

NTE8 Series
Time Delay Relay

User Instruction

Safety Warning

- ① Only professional technicians are allowed for installation and maintenance.
- ② Installation in any damp, condensed-phase environment with inflammable and explosive gas is forbidden.
- ③ When the product is being installed or maintained, the power must be switched off.
- ④ You are prohibited from touching the conductive part when the product is operating.
- ⑤ The product shall be stored, installed and used in accordance with the rated control power supply voltage and specified conditions indicated in the user instructions.
- ⑥ The products shall be properly wired in strict accordance with the wiring diagram.

1 Use Purpose

NTE8 series time delay relay (hereinafter referred to as the relay) is mainly used as the time control element to connect or disconnect the circuits according to the predetermined time in control circuits with AC 50Hz/60Hz, rated control power voltage up to 415V and DC rated control power voltage up to 24V.

2 Key Technical Parameters

Table 1 Ambient Conditions

Normal use conditions	Ambient temp.: -5°C~+40°C; average value within 24h not exceeding +35°C; altitude not exceeding 2,000m.
Atmospheric conditions	RH shall not exceed 50% when maximum temperature is +40°C; in case of lower temperature, higher RH is allowed. Measures should be taken against occasional condensation due to temperature change.
Installation category	II
Transport and storage conditions	-25°C~+55°C

3 Installation

3.1 Outline and installation size: see Fig. 1, unit: mm.

3.2 Panel diagram: see Fig. 2~Fig. 6; wiring diagram: see Fig. 7~Fig. 13; working sequence diagram: see Fig. 14~Fig. 26.

Table 2 Product Specifications and Main Technical Parameters

Model	NTE8-A	NTE8-B	NTE8-J	NTE8-C	NTE8-Y	NTE8-M1	NTE8-M2
Working mode	Off-delay	On-delay	Interval -delay	Trigger interval -delay	Star-delta starting delay	On-delay (multi-gear)	Multi delay modes (multi-gear)
Number of contacts	1 group of normally open	1 group of change-over	1 group of change-over	1 group of normally open	2 group of normally open	1 group of change-over	1 group of change-over
Installation method	Guide rail type						
Setting error	Relative value of setting error $\leq 10\%$						
Repetitive error	Relative value of repetitive error $\leq 1\%$						
Reset time	$\leq 1s$						
Delay range	0.1s~5s 1s~10s 3s~30s 6s~60s 12s~120s 18s~180s 36s~360s 48s~480s	0.5min~5min 1min~10min 3min~30min 6min~60min 12min~120min 18min~180min 36min~360min 48min~480min		0.5min~20min	0.5s~5s 1s~10s 3s~30s 6s~60s 0.2min~2min 0.3min~3min 0.5min~5min 1min~10min 2min~20min (Star delta conversion 20ms~300ms)	0.1s~1s 1s~10s 0.1min~1min 1min~10min 0.1h~1h 1h~10h 0.1d~1d 1d~10d (multi-gear)	0.1s~1s 1s~10s 10s~100s 1min~10min 10min ~100min 1h~10h 10h~100h (multi-gear)

Table 3 Main Circuit and Auxiliary Circuit Technical Parameters

No.	Product Model	NTE8-A NTE8-B NTE8-J	NTE8-Y	NTE8-M1	NTE8-M2	NTE8-C		
1	Rated control supply voltage U_s (V), frequency (Hz)	AC24V, AC110V, AC220V, AC230V, AC240V, AC380V, AC400V, AC415V, 50Hz/60Hz; DC24V	AC220V, AC230V, AC240V, AC380V, AC400V, AC415V, 50Hz/60Hz	AC36V, AC110V, AC220V, AC230V, AC240V, AC380V, AC400V, AC415V, 50Hz/60Hz; DC24V	AC110V, AC220V, AC230V, AC240V, AC380V, AC400V, AC415V, 50Hz/60Hz; DC24V	AC110V, AC220V, AC230V, AC240V, AC380V, AC400V, AC415V, 50Hz/60Hz		
2	Allowable fluctuation range of rated control power supply voltage	85% U_s ~110% U_s						
3	Agreed free air heating current I_{th} (A)	5				10		
4	Rated operating voltage U_e (V)	AC240V	AC415V	DC220V	AC 240V	AC 415V	DC 24V	
5	Utilization category and rated operating current I_e (A)	AC-15			DC-13	AC-15		DC-13
		0.75A	0.47A	0.27A	3A	1.9A	1.1A	
6	Rated insulation voltage U_i (V)	415V						
7	Rated impulse withstand voltage U_{imp} (kV)	4kV						
8	Enclosure protection class (if applicable)	IP20						
9	Pollution class	Class 3						
10	Type and maximum value of short circuit protection	RT36-00/6A				RT36-00/10A		
11	Size of terminal tightening screw (or nut)	M3						
12	Torque of terminal tightening screw (N·m)	0.5						
13	Electrical life / mechanical life (10,000 times)	10/100						

Table 4 Immunity to Interference

No.	Test type	Test level
1	Electrostatic discharge immunity test	8KV (air discharge)
2	RF electromagnetic field immunity test	10V/m
3	Electrical fast transient /burst immunity test	2kV/5kHz on the power supply side
4	Surge immunity test	1kV (wire to wire)

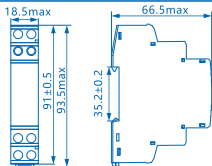


Fig. 1 Outline and Installation Size

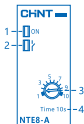


Fig. 2 NTE8-A/B/J

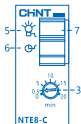


Fig. 3 NTE8-C

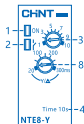


Fig. 4 NTE8-Y

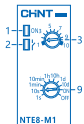


Fig. 5 NTE8-M1

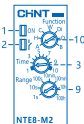


Fig. 6 NTE8-M2

Panel diagram:

- 1: Power indicator light (green LED)
- 2: Operation indicator light (red LED)
- 3: Delay time adjustment
- 4: Delay range
- 5: Manual mode (instant)

6: Delay mode

7: Working mode selection switch

8: Star-delta conversion time t' adjustment (20ms~300ms)

9: Delay range and ON/OFF function setting

10: Delay function adjustment (NTE8-M2 delay mode: A, H, C, W, Di, D, B, see Fig. 20~Fig. 26)

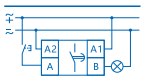


Fig. 7 Wiring diagram of NTE8-A

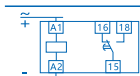


Fig. 8 Wiring diagram of NTE8-B/NTE8-M1

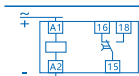


Fig. 9 Wiring diagram of NTE8-J

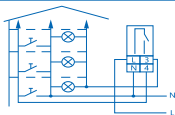


Fig. 10 Wiring diagram of NTE8-C (3 wires)

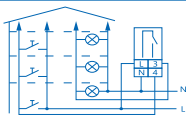


Fig. 11 Wiring diagram of NTE8-C (4 wires)

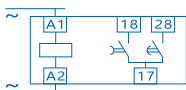


Fig. 12 Wiring diagram of NTE8-Y

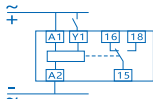


Fig. 13 Wiring diagram of NTE8-M2

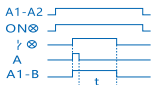


Fig. 14 Working Sequence Diagram of NTE8-A

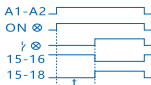


Fig. 15 Working Sequence Diagram of NTE8-B

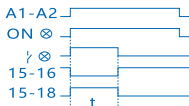


Fig. 16 Working Sequence Diagram of NTE8-J

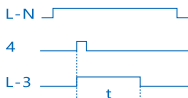


Fig. 17 Working Sequence Diagram of NTE8-C

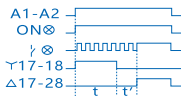


Fig. 18 Working Sequence Diagram of NTE8-Y

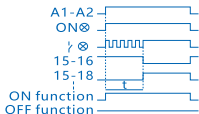


Fig. 19 Working Sequence Diagram of NTE8-M1

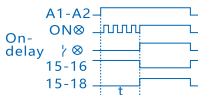


Fig. 20 A Time Delay Type Working Sequence Diagram

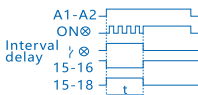


Fig. 21 H Time Delay Type Working Sequence Diagram

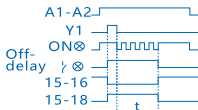


Fig. 22 C Time Delay Type Working Sequence Diagram

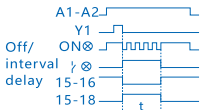


Fig. 23 W Time Delay Type Working Sequence Diagram

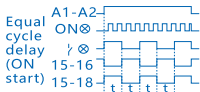


Fig. 24 Di Time Delay Type Working Sequence Diagram

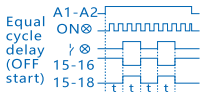


Fig. 25 D Time Delay Type Working Sequence Diagram

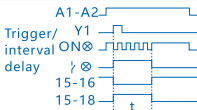


Fig. 26 B Time Delay Type Working Sequence Diagram

Note 1: The time marked on the relay's enclosure is a schematic scale, which does not indicate the actual delay time of the relay. It is only for reference. The delay value needs to be checked during use. If the knob is turned in the delay process, the delay time will be incorrect, and the time setting should be completed before power is applied. During use, the time interval from power cut to voltage reapplication must be more than 1s, otherwise the reset may be unreliable or the delay may be inaccurate.

Note 2: NTE8-C relay has two working modes, which should be selected according to the use condition.

Note 3: NTE8 series relay 0.1s nominal value delay range < 0.3s.

4 Maintenance

4.1 The terminal of the relay should be tightened on a regular basis.

4.2 Avoid squeezing the product; the product should be stored in a well-ventilated place.

4.3 For equipment that may cause material economic losses or personal safety, safety measures such as secondary circuit protection should be taken.

Table 5 Analysis and Troubleshooting of Common Faults

Symptoms	Cause analysis	Troubleshooting method
The product does not work after power on	The power supply screw is not wired and the wiring is incorrect or disconnected. The product is not electrified or the control power supply voltage does not match the rated control power supply voltage of the product.	Select the power supply voltage that matches the rated control power supply voltage of the product and connect wires reliably according to the user instructions.
No delay after triggering	The trigger switch is connected to the wrong polarity of the power supply.	The trigger switch is connected to the other pole of the power supply.
Abnormal operation after power on	The control wiring of the relay is incorrect or disconnected, the delay value is not preset correctly, and the control power supply voltage is not within the fluctuation range.	Select the power supply voltage that matches the rated control power supply voltage of the product and connect wires reliably according to the user instructions.

5 **Environmental Protection**

In order to protect the environment, the product or product parts should be disposed of according to the industrial waste treatment process, or be sent to the recycling station for assortment, dismantling and recycling.

CHINT

QC PASS

NTE8 Series
Time Delay Relay
IEC/EN 60947-5-1

JDQ Check 10

Test date: Please see the packing

ZHEJIANG CHINT ELECTRICS CO., LTD.

CHINT

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NTE8 Series Time Delay Relay User Instruction

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