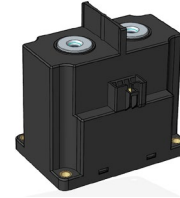


**ESM-800****High voltage DC Relay****1 Product Features**

- ◆ Ceramic Brazing seal, No arc leakage, Make sure no fire and burst
- ◆ Compact structure, low noise
- ◆ The mixed gas mainly filled with hydrogen can prevent the contact from oxidation and burning
- ◆ 800A 85℃ long time current carrying capacity
- ◆ The insulation resistance reaches 1000MΩ (1500VDC) and meets the requirements of IEC60664-1

**2 Performance Data**

| Parameter                          |                                | Units | Value                               |
|------------------------------------|--------------------------------|-------|-------------------------------------|
| Contact Form                       |                                | /     | 1 Form A                            |
| Contact Rated Load                 |                                | A     | 800                                 |
| Mechanical Durability              |                                | Ops   | $3 \times 10^5$                     |
| Max. Switching Voltage             |                                | VDC   | 1500                                |
| Max. Breaking Current              |                                | /     | 2000A(1000V DC) 1 times             |
| Current Tolerance <sup>1)</sup>    |                                | /     | 1000A: 2min; 2000A: 20s; 3000A: 10s |
| Contact Resistance                 |                                | mΩ    | < 10                                |
| Operating Time (at rated voltage)  |                                | ms    | ≤ 40                                |
| Release Time (at rated voltage)    |                                | ms    | ≤ 15                                |
| Insulation Resistance              |                                | MΩ    | 1000 (1500VDC)                      |
| Dielectric Withstand Voltage       | Between Open Contacts          | /     | 4000VAC 50 Hz/60 Hz                 |
|                                    | Between Contacts and Coil      | /     | 4000VAC 50 Hz/60 Hz                 |
| Electrical Endurance <sup>2)</sup> | 800A 1000VDC (Break)           | Ops   | $2 \times 10^2$                     |
|                                    | 600A 1500VDC (Break)           | Ops   | $5 \times 10^2$                     |
| Impact                             | Stability                      | /     | 196m/s <sup>2</sup>                 |
|                                    | Strength                       | /     | 490 m/s <sup>2</sup>                |
| Vibration                          |                                | /     | 10Hz~500Hz 49 m/s <sup>2</sup>      |
| Auxiliary Contact (On demand)      | Form                           | /     | NO                                  |
|                                    | Rated Load                     | /     | 2A/30VDC、3A/125VAC                  |
|                                    | Min. Operating Voltage Current | /     | 0.1A/8V                             |
| Operating Temp                     |                                | ℃     | -40~+85                             |
| Fumidity                           |                                | /     | 5%~85%RH                            |
| Form Of Load Outlet                |                                | /     | Internal Thread                     |
| Weight                             |                                | g     | 1115                                |
| Outline Dimensions                 |                                | /     | Reference outline drawing           |

地址：上海市普陀区中山北路 3000 号长城大厦 1007

ADDRESS: 1007, Great Wall Building, 3000 Zhongshan North Road, Putuo District, Shanghai

邮政编码：200063

POSTAL CODE: 200063

Remark: 1) please refer to the attached figure "tolerance curve". 2) The on-off ratio is 0.6s: 5.4s. Please note that if the coil parallel diode is used, the release time of the relay will be greatly prolonged and the service life will be reduced.

3 Coil Parameters

|                         |                                            |                                            |                                            |                                           |
|-------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------------------------|
| Nominal Voltage(Us)     | 12V DC                                     | 24V DC                                     | (10~32)V DC                                | (36~66)V DC                               |
| Operating Voltage Range | ±20%Us                                     | ±20%Us                                     | ±10%Us                                     | ±10%Us                                    |
| Pickup Voltage          | 9.6Vmax                                    | 19Vmax                                     | 9Vmax                                      | 32 Vmax                                   |
| Dropout Voltage         | 12Vmin                                     | 2.4min                                     | 4Vmin                                      | 12Vmin                                    |
| Coil Power              | When switched on: 50W,<br>When holding: 5W | When switched on: 50W,<br>When holding: 5W | When switched on: 34W,<br>When holding: 3W | When switched on: 42W,<br>When holding:3W |

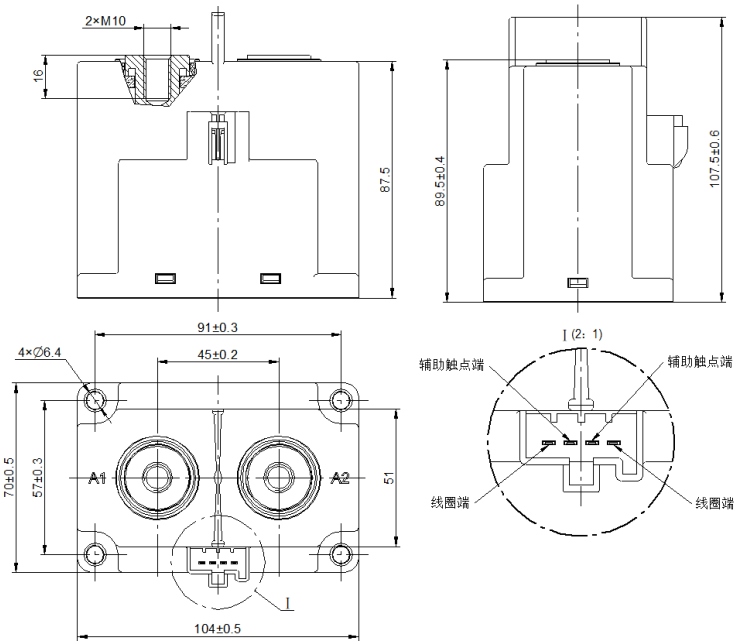
4 Example of order marking

ES M - 800 A / 1500 - 12 - F 4 (XXX)

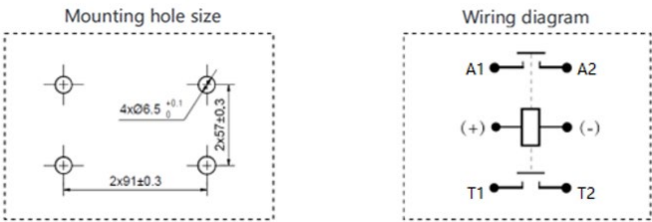
①②③④⑤⑥⑦⑧⑨

- ① Product Model: ES
- ② Product Type: M: Ceramic Sealed Type
- ③ Series Code: 800: 800A
- ④ Contact form: A: 1 Form A
- ⑤ Load Voltage: 1500: 1500VDC
- ⑥ Nominal coil voltage: 12: 12VDC 、24: 24VDC 、A: (10~32)VDC、D: (36~66)VDC
- ⑦ Auxiliary Contact: F: With Normally Open Auxiliary Contacts
- ⑧ Form Of Load Outlet: 4: Internal Thread
- ⑨ Characteristics Code: Subject To Customer Requirements

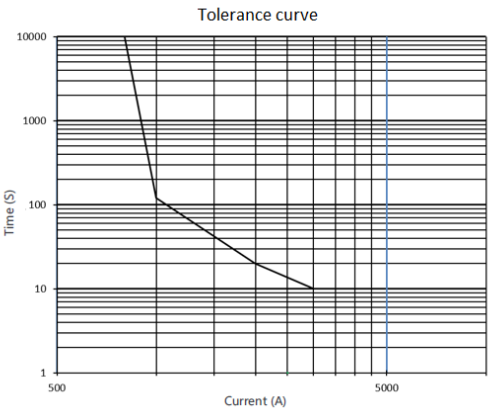
5 Outline drawing



6 Mounting hole/Wiring diagram



7 Performance graph



Remark: The above data is measured under the conditions of ambient temperature 85℃ and the sectional area of conductor wire  $\geq 480\text{mm}^2$ . The data is for reference only,do not use it to select fuse directly.

8 Precautions for use

- ※ When installing the product, the Torque of the fastening bolt should be kept within the specified range, exceeding the maximum value may cause the product to break.
  - 1) Contact post force distance (M10) : 10~ 12 N.m
  - 2) Torque at mounting point (M6) :5 ~ 6 N.m
- ※ Please connect according to the schematic diagram. When the wiring is wrong, it may cause accidental misoperation and abnormal heating. Please pay attention to it.
- ※ Avoid installing products in areas directly affected by rain, or in areas with a strong magnetic field, or near objects with heat radiation.
- ※ If the relay coil and contact of the relay continuously at rated voltage (or current), the power is switched on immediately after it was cut off, at this time because the coil temperature increases, the resistance of the coil increases, which makes the product pull-in voltage increase, then it may lead to exceed the rated pull-in voltage.
- ※ If applied to inductive load (I load) at the same time  $L/R > 1\text{ ms}$ , it is recommended that the inductive load be connected in parallel with a surge current protection device, otherwise, it may cause the product electrical life shortened, the main contact broken bad.
- ※ The drive circuit power of the product coil must be greater than the coil power of the product, otherwise the on-off ability of the product will be reduced.
- ※ Please to avoid sticking grease and other foreign bodies on the leading-out piece, and use the connection wire of  $480\text{mm}^2$  or above, otherwise abnormal heating may be caused at the leading-out end.

⚠Statement:

The document is for customer reference only.Specifications and parameters may be changed due to product improvement specific parameters and performance of each product, please refer to the specifications and samples provided by without further notice.  
performance parameters in different application areas are different, so iate  
products according to the specific conditions of use, if in doubt, please contact for  
more technical support.