimension           | 95.0mm×45.0mm×85.0mm |

DC Relay

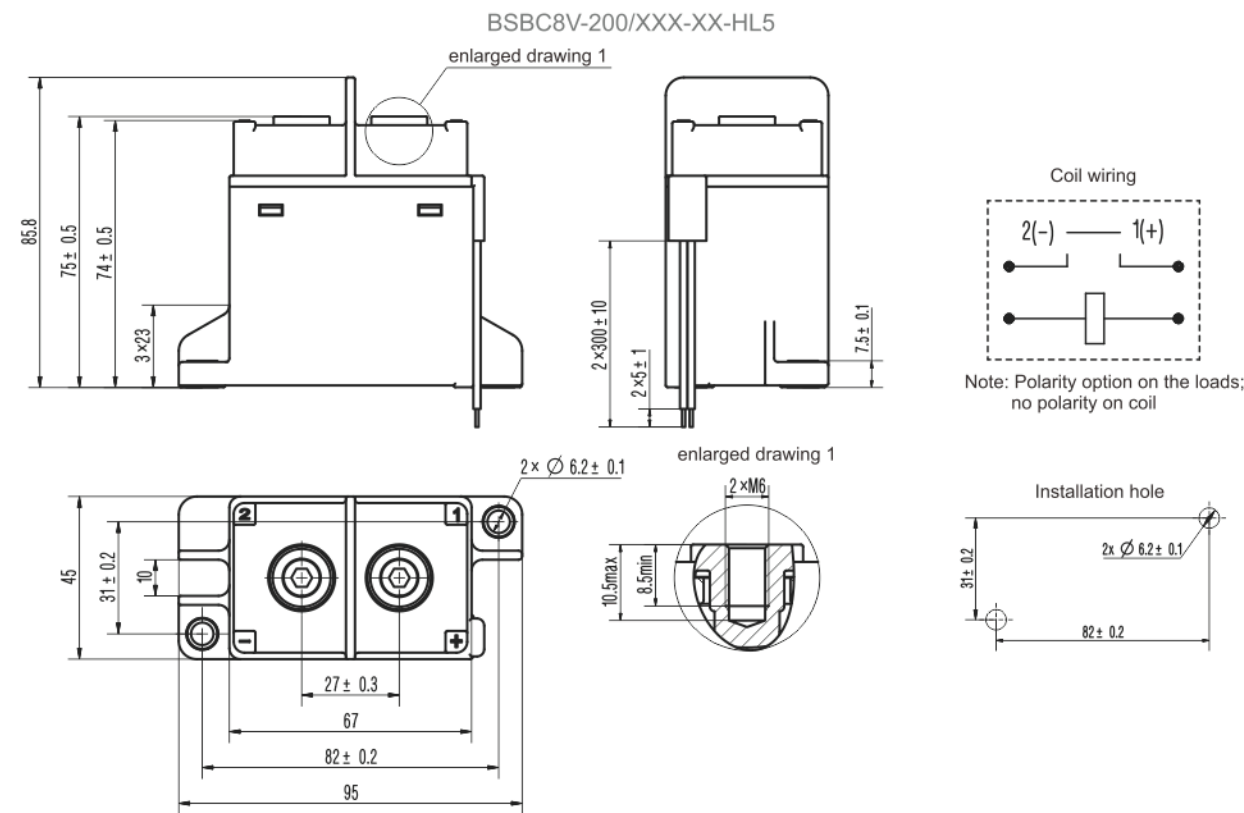
Ordering

|                     |                                               |       |   |      |      |     |    |   |   |   |     |
|---------------------|-----------------------------------------------|-------|---|------|------|-----|----|---|---|---|-----|
|                     |                                               | GDCR8 | V | -200 | /750 | -12 | -H | L | 5 | W | XXX |
| Application         | V: EV                                         |       |   |      |      |     |    |   |   |   |     |
| Load current        | 200:200A                                      |       |   |      |      |     |    |   |   |   |     |
| Load voltage        | Nil: 450VDC 750: 750VDC                       |       |   |      |      |     |    |   |   |   |     |
| Coil voltage        | 12: 12VDC 24: 24VDC                           |       |   |      |      |     |    |   |   |   |     |
| Contact type        | H: With normally open                         |       |   |      |      |     |    |   |   |   |     |
| Coil input terminal | L: Input wire; B: Input wire +connector       |       |   |      |      |     |    |   |   |   |     |
| Load input terminal | 5: Internal thread                            |       |   |      |      |     |    |   |   |   |     |
| Mounting type       | Nil: Vertical mounting W: Horizontal mounting |       |   |      |      |     |    |   |   |   |     |
| Customer No.        | XXX: Customer requirement Nil: Standard       |       |   |      |      |     |    |   |   |   |     |

Note: The customer special requirement express as customer No. after evaluating between each party.

Outline, coil wiring , installation hole

Unit: mm

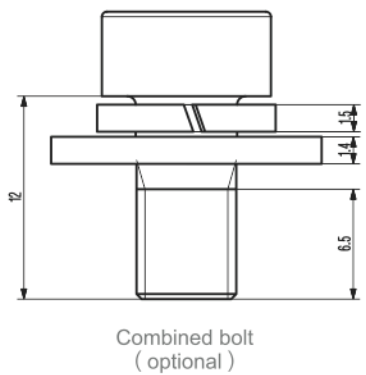


Remark: In case of no tolerance shown in outline dimension: outline dimension≤10mm, tolerance should be±0.3mm; outline dimension is between ( 10~50 ) mm, tolerance should be±0.5mm; outline dimension≥50mm, tolerance should be±0.8mm.

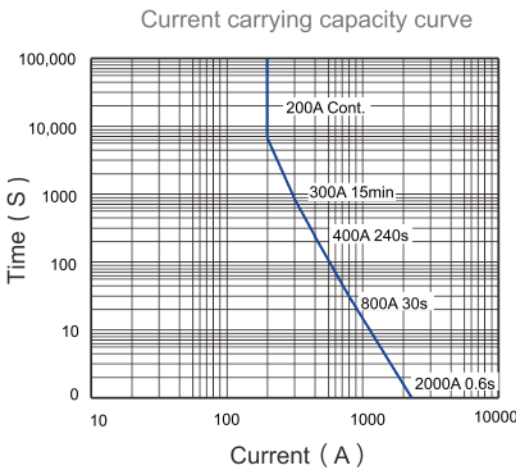
DC Relay

Combined bolt

Unit: mm



Characteristic curve



Note: The data above is measured at the environment 85℃, with cross section area of wire≥60mm<sup>2</sup>. The data is only for reference and please do not use it for fuse selection.

Cautions

- In case of loosening, please use washer when install the relay with M5 screw, and the torque within3N · m~4N · m. The torque of fixing screw at terminals shall be within 9N · m~11N · m. The torque beyond the range may cause damage.
- Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area 60mm<sup>2</sup> min, otherwise the terminal parts may have abnormal heating.
- Cautions of relay installation: when use M5 screw, the thickness and strength of the washer needs to be guaranteed or it may deform and burst the cover.

DC Relay

P/N GDCR8-250



Characteristic

- Ceramic brazing sealing technology, to achieve the contact part of airtight packaging, no risk of arc leakage, ensure no fire, no burst
- In the airtight package structure, the hydrogen-dominated gas is filled to effectively prevent the oxidation and burning of contact points, and the contact resistance is low and stable
- 250A 85°C long time current carrying capacity
- In response to abnormal conditions, it can break 10 times of over current
- Insulation resistance up to 1000MΩ ( 1000VDC ) , dielectric withstand voltage meet IEC60664-1 requirement

Contact parameter

|                           |                                      |
|---------------------------|--------------------------------------|
| Contact type              | 1H                                   |
| Contact resistance        | ≤0.3mΩ ( at 20A )                    |
| Contact rated current     | 250A                                 |
| Max. switching voltage    | 750VDC                               |
| Max. breaking current     | 2000A ( 450VDC ) , more than 1 cycle |
| Max. switching power      | 450V: 112.5kW<br>750V: 187.5kW       |
| Current carrying capacity | 250A: keep                           |
|                           | 375A: 10min                          |
|                           | 500A: 120s                           |
|                           | 1000A: 30s                           |
|                           | 2500A: 0.6s                          |

Note: Current carrying capacity data is tested at ambient temperature of 85°C, cross section≥100mm², more detail, please see curve.

Coil parameter

| Rated voltage VDC | Operational voltage VDC | Release voltage VDC | Coil power W |
|-------------------|-------------------------|---------------------|--------------|
| 12                | ≤9                      | ≥1                  | 6            |
| 24                | ≤18                     | ≥2                  | 6            |

Note: The operational voltage and release voltage are conservative values in the normal temperature.

Environmental characteristics

|                     |           |                                       |
|---------------------|-----------|---------------------------------------|
| Shock               | Stability | switch off: 98m/s² switch on: 196m/s² |
|                     | Strength  | 490m/s²                               |
| Vibration           |           | 10Hz ~ 500Hz 49m/s²                   |
| Humidity            |           | 5% ~ 85%RH                            |
| Ambient temperature |           | -40℃ ~ +85℃                           |
| IP grade            |           | IP67 ( contact )                      |

Life

| Mechanical endurance  |                 | 2×10 <sup>5</sup> ops                                                         |                                                                               |
|-----------------------|-----------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
|                       |                 | 450V                                                                          | 750V                                                                          |
| Electricity endurance | Capacitive load | connect: 2.5×10 <sup>4</sup> ops ( 22.5VDC, τ=1ms )<br>impact 400A, keep 250A | connect: 2.5×10 <sup>4</sup> ops ( 37.5VDC, τ=1ms )<br>impact 400A, keep 250A |
|                       |                 | switch: 3×10 <sup>3</sup> ops ( 450VDC, 250A )                                | switch: 500 ops ( 750VDC, 250A )                                              |
|                       | Resistive load  | switch: 100 ops ( 450VDC, -250A )                                             | switch: 10 ops ( 750VDC, -250A )                                              |
|                       |                 | breaking capacity: 1 ops ( 450VDC, 2000A )                                    | breaking capacity: 1 ops ( 450VDC, 2000A )                                    |

Note 1: Except for special notes, the ambient temperature of electrical durability test is 23°C and the on-break ratio is 0.6s:5.4s.  
Note 2: When the relay is used to control the main circuit of charge and discharge, the pre-charge circuit should be added. If there is no pre-charging path, a transient large current will be generated when the relay closes, which may cause the relay to stick.

Electrical characteristics

| Insulation resistance           |                          | 1000MΩ ( 1000VDC ) |
|---------------------------------|--------------------------|--------------------|
| Dielectric withstand voltage    | between contact and coil | 4000VAC 1min       |
|                                 | between open contacts    | 3000VAC 1min       |
| Operate time ( at nomi. volt. ) |                          | ≤50ms              |
| Release time ( at nomi. volt. ) |                          | ≤30ms              |

Note: The data shown above are initial values.

Other

|                             |                      |
|-----------------------------|----------------------|
| Terminal                    | M6 internal thread   |
| Mounting torque at load end | M6 9~11N · m         |
| Relay mounting torque       | M5 3~4N · m          |
| Weight                      | ≈570g                |
| Outline dimension           | 95.0mm×45.0mm×85.0mm |

DC Relay

P/N GDCR8-250



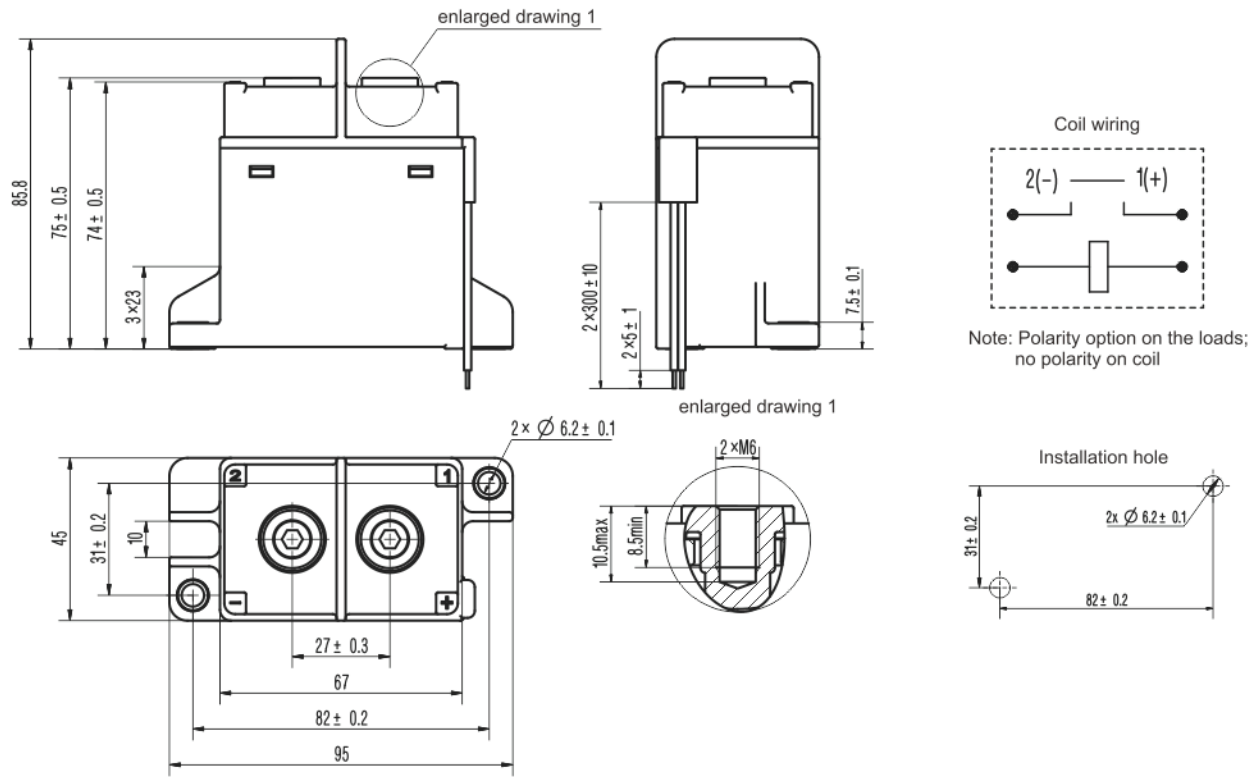
Ordering

|                     |                                               |      |      |     |    |   |   |   |     |
|---------------------|-----------------------------------------------|------|------|-----|----|---|---|---|-----|
|                     | GDCR8 V                                       | -250 | /750 | -12 | -H | L | 5 | W | XXX |
| Application         | V: EV                                         |      |      |     |    |   |   |   |     |
| Load current        | 250:250A                                      |      |      |     |    |   |   |   |     |
| Load voltage        | Nil: 450VDC 750: 750VDC                       |      |      |     |    |   |   |   |     |
| Coil voltage        | 12: 12VDC 24: 24VDC                           |      |      |     |    |   |   |   |     |
| Contact type        | H: With normally open                         |      |      |     |    |   |   |   |     |
| Coil input terminal | L: Input wire, B: Input wire +connector       |      |      |     |    |   |   |   |     |
| Load input terminal | 5: Internal thread                            |      |      |     |    |   |   |   |     |
| Mounting type       | Nil: Vertical mounting W: Horizontal mounting |      |      |     |    |   |   |   |     |
| Customer No.        | XXX: Customer requirement Nil: Standard       |      |      |     |    |   |   |   |     |

Note: The customer special requirement express as customer No. after evaluating between each party.

Outline, coil wiring , installation hole

Unit: mm



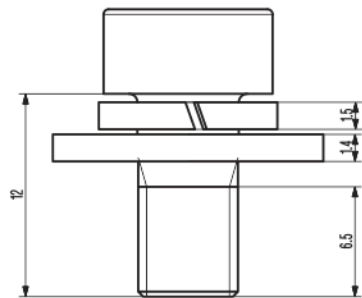
Remark: In case of no tolerance shown in outline dimension: outline dimensions≤10mm, tolerance should be±0.3mm; outline dimension is between ( 10 ~ 50 ) mm, tolerance should be ±0.5mm, outline dimension≥50mm, tolerance should be±0.8mm.

DC Relay



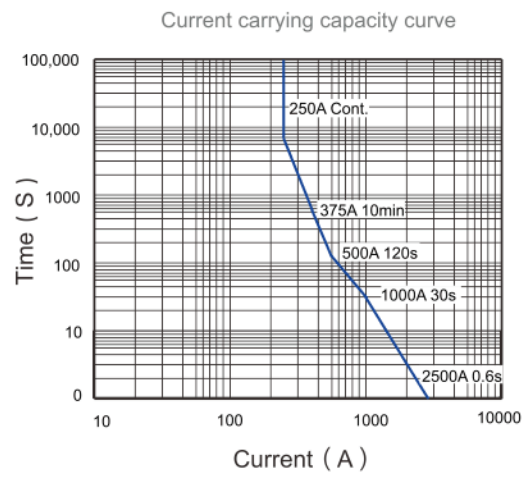
Combined bolt

Unit: mm



Combined bolt  
( optional )

Characteristic curve



Note: The data above is measured at the environment 85℃, with cross section area of wire≥100mm<sup>2</sup>. The data is only for reference and please do not use it for fuse selection.

Cautions

1. In case of loosening, please use washer when install the relay with M5 screw, and the torque within 3N·m~4N·m, The torque of fixing screw at terminals shall be within 9N·m~11N·m. The torque beyond the range may cause damage.

| Installation for terminal with load |            |                             |                         | Relay installation |           |
|-------------------------------------|------------|-----------------------------|-------------------------|--------------------|-----------|
| Installation way                    | Torque     | Hole diameter of copper bar | Thickness of copper bar | Installation way   | Torque    |
| M6 bolt                             | 9N·m~11N·m | ∅6~∅6.5                     | 2mm~3mm                 | M5 bolt            | 3N·m~4N·m |

2. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area 100mm<sup>2</sup> min, otherwise the terminal parts may have abnormal heating.
3. Cautions of relay installation: when use M5 screw, the thickness and strength of the washer needs to be guaranteed or it may deform and burst the cover.

P/N GDCR9-20



Characteristic

- EV precharge relay
- 20A 85°C long time current carrying capacity
- Electrical safety meets IEC 60664-1 requirements
- Small size

Contact parameter

|                           |                                   |
|---------------------------|-----------------------------------|
| Contact type              | 1H                                |
| Contact resistance        | ≤10mΩ ( at 1A )                   |
| Contact rated current     | 20A                               |
| Max. switching voltage    | 450VDC                            |
| Max. breaking current     | 30A ( 450VDC ) ,more than 1 cycle |
| Max. switching power      | 9kW                               |
| Current carrying capacity | 20A: keep                         |
|                           | 30A: 1h                           |
|                           | 40A: 20min                        |
|                           | 80A: 30s                          |
|                           | 120A: 10s                         |
|                           | 200A: 0.6s                        |

Note: Current carrying capacity data is tested at ambient temperature of 85°C, cross section≥4mm², more detail, please see curve.

Coil parameter

| Rated voltage<br>VDC | Operational voltage<br>VDC | Release voltage<br>VDC | Coil power<br>W |
|----------------------|----------------------------|------------------------|-----------------|
| 12                   | ≤9                         | ≥1                     | 3               |
| 24                   | ≤18                        | ≥2                     | 3               |

Note: The operational voltage and release voltage are conservative values in the full temperature range ( -40℃ ~ +85℃ ) .

Environmental characteristics

|                     |           |                     |
|---------------------|-----------|---------------------|
| Shock               | Stability | 196m/s²             |
|                     | Strength  | 490m/s²             |
| Vibration           |           | 10Hz ~ 500Hz 49m/s² |
| Humidity            |           | 5%~85%RH            |
| Ambient temperature |           | -40℃ ~ +85℃         |

Life

|                       |                |                                                    |
|-----------------------|----------------|----------------------------------------------------|
| Mechanical endurance  |                | 2×10 <sup>5</sup> ops                              |
| Electricity endurance | Resistive load | connect: 7.5×10 <sup>4</sup> ops<br>( 450VDC,20A ) |
|                       |                | connect: 7.5×10 <sup>4</sup> ops<br>( 750VDC,6A )  |
|                       |                | connect: 3×10 <sup>3</sup> ops<br>( 450VDC,20A )   |
|                       |                | connect: 1×10 <sup>4</sup> ops<br>( 450VDC,10A )   |

Note 1: Except for special notes, the ambient temperature of electrical durability test is 23°C and the on-break ratio is 0.6s:5.4s.

Electrical characteristics

|                                 |                          |                   |
|---------------------------------|--------------------------|-------------------|
| Insulation resistance           |                          | 1000MΩ ( 500VDC ) |
| Dielectric withstand voltage    | between contact and coil | 3000VAC 1min      |
|                                 | between open contacts    | 2500VAC 1min      |
| Operate time ( at nomi. volt. ) |                          | ≤30ms             |
| Release time ( at nomi. volt. ) |                          | ≤10ms             |

Note: The data shown above are initial values.

Other

|                   |                      |
|-------------------|----------------------|
| Terminal          | QC ( ISO ) 、PCB      |
| Weight            | ≈50g                 |
| Outline dimension | 30.0mm×30.0mm×29.2mm |

DC Relay

P/N GDCR9-20



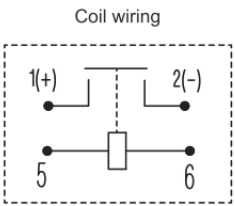
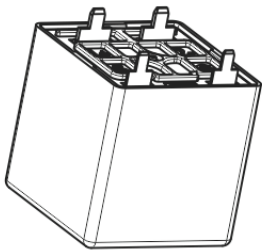
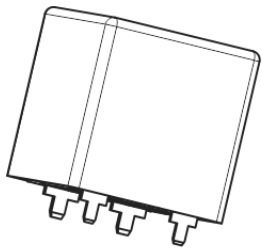
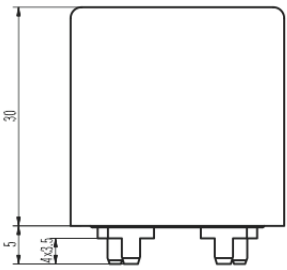
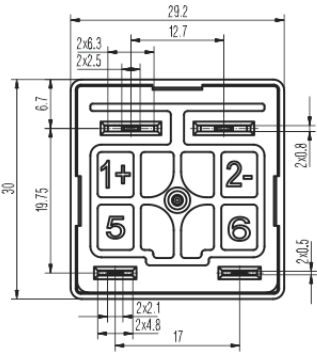
Ordering

|                         |                                                      |         |     |      |     |    |   |   |   |   |     |
|-------------------------|------------------------------------------------------|---------|-----|------|-----|----|---|---|---|---|-----|
|                         |                                                      | GDCR9 V | -20 | /450 | -12 | -H | T | P | 2 | A | XXX |
| Application             | V: EV                                                |         |     |      |     |    |   |   |   |   |     |
| Load current            | 20: 20A                                              |         |     |      |     |    |   |   |   |   |     |
| Load voltage            | 450: 450VDC                                          |         |     |      |     |    |   |   |   |   |     |
| Coil voltage            | 12: 12VDC 24: 24VDC                                  |         |     |      |     |    |   |   |   |   |     |
| Contact type            | H: With normally open                                |         |     |      |     |    |   |   |   |   |     |
| Raw material of contact | T: Silver alloy                                      |         |     |      |     |    |   |   |   |   |     |
| Coil input terminal     | P: PCB Q: QC                                         |         |     |      |     |    |   |   |   |   |     |
| Load iinput terminal    | Nil: PCB 2: QC                                       |         |     |      |     |    |   |   |   |   |     |
| Installing hole         | Nil: without installing hole A: with installing hole |         |     |      |     |    |   |   |   |   |     |
| Customer No.            | XXX: Customer requirement Nil: Standard              |         |     |      |     |    |   |   |   |   |     |

Note: The customer special requirement express as customer No. after evaluating between each party.

Outline, coil wiring , installation hole

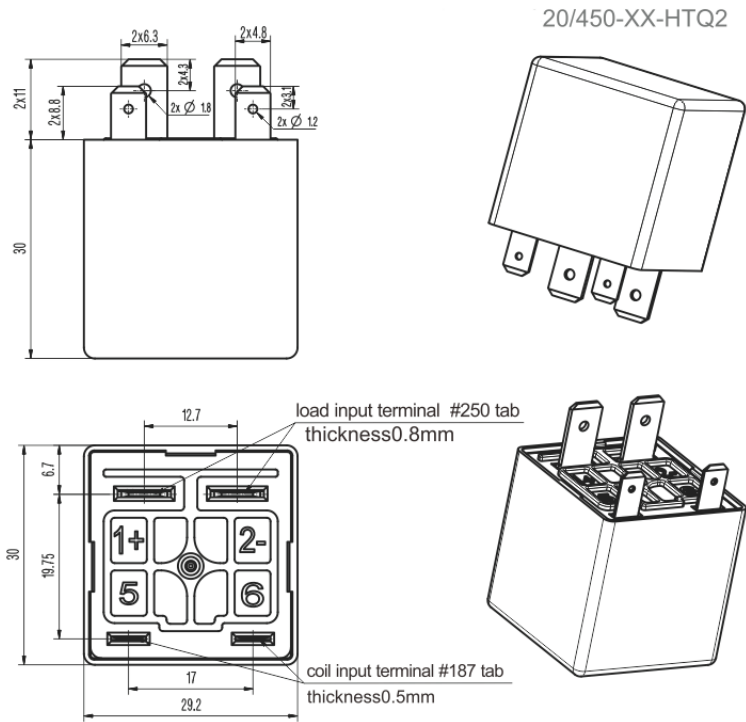
Unit: mm



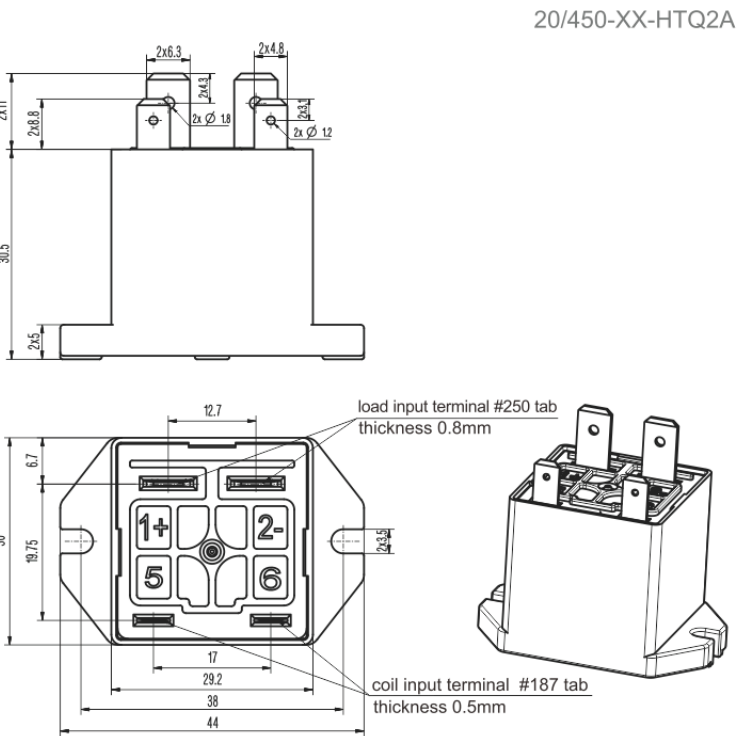
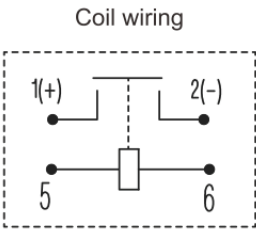
DC Relay

Outline, coil wiring , installation hole

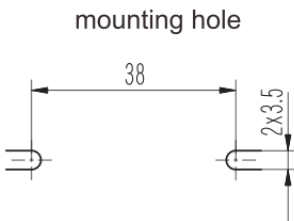
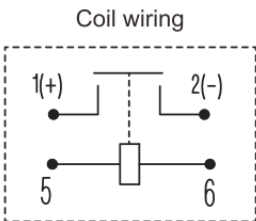
Unit: mm



20/450-XX-HTQ2



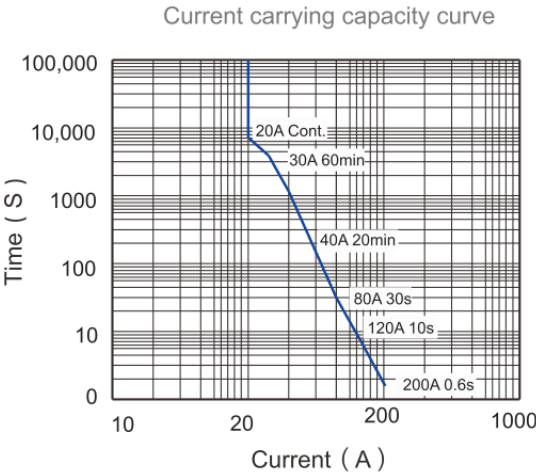
20/450-XX-HTQ2A



Remark: In case of no tolerance shown in outline dimension: outline dimensions≤10mm, tolerance should be ±0.3mm; outline dimension between ( 10~50 ) mm, tolerance should be ±0.5mm; when outline dimension≥50mm, tolerance should be ±0.8mm.

DC Relay

Characteristic curve



Note: The data above is measured at the environment 85℃, with cross section area of wire≥4mm<sup>2</sup>. The data is only for reference and please do not use it for fuse selection.

Cautions

1. In case of loosening, please use washer when install the relay. Use M3 bolt for HTQ2A, the torque within 1.4N · m ~ 2.2N · m; Insertion and Extraction Force of input terminal are : ( 1 ) load terminal: 49N, ( 2 ) coil terminal : 49N. The torque beyond the range may cause damage.
2. When install HTP, the data of welding PCB board: manual welding ( 380±20 ) ℃, time is ( 3 ~ 5 ) s, wave-welding ( 260±5 ) ℃, time is ( 3 ~ 5 ) s.
3. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area 4mm<sup>2</sup> min, otherwise the terminal parts may have abnormal heating.

DC Relay



P/N GDCR9-20



Characteristic

- EV precharge relay
- 40A 85°C long time current carrying capacity
- Electrical safety meets IEC 60664-1 requirements
- Small size

Contact parameter

|                           |                                  |
|---------------------------|----------------------------------|
| Contact type              | 1H                               |
| Contact resistance        | ≤10mΩ ( at 1A )                  |
| Contact rated current     | 40A                              |
| Max. switching voltage    | 450VDC                           |
| Max. breaking current     | 50A( 450VDC ) ,more than 1 cycle |
| Max. switching power      | 22.5kW                           |
| Current carrying capacity | 40A: keep                        |
|                           | 60A: 1h                          |
|                           | 80A: 20min                       |
|                           | 160A: 30s                        |
|                           | 240A: 10s                        |
|                           | 400A: 0.6s                       |

Note: Current carrying capacity data is tested at ambient temperature of 85°C, cross section≥10mm², more detail, please see curve.

Coil parameter

| Rated voltage<br>VDC | Operational voltage<br>VDC | Release voltage<br>VDC | Coil power<br>W |
|----------------------|----------------------------|------------------------|-----------------|
| 12                   | ≤9                         | ≥1                     | 3               |
| 24                   | ≤18                        | ≥2                     | 3               |

Note: The operational voltage and release voltage are conservative values in the full temperature range ( -40°C ~ +85°C ) .

Environmental characteristics

|                     |           |                     |
|---------------------|-----------|---------------------|
| Shock               | Stability | 196m/s²             |
|                     | Strength  | 490m/s²             |
| Vibration           |           | 10Hz ~ 500Hz 49m/s² |
| Humidity            |           | 5%~85%RH            |
| Ambient temperature |           | -40°C ~ +85°C       |

Life

|                       |                       |                                                 |
|-----------------------|-----------------------|-------------------------------------------------|
| Mechanical endurance  | 2×10 <sup>6</sup> ops |                                                 |
| Electricity endurance | Resistive load        | connect: 7.5×10 <sup>4</sup> ops ( 450VDC,35A ) |
|                       |                       | connect: 1×10 <sup>3</sup> ops ( 450VDC,40A )   |
|                       |                       | connect: 1×10 <sup>4</sup> ops ( 450VDC,10A )   |

Note 1: Except for special notes, the ambient temperature of electrical durability test is 23°C and the on-break ratio is 0.6s:5.4s.

Electrical characteristics

|                                 |                          |                   |
|---------------------------------|--------------------------|-------------------|
| Insulation resistance           |                          | 1000MΩ ( 500VDC ) |
| Dielectric withstand voltage    | between contact and coil | 3000VAC 1min      |
|                                 | between open contacts    | 2000VAC 1min      |
| Operate time ( at nomi. volt. ) |                          | ≤30ms             |
| Release time ( at nomi. volt. ) |                          | ≤10ms             |

Note: The data shown above are initial values.

Other

|                   |                      |
|-------------------|----------------------|
| Terminal          | QC ( ISO ) 、PCB      |
| Weight            | ≈50g                 |
| Outline dimension | 30.0mm×30.0mm×29.2mm |

DC Relay

P/N GDCR9-20



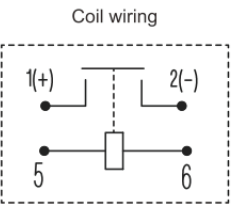
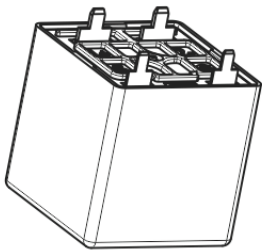
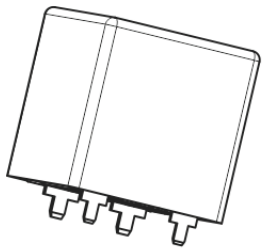
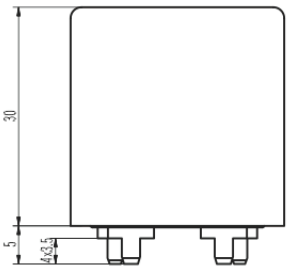
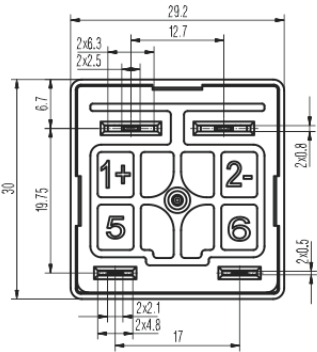
Ordering

|                         |                                                      |    |      |     |    |   |   |   |   |     |
|-------------------------|------------------------------------------------------|----|------|-----|----|---|---|---|---|-----|
| GDCR9 V                 |                                                      | 40 | /450 | -12 | -H | T | P | 2 | A | XXX |
| Application             | V: EV                                                |    |      |     |    |   |   |   |   |     |
| Load current            | 20: 20A                                              |    |      |     |    |   |   |   |   |     |
| Load voltage            | 450: 450VDC                                          |    |      |     |    |   |   |   |   |     |
| Coil voltage            | 12: 12VDC 24: 24VDC                                  |    |      |     |    |   |   |   |   |     |
| Contact type            | H: With normally open                                |    |      |     |    |   |   |   |   |     |
| Raw material of contact | T: Silver alloy                                      |    |      |     |    |   |   |   |   |     |
| Coil input terminal     | P: PCB Q: QC                                         |    |      |     |    |   |   |   |   |     |
| Load iinput terminal    | Nil: PCB 2: QC                                       |    |      |     |    |   |   |   |   |     |
| Installing hole         | Nil: without installing hole A: with installing hole |    |      |     |    |   |   |   |   |     |
| Customer No.            | XXX: Customer requirement Nil: Standard              |    |      |     |    |   |   |   |   |     |

Note: The customer special requirement express as customer No. after evaluating between each party.

Outline, coil wiring , installation hole

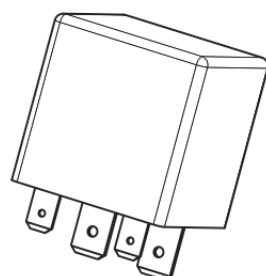
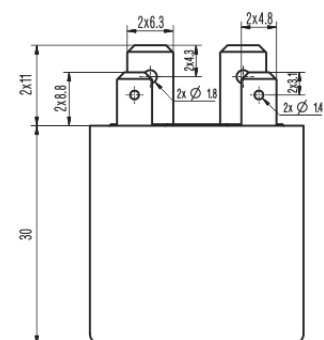
Unit: mm



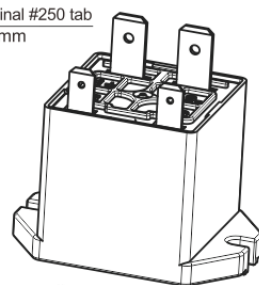
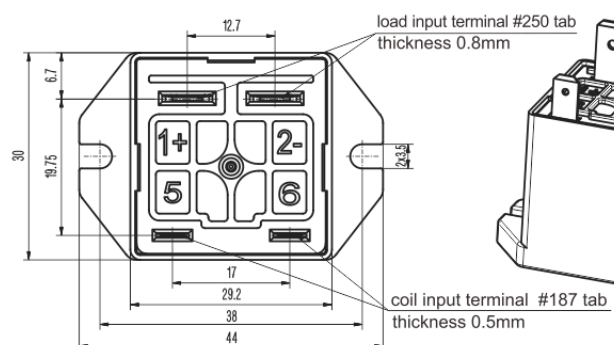
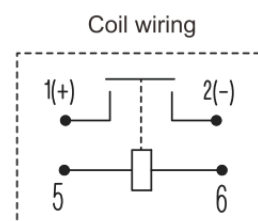
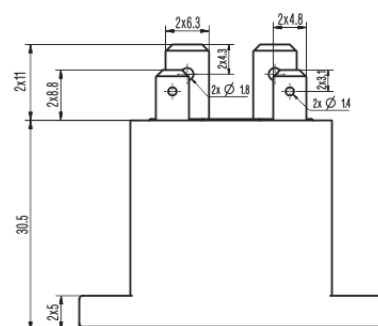
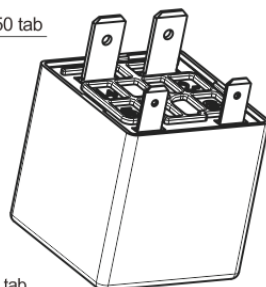
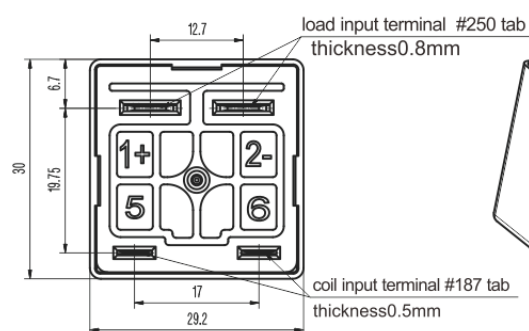
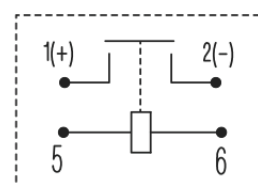
DC Relay

## Outline, coil wiring , installation hole

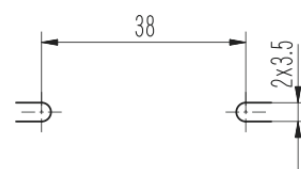
Unit: mm



## Coil wiring



mounting hole

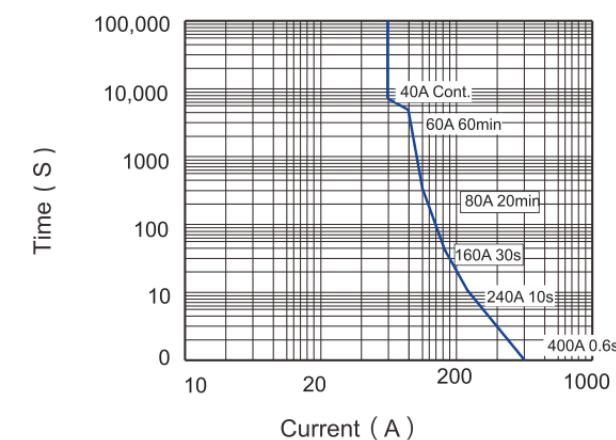


Remark: In case of no tolerance shown in outline dimension: outline dimension $\leq$ 10mm, tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension between ( 10~50 ) mm, tolerance should be  $\pm 0.5\text{mm}$ ; when outline dimension $\geq$ 50mm, tolerance should be  $\pm 0.8\text{mm}$ .

## DC Relay

## Characteristic curve

Current carrying capacity curve



Note: The data above is measured at the environment 85°C, with cross section area of wire≥10mm<sup>2</sup>. The data is only for reference and please do not use it for fuse selection.

## Cautions

1. In case of loosening, please use washer when install the relay. Use M3 bolt for HTQ2A, the torque within  $1.4\text{N} \cdot \text{m} \sim 2.2\text{N} \cdot \text{m}$ ; Insertion and Extraction Force of input terminal are : ( 1 ) load terminal: 49N, ( 2 ) coil terminal : 49N. The torque beyond the range may cause damage.
2. When install HTP, the data of welding PCB board: manual welding (  $380 \pm 20$  ) °C, time is ( 3 ~ 5 ) s , wave-welding (  $260 \pm 5$  ) °C, time is ( 3 ~ 5 ) s.
3. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area  $4\text{mm}^2$  min , otherwise the terminal parts may have abnormal heating.

## DC Relay