

# HF18FF/HF18FH MINIATURE INTERMEDIATE POWER RELAY



File No.:E133481



File No.:R50147087



File No.:CQC09002030026 (DC type)  
CQC09002030027 (AC type)



## Features

- Various relay types, include the LED, diode, button, indicator
- 2 to 4 pole configurations
- Various terminals available
- Gold plated contact available
- Transparent dust cover, various installation types
- Automatic production
- High capacity

RoHS compliant

## CONTACT DATA

|                                    |   |
|------------------------------------|---|
| Contact arrangement                | 2C, 3C, 4C  |
| Contact resistance <sup>1)</sup>   | 100mΩ max. (at 1A 6VDC)   |
| Contact material                   | see "ORDERING INFORMATION"  |
| Contact rating<br>(Res. load)      | 12A 250VAC/30VDC(2Z-G)  |
|                                    | 10A 250VAC/30VDC(3Z-G)  |
|                                    | 7A 250VAC/30VDC(2Z/3Z)  |
|                                    | 6A 250VAC/30VDC(4Z)   |
| Max. switching voltage             | 250VAC / 30VDC  |
| Max. switching current             | 12A(2Z-G), 10A(3Z-G), 7A(2Z/3Z), 6A(4Z)                                     |
| Max. switching power               | 3000VA/360W(2Z-G), 2500VA/300W(3Z-G)<br>1750VA/210W(2Z/3Z), 1500VA/180W(4Z) |
| Mechanical endurance               | 2 x 10 <sup>7</sup> OPS   |
| Electrical endurance <sup>1)</sup> | 1 x 10 <sup>5</sup> OPS (room temperature)                                  |

Notes: 1) The data shown above are initial values.  
2) Please refer to the characteristic curves for detailed electrical endurance information. If you need other conditions, please contact us.

## CHARACTERISTICS

|  |                         |                      |
|--|-------------------------|----------------------|
| Insulation resistance                                    | 1000MΩ (at 500VDC)      |                      |
| Dielectric strength                                      | Between coil & contacts | 1500VAC 1min         |
|  | Between open contacts   | 1000VAC 1min         |
|  | Between contact sets    | 1500VAC 1min         |
| Operate time (at nomi. volt.)                            | 20ms max.               |                      |
| Release time (at nomi. volt.)                            | DC type:                | 15ms max.            |
|  | AC type:                | 25ms max.            |
|  | DC type (with diode):   | 25ms max.            |
| Temperature rise (no-load, at nomi. volt.) <sup>2)</sup> | 85K max.                |                      |
| Shock resistance   | Functional              | 100m/s <sup>2</sup>  |
|  | Destructive             | 1000m/s <sup>2</sup> |
| Vibration resistance                                     | 10Hz to 55Hz 1mm DA     |                      |
| Humidity   | 5%~85% RH               |                      |
| Ambient temperature                                      | -40°C to 70°C           |                      |
| Termination  | PCB, Plug-in            |                      |
| Unit weight  | Approx. 35.6g           |                      |
| Construction   | Dust protected          |                      |

Notes: 1) The data shown above are initial values.  
2) When testing the Temperature rise, please separate test each relay.

## COIL

|            |   |
|------------|---|
| Coil power | DC type: Approx. 0.8W to 1.1W;<br>AC type: Approx. 0.9VA to 1.5VA |
|------------|---|



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2020 Rev. 1.01

## COIL DATA

at 23°C

| Nominal Voltage VDC | Pick-up Voltage VDC max. <sup>1)</sup> | Drop-out Voltage VDC min. | Max. Voltage VDC <sup>2)</sup> | Coil Resistance Ω |
|---------------------|--|---------------------------|--------------------------------|-------------------|
| 5                   | 4.0                                    | 0.5                       | 5.5                            | 28 x (1±10%)      |
| 6                   | 4.8                                    | 0.6                       | 6.6                            | 40 x (1±10%)      |
| 9                   | 7.2                                    | 0.9                       | 9.9                            | 90 x (1±10%)      |
| 12                  | 9.6                                    | 1.2                       | 13.2                           | 160 x (1±10%)     |
| 21                  | 16.8                                   | 2.1                       | 23.1                           | 490 x (1±10%)     |
| 24                  | 19.2                                   | 2.4                       | 26.4                           | 640 x (1±10%)     |
| 30                  | 24.0                                   | 3.0                       | 33.0                           | 1000 x (1±10%)    |
| 36                  | 28.8                                   | 3.6                       | 39.6                           | 1440 x (1±10%)    |
| 48                  | 38.4                                   | 4.8                       | 52.8                           | 2560 x (1±15%)    |
| 60                  | 48.0                                   | 6.0                       | 66.0                           | 4000 x (1±15%)    |
| 110                 | 80.0                                   | 11.0                      | 121.0                          | 12250 x (1±15%)   |
| 125                 | 100.0                                  | 12.5                      | 137.5                          | 17360 x (1±15%)   |
| 220                 | 176.0                                  | 22.0                      | 242.0                          | 53360 x (1±15%)   |

| Nominal Voltage VAC | Pick-up Voltage VAC max. <sup>1)</sup> | Drop-out Voltage VAC min. | Max. Voltage VAC <sup>2)</sup> | Coil Resistance Ω |
|---------------------|--|---------------------------|--------------------------------|-------------------|
| 6                   | 4.8                                    | 1.8                       | 6.6                            | 11 x (1±10%)      |
| 12                  | 9.6                                    | 3.6                       | 13.2                           | 44 x (1±10%)      |
| 24                  | 19.2                                   | 7.2                       | 26.4                           | 177 x (1±10%)     |
| 36                  | 28.8                                   | 10.8                      | 39.6                           | 400 x (1±10%)     |
| 48                  | 38.4                                   | 14.4                      | 52.8                           | 708 x (1±10%)     |
| 60                  | 48.0                                   | 18.0                      | 66.0                           | 1100 x (1±10%)    |
| 110 <sup>(3)</sup>  | 80.0                                   | 33.0                      | 121                            | 3400 x (1±15%)    |
| 120 <sup>(3)</sup>  | 88.0                                   | 36.0                      | 132                            | 4080 x (1±15%)    |
| 220 <sup>(3)</sup>  | 160.0                                  | 66.0                      | 242                            | 13600 x (1±15%)   |
| 230                 | 176.0                                  | 72.0                      | 253                            | 16300 x (1±15%)   |
| 240 <sup>(3)</sup>  | 176.0                                  | 72.0                      | 264                            | 16300 x (1±15%)   |
| 277                 | 221.6                                  | 83.1                      | 304.7                          | 23590 x (1±15%)   |

Notes: 1) Under ambient temperature, applying more than 80% of rating voltage to coil, relay will take action accordingly. But in order to meet the stated product performance, please apply rated voltage to coil.

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

- 3) A110:Nominal Voltage(100~110)Va.c.;A120:Nominal Voltage(110~120)Va.c.;  
 A220:Nominal Voltage(200~220)Va.c.;A240:Nominal Voltage(220~240)Va.c.;  
 110:Nominal Voltage(100~110)Va.c.;125:Nominal Voltage(110~125)Va.c.  
 4) When the 240Va.c. specification coil test coil temperature rises, the installation pitch needs to be  $\geq 6$ mm.

## SAFETY APPROVAL RATINGS

|        |                   |                                    |
|--------|-------------------|------------------------------------|
| UL/CUL | 2 Form C-G        | 12A 250VAC/30VDC Resistive at 70°C |
|        | 3 Form C-G        | 10A 250VAC/30VDC Resistive at 70°C |
|        | 2 Form C/3 Form C | 7A 250VAC/30VDC Resistive at 70°C  |
|        | 4 Form C          | 6A 250VAC/30VDC Resistive at 70°C  |
| TÜV    | 2 Form C-G        | 12A 250VAC/30VDC                   |
|        | 3 Form C-G        | 10A 250VAC/30VDC                   |
|        | 2 Form C/3 Form C | 7A 250VAC/30VDC                    |
|        | 4 Form C          | 6A 250VAC/30VDC                    |
| CQC    | 2 Form C-G        | 12A 250VAC/30VDC                   |
|        | 3 Form C-G        | 10A 250VAC/30VDC                   |
|        | 2 Form C/3 Form C | 7A 250VAC/30VDC                    |
|        | 4 Form C          | 6A 250VAC/30VDC                    |

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

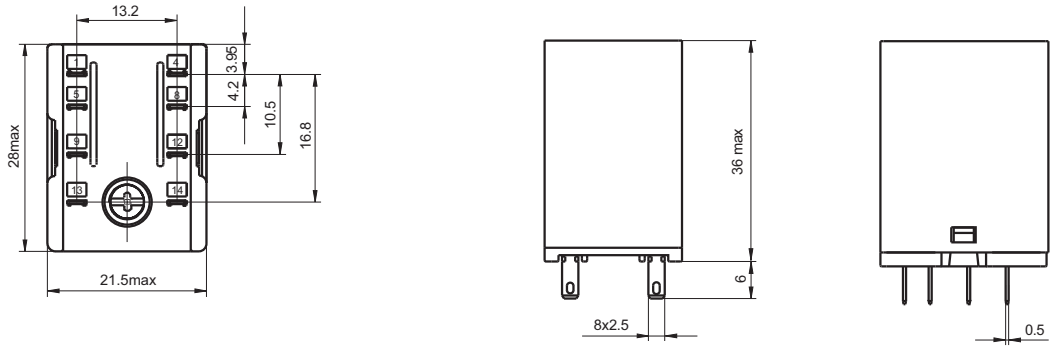
## ORDERING INFORMATION

|  |   |           |           |            |            |          |          |          |          |              |
|--|---|-----------|-----------|------------|------------|----------|----------|----------|----------|--------------|
| <b>HF18FF</b>  |   | <b>-G</b> | <b>/A</b> | <b>240</b> | <b>-2Z</b> | <b>1</b> | <b>3</b> | <b>G</b> | <b>D</b> | <b>(XXX)</b> |
| <b>Type</b>  | HF18FF: without button<br>HF18FH: with button   |           |           |            |            |          |          |          |          |              |
| <b>series code</b>                                   | Nil: Standard <b>G</b> <sup>(1)</sup> : High capacity   |           |           |            |            |          |          |          |          |              |
| <b>Coil voltage form</b>                             | <b>A</b> : AC(50Hz or 60Hz) <b>Nil</b> : DC   |           |           |            |            |          |          |          |          |              |
| <b>Coil voltage</b>                                  | <b>DC</b> <sup>(2)</sup> : 005 ~ 220VDC<br><b>AC</b> <sup>(3)</sup> : 006 ~ 277VAC  |           |           |            |            |          |          |          |          |              |
| <b>Contact arrangement</b>                           | <b>2Z</b> : 2 Form C <b>3Z</b> : 3 Form C <b>4Z</b> : 4 Form C  |           |           |            |            |          |          |          |          |              |
| <b>Mounting Termination</b><br>( See the following ) | <b>1</b> : Socket <b>2</b> : PCB <b>5</b> <sup>(4)</sup> : Flange-Mounting  |           |           |            |            |          |          |          |          |              |
| <b>Contact material</b>                              | <b>3</b> : AgNi <b>T</b> : AgSnO <sub>2</sub>   |           |           |            |            |          |          |          |          |              |
| <b>Contact plating</b>                               | <b>Nil</b> : No gold plated <b>G</b> : Gold plated  |           |           |            |            |          |          |          |          |              |
| <b>Component code</b> <sup>5)</sup>                  | <b>Nil</b> : Without Component<br><b>D</b> : with LED<br><b>J</b> : with diode<br><b>R</b> : with CR circuit<br><b>DJ</b> : with LED and diode<br><b>DR</b> : with LED and CR circuit |           |           |            |            |          |          |          |          |              |
| <b>Special code</b> <sup>6)</sup>                    | <b>XXX</b> : Customer special requirement <b>Nil</b> : Standard   |           |           |            |            |          |          |          |          |              |

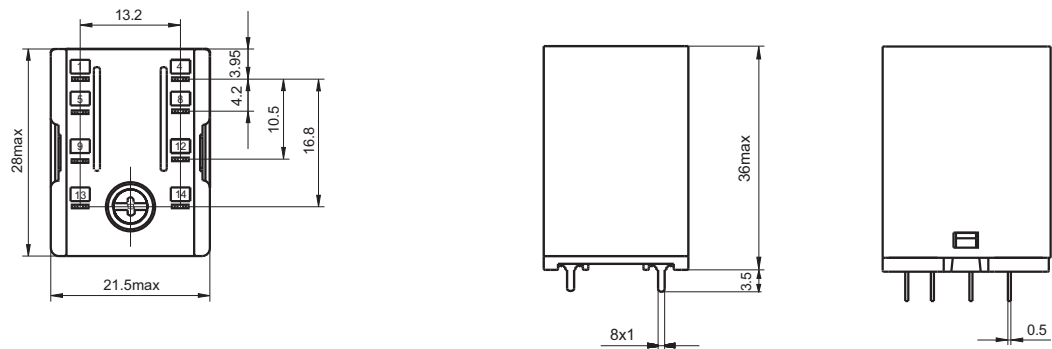
- Notes: 1) The "-G" High capacity only has two Contact arrangements:2Z and 3Z,No 4Z contact arrangement.  
 2) DC coil specifications:005、006、009、012、021、024、030、036、048、060、110、125、220.  
 3) AC coil specifications:006、012、024、036、048、060、110、120、220、230、240、277.  
 4) HF18FH without Flange-Mounting Termination,Please choose HF18FF when ordering.  
 5) Free-wheeling diode is available for DC coil relay, CR circuit is available for AC coil relay.  
 6) The customer's special requirement express as special code after evaluating by Hongfa.  
 7) We can provide (136) Economic model relays, the specific performance is subject to the Specifications Data Sheet, please contact us.  
 8) For coil specifications of 110VDC and above, it is recommended that the customer add the coil protection measures in the circuit.  
 9) For products that should meet the explosion-proof requirements of "IEC 60079 series",please note [Ex] after the specification while placing orders.Not all products have explosion-proof certification,so please contact us if necessary, in order to select the suitable products.

Outline Dimensions

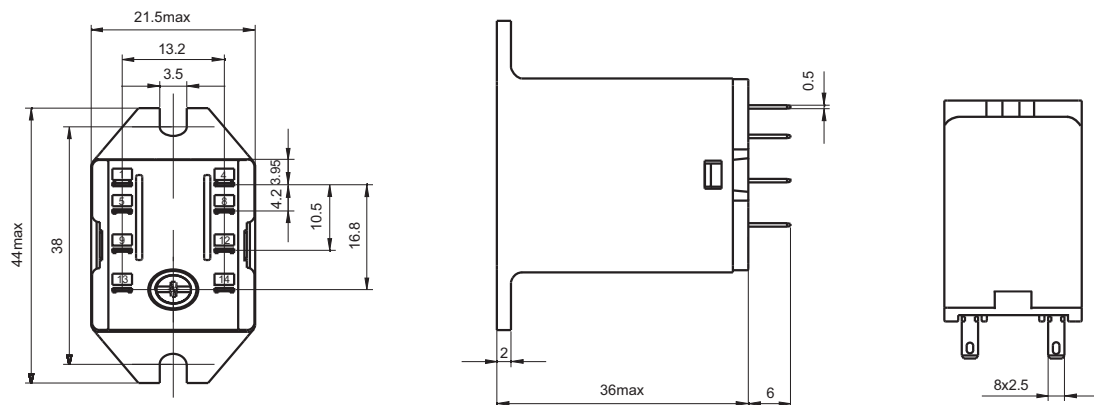
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HF18FF-□/□□-2Z2□□□□

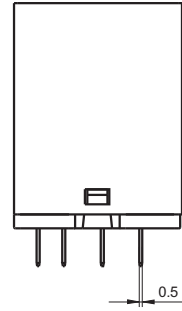
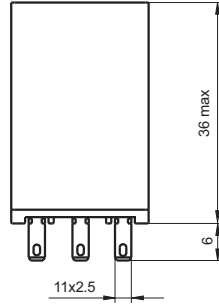
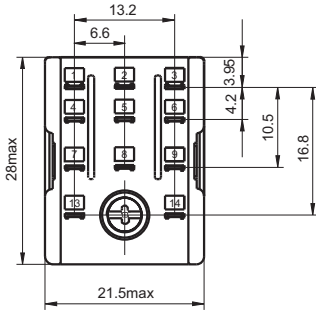


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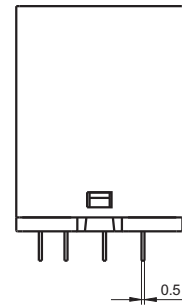
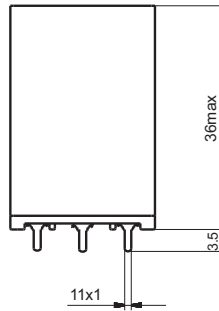
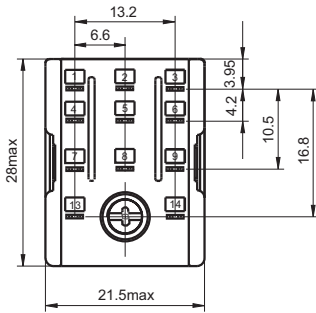


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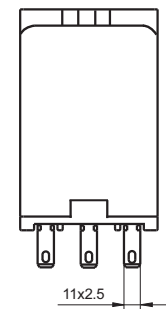
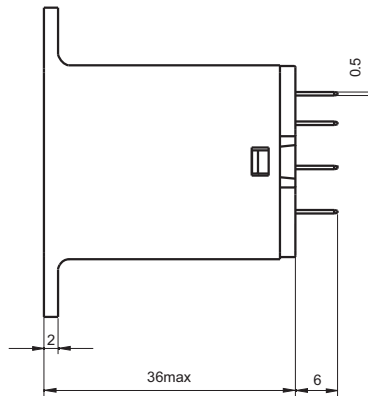
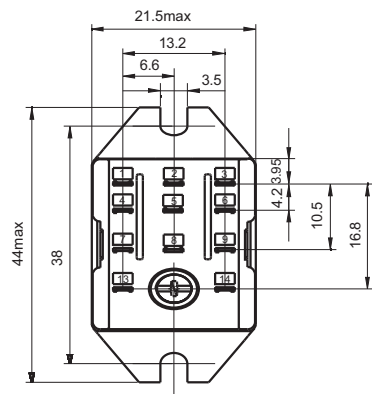
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HF18FF-□/□□-3Z2□□□□

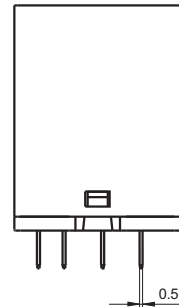
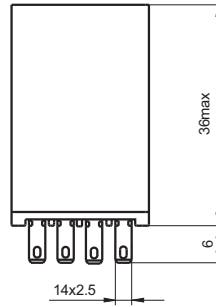
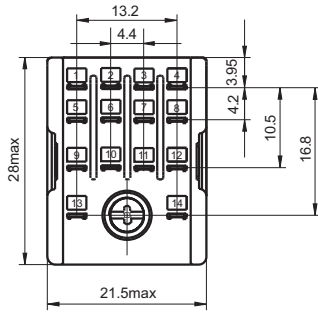


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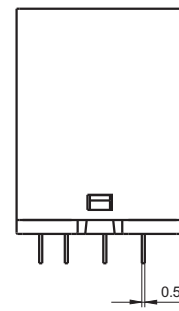
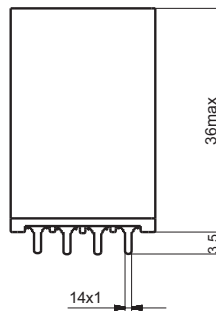
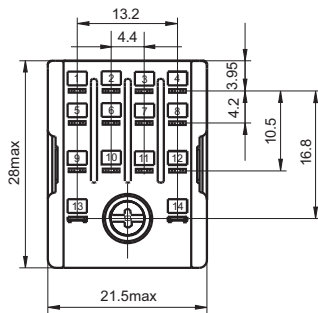


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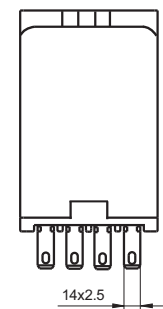
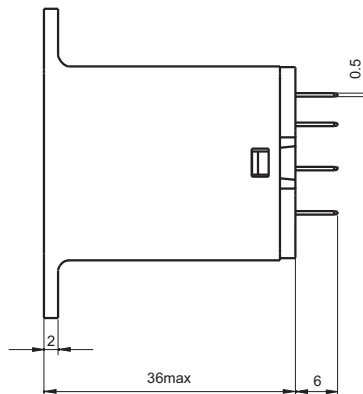
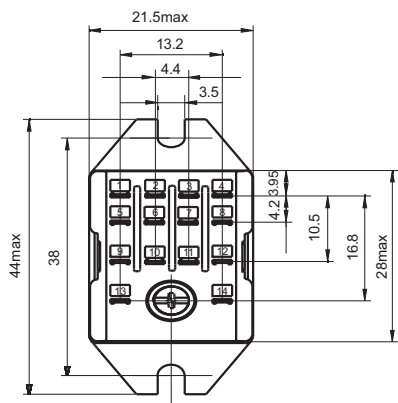
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HF18FH-□/□□-4Z2□□□□

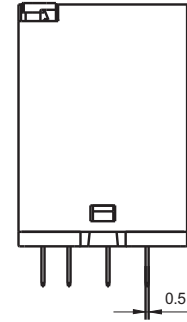
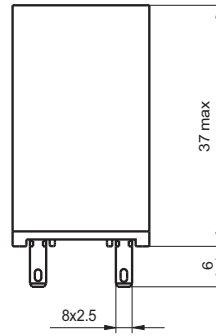
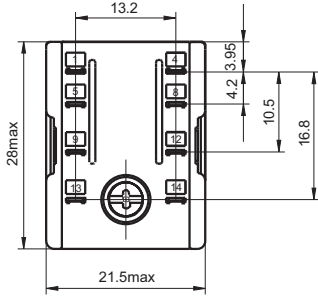


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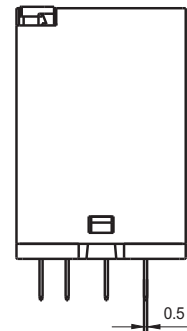
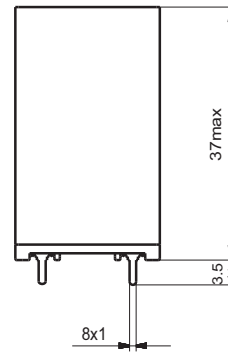
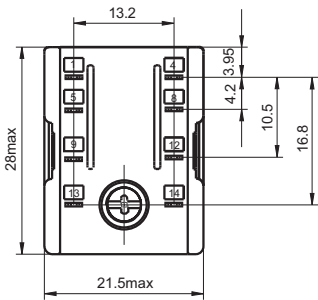


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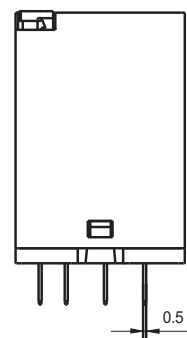
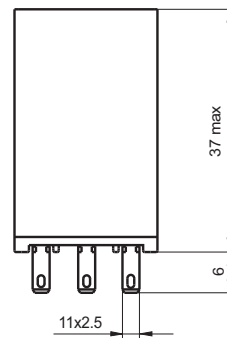
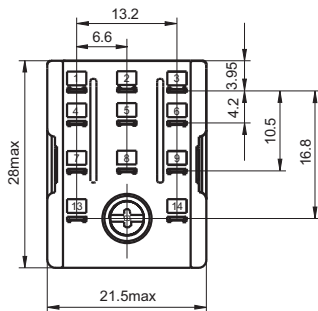
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HF18FH-□/□□-2Z2□□□□

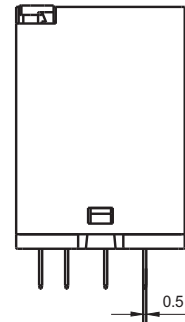
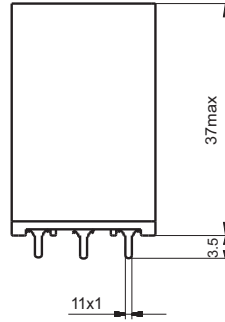
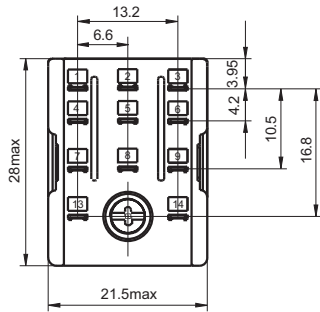


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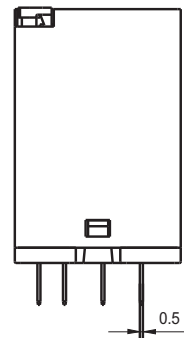
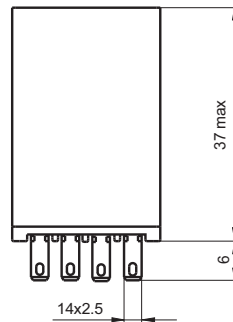
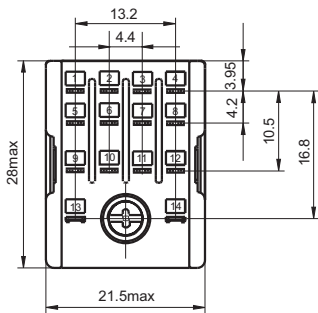


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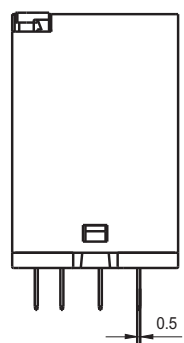
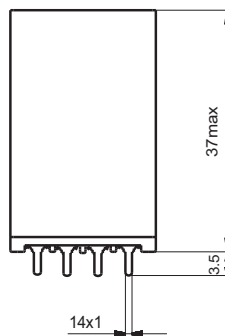
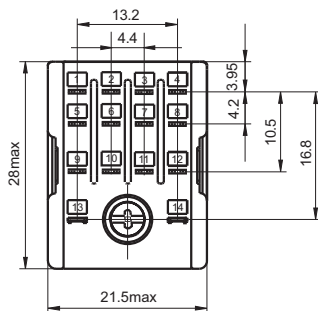
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HF18FH-□/□□-4Z1□□□□



HF18FH-□/□□-4Z2□□□□

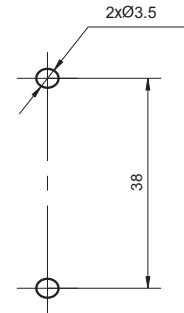
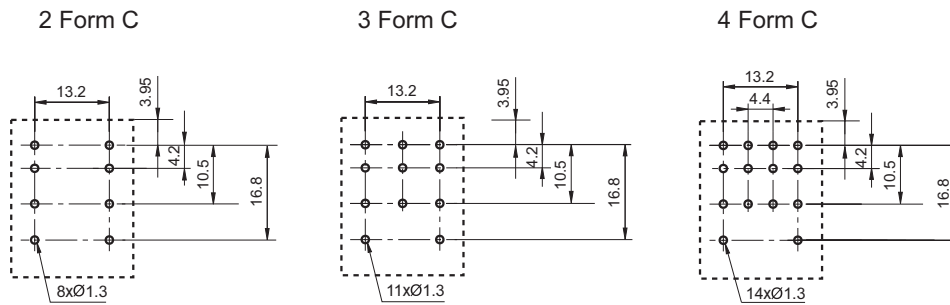


# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

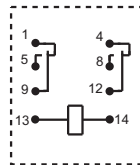
## PCB Layout (Bottom view)

## Mounting Holes

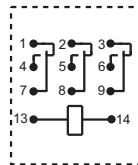


## Wiring Diagram (Bottom view)

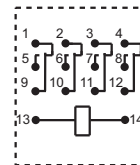
2 Form C



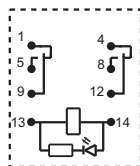
3 Form C



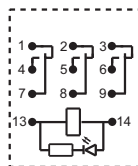
4 Form C



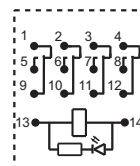
2 Form C (With LED)



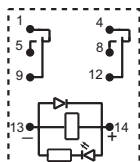
3 Form C (With LED)



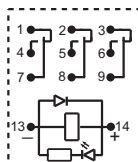
4 Form C (With LED)



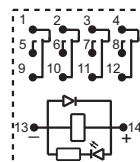
2 Form C  
(DC, With fly-wheel diode)



3 Form C  
(DC, With fly-wheel diode)



4 Form C  
(DC, With fly-wheel diode)

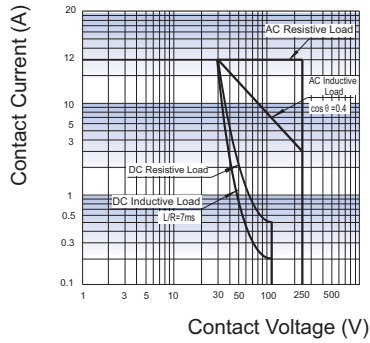


- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ .  
 2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .  
 3) DC products with fly-wheel diode, please confirm the positive and negative terminals before wiring.

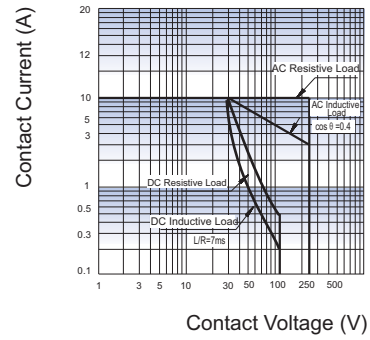


## CHARACTERISTIC CURVES

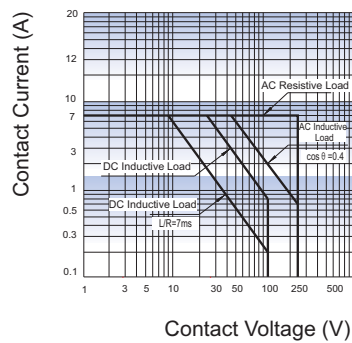
MAXIMUM SWITCHING POWER  
(2 Form C-G)



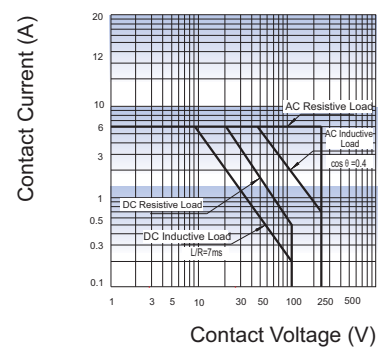
MAXIMUM SWITCHING POWER  
(3 Form C-G)



MAXIMUM SWITCHING POWER  
(2 Form C/3 Form C)



MAXIMUM SWITCHING POWER  
(4 Form C)



## Relay Sockets



### Features

- The dielectric strength can reach 2000VAC and the insulation resistance is 1000MΩ
- Three mounting types are available: PCB mounting 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.
- Components available: retainer, marker and plug-in module


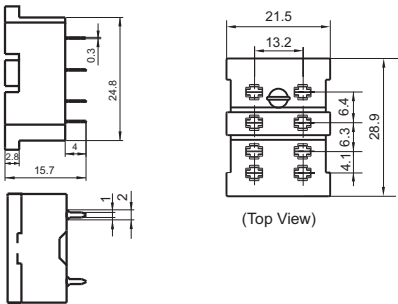
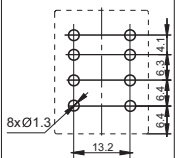

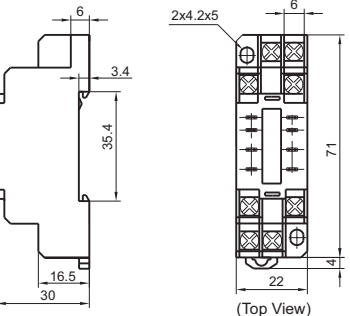
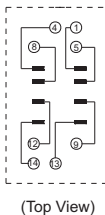
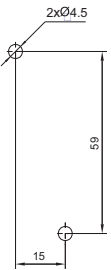
## CHARACTERISTICS

| Type            | Nominal Voltage | Nominal Current | Ambient Temperature | Dielectric Strength min. | Screw Torque | Wire Strip Length | Unit weight |
|-----------------|-----------------|-----------------|---------------------|--------------------------|--------------|-------------------|-------------|
| 18FF-2Z-A2      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | —            | —                 | Approx.8g   |
| 18FF-2Z-C1      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.35g  |
| 18FF-2Z-C2      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.36g  |
| 18FF-2Z-C4      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.53g  |
| 18FF-2Z-C5      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.64g  |
| 18FF-2Z-C8      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.41g  |
| 18FF-2Z-C9      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | —            | 7mm               | Approx.70g  |
| 18FF-3Z-C4      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.59g  |
| 18FF-3Z-C5      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.71g  |
| 18FF-4Z-A2      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | —            | —                 | Approx.8g   |
| 18FF-4Z-C1      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.58g  |
| 18FF-4Z-C2      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.59g  |
| 18FF-4Z-C4      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.64g  |
| 18FF-4Z-C5      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.76g  |
| 18FF-4Z-C8      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.51g  |
| 18FF-4Z-C9      | 250VAC          | 7A*             | -40 °C to 70 °C     | 2000VAC                  | —            | 7mm               | Approx.81g  |
| 18FZ-2Z-C2      | 250VAC          | 7A              | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.30g  |
| 18FZ-4Z-C2      | 250VAC          | 5A              | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.44g  |
| 18FF-2Z-C1(734) | 250VAC          | 12A             | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.35g  |
| 18FF-2Z-C2(734) | 250VAC          | 12A             | -40 °C to 70 °C     | 2000VAC                  | 0.8N · m     | 7mm               | Approx.36g  |
| 18FF-2Z-C4(734) | 250VAC          | 12A             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.53g  |
| 18FF-2Z-C5(734) | 250VAC          | 12A             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.64g  |
| 18FF-3Z-C5(734) | 250VAC          | 10A             | -40 °C to 70 °C     | 2000VAC                  | 0.6N · m     | 7mm               | Approx.71g  |

Remark: For sockets marked \*, their group of current totally should be not more than 20A.


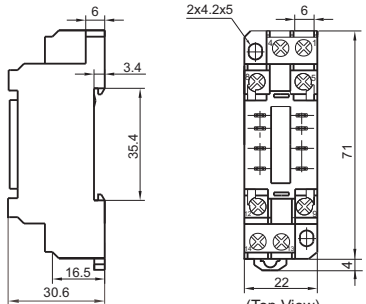
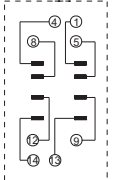
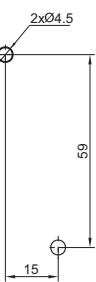

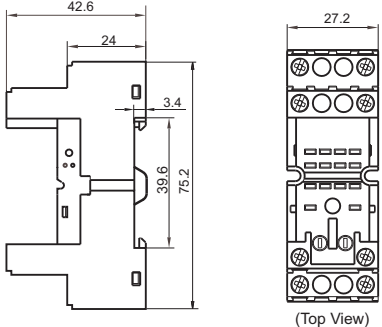
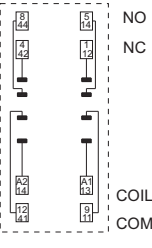
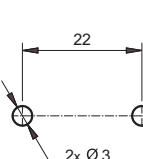

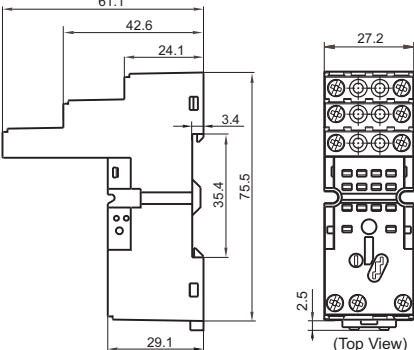
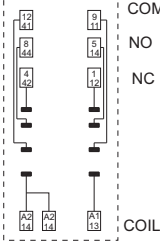
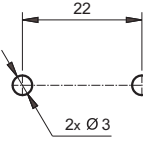

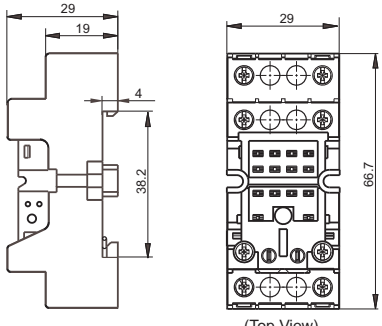
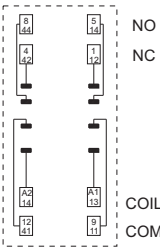
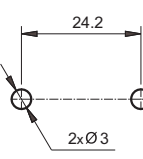
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

| Socket   | Outline Dimensions  | Wiring Diagram   | PCB Layout  | Components Available                                       |
|--|---|--|---|--|
| <p>18FF-2Z-A2</p>  <p>PCB Terminal,<br/>PCB mounting<br/>Applicable for 2 poles</p>   |  <p>(Top View)</p> |  |  | <p>metallic retainer<br/>18FF-H1</p>                       |
| <p>18FF-2Z-C1<br/>18FF-2Z-C1(734)</p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>Without finger protection device<br/>Applicable for 2 poles</p> |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>metallic retainer<br/>18FF-H2<br/>(be used in sets)</p> |


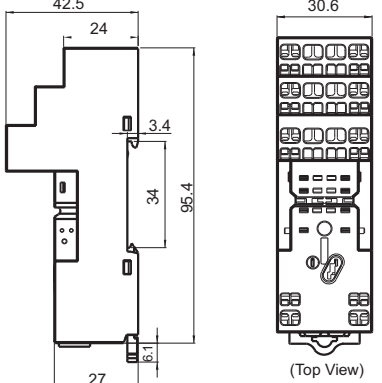
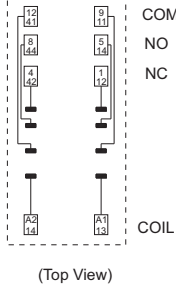

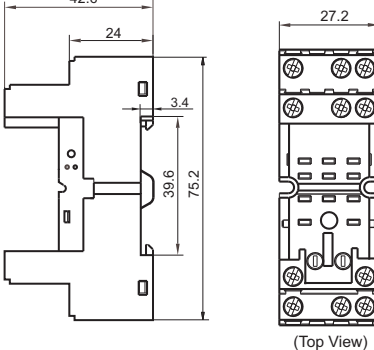
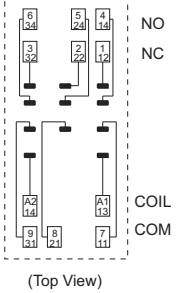
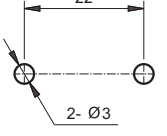

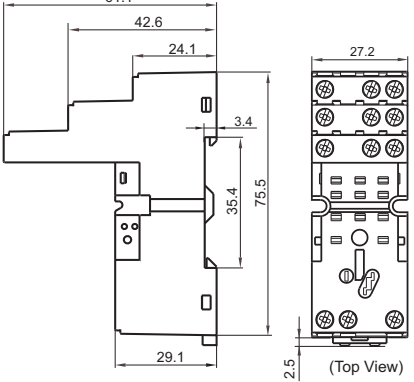
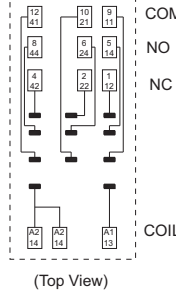
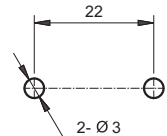

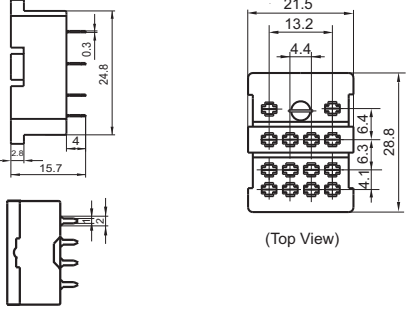
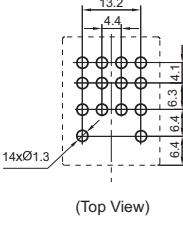
# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

| Socket  | Outline Dimensions  | Wiring Diagram   | PCB Layout  | Components Available  |
|---|---|--|---|---|
| <p>18FF-2Z-C2<br/>18FF-2Z-C2(734)</p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 2 poles</p>   |  <p>(Top View)</p>   |  <p>(Top View)</p>   |    | <p>metallic retainer<br/>18FF-H2<br/>(be used in sets)</p>  |
| <p>18FF-2Z-C4<br/>18FF-2Z-C4(734)</p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 2 poles</p>   |  <p>(Top View)</p>  |  <p>(Top View)</p>   |    | <p>plastic retainer<br/>18FF-H4<br/>metallic retainer<br/>18FF-H5<br/>marker<br/>18FF-M1<br/>plug-in module<br/>HFAA to HFHU*</p> |
| <p>18FF-2Z-C5<br/>18FF-2Z-C5(734)</p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 2 poles</p> |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>plastic retainer<br/>18FF-H4<br/>metallic retainer<br/>18FF-H5<br/>marker<br/>18FF-M1<br/>plug-in module<br/>HFAA to HFHU*</p> |
| <p>18FF-2Z-C8</p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 2 poles</p>                     |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>plastic retainer<br/>18FF-H4<br/>metallic retainer<br/>18FF-H5<br/>marker<br/>18FF-M3<br/>plug-in module<br/>HFAA to HFHU*</p> |


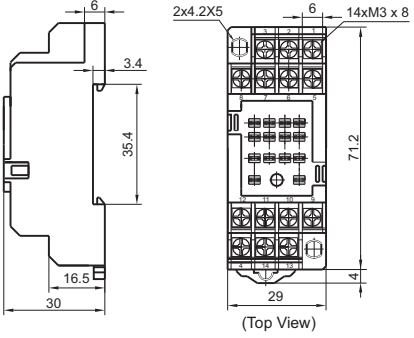
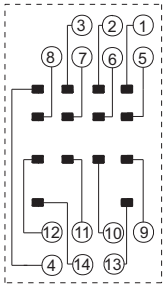
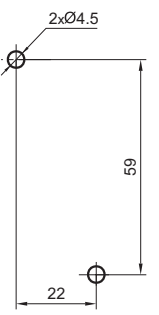

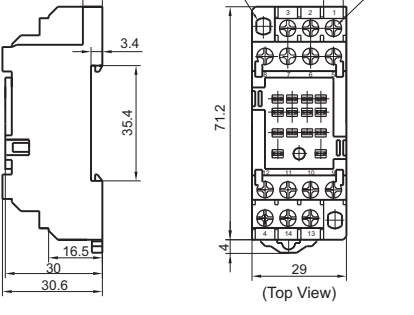
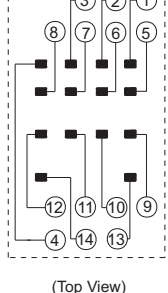
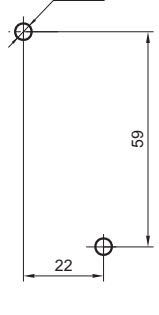

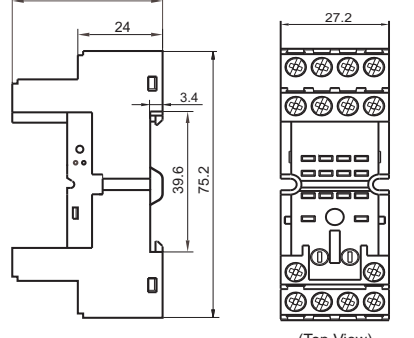
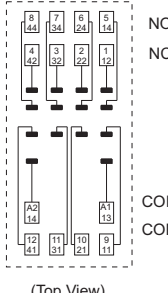
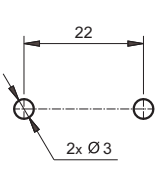

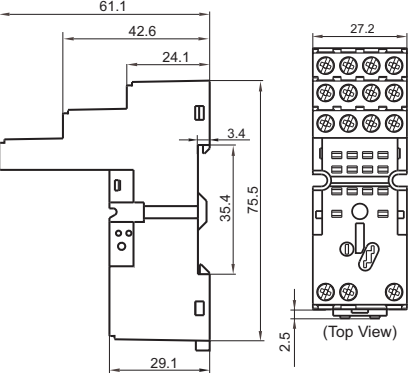
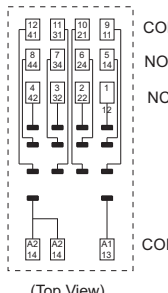
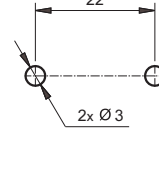
# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

| Socket  | Outline Dimensions  | Wiring Diagram   | PCB Layout  | Components Available   |
|---|---|--|---|--|
| <p><b>18FF-2Z-C9</b></p>  <p>Spring-loaded terminal<br/>DIN rail mounting<br/>With finger protection device<br/>Applicable for 2 poles</p>                                 |  <p>(Top View)</p>   |  <p>(Top View)</p>   |   | <p>plastic retainer<br/>18FF-H4</p> <p>metallic retainer<br/>18FF-H5</p> <p>plug-in module<br/>HFAA ~ HFHU*</p> <p>marker<br/>18FF-M3</p>  |
| <p><b>18FF-3Z-C4</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 3 poles</p>                             |  <p>(Top View)</p>  |  <p>(Top View)</p>  |                     | <p>plastic retainer<br/>18FF-H4</p> <p>metallic retainer<br/>18FF-H5</p> <p>marker<br/>18FF-M1</p> <p>plug-in module<br/>HFAA to HFHU*</p> |
| <p><b>18FF-3Z-C5</b><br/><b>18FF-3Z-C5(734)</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 3 poles</p> |  <p>(Top View)</p> |  <p>(Top View)</p> |                    | <p>plastic retainer<br/>18FF-H4</p> <p>metallic retainer<br/>18FF-H5</p> <p>marker<br/>18FF-M1</p> <p>plug-in module<br/>HFAA to HFHU*</p> |
| <p><b>18FF-4Z-A2</b></p>  <p>PCB Terminal,<br/>PCB mounting<br/>Applicable for 4 poles</p>   |  <p>(Top View)</p> |  |  <p>(Top View)</p> | <p>metallic retainer<br/>18FF-H1</p>   |


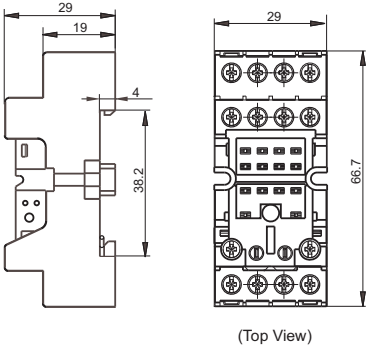
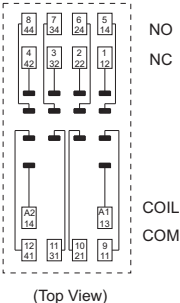
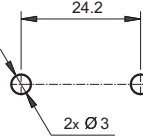

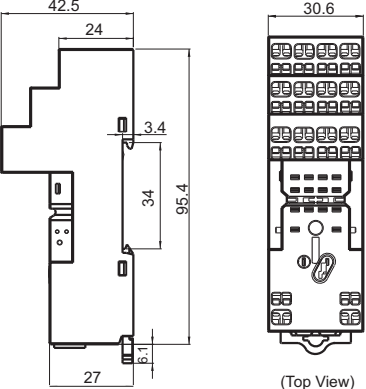
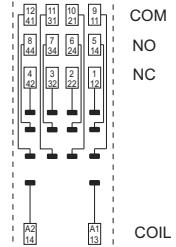

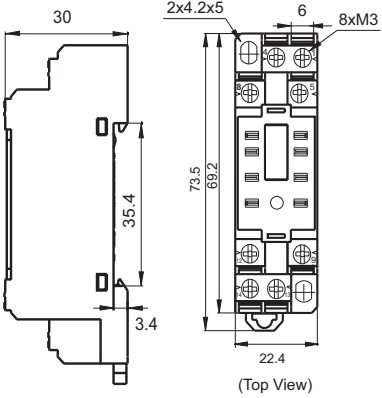
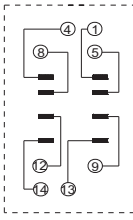
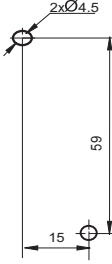

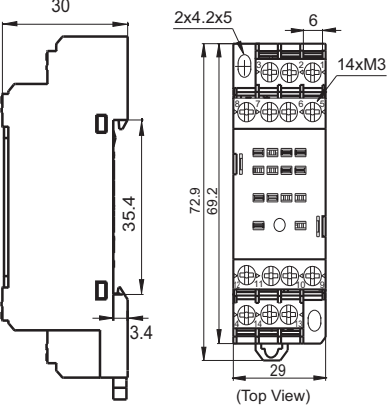
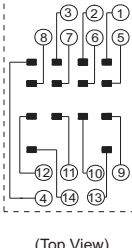
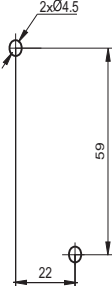
# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

| Socket  | Outline Dimensions  | Wiring Diagram   | PCB Layout  | Components Available  |
|---|---|--|---|---|
| <p><b>18FF-4Z-C1</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>Without finger protection device<br/>Applicable for 4 poles</p> |  <p>(Top View)</p>   |  <p>(Top View)</p>   |    | <p>metallic retainer<br/>18FF-H2<br/>(be used in sets)</p>  |
| <p><b>18FF-4Z-C2</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 4 poles</p>    |  <p>(Top View)</p>  |  <p>(Top View)</p>  |   | <p>metallic retainer<br/>18FF-H2<br/>(be used in sets)</p>  |
| <p><b>18FF-4Z-C4</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 4 poles</p>  |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>plastic retainer<br/>18FF-H4<br/>metallic retainer<br/>18FF-H5<br/>marker<br/>18FF-M1<br/>plug-in module<br/>HFAA to HFHU*</p> |
| <p><b>18FF-4Z-C5</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 4 poles</p>  |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>plastic retainer<br/>18FF-H4<br/>metallic retainer<br/>18FF-H5<br/>marker<br/>18FF-M1<br/>plug-in module<br/>HFAA to HFHU*</p> |

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

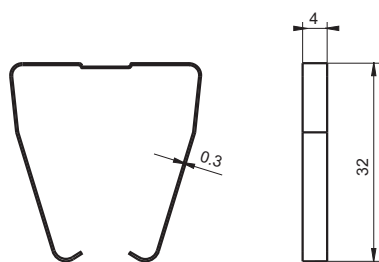
Unit: mm

| Socket   | Outline Dimensions  | Wiring Diagram   | PCB Layout  | Components Available   |
|--|---|--|---|--|
| <p><b>18FF-4Z-C8</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device<br/>Applicable for 4 poles</p> |  <p>(Top View)</p>   |  <p>(Top View)</p>   |    | <p>*plastic retainer<br/>18FF-H4</p> <p>*metallic retainer<br/>18FF-H5</p> <p>marker<br/>18FF-M3</p> <p>*plug-in module<br/>HFAA to HFHU</p> |
| <p><b>18FF-4Z-C9</b></p>  <p>Spring-loaded terminal<br/>DIN rail mounting<br/>With finger protection device<br/>Applicable for 2 poles</p>    |  <p>(Top View)</p>  |  <p>(Top View)</p>   |   | <p>plastic retainer<br/>18FF-H4</p> <p>metallic retainer<br/>18FF-H5</p> <p>plug-in module<br/>HFAA ~ HFHU*</p> <p>marker<br/>18FF-M3</p>    |
| <p><b>18FZ-2Z-C2</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device</p>                          |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>metallic retainer<br/>18FF-H2<br/>(Used in pairs)</p>   |
| <p><b>18FZ-4Z-C2</b></p>  <p>Screw Terminal,<br/>DIN rail or Screw mounting,<br/>With finger protection device</p>                          |  <p>(Top View)</p> |  <p>(Top View)</p> |  | <p>*metallic retainer<br/>18FF-H2<br/>(be used in sets)</p>  |

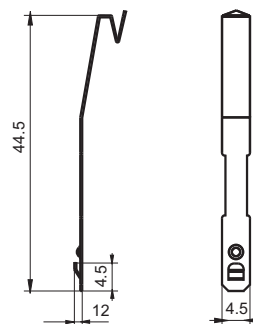
**Notes:** \* Please refer to the product datasheet if plug-in module is required.

Retainer

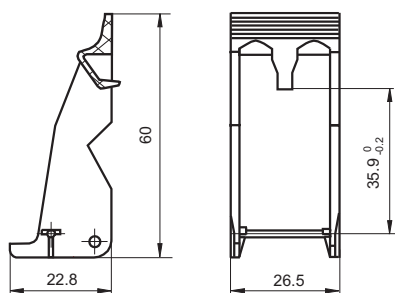
18FF-H1 (Metallic retainer)



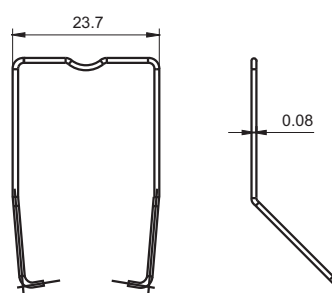
18FF-H2 (Metallic retainer)



18FF-H4 (Plastic retainer)

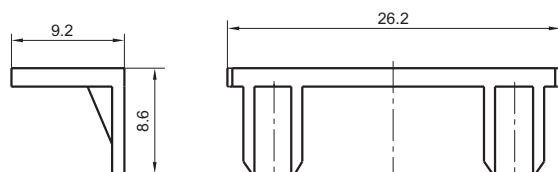


18FF-H5 (Metallic retainer)

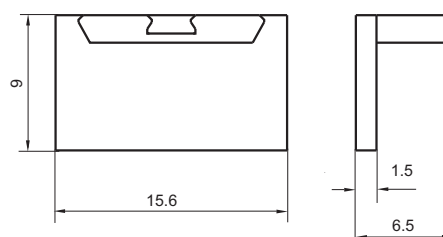


Marker

18FF-M1



18FF-M3



## SELECTION OF PARTS

| Type of Relay      | Mounting termination | Socket          | Retainer        | Marker  | Module    |            |         |           |
|--------------------|----------------------|-----------------|-----------------|---------|-----------|------------|---------|-----------|
| HF18FF/□□-2Z1□□□   | without button       | 18FF-2Z-A2      | 18FF-H1         | -       | -         |            |         |           |
|                    |                      | 18FF-2Z-C1      | 18FF-H2         |         |           |            |         |           |
|                    |                      | 18FF-2Z-C2      |                 |         |           |            |         |           |
|                    |                      | 18FZ-2Z-C2      | 18FF-H4/H5      | 18FF-M1 | HFAA~HFHU |            |         |           |
|                    |                      | 18FF-2Z-C4      |                 |         |           |            |         |           |
|                    |                      | 18FF-2Z-C5      |                 |         |           |            |         |           |
|                    |                      | 18FF-2Z-C8      |                 |         |           |            |         |           |
| 18FF-2Z-C9         |                      |                 |                 |         |           |            |         |           |
| 18FF-3Z-C4         |                      | 18FF-M3         |                 |         |           |            |         |           |
| 18FF-3Z-C5         |                      |                 |                 |         |           |            |         |           |
| HF18FF/□□-3Z1□□□   |                      | 18FF-M1         |                 |         |           |            |         |           |
| 18FF-4Z-A2         |                      |                 | 18FF-H1         | -       | -         |            |         |           |
| HF18FF/□□-4Z1□□□   |                      | with button     | 18FF-4Z-C1      |         |           | 18FF-H2    |         |           |
|                    |                      |                 | 18FF-4Z-C2      |         |           |            |         |           |
|                    | 18FZ-4Z-C2           |                 |                 |         |           |            |         |           |
|                    | 18FF-4Z-C4           |                 | 18FF-H4/H5      | 18FF-M1 | HFAA~HFHU |            |         |           |
|                    | 18FF-4Z-C5           |                 |                 |         |           |            |         |           |
|                    | 18FF-4Z-C8           |                 |                 |         |           |            |         |           |
|                    | 18FF-4Z-C9           |                 |                 |         |           |            |         |           |
| 18FF-4Z-C4         | 18FF-M3              |                 |                 |         |           |            |         |           |
| 18FF-2Z-C4         |                      |                 |                 |         |           |            |         |           |
| 18FF-2Z-C5         | 18FF-M1              |                 |                 |         |           |            |         |           |
| 18FF-2Z-C8         |                      |                 |                 |         |           |            |         |           |
| 18FF-2Z-C9         | 18FF-M3              |                 |                 |         |           |            |         |           |
| 18FF-3Z-C4         |                      |                 |                 |         |           |            |         |           |
| 18FF-3Z-C5         | 18FF-M1              |                 |                 |         |           |            |         |           |
| 18FF-4Z-C4         |                      |                 |                 |         |           |            |         |           |
| 18FF-4Z-C5         | 18FF-M3              |                 |                 |         |           |            |         |           |
| 18FF-4Z-C8         |                      |                 |                 |         |           |            |         |           |
| 18FF-4Z-C9         |                      |                 |                 |         |           |            |         |           |
| HF18FF-G/□□-2Z1□□□ | without button       | 18FF-2Z-C1(734) | 18FF-H2         | -       | -         |            |         |           |
| HF18FF-G/□□-3Z1□□□ |                      | 18FF-2Z-C2(734) |                 |         |           |            |         |           |
| HF18FH-G/□□-2Z1□□□ |                      | with button     | 18FF-2Z-C4(734) |         |           | 18FF-H4/H5 | 18FF-M1 | HFAA~HFHU |
|                    |                      |                 | 18FF-2Z-C5(734) |         |           |            |         |           |
| 18FF-3Z-C5(734)    |                      |                 |                 |         |           |            |         |           |
| 18FF-2Z-C4(734)    |                      |                 |                 |         |           |            |         |           |
| 18FF-2Z-C5(734)    |                      |                 |                 |         |           |            |         |           |
| 18FF-3Z-C5(734)    |                      |                 |                 |         |           |            |         |           |

### Things to be noticed when selecting sockets:

- Please choose suitable relay socket according to the actual mounting environment, relay contact poles and terminal layout. If there is any query on selection, please contact Hongfa for the technical service.
- Socket which can be mounted with markers is furnished with a marker; as for other related components, they should be selected separately. Please do give clear indication of the types of relay sockets and related components you choose while placing order.
- The above is only an example of typical socket and related component type which is suitable to HF18FF relay. If you have any special requirements, please contact us.
- Main outline dimension, outline dimension > 50mm, tolerance should be  $\pm 1\text{mm}$ ; 20mm < outline dimension  $\leq 50\text{mm}$ , tolerance should be  $\pm 0.5\text{mm}$ ; 5mm < outline dimension  $\leq 20\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ ; outline dimension  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ .
- DIN rail mounting: recommend to use standard rail 35×7.5×1mm, 35×15×1mm.

### Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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 Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

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