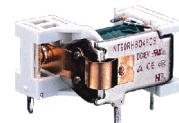


# DB ELECTRO<sup>CO., LTD.</sup>

Présente / Presents:

NINGBO HUAGUAN ELECTRONICS CO., LTD.



# 4117



Open Type  
13.2×15.3×18



Dust Covered  
17.5×15×20



### Features

- Superminiature, heavy power.
- Low coil power consumption.
- Switching current up to 20A.
- PC board mounting.
- Suitable for household appliances, electrical equipment, automation system, and automobile industry application.

### Ordering Information

**4117 C S 10 12VDC 1.0**  
 1 2 3 4 5 6

|  |  |
|--|--|
| 1 Part number: 4117  | 4 Contact Current: 10:10A; 20:20A            |
| 2 Contact arrangement: A:1A; C:1C; U:1U; W:1W              | 5 Coil rated Voltage(V): DC:3,5,6,9,12,18,24 |
| 3 Enclosure: S: Sealed type; Z: Dust cover<br>O: Open type | 6 Coil power consumption: 1.0:1.0W; 1.2:1.2W |

### Contact Data

|                                    |  |
|------------------------------------|--|
| Contact Arrangement                | 1A (SPSTNO) 1C (SPDT(B-M)) 1U (SPSTNODM) 1W (SPDTNC-NO)  |
| Contact Material                   | AgSnO <sub>2</sub>   |
| Contact Rating (resistive)         | 1A, 1C: 10A/120VAC,28VDC 20A/14VDC ;<br>1U: 2×10A/120VAC,28VDC 2×20A/14VDC ;<br>1W: 2×10A/120VAC,28VDC 2×20A/14VDC |
| Max. Switching Power               | 1C: 280W 1200VA 1W: 2×280W 2×1200VA  |
| Max. Switching Voltage             | 75VDC 380VAC Max. Switching Current:20A  |
| Contact Resistance or Voltage drop | <50mΩ Item 3.12 of IEC255-7  |
| Operation life                     | Electrical 10 <sup>5</sup> Item 3.30 of IEC255-7   |
|                                    | Mechanical 10 <sup>7</sup> Item 3.31 of IEC255-7   |

### Coil Parameter

| Dash numbers | Coil voltage VDC |      | Coil resistance Ω ±10% | Pickup voltage VDC(max) (75% of rated voltage) | Release voltage VDC(min) (10% of rated voltage) | Coil power consumption W | Operate Time ms | Release Time ms |
|--------------|------------------|------|------------------------|--|---|--------------------------|-----------------|-----------------|
|              | Rated            | Max. |                        |  |   |                          |                 |                 |
| 003-1000     | 3                | 3.9  | 9                      | 2.25   | 0.3   | 1.0                      | ≤10             | ≤5              |
| 005-1000     | 5                | 6.5  | 25                     | 3.75   | 0.5   |                          |                 |                 |
| 006-1000     | 6                | 7.8  | 36                     | 4.50   | 0.6   |                          |                 |                 |
| 009-1000     | 9                | 11.7 | 85                     | 6.75   | 0.9   |                          |                 |                 |
| 012-1000     | 12               | 15.6 | 145                    | 9.00   | 1.2   |                          |                 |                 |
| 018-1000     | 18               | 23.4 | 324                    | 13.5   | 1.8   |                          |                 |                 |
| 024-1000     | 24               | 31.2 | 576                    | 18.0   | 2.4   |                          |                 |                 |
| 012-1200     | 12               | 15.6 | 120                    | 9.00   | 1.2   | 1.2                      | <10             | <5              |

**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**

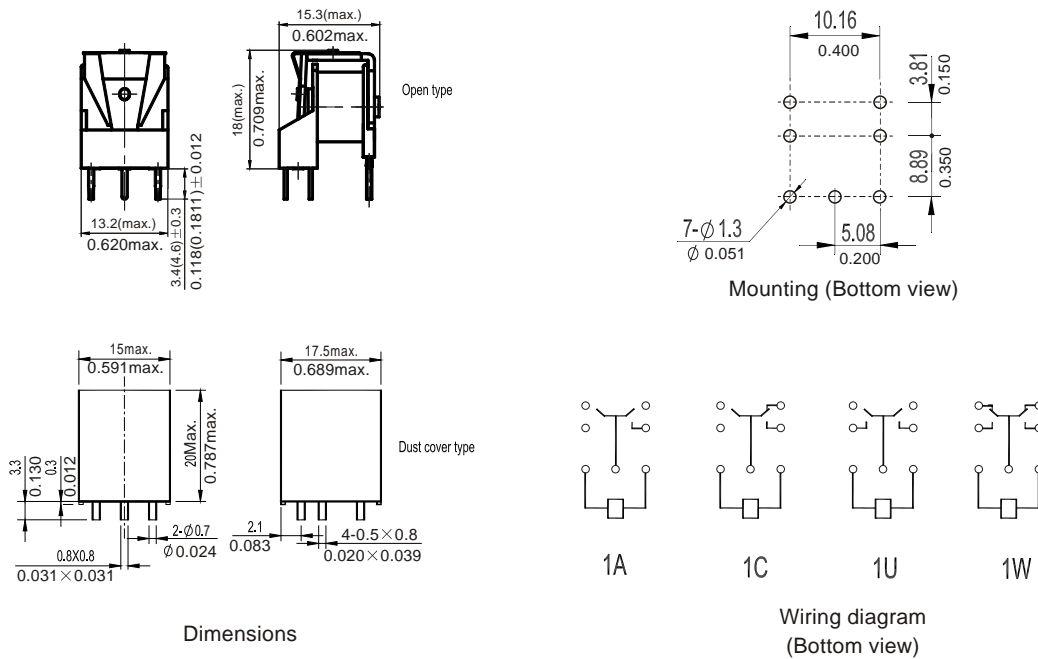
|   |  |  |
|---|--|--|
| Insulation Resistance   | 100M $\Omega$ min (at 500VDC)                      | Item 7 of IEC255-5                       |
| Dielectric Strength<br>Between contacts<br>Between contact and coil | 50Hz 750V<br>50Hz 1500V                            | Item 6 of IEC255-5<br>Item 6 of IEC255-5 |
| Shock resistance  | 100m/s <sup>2</sup> 11ms                           | IEC68-2-27 Test Ea                       |
| Vibration resistance  | 10~40Hz double amplitude 1.27mm                    | IEC68-2-6 Test Fc                        |
| Terminals strength  | 10N  | IEC68-2-21 Test Ua1                      |
| Solderability   | 235 $^{\circ}$ C $\pm$ 2 $^{\circ}$ C 3 $\pm$ 0.5s | IEC68-2-20 Test Ta method 1              |
| Ambient Temperature   | -40~105 $^{\circ}$ C                               |  |
| Relative Humidity   | 85% (at 40 $^{\circ}$ C)                           | IEC68-2-3Test Ca                         |
| Mass  | 9g (Open type) 12g                                 |  |

**Qualification inspection:**

Perform the qualification test as specified in the table IV of IEC255-19-1 and minimum sample size 24.

**Dimensions**

mm /inch



NOTES 1).Dimensions are in millimeters.  
2).Inch equivalents are given for general information only.

**Reference Data**

