

# Panasonic

ideas for life

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.

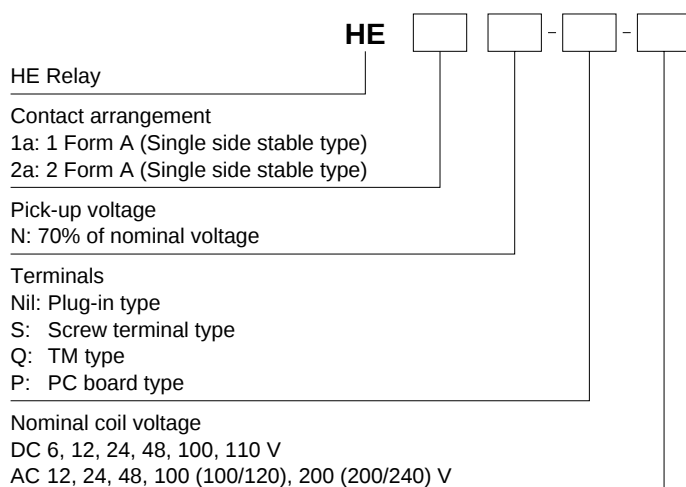
| Type                       |                          | Single side stable type             |                               |
|----------------------------|--------------------------|-------------------------------------|-------------------------------|
|                            |                          | HE 1 Form A, 2 Form A               |                               |
| Insulation gap             |                          | Min. 8 mm                           |                               |
| Distance between contacts* |                          | 1 Form A and 2 Form A:<br>Min. 3 mm | PC board type:<br>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.