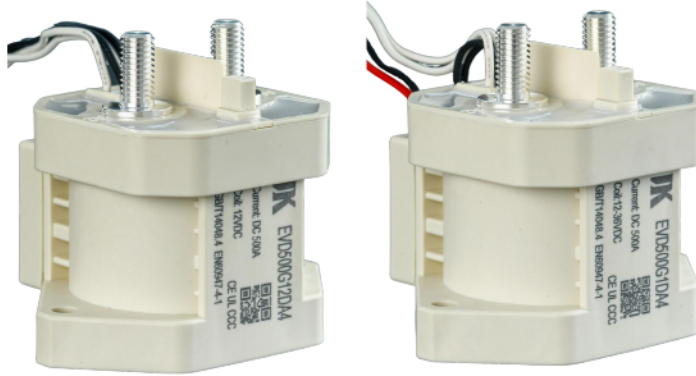


DEV500(G,E)(12,24,48,1)DA4

DC Contactor



E532632

Features

- Epoxy sealed,nitrogen insulation.
- Meets the reference standards : EN60947-4-1.
- Bear high voltage and high current switching.
- Non-polarity configuration for main power contacts.
- Optional auxiliary contact for monitoring of main power contact position.

Part Number System

EVD	<u>500</u>	<u>G</u>	<u>12</u>	<u>DA</u>	<u>4</u>	<u>Z</u>
Series	(1)	(2)	(3)	(4)	(5)	(6)

(1) Rating Current:	500=500A
(2) Contact Form:	E=Normally Open; G=Normally Open with Aux. Contacts
(3) Coil Voltage:	12=12Vdc; 24=24Vdc; 48=48Vdc;1=12-36Vdc
(4) Load Voltage:	12-1000Vdc
(5) Shell Number:	4=300 Shell
(6) Special Code:	Blank=Typical specific; H=SPST-NC for Aux. Contacts; N=Female thread for power contacts mounting. Z=AgSnO2In2O3 for power contacts material.

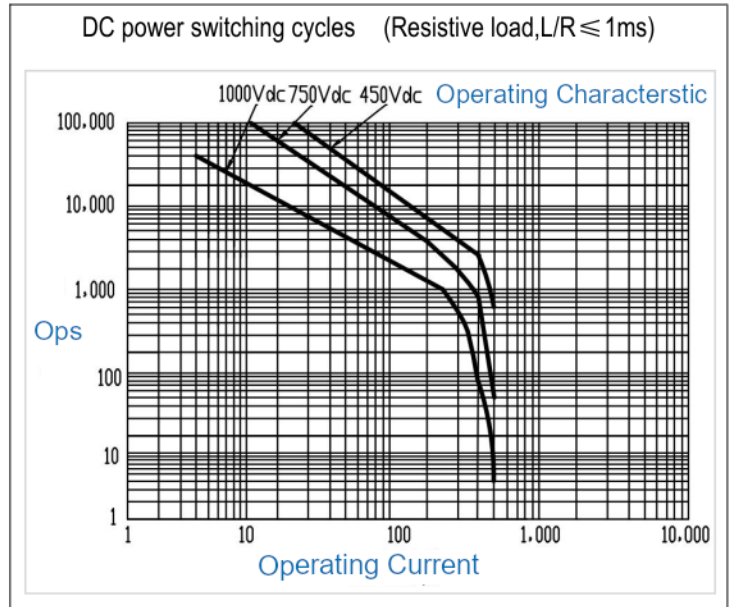
Note: For Special Requirement please contact us at Fastron Electronics

Performance Data

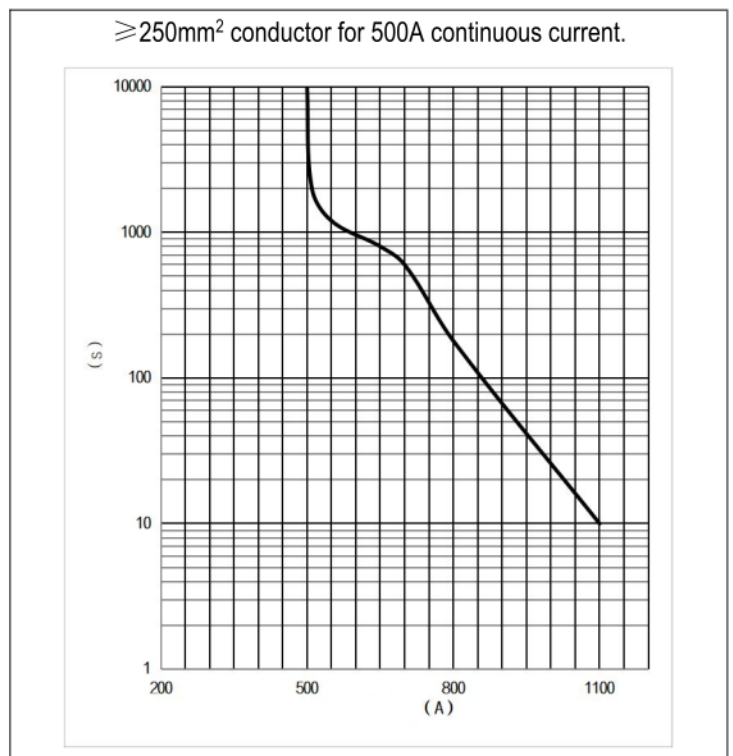
Contact Arrangement	SPST-NO	
Auxiliary Contact	Optional Min load:8VDC 100mA, Resistance: ≤ 100mΩ	
Contact Resistance(initial)	≤ 1mΩ(@500A)	
Rating Voltage	DC1000V	
Rating Current	500A	
Max breaking current	2000A 320Vdc (only 1 op)	
Close Time (at 20°C)	≤ 30ms	
Release Time (at 20°C)	≤ 10ms	
Bounce Time (at 20°C)	≤ 5ms	
Mechanical Life	2×10 ⁵ cycles (0.5s:0.5s)	
Insulation Resistance (at 1000Vdc)	100MΩ (initial)	
	50MΩ (after test)	
Impulse withstand voltage (at sea level)	Between main Contacts	AC 3500 Vrms/ 1mA/1min. (initial)
	Between Coil & Contacts	AC 3000 Vrms/ 1mA/1min. (initial)
Shock 11 ms,1/2 Sine	20G	
Vibration Sine 10-500 Hz	5G	
Temperture range	-40°C to +85°C	
Humidity range	5% to 95% RH.	
Altitude	≤ 4000m	
Weight (approx.)	430g	

Note: The above values are the initial values at room temperature.

Power Switching



Current Carry VS Time



Coil Data

Coil Type	Nominal Voltage (Vdc.)	Coil Voltage (Vdc.) max.	Pick-up Voltage (Vdc.)	Drop-out Voltage (Vdc.)	Coil Resistance (Ω) (1±7%)	Pick-up Current (A)* approx.	Holding Power (W)* approx.	Coil Back EMF approx.
Single	12	16	≤9	≥1	24	0.5	6.0	250V
	24	30	≤18	≥2	96	0.25	6.0	650V
	48	60	≤36	≥4	357	0.13	6.5	950V
PWM	12-36	39 Max.	≤9	≥6	/	3.2 Max	2.5	0V

* At nominal coil voltage, @20°C.

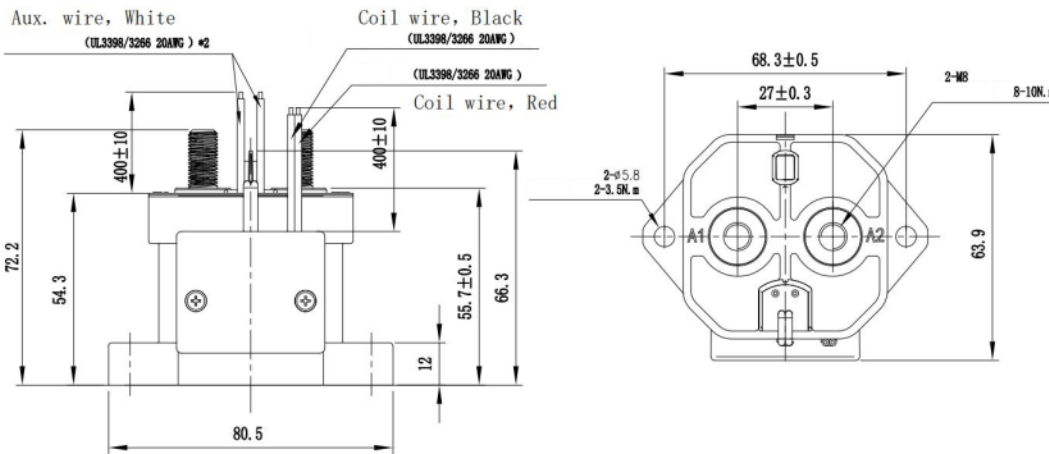
Dimensions

Unit: mm

Viewing angle:

Male thread

Torque: 8-10 N.m

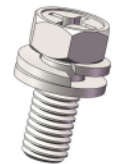
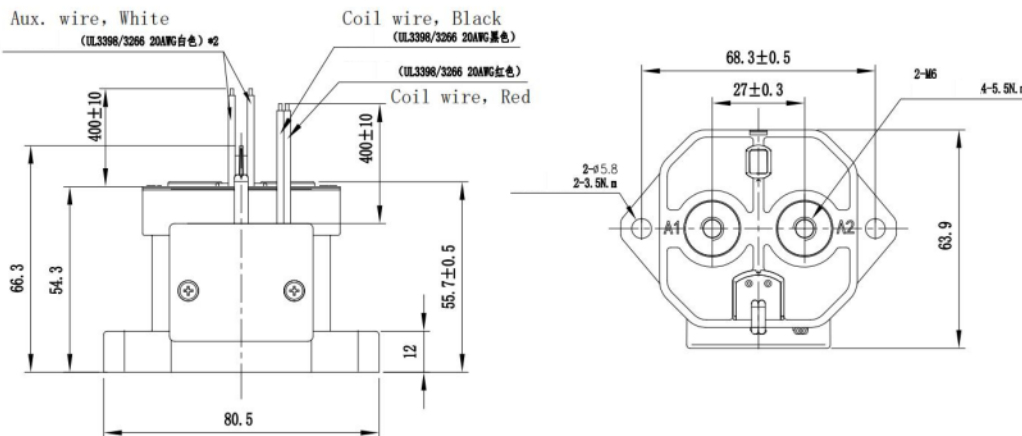


- 2 × M8 Washer
- 2 × M8 Lockwasher
- 2 × M8 Nut

Supplied for power terminals.

Female thread

Torque: 4-5.5 N.m



- 2 × M6 × 14mm Combination Screw
- Supplied for power terminals.

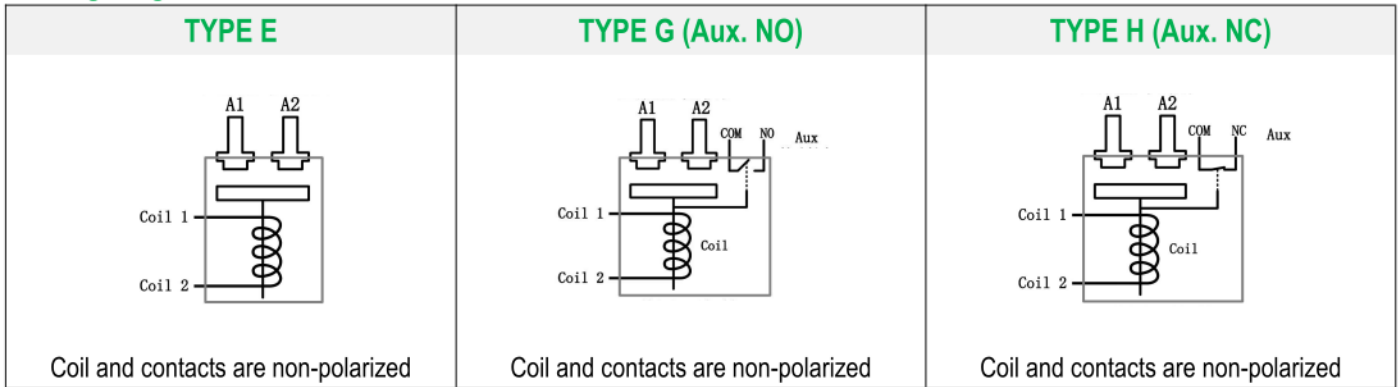
Undeclared dimensional tolerance

Values	≤ 10	10~50	≥ 50
Tolerance	±0.3	±0.6	±1.0

Mounting :

Spec :	M5 screw
Torque :	2-3.5 N.m

Wiring Diagram



Cautions

- When installing contactors, anti loose washers should be used to prevent threaded fasteners from loosening. The torque range for tightening the fasteners should be within the specified range. Exceeding the maximum torque value may cause screw slippage or product breakage.
- The rated values of the contacts are all values under resistive load. When using inductive load (L load) with $L/R \geq 1\text{ms}$, please take surge absorption measures in parallel with the inductive load. Without taking measures, it may lead to a decrease in electrical lifespan and poor disconnection.
- Please avoid installing near strong magnetic boundaries (transformers, magnets) and heating objects.
- Pay attention to the thickness and torque of the connecting copper bars. If the recommended values are exceeded, it may cause thread slippage or loose installation. It is not recommended to install two copper bars on the same side to avoid high-voltage short circuits or sparks.
- Please ensure that there are no silicone substances (such as silicone rubber, silicone oil, silicone coating agents, silicone fillers, etc.) around the contactor, as they can generate volatile gases containing silicon, which may cause silicon to adhere to the contactor contacts and cause poor contact.
- If the coil voltage, contact current, and service life exceed the rated parameters, there is a risk of the contactor temperature being higher than normal.
- If multiple contactors are installed in close proximity, it is necessary to consider whether the heat dissipation and insulation meet the requirements.
- During the installation process, when connecting the copper bars, priority should be given to locking the copper bars at the contactor end to avoid poor contact.
- Select appropriate cables or copper bars based on the current level. Contactors connected with high heat components, such as fuses, diverters, etc., can affect the heat dissipation of the contactor, resulting in temperature superposition. It is necessary to select appropriate copper bars and increase heat dissipation measures based on the actual temperature rise. It is prohibited to directly connect the contactor to the fuse and shunt.
- If there is damage to the contact of a DC contactor, the contact resistance value may change, increasing or decreasing.
- The screw of this product is partially silver plated and needs to be sealed for storage. If exposed to air for a long time, the screw will oxidize and sulfurize, causing the screw to turn yellow and black. If not installed and used for a long time, the storage period in a sealed environment is 1 year.
- Diffusion life of internal gas: This contactor adopts sealed chamber contacts, which are filled with gas. The diffusion life of gas is determined by the temperature inside the contact chamber (i.e. ambient temperature+temperature rise generated by contact electrification), so the ambient temperature should be ensured to be -40 to $+85$ °C.
- If the coil and contact of the contactor are continuously connected to the rated voltage (or current), and the power is cut off and immediately connected, the resistance of the coil will increase due to the increase in coil temperature, which may lead to an increase in the product's pull-in voltage and release voltage. In this case, the following measures should be taken: such as reducing the load current, Limit the continuous power on time or use a coil voltage higher than the rated pull-in voltage.
- The driving circuit power of the product coil must be greater than the power of the product coil, otherwise it will reduce the cutting capacity of the product, or there may be situations where the DC contactor cannot be closed, resulting in damage to the contactor control board.
- When using capacitive load (C load), please take measures such as pre charging the capacitive load to control the impact current below the rated current of the contactor. If no measures are taken, it may cause contact adhesion.
- Dongke reserves the right to make changes to the product. Customers should confirm the content of this product manual before placing their first order, and may request our company to provide new specifications if necessary.