

## TV-10/TV-15 rated 1a 30A, 2a 20A power relays

# HE RELAYS



1 Form A Plug-in type

RoHS compliant

### FEATURES

#### 1. Excellent resistance to contact welding

Owing to the pre-tension and kick-off mechanism, the 1 Form A passes TV-15 and the 2 Form A passes TV-10.

#### 2. High-capacity and long life

Contact arrangement	1 Form A type	2 Form A type
Contact capacity	30A	20A
Electrical life (at 20 times/min.)	2×10 <sup>5</sup>	
Mechanical life (at 180 times/min.)	DC type: 10 <sup>7</sup> , AC type: 5×10 <sup>6</sup>	

#### 3. Excellent surge resistance

Between contacts and coil, the surge voltage is more than 10,000 V (when surge waveform accords with JEC-212-1981).

#### 4. Compatible with all major safety standards

UL, CSA, VDE and TÜV certified

#### 5. Terminals are available

### TYPICAL APPLICATIONS

#### 1. Office equipment

Copiers, package air conditioners, automatic vending machines.

#### 2. Industrial equipment

Machine tools, molding equipment, wrapping machines, food processing equipment, etc.

#### 3. Home appliances

Air conditioners, microwave ovens, televisions, stereo systems, water heaters and air heating equipment.

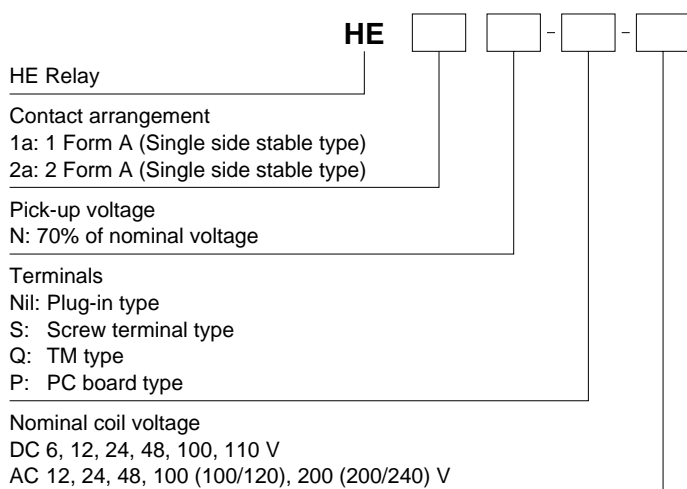
Type	Single side stable type	
	HE 1 Form A, 2 Form A	
Insulation gap	Min. 8 mm	
Distance between contacts*	1 Form A and 2 Form A: Min. 3 mm	PC board type: Min. 2.5 mm
Breakdown voltage	Between open contacts	2, 000 Vrms for 1 min.
	Between contact and coil	5, 000 Vrms for 1 min.

\* Reference value

### CLASSIFICATION

Type	PC board	Plug-in		TM		Screw terminal	
Operating function	Single side stable						
Contact arrangement	1 Form A	1 Form A	2 Form A	1 Form A	2 Form A	1 Form A	2 Form A

### ORDERING INFORMATION



# HE

## TYPES

### 1. PC board type (1 Form A, DC coil) (Single side stable)

Nominal coil voltage	1 Form A	
	Part No.	
6V DC	HE1aN-P-DC6V	
12V DC	HE1aN-P-DC12V	
24V DC	HE1aN-P-DC24V	
48V DC	HE1aN-P-DC48V	
100V DC	HE1aN-P-DC100V	
110V DC	HE1aN-P-DC110V	

Standard packing: Carton: 25 pcs.; Case: 100 pcs.

### 2. Plug-in type (Single side stable)

Type	Nominal coil voltage	1 Form A		2 Form A	
		Part No.		Part No.	
DC type	6V DC	HE1aN-DC6V		HE2aN-DC6V	
	12V DC	HE1aN-DC12V		HE2aN-DC12V	
	24V DC	HE1aN-DC24V		HE2aN-DC24V	
	48V DC	HE1aN-DC48V		HE2aN-DC48V	
	100V DC	HE1aN-DC100V		HE2aN-DC100V	
	110V DC	HE1aN-DC110V		HE2aN-DC110V	
AC type	12V AC	HE1aN-AC12V		HE2aN-AC12V	
	24V AC	HE1aN-AC24V		HE2aN-AC24V	
	48V AC	HE1aN-AC48V		HE2aN-AC48V	
	100/120V AC	HE1aN-AC100V		HE2aN-AC100V	
	200/240V AC	HE1aN-AC200V		HE2aN-AC200V	

Standard packing: Carton: 20 pcs.; Case: 100 pcs.

### 3. TM type (Single side stable)

Type	Nominal coil voltage	1 Form A		2 Form A	
		Part No.		Part No.	
DC type	6V DC	HE1aN-Q-DC6V		HE2aN-Q-DC6V	
	12V DC	HE1aN-Q-DC12V		HE2aN-Q-DC12V	
	24V DC	HE1aN-Q-DC24V		HE2aN-Q-DC24V	
	48V DC	HE1aN-Q-DC48V		HE2aN-Q-DC48V	
	100V DC	HE1aN-Q-DC100V		HE2aN-Q-DC100V	
	110V DC	HE1aN-Q-DC110V		HE2aN-Q-DC110V	
AC type	12V AC	HE1aN-Q-AC12V		HE2aN-Q-AC12V	
	24V AC	HE1aN-Q-AC24V		HE2aN-Q-AC24V	
	48V AC	HE1aN-Q-AC48V		HE2aN-Q-AC48V	
	100/120V AC	HE1aN-Q-AC100V		HE2aN-Q-AC100V	
	200/240V AC	HE1aN-Q-AC200V		HE2aN-Q-AC200V	

Standard packing: Carton: 20 pcs.; Case: 100 pcs.

### 4. Screw terminal type (Single side stable)

Type	Nominal coil voltage	1 Form A		2 Form A	
		Part No.		Part No.	
DC type	6V DC	HE1aN-S-DC6V		HE2aN-S-DC6V	
	12V DC	HE1aN-S-DC12V		HE2aN-S-DC12V	
	24V DC	HE1aN-S-DC24V		HE2aN-S-DC24V	
	48V DC	HE1aN-S-DC48V		HE2aN-S-DC48V	
	100V DC	HE1aN-S-DC100V		HE2aN-S-DC100V	
	110V DC	HE1aN-S-DC110V		HE2aN-S-DC110V	
AC type	12V AC	HE1aN-S-AC12V		HE2aN-S-AC12V	
	24V AC	HE1aN-S-AC24V		HE2aN-S-AC24V	
	48V AC	HE1aN-S-AC48V		HE2aN-S-AC48V	
	100/120V AC	HE1aN-S-AC100V		HE2aN-S-AC100V	
	200/240V AC	HE1aN-S-AC200V		HE2aN-S-AC200V	

Standard packing: Carton: 10 pcs.; Case: 50 pcs.

Note: The TM type of the screw terminals are also available.

\* For terminal sockets, see page 198.