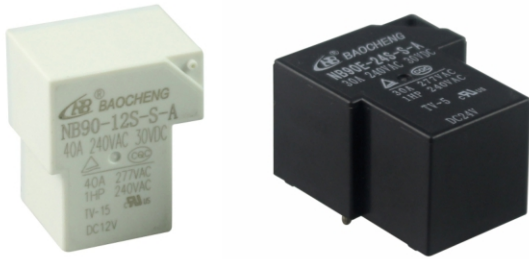


NB90E/NB90



Product Features

- ◆ High contact switching capability
- ◆ Dielectric strength between contact and coil 2500VAC&4000VAC available
- ◆ Coil insulation Class F
- ◆ Contact Form 1A,1B,1C available
- ◆ Flux tight and sealed type available
- ◆ Environmental friendly product
- ◆ Outline dimensions:32*27.2*20mm

 us E361440



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Ordering Information

	NB90	E	-12	S	-S	-A	4	W	4KV	L	T-105°C	X
Model No.												
E: Contact Load Max.30A type Nil: Contact Load Max.40A type												
Nominal Coil Voltage: 5,6,9,12,15,18,24,48,110V(DC)												
Construction: S:Sealed Type D:Flux tight Type												
Contact Material: AgSnO ₂												
Contact Form: A: Normally Open B: Normally Closed C: Normally Open&Close												
Pin Form: A4:Normally open(4pins); A5:Normally open(5pins); B4:Normally close(4pins); B5:Normally close(5pins); C5:Normally open&close(5pins); C6:Normally open&close(6pins)												
Color: W: White Nil:Black												
4KV: Dielectric strength between contact and coil 4000VAC Nil: Dielectric strength between contact and coil 2500VAC												
L: Nominal coil power approx.600mW Nil:Nominal coil power approx.900mW												
T-105°C: Ambient Temperature Max.105°C Nil:Ambient Temperature Max.85°C												
Customer Special Code												

- Notes:**(1)We recommend flux tight types for a clean environment(free from contaminations like H₂S,SO₂,NO₂,dust,etc.).We suggest to choose plastic sealed types and validate it in real application for an unclean environment(with contaminations like H₂S,SO₂,NO₂,dust,etc.).
- (2)Contact is recommended for suitable condition and specifications if water cleaning for surface process is involved in assembling relays on PCB.
- (3)Contact is recommended for requirement if dielectric strength between contact and coil exceed 2500VAC.
- (4)Avoid using relays under strong magnetic or shock conditions, or technical ratings will change.

Safety Approval Rating

Approval	CQC	TÜV	UL
Load Rating	30A/40A 240VAC 30VDC	30A/40A 240VAC 30VDC	30A/40A 277VAC 1.5HP 1HP 1/2HP 240VAC TV-5 TV-15

Contact Rating

Contact Form	1A,1B,1C		
Contact Material	Ag Alloy		
Contact Rating	NB90	NB90E	
	40A 240VAC/30VDC 40A 277VAC 1.5HP 1HP 240VAC TV-5 TV-15	30A/20A 240VAC/30VDC 30A 277VAC 1HP 1/2HP 240VAC TV-5	
Switching Power Max.	1200W 11000VA		
Switching Voltage Max.	30VDC/277VAC		
Switching Current Max.	40A		
Contact Resistance	≤50mΩ (1A, 24VDC)		
Endurance	Electrical	40A:5*10 ⁴ 30A:10 ⁵	
	Mechanical	10 ⁷	

Coil Rating

900mW					
No.	Coil Voltage (VDC)		Coil Resistance R(1 ± 10%) Ω	Pick up Max.(VDC) (75% of Nominal Voltage)	Drop out Min.(VDC) (10% of Nominal Voltage)
	Nominal	Max.			
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
048-900	48	62.4	2560	36.00	4.8
110-900	110	143	13445	82.50	11

Coil Rating

600mW					
No.	Coil Voltage (VDC)		Coil Resistance R(1 ± 10%) Ω	Pick up Max.(VDC) (75% of Nominal Voltage)	Drop out Min.(VDC) (10% of Nominal Voltage)
	Nominal	Max.			
003-600	3	3.9	15	2.25	0.3
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

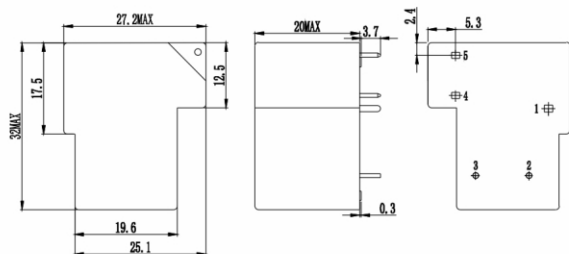
Technical Rating

Insulation Resistance		1000M Ω (500VDC)	Item 7 of IEC 60255-5
Dielectric Strength	Between Open Contacts	1500VAC,50/60Hz 1min; Max.4000VAC,50/60Hz (Customized)	Item 6 of IEC 60255-5
	Between Coil&Contact	2500VAC,50/60Hz 1min; Max.4000VAC,50/60Hz Without Pin#6 (Customized)	Item 6 of IEC 60255-5
Operate Time		≤ 15ms	
Release Time		≤ 10ms	
Shock Resistance		Operation extremes 10G Damage limits 100G	IEC 68-2-27 Test Ea
Vibration Resistance		10Hz ~ 55Hz double amplitude 1.5mm	IEC 68-2-6 Test Fc
Ambient Temperature		-55℃ ~ 85℃; -55℃ ~ 105℃	
Relative Humidity		85%RH,40℃	IEC 68-2-3 Test Ca
Weight		Approx.27.0g	
Construction		Flux tight Type,Sealed Type	

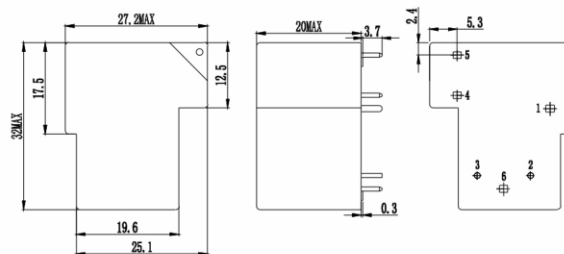
Outline Dimensions, Wiring Diagram And PCB Layout

Unit:mm

Outline Dimensions

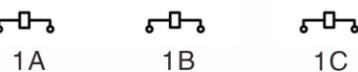
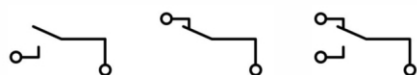


Without Pin#6

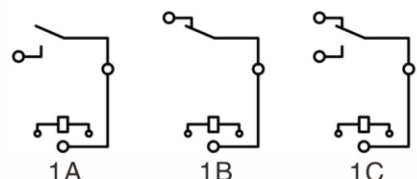


With Pin#6

Wiring Diagram(Bottom View)

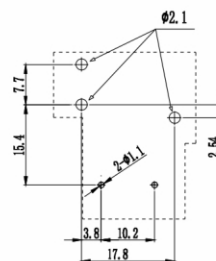


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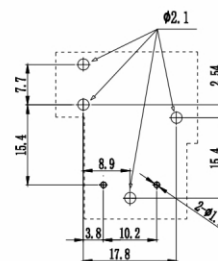


With Pin#6

PCB Layout (Bottom View)



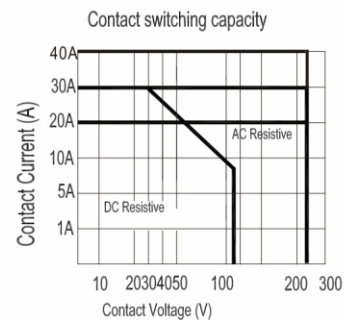
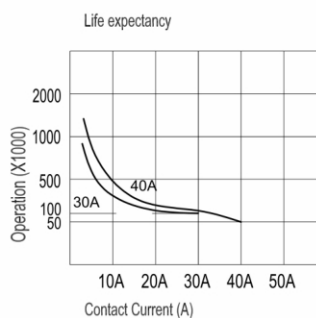
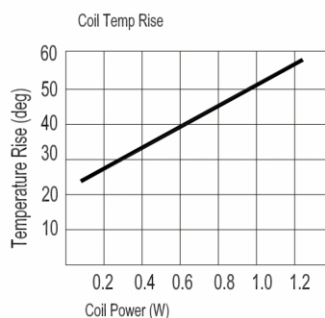
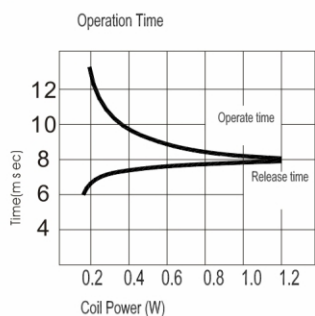
Without Pin#6



With Pin#6

- Remarks: (1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.
 (2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

Engineering Data



Note: Specification and dimensions in this catalogue are for reference only and subject to change without notice.