



# NVF4-1 & NVF4-2

NVF4-1

26.5×26.5×24.5(+16)

NVF4-2

NVF4-2b

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.
- 24V versions with contact gap >0.8mm.

## Ordering Information

**NVF4-1 C Z 30 b DC12V 1.6 C D**  
1 2 3 4 5 6 7 8 9

1 Part number: NVF4-1,NVF4-2(Insulation Bracket),  
NVF4-2a(With Metal Bracket,  
Contact Arrangement:1A,1B,1C,1U)  
NVF4-2b(Shrouded Type With Metal Bracket)  
2 Contact arrangement: A:1A1; A2:1A2; B:1B; C:1C;  
C2:1C2; U:1U  
3 Enclosure: S: Sealed type; Z: Dust cover;  
4 Contact current: A Form:20A,40A;  
B Form: 20A,30A; C Form:15A,20A, 30A, 40A;  
U Form: 2×15A, 2×20A

5 Terminals: b: PCB type; a1: plug in type 1; a2:plug in type 2  
6 Coil rated voltage(V): DC:6,12,24,48  
7 Coil power consumption: 1.6:1.6W; 1.9:1.9W;  
2.3:2.3W; 2.6:2.6W  
8 Contact material: C:AgCdO; N:AgNi; NIL: AgSnO<sub>2</sub>  
9 Coil transient suppression: D: with diode;  
2D:with two diodes;  
R: with resistance;  
DR: with diode and resistance;  
NIL: standard

## Contact Data

|                                    |                                                         |                        |                                                    |                            |
|------------------------------------|---------------------------------------------------------|------------------------|----------------------------------------------------|----------------------------|
| Contact Arrangement                | 1A (SPSTNO) ,1B (SPSTNC) ,1C (SPDT(B-M)) ,1U (SPSTNODM) |                        |                                                    |                            |
| Contact Material                   | AgCdO, AgSnO <sub>2</sub> , AgNi                        |                        |                                                    |                            |
| Contact Rating (resistive)         | 1A                                                      | 1B                     | 1C                                                 | 1U                         |
|                                    | 40A/14VDC<br>20A/24VDC                                  | 30A/14VDC<br>20A/24VDC | NO:40A/14VDC<br>NC:30A,40A/14VDC<br>15A, 20A/24VDC | 2×20A/14VDC<br>2×15A/24VDC |
| Max. Switching Power               | 630W                                                    |                        |                                                    |                            |
| Max. Switching Voltage             | 75VDC                                                   |                        |                                                    |                            |
| Max. Switching Current             | 40A                                                     |                        |                                                    |                            |
| Contact Resistance or Voltage drop | ≤ 30mΩ                                                  |                        |                                                    |                            |
| Operation life                     | Electrical                                              | 10 <sup>5</sup>        |                                                    |                            |
|                                    | Mechanical                                              | 10 <sup>7</sup>        |                                                    |                            |

**NOTE:** Special high performance 24V version with contact gap >0.8mm; Limiting continuous current at 125°C:NC/NO:10A/15A,1U:2×11A.

## Coil Parameter

| Dash numbers | Coil voltage VDC |      | Coil resistance<br>Ω ± 10% | Pick up voltage<br>VDC(max)<br>(65%of rated voltage) | Release voltage<br>VDC(min)<br>(10% of rated voltage) | Coil power consumption<br>W | Operate Time<br>ms | Release Time<br>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                                                   |                             |                    |                    |
| 006-1900     | 6                | 7.8  | 19                         | 3.9                                                  | 0.6                                                   | 1.9                         |                    |                    |
| 012-1900     | 12               | 15.6 | 75.8                       | 7.8                                                  | 1.2                                                   |                             |                    |                    |
| 024-1900     | 24               | 31.2 | 303.2                      | 15.6                                                 | 2.4                                                   |                             |                    |                    |
| 006-2300     | 6                | 7.8  | 15.6                       | 3.9                                                  | 0.6                                                   | 2.3                         |                    |                    |
| 012-2300     | 12               | 15.6 | 62.6                       | 7.8                                                  | 1.2                                                   |                             |                    |                    |
| 024-2300     | 24               | 31.2 | 250.4                      | 15.6                                                 | 2.4                                                   |                             |                    |                    |
| 006-2600     | 6                | 7.8  | 13.8                       | 3.9                                                  | 0.6                                                   | 2.6                         |                    |                    |
| 012-2600     | 12               | 15.6 | 55.4                       | 7.8                                                  | 1.2                                                   |                             |                    |                    |
| 024-2600     | 24               | 31.2 | 221.5                      | 15.6                                                 | 2.4                                                   |                             |                    |                    |

**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.

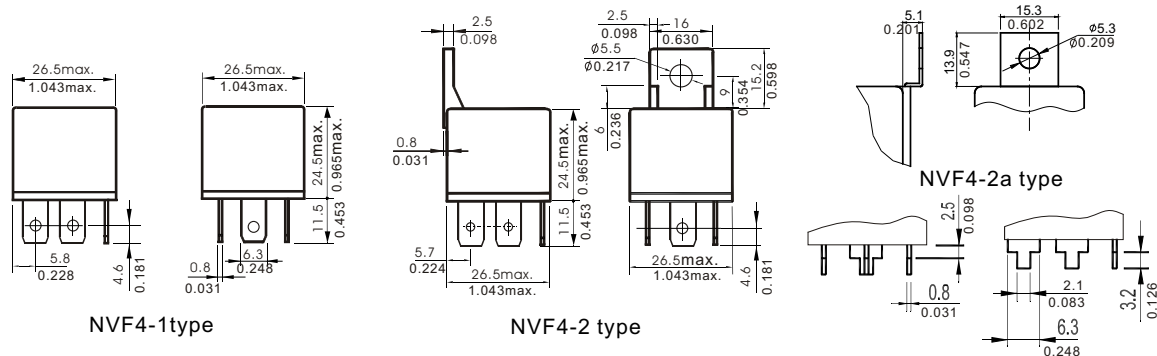
## Operation condition

|                                                                                   |                                     |                                                |
|-----------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------|
| Insulation Resistance <sup>1)</sup>                                               | 100MΩ 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                                                                     | 235℃ ± 2℃ 3s ± 0.5s                 | IEC 68-2-20 Test Ta method 1                   |
| Ambient Temperature                                                               | -40℃~125℃                           |                                                |
| Relative Humidity                                                                 | 85% (at 40℃)                        | 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.

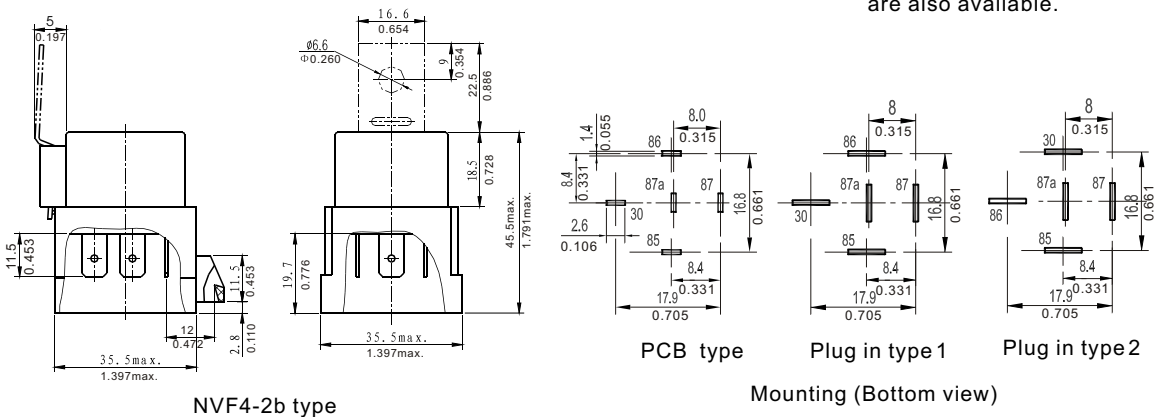
## Dimensions

mm /inch

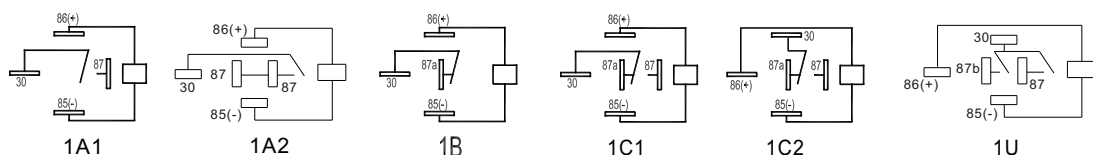


## Dimensions

Note: Terminals as shown above are also available.



## Mounting (Bottom view)



## Wiring diagram (Bottom view)

NOTES 1).Dimensions are in millimeters.

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