

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**Automobiles—General rules  
of relays**

**JIS D 5010—1993**

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In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.

## JAPANESE INDUSTRIAL STANDARD

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Automobiles—General rules of relays

D 5010-1993

1. Scope This Japanese Industrial Standard specifies relays with mechanical contact for use in d.c. circuits of automobiles (hereafter referred to as "relays"). However, relays incorporated in electronic circuits, movable iron solenoids, regulators or the like are excluded.

It is preferable to apply this Standard for latching relays and stepping relays.

Remarks: The following standards are cited in this Standard:

- JIS C 1102 Electrical indicating instruments
- JIS C 1302 Insulation resistance testers (battery operated)
- JIS C 1502 Sound level meters
- JIS D 0203 Method of moisture, rain and spray test for automobile parts
- JIS D 0207 General rules of dust test for automobile parts
- JIS D 1601 Vibration testing methods for automobile parts
- JIS D 5005 Nominal voltages and test voltages for automotive electric equipments
- JIS D 5011 Relays for automobiles - Arrangement and functional attribution of arrayed terminals and dimension of relays
- JIS Z 2371 Methods of neutral salt spray testing
- JIS Z 8731 Methods of measurement and description of A-weighted sound pressure level
- JIS Z 8901 Dusts and aerosols for industrial testing

2. Definitions For the purpose of this Standard the following principal definitions shall apply:

(1) Terms related with time rating

- (a) continuous rating relay A relay which operates continuously for a long time at a specified load and voltage, under specified ambient conditions (symbol is CT).
- (b) short-time rating relay A relay which operates during a short time at a specified load and voltage under specified ambient conditions (symbol is IT).

(2) Terms related to load current

- (a) rated load current Maximum load current which can be passed through the contact under specified service conditions.
- (b) overload current A current exceeding the rated load current that can be passed for a certain period.

(3) Terms related to closing and opening of contact

- (a) normally open contact A contact which closes when a relay operates due to excitation of the relay coil (symbol is NO).
- (b) normally closed contact A contact which opens when a relay operates due to excitation of the relay coil (symbol is NC).

(4) Terms related to operation and reset

- (a) operation Such action of a relay due to excitation that the normally open contact closes or the normally closed contact opens.
- (b) reset Such action of a relay in operating state that the relay returns to the original state where no excitation is applied.

(5) Terms related to operating voltage

- (a) minimum operating voltage The minimum voltage at which a relay can operate at an ambient temperature of  $20 \pm 5^\circ\text{C}$ .
- (b) reset voltage The maximum voltage at which a relay in operated state resets at an ambient temperature of  $20 \pm 5^\circ\text{C}$ .

3. Classification According to nominal voltages and rated load currents, the classification of relay shall be as given in Table 1.

Table 1. Classification

| Nominal voltage<br>V | Rated load current<br>A |
|----------------------|-------------------------|
| 12                   | 5, 10, 15, 20, 25, 30   |
| 24                   | 3, 5, 10, 15, 20        |

4. Performance The relay shall satisfy the performance shown in Table 2 when tested in accordance with the methods specified in Clause 7.