

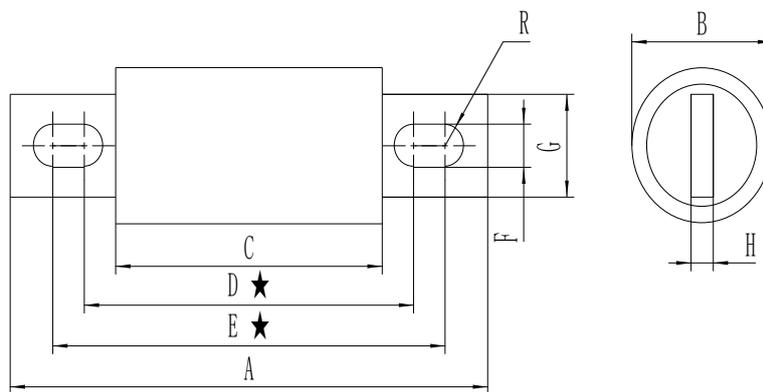
DC800V 125-630A
Basics

- Conform to IEC 60269, ISO8820, GB/T 31465
- Rated Voltage: DC800V
- Rated Current: 125A~630A
- Utilization Category: EV
- Breaking Capacity: DC20kA (time constant: 2±0.5ms)
- RoHS compliant

Features in HRC, Low I^2t , designed for road vehicle application. It can be used for the protection of EV HV electrical system such as power battery system, drive power system, power conversion system and charging equipment; it can also be used for the backup protection of other automotive devices such as relays, disconnect switches, circuit breakers and super capacitors.

	Part Number	Size	Current A	I^2t (A ² s)		Loss W	Weight (g)	Min Package (pcs)	Max Package (pcs)	Mounting
				Prearc	Clearing					
1	RS309-MF-EV125A	6TA	125	1720	5690	41	256±10	3	60	Bolt M10 Torque 21±1N.m
2	RS309-MF-EV150A		150	2690	9100	49				
3	RS309-MF-EV200A		200	5780	20000	62				
4	RS309-MF-EV250A		250	11100	39200	66				
5	RS309-MF-EV300A		300	16600	59900	78				
6	RS309-MF-EV350A		350	24900	91800	87				
7	RS309-MF-EV400A		400	34000	128000	97				
8	RS309-MF-EV450A	7TA	450	46400	158000	118	447±15	3	42	
9	RS309-MF-EV500A		500	61100	208000	133				
10	RS309-MF-EV550A		550	76200	273000	134				
11	RS309-MF-EV630A		630	112200	381000	150				

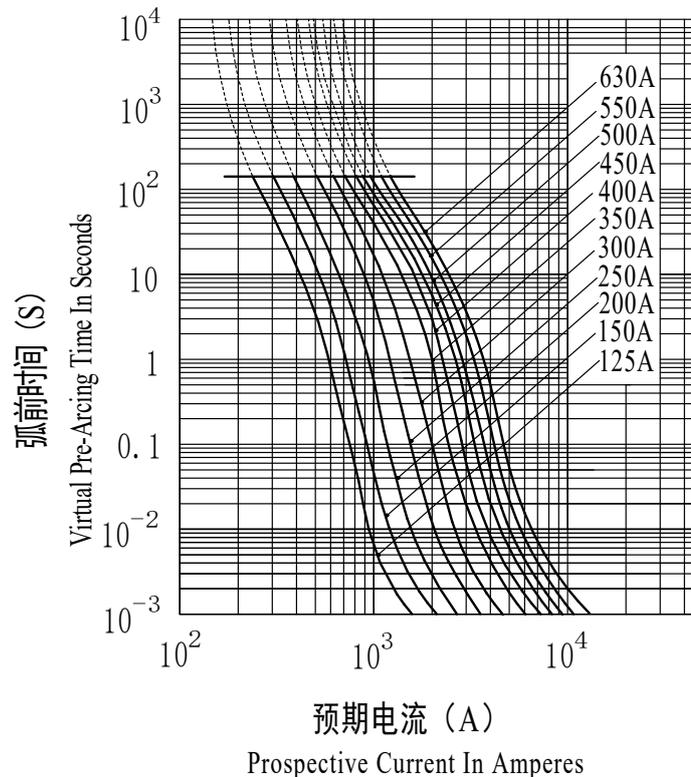
- Note: 1. Above data are under standard test environment: Breaking voltage DC800+2V and time constant 2±0.5ms;
 2. Rated loss tested after 15 min of rated current: ambient temp 23±5°C and humidity 45%-75%;
 3. Connector: I_n up to 250A, conform to GB/T 31465; $I_n > 250A$, conform to GB 13539.

Outline Dimensions (mm)
Mounting


Size	A±2	B±0.5	C±0.5	D±1.5	E±1.5	F±0.5	G±1	H±0.2
6TA	129	37	72	89	109	10.5	25	6
7TA	129	49	72	89.5	109	10.5	38	6

Note: levelness of terminal blades max 0.3mm

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Characteristic Curves
Time-Current Curve


- Note: 1) I_1, I_2 breaking test voltage: DC800+2V; Time constant: 2±0.5ms; Connector is as described above;
 2) Minimum breaking current at least 2I_n;
 3) Above curves below 100ms are equivalent time;
 4) Curves current tolerance ±15%;

Transport and Storage
Transport

Avoid rain/snow or mechanical damage during transportation.

Storage

Storage temp: -40 °C ~ 120°C. Maximum 70% RH at 40°C;

Maximum 80% RH at 30°C; Maximum 90% RH at 20°C;

Package storage: -40°C ~ 70°C. Max 90% RH, no dewing.

Usage Conditions
Normal Condition

Correction is not required under normal conditions.

For other conditions, if they are within tolerable range, certain correction measures may be required.

If conditions are beyond tolerable range, please consult our team for evaluation and testing.

Long term operation current is recommended to be less than 80% of rated current.

Ambient Temperature

Normal Condition

-5° C ~ 40° C

Tolerable Range

-40° C ~ 120° C

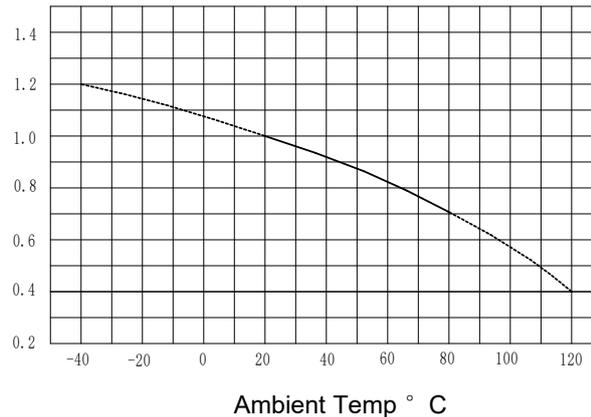
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Ambient temperature correction: operating below -5°C , resulting longer pre-arc time under small overcurrent and slightly increased rated current. In this case, often there is no need to enlarge rated current

If above 40°C , rated current is corrected as per factor $-Kt$

Note 1: Kt value has considered safety margin of rated current during normal operation

Note 2: ambient temperature should last 1-2 hrs before it has a significant impact on fuse


Altitude

Normal Condition

Below 2000m

Tolerable Condition

2000m-4500m

Correction: higher altitude would affect insulation and dissipation, also changes air pressure.

a) For every 100m higher, fuse temperature rise increases by 0.1-0.5k.

b) For every 100m higher, ambient temperature drops by 0.5k approximately.

c) Normally for fuses in open environment, altitude condition is negligible.

d) For closed environment, if ambient temperature inside remains almost stable under different altitude.

If exceed 40°C , fuse should be degraded. For every 1000m, rated current should be degraded by 2%-5%

Note: for any series, larger rated fuse should use higher degrade %, and lower degrade % for smaller one.

Air Insulation Strength (Breakdown)

a) Air insulation reduces with higher altitude. For 2000-4500m, insulation decreases by 12-15% for every 1000m as per GB/T16935. Thus adjust clearing space.

b) Space between fuse terminals is often much larger than specified value in standard.

c) User should consider altitude impact on spacing between fuse and other electric component, earthing etc.

Atmosphere

Normal Condition

Clean atmosphere, maximum 50% RH at 40°C .

Higher RH is allowed when temperature is low, e.g. maximum 90% at 20°C .

Low RH is allowed at higher temp. Moderate dewing may occur under temperature changes.

Tolerable Conditions

If dewing is minor, RH could be up to 95%.

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**Vibration**

It has great withstand to anti-vibration and mechanical shock, up to 10g acceleration.

Conform to rail transport vibration grade II.

The withstand to anti-vibration and mechanical shock is suitable for general motor vehicle use.

For severe vibration application, please consult our team for evaluation and testing.

Pollution Class

Grade 3 pollution withstand

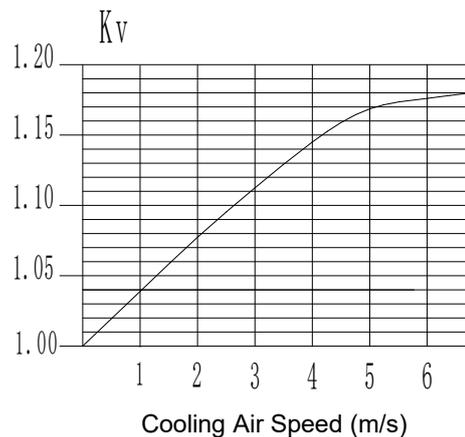
Mounting Condition

Normal Condition

- Installed in open air without any ventilation. No heat source within 1m except for conducting wires.
- Contact of fuses must be securely connected. Contact resistance should not affect operation.
- Fuse can be mounted in any orientation. If spring compression is adopted, make sure it is properly mounted to avoid harmful effect due to gravity or vibration

Forced air cooling

Forced air cooling can be used to enhance heat dissipation thus increasing rated current.

**Safety and Maintenance**

- Make sure sufficient clearance between installed fuses. Install insulation if necessary. This is to avoid possible inter-phase short circuit while replacing fuse.
- Periodic maintenance per electric equipment. Remove oxidation, dusts on contacting part.
- It is compulsory to replace all mechanically damaged fuses.
- Unless permissive (fused load-switch), do not replace fuses while energized.
- While servicing, fuse will not generate gas, dust, noise or others that may harm the environment
- Metallic part of fuse can be recycled. Non-metal part can be crushed and treated as normal industry waste. It will not cause further pollution to the environment.