

PUBLIC PRODUCT DATASHEET

ESM-20 High voltage DC Relay

High Voltage DC Contactor ESM Series is part of the High Voltage DC Contactor range from SHR MiRelay. This English public datasheet has been rebuilt under the current SHR AUTOSENSOR TECH LIMITED identity for customer selection, sample purchase and RFQ support.

Product Family High Voltage DC Contactor	Model High Voltage DC Contactor ESM Series	Purchase Path Sample order or RFQ confirmation
Manufacturer SHR AUTOSENSOR TECH LIMITED	Website www.reed-relay.com	Sales Contact sales@reed-relay.com
Contact Form 1 form A	Rated Load 20	Contact Resistance ≤5
Insulation Resistance reaches 1000MΩ(1500VDC)	Release Time ≤10	Operating Temperature deg C -40+85

Key Features

- Ceramic Brazing seal, No arc leakage; designed to prevent fire and burst risk
- Compact structure, low noise
- The mixed gas mainly filled with hydrogen can prevent the contact from oxidation and burning
- 20A 85 deg C long time current carrying capacity
- The insulation resistance reaches 1000MΩ(1500VDC)
- and meets the requirements of IEC60664-1

Technical Specifications

Parameter	Value
Contact Form	1 form A
Rated Load	20
Contact Resistance	≤5
Insulation Resistance	reaches 1000MΩ(1500VDC)
Release Time	≤10
Operating Temperature	deg C -40+85
Mechanical Durability	3×10 ⁵
Electrical Endurance	2)

Specification Notes

ESM-20 High voltage DC Relay

1 Product Features

Ceramic Brazing seal, No arc leakage; designed to prevent fire and burst risk

Compact structure, low noise

The mixed gas mainly filled with hydrogen can prevent the

contact from oxidation and burning

20A 85 deg C long time current carrying capacity

The insulation resistance reaches 1000M Ω (1500VDC)

and meets the requirements of IEC60664-1

2 Performance Data

Contact Form / 1 form A

Contact Rated Load A 20

Mechanical Durability Ops 3 \times 10⁵

Max. Switching Voltage VDC 1500

Max. Breaking Current / 200A(1000V DC) 1 times

Current Tolerance 1) / 30A: 60min; 40A: 20min; 80A: 30s

Contact Resistance m Ω \leq 5

Operating Time (at rated voltage) ms \leq 30

Release Time (at rated voltage) ms \leq 10

Insulation Resistance M Ω 1000 (1500VDC)

Dielectric

Withstand

Voltage

Between Open Contacts / 4000VAC 50 Hz/60 Hz

Between Contacts and Coil / 4000VAC 50 Hz/60 Hz

Electrical Endurance 2)

20A 1000VDC (DC-1) Ops 2 \times 10⁴

15A 1500VDC (DC-1) Ops 1 \times 10⁴

Impact

Stability / 196m/s²

Strength / 490 m/s²

Vibration / 10Hz-500Hz 49 m/s²

Operating Temp deg C -40--+85

Fumidity / 5%-85%RH

Form Of Load Outlet / Internal Thread/External Thread

Weight g 150

Outline Dimensions / Reference outline drawing

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.

SHR SENSOR & RELAY

sales@reed-relay.com

3 Coil Parameters

Nominal Voltage(Us) 12V DC 24V DC 48V DC

Operating Voltage Range \pm 20%Us \pm 20%Us \pm 20%Us

Pickup Voltage 9.6Vmax 19.2Vmax 36.8Vmax

Dropout Voltage 1.2Vmin 2.4Vmin 4.8Vmin

Coil Power 2.6W 2.6W 2.6W

4 Example of order marking

EV M-20 A■1500 -12 Q 2 (XXX)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Product Model: EV

② Product Type: M: Ceramic Sealed Type

③ Contact form: A: 1 Form A

④ Series Code: 20: 20A

⑤ Load Voltage: 1000: 1000VDC

⑥ Nominal coil voltage: 12: 12VDC; 24: 24VDC.....

⑦ Coil lead-out end form: Q: Insert (6.3)

⑧ Form Of Load Outlet: 2: Insert (6.3)

⑨ Characteristics Code: Subject To Customer Requirements

Ordering & Engineering Support

For production projects, confirm coil voltage, contact form, switching voltage/current, load type, operating environment, target quantity and required approvals before release. Contact sales@reed-relay.com or +86 137 6157 1029 for datasheet confirmation, sample availability and cross-reference support.

Address: Room 311, No. 18 Hangchuan Road, Pudong New District, Shanghai, China

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