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Product Specification

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浙江永泰隆电子股份有限公司  
zhejiang yongtailong electronic co.,ltd

# Product Specification



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# Product Specification

Document number: IM-JS-17023

<p><b>Customer Number: None</b></p> <p><b>Product Name: Motor Relay</b></p> <p><b>Product Model: IM-M1201</b></p> <p><b>Document Release Date: 04/03/2022</b></p> <p><b>Document validity: 2 years Version: V1.1</b></p>			
<b>Approval confirmation/technical stamp</b>			<b>Customer confirmation (signature or seal are valid)</b>
<b>Approval</b>	<b>Review</b>	<b>Preparation</b>	<b>Confirmation by</b>
Yuan Guilong		Shen Jianrong	Date
<p><b>Special Affirmation.</b></p> <p>1、 Please confirm the reply within 7 working days for this technical guarantee.          If there is no reply within the specified time, EWEN will be regarded as agreeing to it.</p> <p>2.This technical agreement is one copy for each customer and one copy for each client,          and the client is the original. After confirmation, the client can also convert this into its own control agreement,          but the internal terms and conditions of the agreement are not allowed to be changed.</p> <p>3、 After confirmation, both parties must follow the relevant requirements of the agreement for control,          and any product problems caused by violation of the agreement shall be borne by their own parties.</p> <p>4、 The customer and the supplier must use this document as the main page of the change          (can be attached to the page).</p>			



## Change Records

Customer.		Model Number.		
Change version	Change time	Change record	Reason for change	Change Executor
V1.1 2022.03.04	Change the round hole of $\phi 3$ to square hole of $\phi 3$ on dynamic and static lead pin	Match with actual	Shen Jianrong	

## Product Specification

### 1. Product information

- 1.1 Model: IM-M1201
- 1.2 Dimension: 31.5mm×36.4mm×21.3mm
- 1.3 Contact form: a set of normally closed
- 1.4 Product weight: about 100g (mother)

### 2 Contact load parameters

- 2.1 Rated load: 120A 250 VAC
- 2.2 Max. switching current: 120A
- 2.3 Maximum switching voltage: 250 VAC

### 3. motor parameters Table 1

- 3.1 Motor voltage: 12VDC
- 3.2 Motor resistance:  $52 \Omega \times (1 \pm 15\%)$
- 3.3 Maximum allowable voltage (%): 200% of rated voltage < 3 seconds

Table 1 Motor parameters

Model	Resistance ( $\Omega$ ) 20℃	Rated voltage (VDC)	Operation voltage (VDC)	Pulse width (ms)
12	$52 \times (1 \pm 15\%)$	12	10	$\geq 120$

### 4. Performance

- 4.1 Contact resistance:  $< 0.6m\Omega$
- 4.2 Suction time:  $\leq 65$  ms
- 4.3 Release time:  $\leq 65$  ms
- 4.4 Life time
- 4.4.1 Electrical life

Rated current (A)	Rated voltage (VAC)	Load type	Ambient temperature	Ratio ON:OFF	Electrical life
120	250	Resistive load COS $\varphi=1$	Normal temperature	10S:20S	10000 times

#### 4.4.2 Mechanical life

Rated Voltage (VDC)	Load type	Ambient temperature	ratio ON:OFF	Mechanical life
12	None	Normal temperature	0.3S:0.3S	100000 times

4.5 Dielectric withstand voltage (leakage current: 1mA)

4.5.1 Between break contacts: 2000 VAC (50/60 Hz 1min)

4.5.2 Between contact and coil: 4000 VAC (50/60 Hz 1min)

4.6 Insulation resistance.

4.6.1 Between disconnected contacts: 500 M $\Omega$  (500 V DC)

4.6.2 Between contact and coil: 1000 M $\Omega$  (500 V DC)

4.7 Mechanical vibration test

According to GB/T17215.211-2006 5.2.2.3 Mechanical vibration test for relays

Frequency range: 10 Hz ~ 150 Hz.

Crossing frequency: 60Hz.

f<60Hz, constant amplitude of 0.075mm.

constant acceleration of 9.8m/S<sup>2</sup> (1g) at f>60Hz.

Single-point control.

Number of scanning cycles per axis: 10 (scanning time 75min)

The relay should be firmly fixed in the fixture for the test. After the test recovery at room temperature for 2h, should meet the contact resistance  $\leq$  1m $\Omega$ , closing voltage, breaking voltage 10VDC.

4.8 Shock

4.8.1 endurance: 98m / s<sup>2</sup> ( 10g), three mutually perpendicular axis of the six directions, each direction 6 times, the closure of the closed circuit or break the circuit closure time of not more than 10us

4.8.2 Misoperation: 980m/s<sup>2</sup> (100g), six directions in each of three mutually perpendicular axes, six times in each direction, no abnormalities in relay appearance, structure, or performance

4.9 Lead pin strength: 10N tensile force applied in the direction perpendicular to the lead pin 10S, the relay lead pin can be slightly bent, the relay no abnormalities

5. Resistance to welding temperature: 260 $\pm$ 5 $^{\circ}$ C 10 $\pm$ 1s, no abnormality of the relay

5.1 Solderability: 250 $\pm$ 5 $^{\circ}$ C 3 $\pm$ 1s The lead pin should be continuously covered with a thin layer of tin for more than 90% of the intruded tin parts

5.2 Temperature resistance

5.2.1 Heat resistance: 16H at 70 $\pm$ 2 $^{\circ}$ C, no abnormalities in relay structure and performance after 2H recovery at room temperature

5.2.2 Cold resistance: -40 $\pm$ 2 $^{\circ}$ C for 2H, no abnormalities in the structure and performance of the relay after 2H recovery at room temperature

5.3 Humidity resistance: 48H at 40 $\pm$ 2 $^{\circ}$ C, 90%-95% RH, no abnormalities in relay structure and performance after 2H recovery from room temperature, and insulation resistance not less than 10M $\Omega$  (500 VDC)

6. product labeling

6.1 Shell color: black

6.2 Printing position: according to the installation requirements printing face up

7 standard test conditions

7.1 Temperature: 15 $^{\circ}$ C~35 $^{\circ}$ C

7.2 Humidity: 25%~75% RH

7.3 Direction: Any

8. Use conditions

8.1 Temperature: -40 $^{\circ}$ C~70 $^{\circ}$ C

8.2 Humidity: 5%~98% RH

8.3 Installation direction: arbitrary

8.4 Installation location: no magnetic field and no corrosive gas around

9. storage conditions

9.1 Temperature: 0 $^{\circ}$ C~40 $^{\circ}$ C

9.2 Humidity: 20%~80% RH

9.3 Environment.

9.3.1 The product storage environment should not have corrosive gas

9.3.2 Avoid direct sunlight on the product during storage

10. product printing content

**YTL IM-M1201**

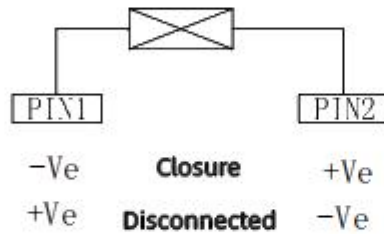
120A 250VAC

COIL: 12VDC

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Refers to the production date year/month

11. product wiring diagram



12. Product shape drawing

