



NF104      Insulation bracket      Shrouded cover  
 26.5×26.5×24.5(+16)      35.5×35.5×45(+21.8)

### Features

- Small size and light weight.
- Heavy contact load (40A).
- Suitable for automobile and lamp accessories application.
- PC board mounting and direct insert mounting available.

### Ordering Information

| <u>NF104</u>            | <u>100</u>                   | <u>E</u> | <u>12</u> | <u>1</u>             | <u>S</u> | <u>P</u>   | <u>D</u> | <u>XXXX</u> |
|-------------------------|------------------------------|----------|-----------|----------------------|----------|--|----------|-------------|
| 1                       | 2                            | 3        | 4         | 5                    | 6        | 7  | 8        | 9           |
| 1. Type:                | NF104                        |          |           | 6. Protection:       |          | Nil = Dust cover; S = Sealed type                        |          |             |
| 2. Contact arrangement: | 100 = 1A; 001 = 1C           |          |           | 7. Terminal types:   |          | Nil = Plug-in; P = PCB                                   |          |             |
| 3. Contact material:    | E = Ag alloy                 |          |           | 8. Coil suppression: |          | Nil = Standard;  |          |             |
| 4. Coil voltage:        | 12 = 12VDC; 24 = 24VDC       |          |           | 9. Special:          |          | D = Diode;   |          |             |
| 5. Cover types:         | Nil = Standard;              |          |           |                      |          | R = Resistor   |          |             |
|                         | 1 = Insulation bracket;      |          |           |                      |          | XXXX = Letters and/or number for special customer design |          |             |
|                         | 2 = Metal bracket;           |          |           |                      |          |  |          |             |
|                         | 3 = Shrouded (metal bracket) |          |           |                      |          |  |          |             |

### Contact Data

|                                    |                               |  |
|------------------------------------|-------------------------------|--|
| Contact Arrangement                | 1A (SPST NO); 1C (SPDT (B-M)) |  |
| Contact Material                   | AgSnO                         |  |
| Contact Rating (resistive)         | 1A                            | 1C   |
|                                    | 40A/14VDC<br>20A/24VDC        | NO:40A/14VDC<br>NC:30A,40A/14VDC<br>15A, 20A/24VDC |
| Max. Switching Power               | 630W                          |  |
| Max. Switching Voltage             | 75VDC                         | Max. Switching Current:40A                         |
| Contact Resistance or Voltage drop | ≤ 30mΩ                        | Item 4.12 of IEC 61810-7                           |
| Operation life                     | Electrical                    | 10 <sup>5</sup>                                    |
|                                    | Mechanical                    | 10 <sup>7</sup>                                    |
|                                    |                               | Item 4.30 of IEC 61810-7                           |
|                                    |                               | Item 4.31 of IEC 61810-7                           |

**NOTE:** Limiting continuous current at 125°C:NC/NO:10A/15A,1U:2×11A.

### Coil Parameter

| Dash numbers | Coil voltage VDC |      | Coil resistance Ω ±10% | Pick up voltage VDC(max) (65%of rated voltage) | Release voltage VDC(min) (10% of rated voltage) | Coil power consumption W | Operate Time ms | Release Time ms |
|--------------|------------------|------|------------------------|--|---|--------------------------|-----------------|-----------------|
|              | Rated            | Max. |                        |  |   |                          |                 |                 |
| 006-1600     | 6                | 7.8  | 22.5                   | 3.9  | 0.6   | 1.6                      | 7               | 5               |
| 009-1600     | 9                | 11.7 | 50.6                   | 5.9  | 0.9   |                          |                 |                 |
| 012-1600     | 12               | 15.6 | 90                     | 7.8  | 1.2   |                          |                 |                 |
| 024-1600     | 24               | 31.2 | 360                    | 15.6   | 2.4   |                          |                 |                 |
| 048-1600     | 48               | 62.4 | 1440                   | 31.2   | 4.8   |                          |                 |                 |

- CAUTION:** 1.The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.  
 2.Pickup and release voltage are for test purposes only and are not to be used as design criteria.

## Operation condition

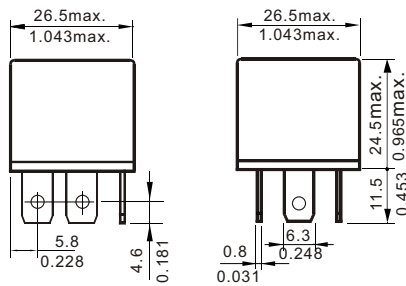
|   |  |  |
|---|--|--|
| Insulation Resistance <sup>1)</sup>   | 100M $\Omega$ min (at 500VDC)          | Item 7 of IEC 60255-5                          |
| Dielectric Strength <sup>1)</sup><br>Between contacts<br>Between contact and coil | 50Hz 500V<br>50Hz 750V                 | Item 6 of IEC 60255-5<br>Item 6 of IEC 60255-5 |
| Shock resistance  | 147m/s <sup>2</sup> 11ms               | IEC 68-2-27 Test Ea                            |
| Vibration resistance  | 10Hz~40Hz double amplitude 1.5mm       | IEC 68-2-6 Test Fc                             |
| Terminals strength  | 8N 4N (PC type)                        | IEC 68-2-21 Test Ua2                           |
| Solderability   | 260 $\pm$ 5 $^{\circ}$ C 5s $\pm$ 0.5s | IEC 68-2-20 Test Ta method 1                   |
| Ambient Temperature   | -40 $\leq$ 125 $^{\circ}$ C            |  |
| Relative Humidity   | 85% (at 40 $^{\circ}$ C)               | IEC 68-2-3 Test Ca                             |
| Mass  | 31g(NVF4-1);36g(NVF4-2)45g(NVF4-2b)    |  |

Note: 1). When testing, coil terminals should be connected, If coil transient suppression is installed in relay .

## Dimensions

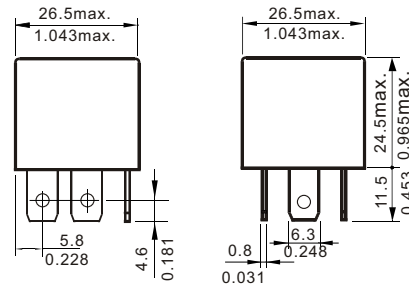
mm /inch

### Dust cover



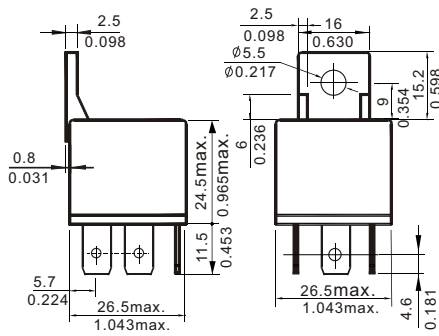
NF104 Standard

### Sealed type



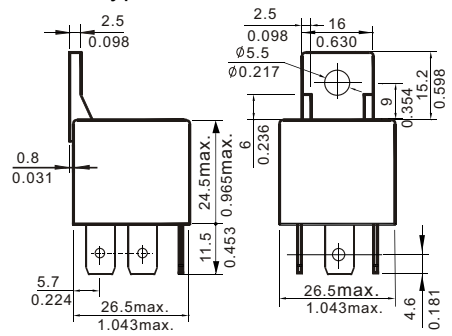
NF104 Standard

### Dust cover

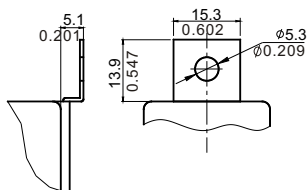


NF104 Insulation bracket

### Sealed type



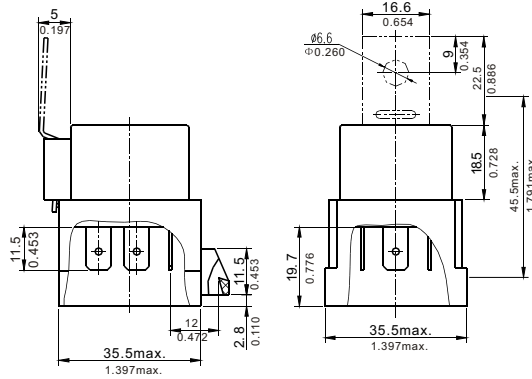
NF104 Insulation bracket



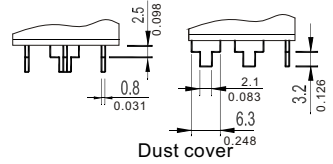
NF104 Metal bracket

## Dimensions (continued)

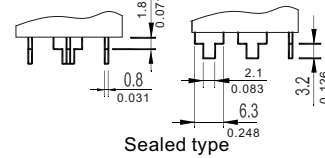
mm /inch



NF104 Shrouded cover

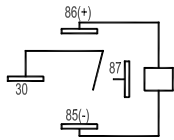


Dust cover

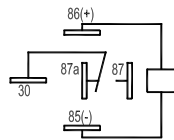


Sealed type

Note: Terminals as shown above are also available.

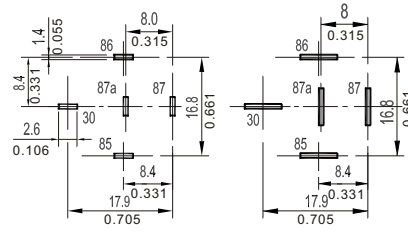


1A



1C

Wiring diagram (Bottom view)



PCB type

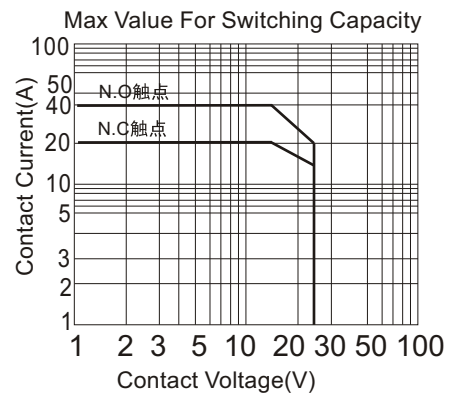
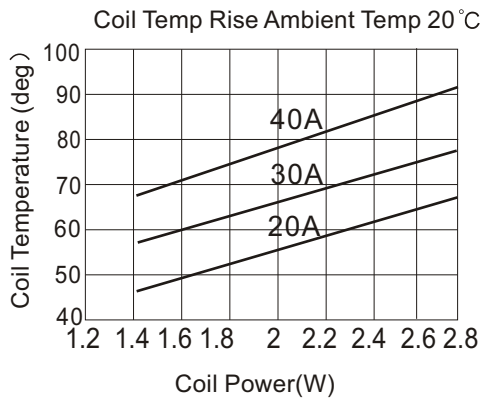
Plug in type

Mounting (Bottom view)

NOTES 1).Dimensions are in millimeters.

2).Inch equivalents are given for general information only.

## Reference Data



### Disclaimer

All technical performance data apply to the relay as such, specific conditions of the individual application are not considered. Please always check the suitability of the relay for your intended purpose. We do not assume any responsibility or liability for not complying herewith. We recommend to complete our questionnaire and to request our technical service. Any responsibility for the application of the product remains with the customer only. All specifications are subject to change without notification. All rights of NF Forward GmbH & NF Forward USA Inc. are reserved.