


# NT90TP (T92)




32.5(50.2) × 27.5 × 20

32.5(50.2) × 27.5 × 28.2

 13002098872

 us E160644

 R50126373

## Features

- Small size, light weight.
- Low coil power consumption, heavy contact load.
- Strong anti-shock and anti-vibration, high reliability, long life.
- Suitable for automobile, machine, electronic equipment, air conditioner and household appliances applications.

## Ordering Information

| <b>N90TP</b>   | <b>H</b> | <b>L</b> | <b>A</b> | <b>S</b> | <b>DC12V</b> | <b>C</b>  | <b>B</b> | <b>0.9</b> |
|--|----------|----------|----------|----------|--------------|---|----------|------------|
| 1  | 2        | 3        | 4        | 5        | 6            | 7   | 8        | 9          |
| 1 Part number ; NT90TP ( T92 NT90TP <sub>2</sub><br>2 Load ; H:30A ; N:40A<br>3 High ; NIL: Standard ; L: Low profile type<br>4 Contact arrangement ; A:1A B:1B ; C:1C<br>5 Enclosure S: Sealed type D; Dust cover ;<br>E: Covered |          |          |          |          |              | 6 Coil rated Voltage(V) AC:12,24, 110,120,220,240,277<br>DC:3,5,6,9,12,15,18,24,48,110<br>7 Contact material ; C: AgCdO ;S: AgSnO <sub>2</sub><br>8 Resist heat class ; B:130 °C F:155 °C<br>9 Coil power consumption ; 0.6:0.6W ;0.9:0.9W<br>NIL:2VA |          |            |

## Contact Data

| Contact Arrangement                | 1A (SPSTNO)   | 1B (SPSTNC)                              | 1C (SPDT(B-M))             |
|------------------------------------|---|--|----------------------------|
| Contact Material                   | AgCdO   | AgSnO <sub>2</sub>                       |                            |
| Contact Rating (resistive)         | NO:30A/240VAC,14VDC; NC:20A/240VAC;30A/14VDC<br>NO:40A/240VAC,30VDC; NC:30A/240VAC,30VDC (0.9W)<br>NO:30A/277VAC;NC:20A/277VAC<br>Motor load: NO:2HP 250VAC ; NC:1.5HP 250VAC<br>Lamp load: TV-5 5A/280VAC(Ballast) |  |                            |
| Max. Switching Power               | 1200W 7200VA (10000VA)  |  |                            |
| Max. Switching Voltage             | 110VDC 300VAC   |  | Max. Switching Current:40A |
| Contact Resistance or Voltage drop | ≤30m Ω  |  | Item 4.12 of IEC 61810-7   |
| Operation life                     | Electrical  | 10 <sup>5</sup> Item 4.30 of IEC 61810-7 |                            |
|                                    | Mechanical  | 10 <sup>7</sup> Item 4.31 of IEC 61810-7 |                            |

## Coil Parameter

| AC Coil Parameter |                   |       |                  |                         |  |  |            |                 |                 |
|-------------------|-------------------|-------|------------------|-------------------------|--|--|------------|-----------------|-----------------|
| Dash numbers      | Rated voltage VAC |       | Rated current mA | Coil resistance Ω ± 10% | Pick up voltage VAC(max) (75%of rated voltage) | Release voltage VAC(min) (30%of rated voltage) | Coil power | Operate Time ms | Release Time ms |
|                   | Rated             | Max   |                  |                         |  |  |            |                 |                 |
| 012AC             | 12                | 15.6  | 166.6            | 27                      | 9.0  | 3.6  | 2VA        | —               | —               |
| 024AC             | 24                | 31.2  | 83.3             | 120                     | 18.0   | 7.2  |            |                 |                 |
| 110AC             | 110               | 143   | 18.1             | 2360                    | 82.5   | 33.0   |            |                 |                 |
| 120AC             | 120               | 156   | 16.6             | 3040                    | 90.0   | 36.0   |            |                 |                 |
| 220AC             | 220               | 286   | 9.1              | 13490                   | 165.0  | 66.0   |            |                 |                 |
| 240AC             | 240               | 312   | 8.3              | 15740                   | 180.0  | 72.0   |            |                 |                 |
| 277AC             | 277               | 360.1 | 7.2              | 20300                   | 207.75   | 83.1   |            |                 |                 |

**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.

**Coil Parameter**

| DC Coil Parameter |                   |      |                                   |  |  |              |                 |                 |
|-------------------|-------------------|------|-----------------------------------|--|--|--------------|-----------------|-----------------|
| Dash numbers      | Rated voltage VDC |      | Coil resistance $\Omega \pm 10\%$ | Pick up voltage VDC(max) (75%of rated voltage) | Release voltage VDC(min) (10%of rated voltage) | Coil power W | Operate Time ms | Release Time ms |
|                   | Rated             | Max  |                                   |  |  |              |                 |                 |
| 003-900           | 3                 | 3.9  | 10                                | 2.25   | 0.3  | 0.9          | $\leq 15$       | $\leq 10$       |
| 005-900           | 5                 | 6.5  | 28                                | 3.75   | 0.5  |              |                 |                 |
| 006-900           | 6                 | 7.8  | 40                                | 4.50   | 0.6  |              |                 |                 |
| 009-900           | 9                 | 11.7 | 90                                | 6.75   | 0.9  |              |                 |                 |
| 012-900           | 12                | 15.6 | 160                               | 9.00   | 1.2  |              |                 |                 |
| 015-900           | 15                | 19.5 | 250                               | 10.25  | 1.5  |              |                 |                 |
| 018-900           | 18                | 23.4 | 360                               | 13.50  | 1.8  |              |                 |                 |
| 024-900           | 24                | 31.2 | 640                               | 18.00  | 2.4  |              |                 |                 |
| 036-900           | 36                | 46.8 | 1440                              | 27.00  | 3.6  |              |                 |                 |
| 048-900           | 48                | 62.4 | 2560                              | 36.00  | 4.8  |              |                 |                 |
| 110-900           | 110               | 143  | 13445                             | 82.50  | 11.0   |              |                 |                 |
|                   |                   |      |                                   |  |  |              |                 |                 |
| 003-600           | 3                 | 3.9  | 15                                | 2.25   | 0.3  | 0.6          | $\leq 15$       | $\leq 10$       |
| 005-600           | 5                 | 6.5  | 42                                | 3.75   | 0.5  |              |                 |                 |
| 006-600           | 6                 | 7.8  | 60                                | 4.50   | 0.6  |              |                 |                 |
| 009-600           | 9                 | 11.7 | 135                               | 6.75   | 0.9  |              |                 |                 |
| 012-600           | 12                | 15.6 | 240                               | 9.00   | 1.2  |              |                 |                 |
| 015-600           | 15                | 19.5 | 375                               | 10.25  | 1.5  |              |                 |                 |
| 018-600           | 18                | 23.4 | 540                               | 13.50  | 1.8  |              |                 |                 |
| 024-600           | 24                | 31.2 | 960                               | 18.00  | 2.4  |              |                 |                 |
| 048-600           | 48                | 62.4 | 3840                              | 36.00  | 4.8  |              |                 |                 |
| 110-600           | 110               | 143  | 20167                             | 82.50  | 11.0   |              |                 |                 |

**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    | 1000M $\Omega$ min (at 500VDC)                           | Item 7 of IEC 60255-5        |
| Dielectric Strength      |  |                              |
| Between contacts         | 50Hz 1500V   | Item 6 of IEC 60255-5        |
| Between contact and coil | 50Hz 2500V   | Item 6 of IEC 60255-5        |
| Shock resistance         | 200m/s <sup>2</sup> 11ms                                 | IEC 68-2-27 Test Ea          |
| Vibration resistance     | 10Hz~55Hz double amplitude 1.5mm                         | IEC 68-2-6 Test Fc           |
| Terminals strength       | 10N  | IEC 68-2-21 Test Ua2         |
| Solderability            | 235 $\pm$ 2 $^{\circ}$ C 3s $\pm$ 0.5s                   | IEC 68-2-20 Test Ta method 1 |
| Ambient Temperature      | -55 $^{\circ}$ C ~100 $^{\circ}$ C -55 ~125 $^{\circ}$ C |                              |
| Relative Humidity        | 85% (at 40 $^{\circ}$ C)                                 | IEC 68-2-3 Test Ca           |
| Mass                     | 35g ( Low profile type 37g                               |                              |

**Safety approvals**

| Safety approval | UL&CUR   | TV   | CQC                            |
|-----------------|--|--|--------------------------------|
| Load            | NO:40A/240VAC 30A/277VAC<br>NC:30A/240VAC,30VDC 20A/277VAC<br>Ballast:5A/280VAC<br>TV-5<br>HP:NO:2 HP 250VAC<br>A:1HP/16AFLA/120VAC<br>2HP/12AFLA/240VAC<br>NC:1 1/2HP 250VAC<br>B: 30LRA/10AFLA/120VAC<br>30LRA/10AFLA/240VAC | NO:40A/240VAC 14VDC<br>30A/277VAC<br>NC:30A/240VAC 14VDC<br>20A/277VAC | NO:30A/240VAC<br>NC:20A/240VAC |

### Dimensions mm /inch

**NT90TP**

Wiring diagram

1A, 1B, 1C

**NT90TPL**

**NT90TP<sub>2</sub>**

Dimensions

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

