



32.5×27.6×20.5

NT90 (50A)

UL US E174722 R50126373

Features

- 50A switching capability.
- Temperature rise <65K at 70℃.
- PC board mounting available.
- Product in accordance to IEC 60335-1 available.
- PV power, UPS power, charger, electric car, electric equipment, air conditioner, etc.

Ordering Information

NT90 R 50 A S 24 S F .9
1 2 3 4 5 6 7 8 9

- | | |
|---|--|
| 1 Part number: NT90 | 6 Coil rated voltage(V): DC:5,6,9,12,15,18,24,48 |
| 2 Terminal: R:without Pin 6; Nil:with Pin 6 | AC:24,110,120,220,240,277 |
| 3 Contact rating: 50:50A | 7 Contact material: S:AgSnO ₂ |
| 4 Contact arrangement: A:1A; B:1B; C:1C | 8 Insulation standard: F:155℃ |
| 5 Enclosure: S:Wash tight; E:Flux proof | 9 Coil power(W): .9:0.9W; NIL:1.5W, 2.7VA |

Contact Data

Contact Arrangement	1A(SPSTNO) 1B(SPSTNC) 1C(SPDT(B-M))	
Contact Material	AgSnO ₂	
Contact Rating ¹⁾	NO:50A/240VAC; NC:35A/240VAC NO:35A/30VDC; NC:25A/30VDC Motor load:2HP 250VAC TV-8	
Max. Switching Power	1050W 12000VA	
Max. Switching Voltage	30VDC 280VAC	Max. Switching Current: 50A
Contact Resistance	≤ 30mΩ	Item 4.12 of IEC 61810-7
Electrical Endurance	3×10 ⁴ (50A/277VAC, Resistive load, 40℃ 1s on 9s off) 6×10 ³ (50A/277VAC, Resistive load, 85℃ 1s on 9s off) 3×10 ⁴ (35A/277VAC, Resistive load, 40℃ 1s on 9s off) 2.5×10 ⁴ (TV-8)	
Mechanical Endurance	1×10 ⁷	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) (10% of rated voltage)	Coil power VA	Operate time ms	Release time ms
Rated	Max.							
24	28.8	112.5	96	18	7.2	2.7	—	—
110	132	24.5	2320	82.5	33			
120	144	22.5	2800	90	36			
220	264	12.3	9500	165	66			
240	288	11.3	11600	180	72			
277	332	9.7	15600	208	83			

- 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.

NT90(50A)

Coil Parameter

DC Coil Parameter							
Coil voltage VDC		Coil resistance $\Omega \pm 10\%$	Pick-up voltage VDC(max) (75% of rated voltage)	Drop-out voltage VDC(min) (10% of rated voltage)	Coil power W	Operate time ms	Release time ms
Rated	Max.						
5	6.5	28	3.75	0.5	0.9	≤ 15	≤ 10
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			
5	6.5	16.7	3.75	0.5	1.5	≤ 15	≤ 10
6	7.8	24	4.50	0.6			
9	11.7	54	6.75	0.9			
12	15.6	96	9.00	1.2			
15	19.5	150	11.25	1.5			
18	23.4	216	13.50	1.8			
24	31.2	384	18.00	2.4			
48	62.4	1536	36.00	4.8			

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 Ω min (at 500VDC)	Item 4.11 of IEC 61810-7
Dielectric Strength Between Open Contacts Between Contact and Coil	1500VAC 1min 2500VAC 1min 4000VAC 1min (Without Pin 6)*	Item 4.9 of IEC 61810-7
Shock Resistance	Functional: 98m/s ² 11ms	Item 4.26 of IEC 61810-7
	Destructive: 980m/s ² 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℃~85℃	
Relative Humidity	5% to 85%	Item 4.16 of IEC 61810-7
Weight (Approx.)	27g	Item 4.7 of IEC 61810-7

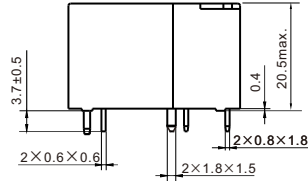
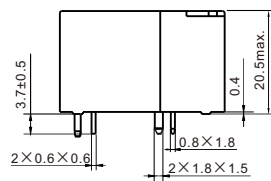
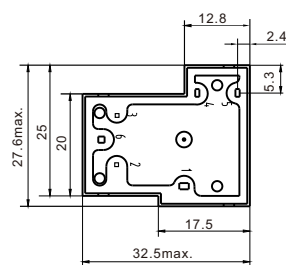
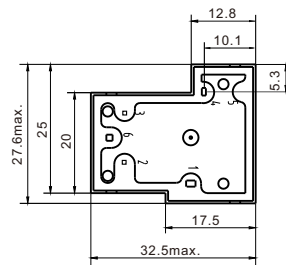
Notes: *Please contact the sales representative if 4000V is required.

Safety Approvals

Safety approval	UL&CUR	TüV	CQC
Load	NO: 50A/240VAC, 277VAC 85℃ NC: 35A/240VAC, 277VAC 40℃	NO: 50A/240VAC 40℃ NC: 35A/240VAC 40℃	NO: 50A/240VAC 40℃ NC: 35A/240VAC 40℃

Dimensions

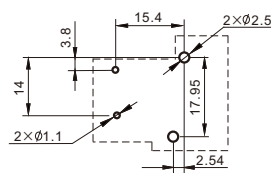
mm



1A

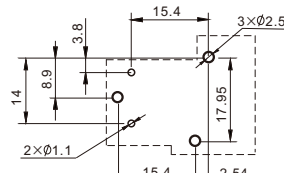
1C

Dimensions

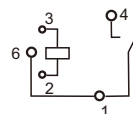


Without pin 6

1A

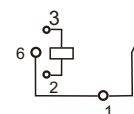


With pin 6



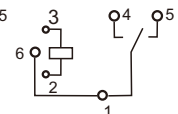
With pin 6

1A



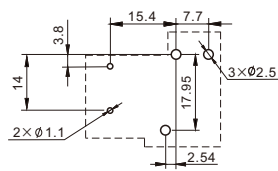
With pin 6

1B



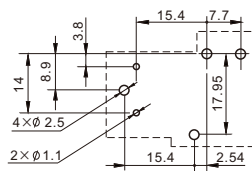
With pin 6

1C

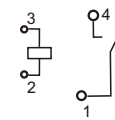


Without pin 6

1C

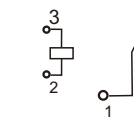


With pin 6



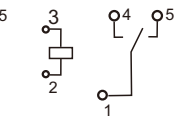
Without pin 6

1A



Without pin 6

1B



Without pin 6

1C

Mounting (Bottom view)

Wiring diagram(Bottom view)

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.