

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

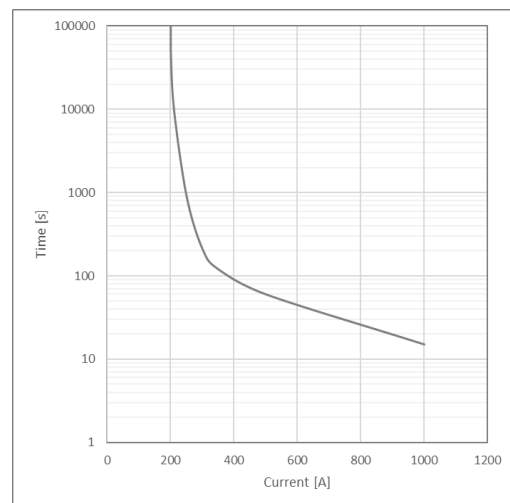
Dielectric Withstand Voltage (leakage current <1mA)	
between open contacts	5,600Vrms/8,000Vdc
between contact and coil	6000Vrms
Initial insulation resistance @ 500VDC	
between open contacts	1×10 ⁸ Ω
between contact and coil	1×10 ⁸ Ω
Clearance/creepage	
between contact and coil	14mm clearance/25mm creepage

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

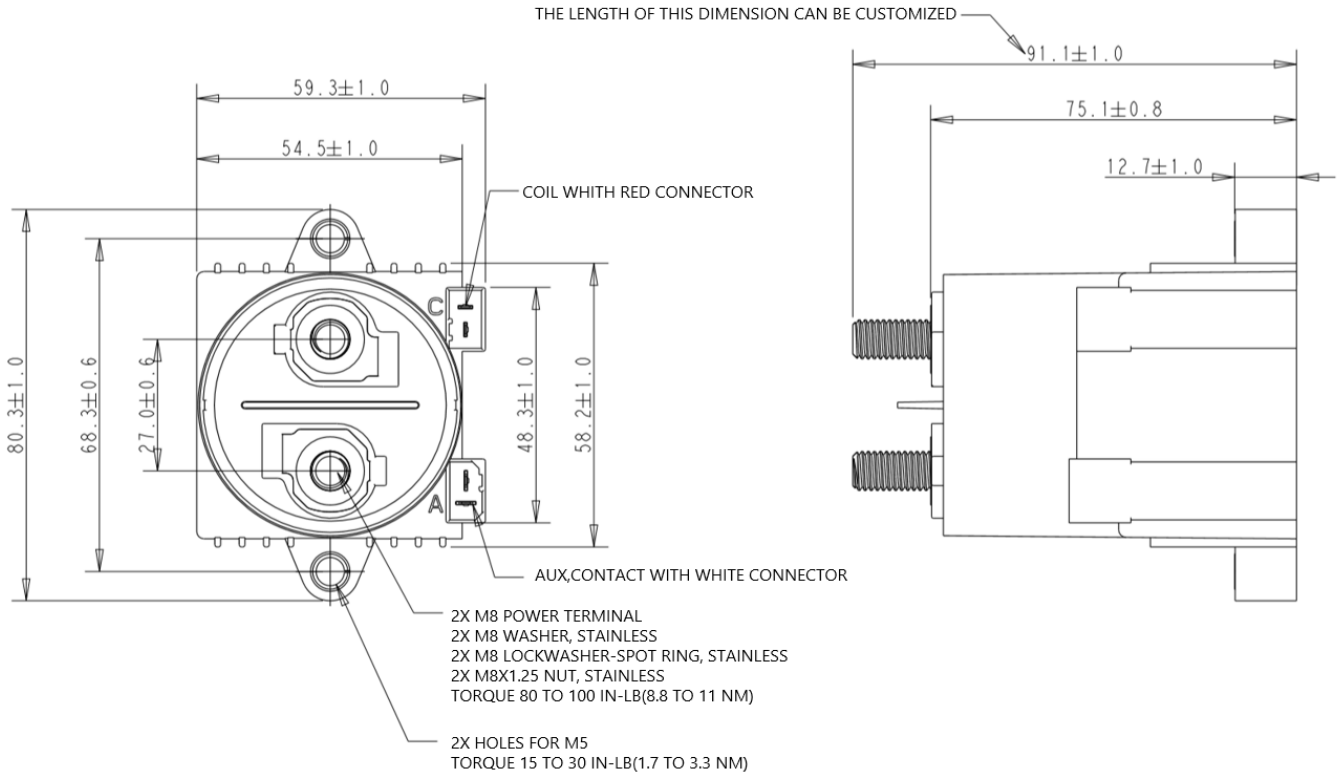
IHVA150 Estimated Carrying Current Capability ²⁾



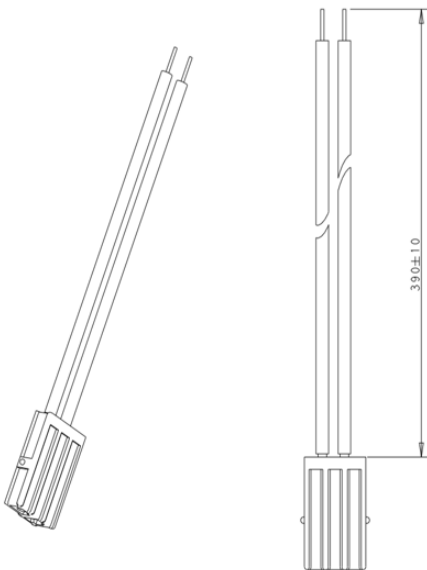
2) All figures are given at ambient temperature 85°C and the contactors connected with 2/0 cable

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).

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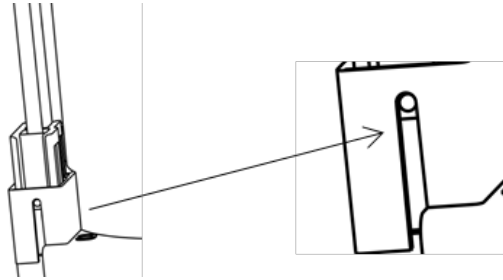
Product code structure	IHVA	150	-A	3	D	12	V	-B	F	,XX
Product series IHVA = IHVA Contactor										
Rated current 150 = 150A										
Contact form A = Normally Open H = Normally Open + NO Aux Contacts										
Main contact material 3 = Ag alloy										
Coil Power D = 5W										
Coil Voltage 12 = 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

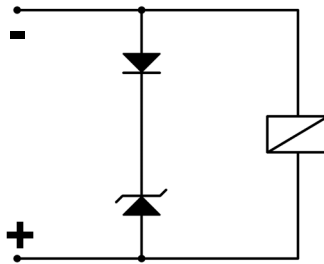
High Voltage Contactors IHVA150 Series (Continued)

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.