



HL45

► FEATURES

- Multi contact arrangements: 2 Form C, 1NO+1NC, 1NC+1NO
- Forcibly guided contacts according to EN50205
- 8A switching capability
- High insulation capacity(1.2/50μs):10kV surge voltage between coil & contacts and 6kV contact sets
- UL insulation system : Class F available
- Environmental friendly product (RoHS compliant)



; 29mmx12.6mmx25.5mm

► CONTACT DATA

| | | |
|--|--|--|
| Contact arrangement | | 2 Form C, 1NO + 1NC, 1NC + 1NO |
| Forcibly guided contacts Type (according to EN50205) | | Type A, Type B |
| Contact resistance¹⁾ | | 100mΩ max. (at 1A 6VDC) |
| Contact Material | | AgSnO ₂ |
| Contact Ratings (Res.load) | | 6A 250VAC / 30VDC |
| Max. Switching Voltage | | 400VAC / 30VDC |
| Max. Switching Current | | 8A |
| Max. Switching Power | | 1,500VA / 180W |
| Life Expectancy | Electrical endurance²⁾ | 1 x 10 ⁵ ops (1NO:6A 250VAC/30VDC, Resistive load at 70°C, 1s on 9s off) 5 x 10 ⁴ ops (1NC:6A 250VAC/30VDC, Resistive load at 70°C, 1s on 9s off) |
| | Mechanical endurance | 1 x 10 ⁷ ops |

Notes: 1) The data shown above are initial values.

2) Only 1 NO or NC is loaded in the test.

► CHARACTERISTICS

| | | |
|--|------------------------------------|--|
| Insulation Resistance | | 1000M ohm min (at 500VDC) |
| Dielectric Strength | Between open Contacts | 1,500VAC (For one minute) |
| | Between coil & Contacts | 4,000VAC (For one minute) |
| | Between contact sets | 3,000VAC (For one minute) |
| Surge voltage | Between open Contacts | 2.5kV (1.2/50 μs) |
| | Between coil & Contacts | 10kV (1.2/50 μs) |
| | Between contact sets | 6.0kV (1.2/50 μs) |
| Operate time (at rated volt.) | | 15ms max. |
| Release Time (at rated volt.) | | 10ms max. |
| Temperature rise (at rated voltage) | | ≤60K(coil driving voltage:1.1times Un.Contact current carrying : rated current, at 75°C) |

| | | |
|-----------------------------|------------------------------------|---|
| Shock resistance | Functional | NO:98m/s ² , NC:49m/s ² |
| | Destructive | 980m/s ² |
| Vibration resistance | | NO:10Hz to 55Hz 1.6mm DA, 55Hz to 200Hz, 98m/s ² NC:10Hz to 55Hz 0.4mm DA |
| Creepage distance | Between coil & contacts | 8mm |
| | Between contacts | 5.5mm |
| Clearance distance | Between coil & contacts | 8mm |
| | Between contacts | 5.5mm |
| Ambient temperature | | -40°C to 85°C |
| Humidity | | 5% to 85% RH |
| Termination | | PCB |
| Weight | | Approx 20g |
| Construction | | Plastic sealed |

Notes: 1) The data shown above are initial values.

2) UL insulation system : Class F, Class B.

► COIL DATA

| Coil power | | Coil Power : 700mW | | |
|------------------------------|----------------------------|-----------------------------|---|------------------------------------|
| Nominal Voltage (VDC) | Pick-up Voltage VDC | Drop-out Voltage VDC | Max. ²⁾ Allowable Voltage VDC | Coil Resistance at 23°C (Ω) |
| 5 | 3.8 | 0.5 | 7.5 | 35.7 x (1±10%) |
| 6 | 4.5 | 0.6 | 9 | 51 x (1±10%) |
| 9 | 6.8 | 0.9 | 13.5 | 116 x (1±10%) |
| 12 | 9 | 1.2 | 18 | 206 x (1±10%) |
| 15 | 11.3 | 1.5 | 22.5 | 321 x (1±10%) |
| 18 | 13.5 | 1.8 | 27 | 483 x (1±10%) |
| 21 | 15.8 | 2.1 | 31.5 | 630 x (1±10%) |
| 24 | 18 | 2.4 | 36 | 823 x (1±10%) |
| 36 | 27 | 3.6 | 54 | 1,851 x (1±10%) |
| 40 | 30 | 4.0 | 60 | 2,286 x (1±10%) |
| 48 ³⁾ | 36 | 4.8 | 72 | 3,291 x (1±15%) |
| 60 ³⁾ | 45 | 6.0 | 90 | 5,142 x (1±15%) |
| 80 ³⁾ | 64 | 8.0 | 120 | 9,143 x (1±15%) |
| 110 ³⁾ | 82.5 | 11.0 | 165 | 12,285 x (1±15%) |

Notes: 1) The data shown above are initial values.

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

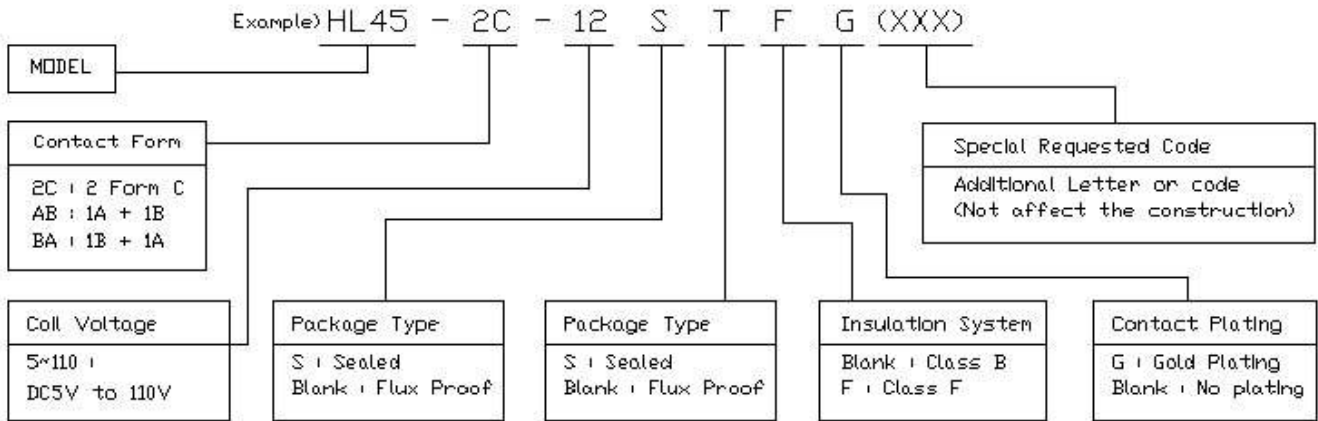
3) For products with rated voltage ≥48V, measures should be taken to prevent coil overvoltage in order to protect coil in test and application (eg. Connect diodes in parallel).

► SAFETY APPROVAL RATINGS

| | |
|--------|--|
| UL&CUL | 6A 250VAC / 277VAC / 30VDC at 70°C NO: Pilot duty A300, at 70°C NC: Pilot duty B300, at 70°C |
|--------|--|

Notes: 1) All values unspecified are room temperature. 2) Only typical loads are listed above. Other load specifications can be available upon request.

▶ ORDERING INFORMATION

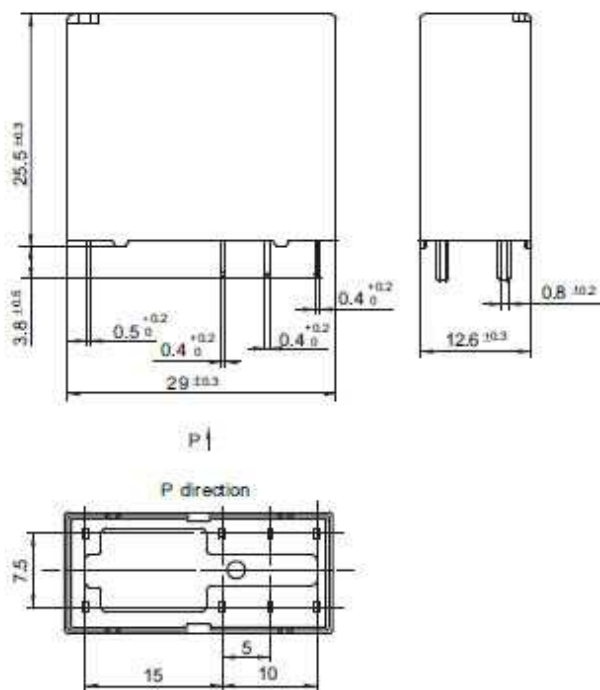


- Notes: 1) If water cleaning is required after the relay is assembled on PCB, Please contact us for suggestion about suitable parts.
 2) For gold plated type, the min. switching voltage is 10mA 5VDC. If customers have special requirement of load. Please contact us for suggestion about suitable parts.
 3) The customer special requirement express at the last letter of part number a special code after evaluating by HANDOUK.

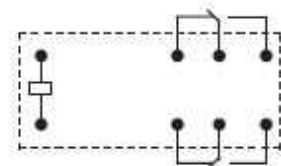
▶ DIMENSIONS (UNIT: MM)

2C : 2 Form C

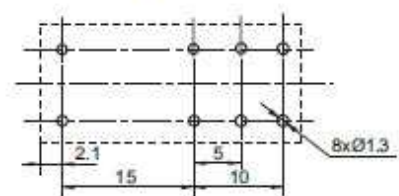
Outline Dimensions



Wiring Diagram

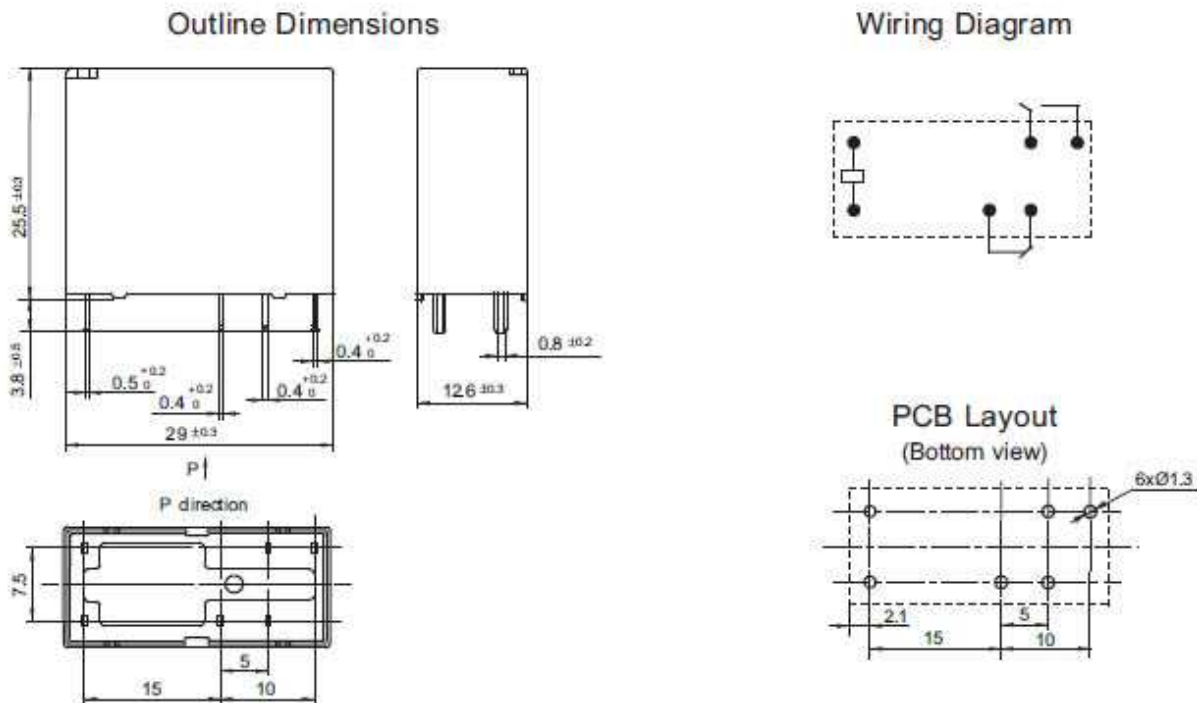


PCB Layout (Bottom view)

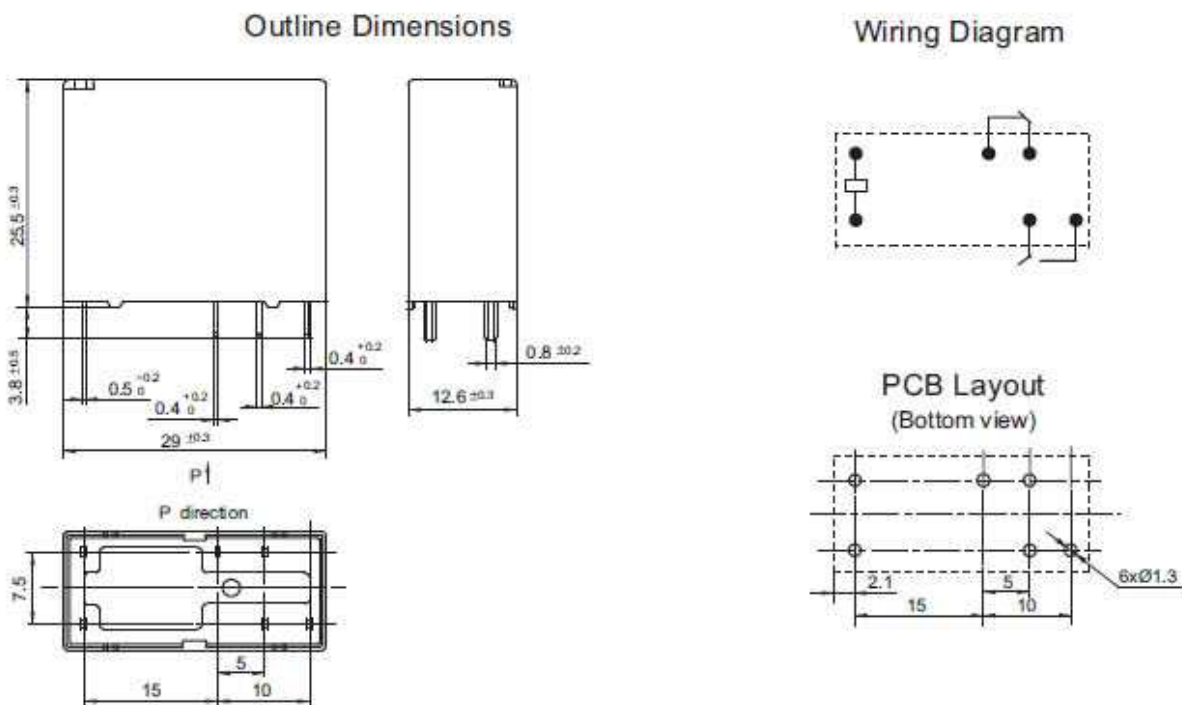


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$
2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

AB : 1 From A + 1 Form B



BA : 1 From B + 1 Form A



Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$
2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

▶ RELAY SOCKETS


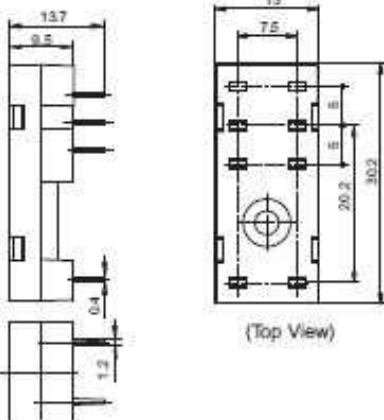
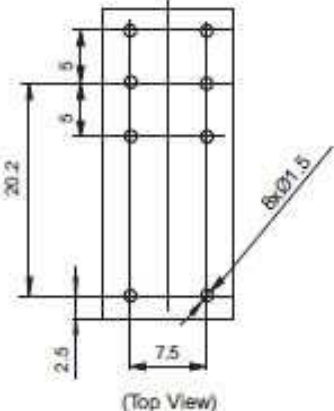

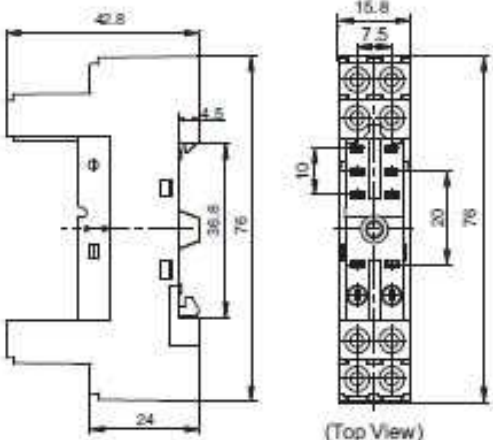
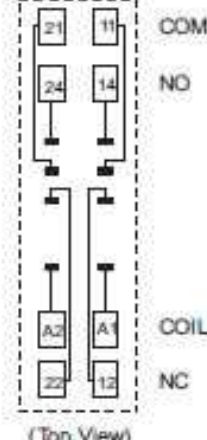
- The insulation resistance is 1,000MΩ
- Three mounting types are available : PCB, screw mounting and DIN rail mounting
- With finger protection device
- Many kinds of plug-in modules are available with the function of energizing indication and wiring protection.
- Environmental friendly product (RoHS compliant)



▶ CHARACTERISTICS

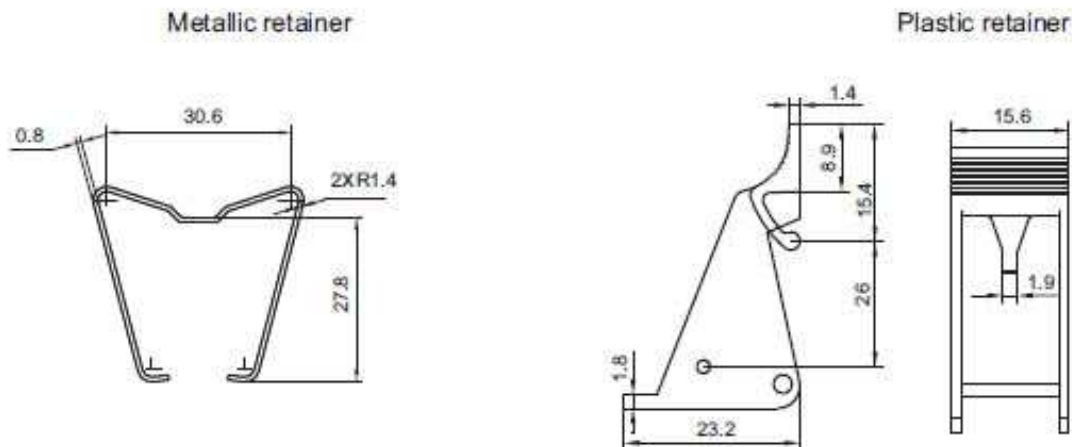
| Type | Nominal Voltage | Nominal Current | Ambient Temperature | Dielectric Strength | Screw torque | Wire strip Length |
|----------|-----------------|-----------------|---------------------|---------------------|--------------|-------------------|
| HL-2C-A1 | 250VAC | 10A | -40°C to 70°C | 5,000VAC | | |
| HL-2C-C2 | 250VAC | 10A | -40°C to 70°C | 5,000VAC | 0.6N.m | 7mm |

▶ DIMENSIONS (UNIT: MM)

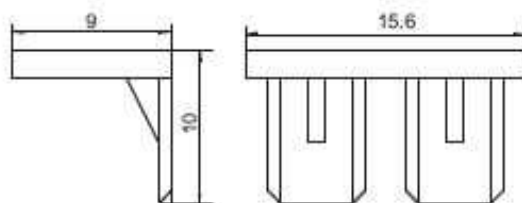
| Socket | Outline Dimensions | Wiring Diagram/PCB Layout |
|---|---|---|
|  PCB Terminal, PCB or Screw mounting |  (Top View) |  (Top View) |
|  Screw Terminal DIN rail or Screw mounting with finger protection device |  (Top View) |  (Top View) |

Notes: Please refer to the product data sheet if plug-in module is required.

Retainer



Marker



Disclaimer

This datasheet is for the customers' reference. All the specifications are subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact handouk for the technical service. However, it is the user's responsibility to determine which product should be used only.