



32.5 × 27.6 × 20.5

# NT90W

UL US E174722 R50126373

## Features

- 50A/60A switching capability.
- Contact gap : 1.8mm.
- Ideal for charger.
- Applicable to inverter used for photovoltaic power generation systems.
- Product in accordance to IEC 60335-1 available.

## Ordering Information

**NT90W** 50 A S 12 S S L W  
 1 2 3 4 5 6 7 8 9

1 Part number: NT90W  
 2 Load: 50:50A; 60:60A  
 3 Contact arrangement: A:1A; B:1B; C:1C  
 4 Enclosure: S: Washtight<sup>1)</sup>; E: Flux proof

5 Coil rated voltage(V): DC:5,6,9,12,15,18,24,48  
 6 Contact material: S: AgSnO<sub>2</sub>  
 7 Contact gap: S:1.8mm; Nil: Standard gap  
 8 Coil power: Nil:2.25W; L:1.2W  
 9 W:335 compliant; Nil:Standard

1) Wash tight plastic case with knock off nib.

## Contact Data

Contact Power	1.2W		2.25W
Contact Arrangement	1A (SPSTNO) 1B(SPSTNC) 1C(SPDT(B-M))		1A(SPSTNO)
Contact Material	AgSnO <sub>2</sub>		AgSnO <sub>2</sub>
Contact Rating <sup>2)</sup> (Resistive)	NO:50A,60A/277VAC NC:35A/277VAC NO:35A/30VDC NC:25A/30VDC		50A/277VAC 35A/277VAC(S Gap) 35A/30VDC
Max. Switching Power	1050W 16620VA		1050W 13850VA
Max. Switching Voltage	30VDC 277VAC		30VDC 277VAC
Max. Switching Current	60A		
Contact Resistance	≤ 30mΩ		Item 4.12 of IEC 61810-7
Operation Life	Electrical	1×10 <sup>4</sup> (NO:60A/277VAC,Resistive load, 65°C, 1s on 9s off) 2×10 <sup>4</sup> (NO:50A/277VAC,Resistive load, 65°C, 1s on 9s off) Item 4.30 of IEC 61810-7 1×10 <sup>4</sup> (NC:35A/277VAC,Resistive load, 65°C, 1s on 9s off) 3×10 <sup>4</sup> (S Gap)(35A/277VAC,Resistive load, 85°C, 1s on 9s off)	
	Mechanical	1×10 <sup>6</sup> Item 4.31 of IEC 61810-7	

2) Remove vent nib after soldering and cleaning.

## Coil Parameter

Dash numbers	Rated voltage VDC		Coil resistance Ω ± 10%	Pick-up voltage V(max) (75% of rated voltage)	Drop-out voltage V(min) (10% of rated voltage)	Coil power W	Operate time ms	Release time ms
	Rated	Max						
005-1200	5	6.5	20.8	3.75	0.5	1.2	≤ 15	≤ 10
006-1200	6	7.8	30	4.50	0.6			
009-1200	9	11.7	67.5	6.75	0.9			
012-1200	12	15.6	120	9.00	1.2			
015-1200	15	19.5	187.5	10.25	1.5			
018-1200	18	23.4	270	13.50	1.8			
024-1200	24	31.2	480	18.00	2.4			
048-1200	48	62.4	1920	36.00	4.8			
012-2250	12	15.6	64	9.00	1.2	2.25	≤ 15	≤ 10
024-2250	24	31.2	256	18.00	2.4			

After the energization time of 100 ms with rated voltage, the coil voltage can be reduced to 40% • 50% of the rated voltage.

## Characteristics

Insulation Resistance	1000M $\Omega$ min (at 500VDC)	Item 4.11 of IEC 61810-7
Dielectric Strength Between Contacts Between Contact and Coil	50Hz 1500V 2500V(S Gap)	Item 4.9 of IEC 61810-7
	50Hz 2500V 4000V*	Item 4.9 of IEC 61810-7
Shock Resistance	Functional: 98m/s <sup>2</sup>	Item 4.26 of IEC 61810-7
	Destructive: 980m/s <sup>2</sup>	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
Surge Voltage (Between Coil & Contacts)	6kV(1.2/50 $\mu$ s)	Item 4.10 of IEC 61810-7
Ambient Temperature	-40 $^{\circ}$ C~85 $^{\circ}$ C	
Relative Humidity	5% to 85%	Item 4.16 of IEC 61810-7
Mass	27g	Item 4.7 of IEC 61810-7

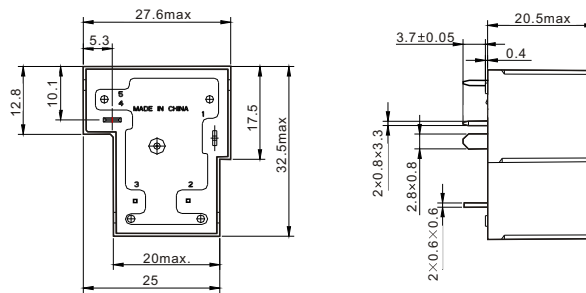
\* Please contact the sales representative if 4000V is required.

## Safety Approvals

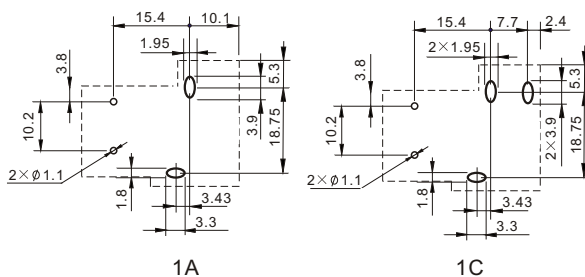
Safety approval	UL&CUR	TüV
Load	50A,60A/277VAC 40 $^{\circ}$ C 35A/277VAC 85 $^{\circ}$ C	NO:50A,60A/277VAC,250VAC NC:35A,40A/277VAC,250VAC

## Dimensions

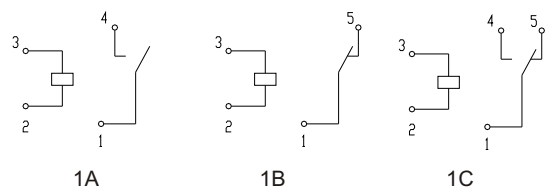
mm



Dimensions



Mounting (Bottom view)



Wiring diagram(Bottom view)

**CAUTION:** In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.