

RELAYS TERMINOLOGY

CONTACT

(1) Contact arrangement

Denotes the contact switching combinations available on a relay and are defined in terms of number of poles, number of throws (single or double), normal position (open or close), and the sequence to make and break.

Fundamental contact arrangements are give in Table 1.

(2) Contact type

The one structure of contact forming the contact parts, Single contact and Bifurcated contact are offered.

(3) Contact material

The contacts are fastened to the movable leaf spring and stationary terminal to ensure electrical contact. Usually they are made of materials that mainly consist of silver because of its high electrical and thermal conductivity. For small-current loads, the gold-plated or the gold-overlay silver contacts are generally used.

(4) Contacting

The typical power, voltage or current, which a relay can turn on and off under specified conditions of load, ambient temperature and humidity. Usually, the contact rating refers to resistive load.

(5) Max. switching power

The upper limit of power which can be switched by the contacts. This value will be lower than the product of the maximum voltage and the maximum current. Care should be taken not to be exceed this value.

(6) Max. switching voltage

The maximum open circuit voltage which can safely be switched by the contacts. AC and DC voltage maximums will differ in most cases.

(7) Max. switching current

The maximum current which can safely be switched by the contacts. AC and DC current maximums may differ.



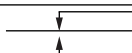

(8) Min. switching current

The minimum value of current that can be reliably switched by the contacts.

(9) Contact resistance

The electrical resistance of closed contacts measured at their associated terminals.

Table 1 Fundamental contact arrangement

Form	Description	Symbol	Performance
A	Make (NO)		The combination in which the contacts are open in normal or unoperated position.
B	Break (NC)		The combination in which the contacts are closed in the unoperated position.
C	Transfer (BBM)		The combination in which Form B (NC) contact open before Form A(NO) contacts close.
D	Continuous (BBM)		The combination in which Form A (NO) contact close before Form B (NC) contacts open.

Note:

- Abbreviations used to define the nature of the contacts are as follows:

NO:Normally open M:Make BBM:Break before Make
NC:Normally closed B:Break MBB:Make before Break

- Double switching combinations are called 2 Form A (2A) or 2 Form C (2C)

- The following abbreviations are used occasionally.

SP: Single pole ST: Single throw

DP: Double pole DT: Double throw

EX.:

SPST NO:1 Make (1 Form A or 1a)

SPST NC:1 Break (1 Form B or 1b)

SPDT:1 Transfer (1 Form C or 1c)

DPDT:2 Transfer (2 Form C or 2c)

4PDT:4 Transfer (4 Form C or 4c)

COIL

(1) Nominal voltage

A single value of voltage intended to be applied to the coil.

(2) Nominal Power

The value of power used by the coil at nominal voltage. For DC coils, expressed in Watts.

$$\text{Nominal power} = \frac{V^2}{R}$$

V: Nominal voltage
R: Coil Resistance (at 20°C)

(3) Coil resistance

The resistance of the coil for temperature conditions listed in the catalog. (Usually at 20°C/68°F)

(4) Pick-up (Set) voltage

When the coil voltage is increased gradually from 0V, the relay will operate at a certain voltage. This voltage is called the Pick-up voltage. The Pick-up voltage in the catalog shows the maximum value. In case of latching relay, the Pick-up voltage is called the Set V-voltage.

(5) Drop-out (Reset) voltage

When the coil voltage on an operate relay is decreased gradually, the relay will release at a certain voltage. This voltage is called the Drop-out voltage. The Drop-out voltage is called the Reset voltage, when the reverse voltage is increased on the coil of operate relay, the voltage which the relay will release.

(6) Operating power

The value of power used by the coil at Pick-up voltage.

(7) Max. continuous voltage

The maximum value of voltage that can be applied continuously to the coil without causing damage.

(8) Operating function

- Single side stable type:**

Relay which turns on when the coil is energized and turns off when de-energized.

- 1 Coil latching type:**

Relay with a latching construction that can maintain the on or off state with a pulse input. With one coil, the relay is set or reset by applying signals of opposite polarities.

- 2 Coil latching type:**

Relay with a latching construction composed of 2 coils, set coil and reset coil.

The relay is set or reset by alternately applying pulse signals of the same polarity.

This datasheet is for customers' reference. All the specifications are subject to change without notice.



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