

High Voltage Contactors IHVA150 Series

- Non-polarity for contact current
- Maximum DC breaking capacity at 1500A
- Maximum DC breaking capacity at 1500VDC
- Maximum making inrush current capacity at 600A
- Optional auxiliary contact available
- High insulation resistance (14mm clearance/25mm creepage)

Typical applications

Charging station, AGV, Electric forklift,
Energy storage systems, Photovoltaic inverter

Approvals

cULus E58304, CCC



| Main Contact Data | |
|---------------------------------------|-------------------------------------|
| Contact arrangement | 1 Form X (SPST-NO-DM) |
| Switching voltage range ¹⁾ | 12 - 1500VDC |
| Rated current | 150 A |
| Contact material | Ag alloy |
| Initial Voltage Drop | 0.3mΩ (150A current 1 minute after) |
| Operate Time max. | 65ms |
| Operate bounce time max. | 2ms |
| Release Time, max | 20mS |
| Mechanical Life | 500,000 cycles |

1) Please refer to "contact ratings" with the specified application condition. If there is no specified statement, the switching test was performed at room temp.

| Contact ratings | |
|--|--------|
| Load | Cycles |
| 5A, 1500VDC, UL60947-4-1 | 200 |
| 20A, 1000VDC, UL60947-4-1 | 50 |
| 150A, 1500VDC, carry only, UL60947-4-1 | / |
| 150A, 110VDC, EN/UL60947-4-1 | 6,000 |
| 150A, 450VDC, | 100 |
| 150A, 750VDC, | 30 |
| 600A, make only, | 3,000 |
| 1500A, 400VDC, break only | 2 |

| Auxiliary Contact Data | |
|--------------------------|-------------------------------|
| Contact Form | 1 Form A (SPST-NO) |
| Contact Current, Max. | 2A, 30VDC / 3A, 125VAC |
| Contact Current, Min. | 100mA, 8VDC |
| Contact Resistance, Max. | 0.3Ω @ 30VDC / 0.15Ω @ 125VAC |

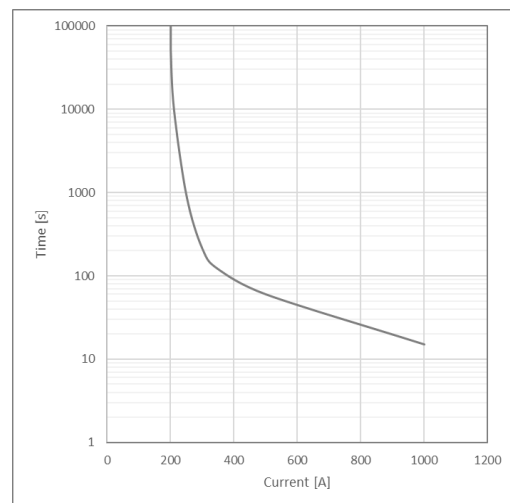
| Coil versions, DC coil | | | | | | |
|------------------------|---------------------|---------------------|-------------------------------|---------------------|-------------------|--------------|
| Coil code | Nominal Voltage VDC | Operate Voltage VDC | Maximum allowable voltage VDC | Release Voltage VDC | Coil resistance Ω | Coil Power W |
| 12 | 12 | 9 | 15 | 1 | 29 | 5 |
| 24 | 24 | 18 | 30 | 2 | 115 | 5 |
| 48 | 48 | 36 | 60 | 4 | 460 | 5 |

All figures are given for coil without pre-energization, at ambient temperature +23°C

| Insulation Data | |
|---|------------------------------|
| Dielectric Withstand Voltage (leakage current <1mA) | |
| between open contacts | 5,600Vrms/8,000Vdc |
| between contact and coil | 6000Vrms |
| Initial insulation resistance @ 500VDC | |
| between open contacts | 1×10 ⁸ Ω |
| between contact and coil | 1×10 ⁸ Ω |
| Clearance/creepage | |
| between contact and coil | 14mm clearance/25mm creepage |

| Other Data | |
|---|----------------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter | |
| Ambient temperature | |
| DC coil | -40°C to +85°C |
| Category of environmental protection | |
| IEC 61810 | RTII - flux proof |
| Vibration resistance (functional) | Sine, 55 – 2000Hz, Peak 20G |
| Shock resistance (functional), | 11ms 1/2 Sine, Peak 20G |
| Terminal type | Screw for contact, wire for coil |
| Weight | 465g |
| Packaging/unit | 20pcs/box |

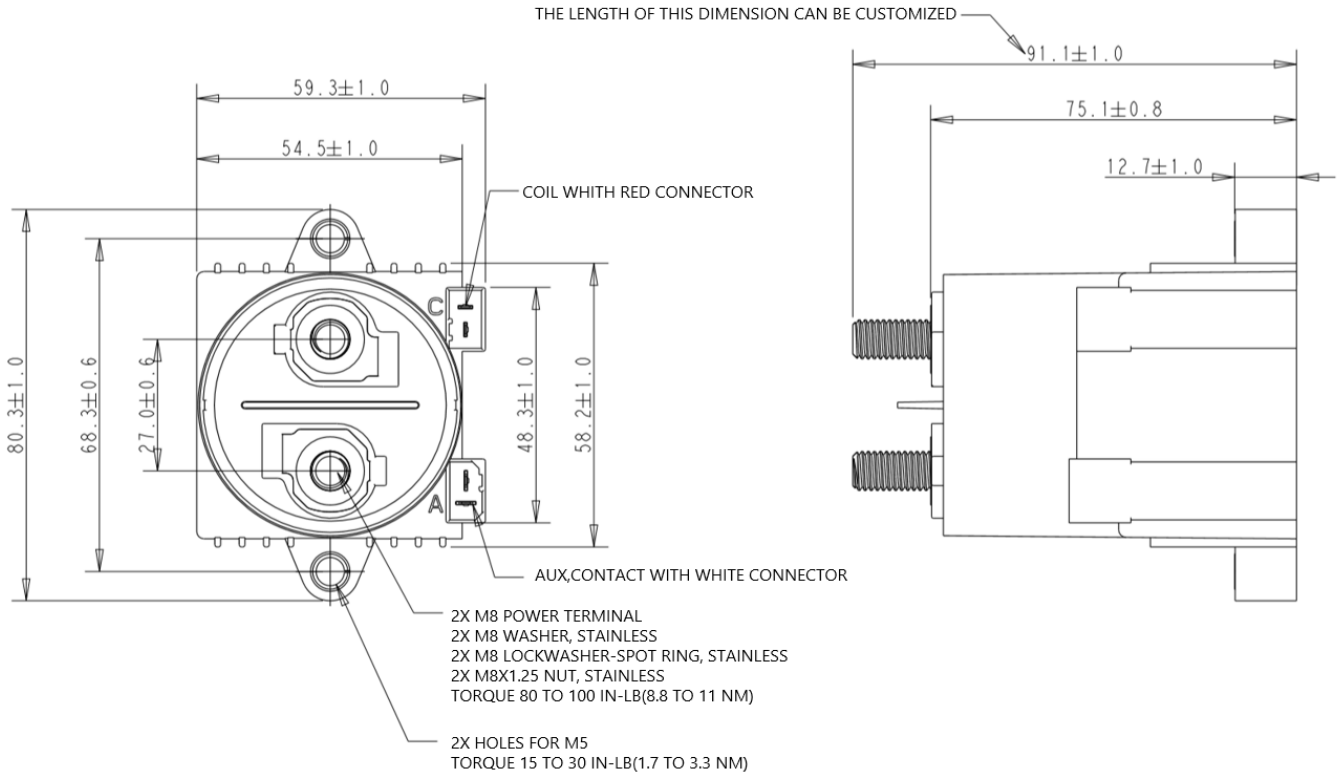
IHVA150 Estimated Carrying Current Capability ²⁾



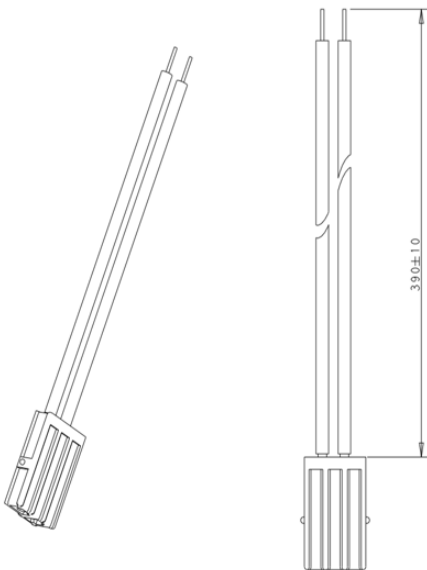
2) All figures are given at ambient temperature 85°C and the contactors connected with 2/0 cable

High Voltage Contactors IHVA150 Series (Continued)

Dimensions



Connection wire



Note: TE will provide 2 pairs of M8 nuts and gaskets.
TE will provide the connection wire for coil terminals and auxiliary contact terminals (for the version with auxiliary contact).

High Voltage Contactors IHVA150 Series (Continued)

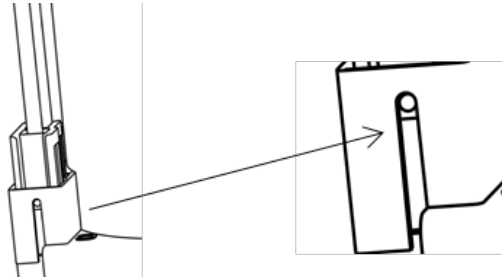
| | | | | | | | | | | |
|---|------|-----|----|---|---|----|---|----|---|-----|
| Product code structure | IHVA | 150 | -A | 3 | D | 12 | V | -B | F | ,XX |
| Product series IHVA = IHVA Contactor | | | | | | | | | | |
| Rated current 150 = 150A | | | | | | | | | | |
| Contact form A = Normally Open H = Normally Open + NO Aux Contacts | | | | | | | | | | |
| Main contact material 3 = Ag alloy | | | | | | | | | | |
| Coil Power D = 5W | | | | | | | | | | |
| Coil Voltage 12 = 12Vdc 24 = 24Vdc 48 = 48Vdc | | | | | | | | | | |
| Enclosure V = RTII | | | | | | | | | | |
| Mounting position B = Bottom | | | | | | | | | | |
| Coil Terminal Connection F = Fasten Terminal | | | | | | | | | | |
| Customer Special Designator XX 2 digit or letter specified by manufacture factory | | | | | | | | | | |

| Product code | Arrangement | Mounting position | Main Contact Material | Coil | Part number |
|-------------------|---------------------------------|-------------------|-----------------------|-------|-------------|
| IHVA150-A3D12V-BF | Normally Open | Bottom | Ag alloy | 12VDC | 2071547-1 |
| IHVA150-A3D24V-BF | | | | 24VDC | 2071547-2 |
| IHVA150-A3D48V-BF | | | | 48VDC | 2071547-3 |
| IHVA150-H3D12V-BF | Normally Open + NO Aux Contacts | | | 12VDC | 1-2071547-1 |
| IHVA150-H3D24V-BF | | | | 24VDC | 1-2071547-2 |
| IHVA150-H3D48V-BF | | | | 48VDC | 1-2071547-3 |

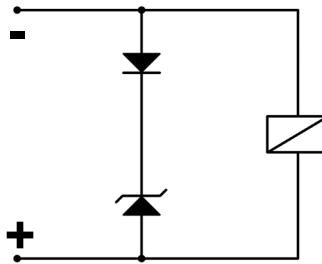
High Voltage Contactors IHVA150 Series (Continued)

Precaution

1. When the Connection wire is inserted into the contactor, it is necessary to ensure that the convex hull of the Connection wire is stuck in the U-shaped groove to prevent the connecting wire from falling off.



2. Please do not directly connect the reverse diode to the coil if intend to suppress the reverse voltage of coil. It is recommended to use a reverse diode plus a Zener diode as below circuit. The regulated voltage is recommended to take 2 times the rated voltage of the coil.



- 3. When using PWM energy-saving control, ensure that the coil is firstly energized at rated coil voltage for 100mS, the PWM frequency is 20KHz, and duty cycle is > 25%. Similarly, do not directly connect the reverse diodes at both ends of the coil.
- 4. When the external circuit is connected to the contact end of the contactor, the copper bar used and the copper terminal plane around the bolt post must be in direct and close contact. Flat pad and elastic washer, the torque should be 8.8~11 N·M when tightening the nut to ensure reliable connection of the terminal and prevent the nut from loosening.
- 5. When the relay is switching the DC load circuit, the final mode of its switching life may cause the contact to be welded or the arc cannot be cut off. It is recommended that customers consider the precautions after relay failure to ensure safety in the actual application design.

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