

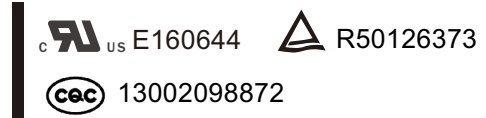
# NT90TP



50.2×27.5×28.2



50.2×27.5×20



CQC 13002098872

## Features

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

## Ordering Information

| NT90TP                                      | H                                                                                       | L | A | D | 12 | C | B | 0.9 |
|---------------------------------------------|-----------------------------------------------------------------------------------------|---|---|---|----|---|---|-----|
| 1                                           | 2                                                                                       | 3 | 4 | 5 | 6  | 7 | 8 | 9   |
| 1 Part number: NT90TP; NT90TP <sub>2</sub>  |                                                                                         |   |   |   |    |   |   |     |
| 2 Contact rating: H:30A; N:40A              |                                                                                         |   |   |   |    |   |   |     |
| 3 High: NIL:Standard; L:Low profile type    |                                                                                         |   |   |   |    |   |   |     |
| 4 Contact arrangement: A:1A; B:1B; C:1C     |                                                                                         |   |   |   |    |   |   |     |
| 5 Enclosure: D:Dust protected; E:Flux proof |                                                                                         |   |   |   |    |   |   |     |
|                                             | 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 |   |   |   |    |   |   |     |
|                                             | 7 Contact material: S:AgSnO <sub>2</sub> ; C: AgCdO                                     |   |   |   |    |   |   |     |
|                                             | 8 Insulation standard: B:130℃; F:155℃                                                   |   |   |   |    |   |   |     |
|                                             | 9 Coil power: 0.6:0.6W; 0.9:0.9W; 2:2VA                                                 |   |   |   |    |   |   |     |

## Contact Data

|                              |                                                                                                                                                                                                               |                            |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Contact Arrangement          | 1A(SPSTNO) 1B(SPSTNC) 1C(SPDT(B-M))                                                                                                                                                                           |                            |
| Contact Material             | AgSnO <sub>2</sub> AgCdO                                                                                                                                                                                      |                            |
| Contact Rating <sup>1)</sup> | 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:1½HP 250VAC<br>5A/280VAC(Ballast)<br>TV-5 |                            |
| Max. Switching Power         | 1200W 9600VA                                                                                                                                                                                                  |                            |
| Max. Switching Voltage       | 30VDC 280VAC                                                                                                                                                                                                  | Max. Switching Current:40A |
| Contact Resistance           | ≤30mΩ                                                                                                                                                                                                         | Item 4.12 of IEC 61810-7   |
| Electrical Endurance         | 1×10 <sup>5</sup>                                                                                                                                                                                             | Item 4.30 of IEC 61810-7   |
| Mechanical Endurance         | 1×10 <sup>7</sup>                                                                                                                                                                                             | Item 4.31 of IEC 61810-7   |

Notes: 1)The vent hole should be opened when testing enclosed relay.

## Coil Parameter

| AC Coil Parameter |       |                  |                         |                                                |                                                 |               |                 |                 |
|-------------------|-------|------------------|-------------------------|------------------------------------------------|-------------------------------------------------|---------------|-----------------|-----------------|
| Coil voltage VAC  |       | Rated current mA | Coil resistance Ω ± 10% | Pick-up voltage VAC(max) (75%of rated voltage) | Drop-out voltage VAC(min) (30%of rated voltage) | Coil power VA | Operate time ms | Release time ms |
| Rated             | Max.  |                  |                         |                                                |                                                 |               |                 |                 |
| 12                | 15.6  | 166.6            | 27                      | 9                                              | 3.6                                             | 2             | —               | —               |
| 24                | 31.2  | 83.3             | 120                     | 18                                             | 7.2                                             |               |                 |                 |
| 110               | 143   | 18.1             | 2360                    | 82.5                                           | 33.0                                            |               |                 |                 |
| 120               | 156   | 16.6             | 3040                    | 90                                             | 36.0                                            |               |                 |                 |
| 220               | 286   | 9.1              | 13490                   | 165                                            | 66.0                                            |               |                 |                 |
| 240               | 312   | 8.3              | 15740                   | 180                                            | 72                                              |               |                 |                 |
| 277               | 360.1 | 7.2              | 20300                   | 207.8                                          | 83.1                                            |               |                 |                 |

Notes: 1.The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.  
2.Pick-up and drop-out voltage are for test purposes only and are not to be used as design criteria.

## Coil Parameter

| DC Coil Parameter   |      |                               |                                                         |                                                          |                    |                       |                       |
|---------------------|------|-------------------------------|---------------------------------------------------------|----------------------------------------------------------|--------------------|-----------------------|-----------------------|
| Coil voltage<br>VDC |      | Coil<br>resistance<br>Ω ± 10% | Pick-up voltage<br>VDC(max)<br>(75%of rated<br>voltage) | Drop-out voltage<br>VDC(min)<br>(10%of rated<br>voltage) | Coil<br>power<br>W | Operate<br>time<br>ms | Release<br>time<br>ms |
| Rated               | Max. |                               |                                                         |                                                          |                    |                       |                       |
| 3                   | 3.9  | 10                            | 2.25                                                    | 0.3                                                      | 0.9                | ≤15                   | ≤10                   |
| 5                   | 6.5  | 28                            | 3.75                                                    | 0.5                                                      |                    |                       |                       |
| 6                   | 7.8  | 40                            | 4.50                                                    | 0.6                                                      |                    |                       |                       |
| 9                   | 11.7 | 90                            | 6.75                                                    | 0.9                                                      |                    |                       |                       |
| 12                  | 15.6 | 160                           | 9.00                                                    | 1.2                                                      |                    |                       |                       |
| 15                  | 19.5 | 250                           | 11.25                                                   | 1.5                                                      |                    |                       |                       |
| 18                  | 23.4 | 360                           | 13.50                                                   | 1.8                                                      |                    |                       |                       |
| 24                  | 31.2 | 640                           | 18.00                                                   | 2.4                                                      |                    |                       |                       |
| 48                  | 62.4 | 2560                          | 36.00                                                   | 4.8                                                      |                    |                       |                       |
| 110                 | 143  | 13445                         | 82.50                                                   | 11.0                                                     |                    |                       |                       |
|                     |      |                               |                                                         |                                                          |                    |                       |                       |
| 3                   | 3.9  | 15                            | 2.25                                                    | 0.3                                                      | 0.6                | ≤15                   | ≤10                   |
| 5                   | 6.5  | 42                            | 3.75                                                    | 0.5                                                      |                    |                       |                       |
| 6                   | 7.8  | 60                            | 4.50                                                    | 0.6                                                      |                    |                       |                       |
| 9                   | 11.7 | 135                           | 6.75                                                    | 0.9                                                      |                    |                       |                       |
| 12                  | 15.6 | 240                           | 9.00                                                    | 1.2                                                      |                    |                       |                       |
| 15                  | 19.5 | 375                           | 11.25                                                   | 1.5                                                      |                    |                       |                       |
| 18                  | 23.4 | 540                           | 13.50                                                   | 1.8                                                      |                    |                       |                       |
| 24                  | 31.2 | 960                           | 18.00                                                   | 2.4                                                      |                    |                       |                       |
| 48                  | 62.4 | 3840                          | 36.00                                                   | 4.8                                                      |                    |                       |                       |
| 110                 | 143  | 20167                         | 82.50                                                   | 11.0                                                     |                    |                       |                       |

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

## Characteristics

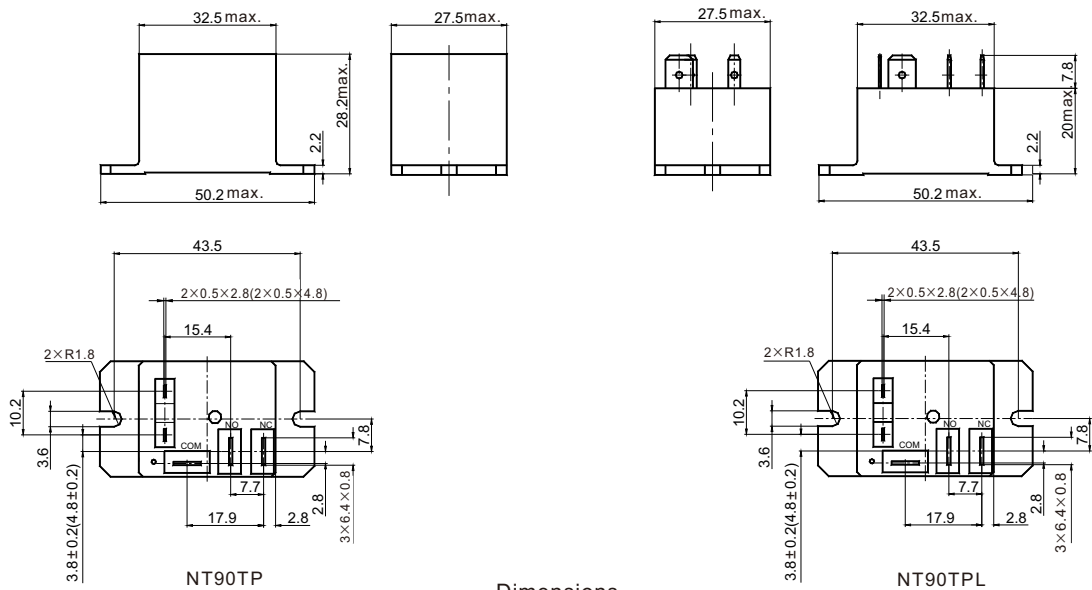
|                                                                          |                                       |                          |
|--------------------------------------------------------------------------|---------------------------------------|--------------------------|
| Insulation Resistance                                                    | 1000M $\Omega$ min (at 500VDC)        | Item 4.11 of IEC 61810-7 |
| Dielectric Strength<br>Between Open Contacts<br>Between Contact and Coil | 1500VAC 1min<br>2500VAC 1min          | Item 4.9 of IEC 61810-7  |
| Shock Resistance                                                         | Functional: 98m/s <sup>2</sup> 11ms   | Item 4.26 of IEC 61810-7 |
|                                                                          | Destructive: 980m/s <sup>2</sup> 11ms | Item 4.26 of IEC 61810-7 |
| Vibration Resistance                                                     | 10Hz~55Hz Double amplitude 1.5mm      | Item 4.28 of IEC 61810-7 |
| Terminals Strength                                                       | 10N                                   | Item 4.24 of IEC 61810-7 |
| Ambient Temperature                                                      | -55°C~85°C                            |                          |
| Relative Humidity                                                        | 5% to 85%                             | Item 4.16 of IEC 61810-7 |
| Weight (Approx.)                                                         | 35g ( Low profile type ) 37g          | Item 4.7 of IEC 61810-7  |

## Safety Approvals

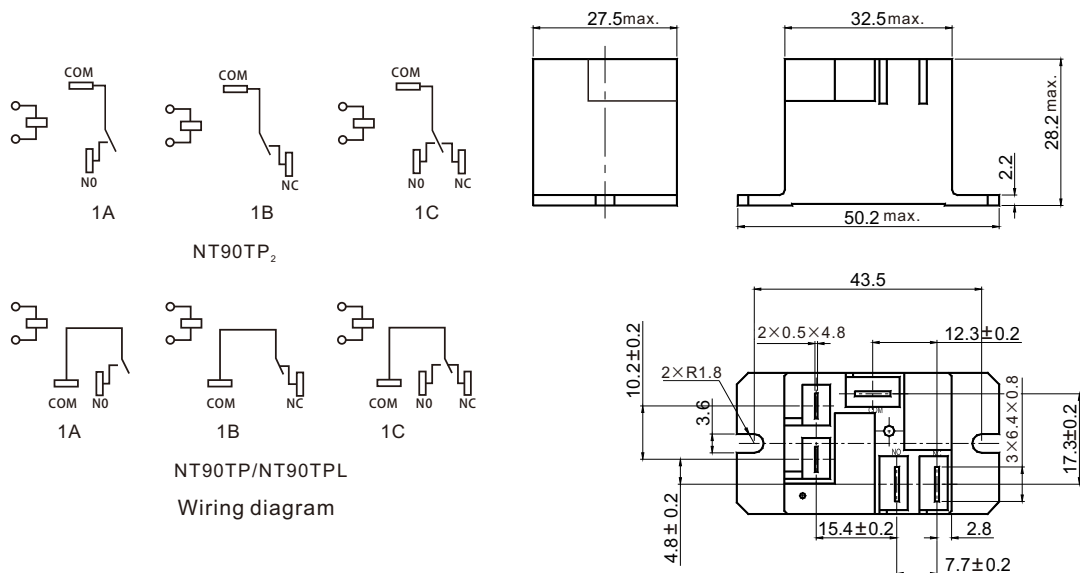
| Safety approval | UL&CUR                                                                                                                                                                                                              | TüV                                                                      | CQC                                                        |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------|
| Load            | NO:40A/240VAC ;30A/277VAC<br>NC:30A/240VAC,30VDC;20A/277VAC<br>Ballast:5A/280VAC<br>TV-5<br>HP:NO: 2HP 250VAC<br>1HP/16FLA/120VAC<br>2HP/12FLA/240VAC<br>NC:1½HP 250VAC<br>30LRA/10FLA/120VAC<br>30LRA/10FLA/240VAC | NO:40A/240VAC, 14VDC<br>30A/277VAC<br>NC:30A/240VAC ,14VDC<br>20A/277VAC | NO:40A/240VAC<br>30A/240VAC<br>NC:30A/240VAC<br>20A/240VAC |

## Dimensions

mm



## Dimensions



Wiring diagram

NT90TP<sub>2</sub>  
Dimensions

**Remark:** In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

## Reference Data

