NO:2020.11

CHINT ELECTRICS

NJS1 Series
Time Delay Relay

User Instruction

Standard: IEC/EN 60947-5-1

⚠ 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.

1 Use Purpose

NJS1 series time delay relay (hereinafter referred to as relay) is mainly used as time control component in the control circuit with AC frequency of 50Hz/60Hz, rated control power supply voltage up to 380V and DC rated control power supply voltage up to 240V for connecting and disconnecting the circuit at preset time.

2 Key Technical Parameters

Table 1 Ambient Conditions

Normal use conditions	Ambient temp.: -5℃~+40℃; average value within 24h not exceeding +35℃; altitude not exceeding 2,000m.
Atmospheric conditions	RH shall not exceed 50% when maximum temperature is +40℃; 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℃~+55℃

Table 3 Main Circuit and Auxiliary Circuit Technical Parameters

No.	Product model	NJS1, NJS1-2Z, NJS1-11, NJS1-K, NJS1-S		
1	Rated control supply voltage Us (V), frequency (Hz)	AC/DC24V~48V, AC/DC100V~240V, AC220V, AC380V, 50Hz/60Hz		
2	Allowable fluctuation range of rated control power supply voltage	85%Us~110%Us		
3	Agreed free air heating current Ith (A)	5		
4	Rated operating voltage Ue(V)	AC240V	AC415V	DC220V
5	Utilization category and rated operating current Ie(A)	AC-15	AC-15	DC-13
		0.75A	0.47A	0.27A
6	Rated insulation voltage Ui (V)	415V		
7	Rated impulse withstand voltage Uimp (kV)	4		
8	Enclosure protection class (if applicable)	IP20		
9	Pollution class	Class 3		
10	Type and maximum value of short circuit protection	RT36-00/16A		
11	Electrical life / mechanical life (10,000 times)	10/100		

Table 2 Product Specifications and Main Technical Parameters

Model	NJS1	NJS1-2Z	NJS1-11	NJS1-K	NJS1-S
Operating method	Power-on delay				Cycling delay
Number of contacts	Delay 1 change-over sets	Delay 2 change-over sets	Delay 2 change-over sets	Delay 1 change-over sets Instantaneous 1 group change-over	Delay 1 change-over sets
Timing method	Normal timing/countdown				Normal timing
Installation method	Panel type				
Setting error	Should not be bigger than 0.5%±50ms of set value				
Delay range	0.01s~99.99s, 0.1s~999.9s, 1s~9999s, 0.1min~999.9min, 1min~9999min, 0.1h~999.9h, 10s~99990s, 1h~9999h, 1s~99min99s, 1min~99h99min Multi-stage delay, time base is optional.				0.1s~9.9s 1s~99s 0.1min~9.9min 1min~99min. 0.1h~9.9h 1h~99h 10s~990s Multi-stage delay, time base is optional.

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)

3 Installation

3.1 Outline and installation size: see Figure 1~ Figure 2, unit: mm.

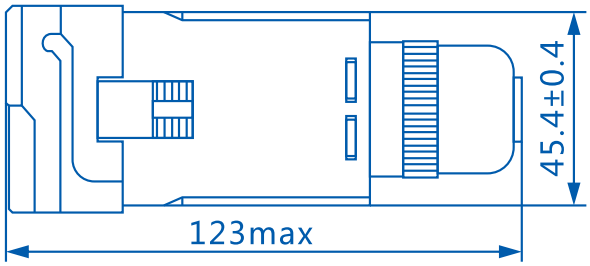

Figure 1 Outline size

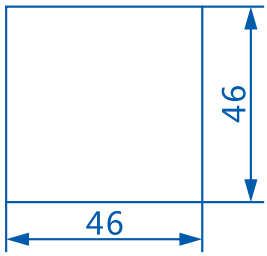

Figure 2 Installation size

3.2 Wiring diagram of NJS1 series: see Figure 3~ Figure 7; NJS1-S panel drawing: see Figure 8.

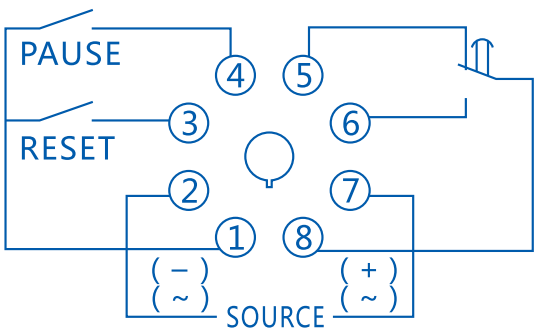

Figure 3 Wiring diagram of NJS1

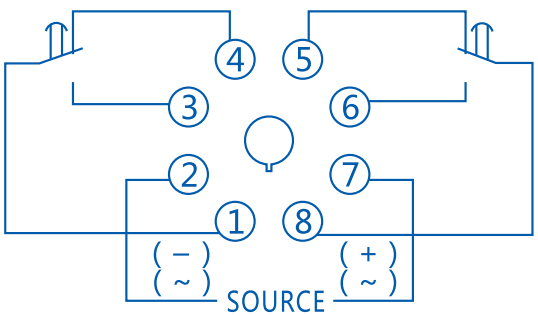

Figure 4 Wiring diagram of NJS1-2Z

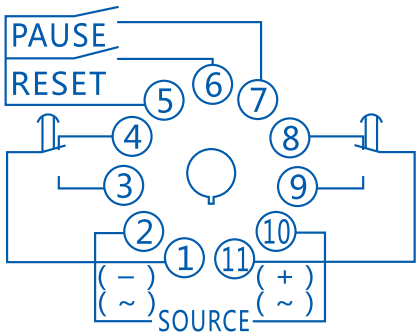

Figure 5 Wiring diagram of NJS1-11

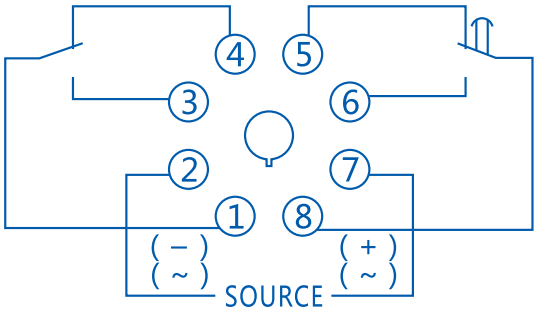

Figure 6 Wiring diagram of NJS1-K

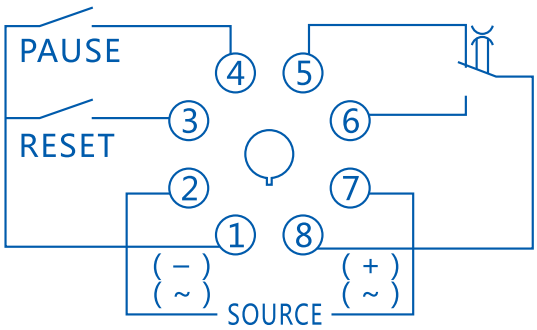

Figure 7 Wiring diagram of NJS1-S

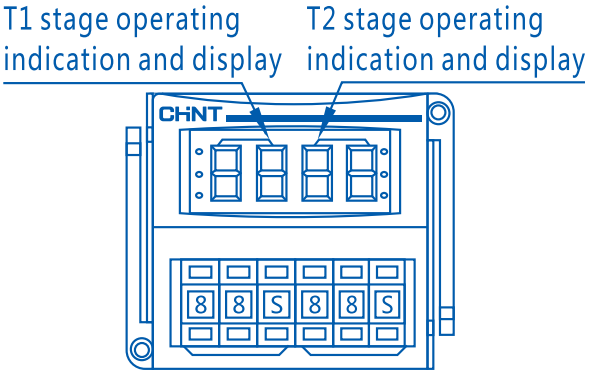

Figure 8 Panel drawing of NJS1-S

Notes:

1) Set the toggle switch and time base switch to the position required before connecting power. The relay will start timing from 0, when the preset time is reached, the delay contact will conduct change-over and the display will show the preset time. The preset value is invalid during the timing process.

2) Toggle switch Z/D is used to select normal timing and countdown. The relay will conduct normal timing if the switch is set to Z and conduct countdown if the switch is set to D. This can be set before powering the relay or changed as necessary during the timing process without affecting the delay of relay.

3) User can connect the reset terminal at any time to delay the release of contact. The display will not show any number, and the relay will start timing from 0 after the terminal is disconnected. User can connect the pause terminal at any time to pause the timing, the timing will be paused and the display will show current time. The timing process will continue after the pause terminal is disconnected.

4) Due to error compensation, if the preset time of the toggle switch is not bigger than 0.04s when the delay time base is "$\cdot\frac{01}{s}$" , the digital display will always show "00.04" . If the preset time of the toggle switch is bigger than 0.04s, the digital

display will show the set value of the switch. User should know that this is a normal phenomenon and will not affect the actual delay time.

5) For cycle-delay products, user should set the time of both T1 and T2 stages. After connecting power, the relay will start timing based on the preset time of T1 first and the second digit will start to flash. When the timing is over, the relay will conduct change-over, the T1 time will disappear and the relay will start timing based on the preset time of T2. When the timing is over, the relay will conduct release and the relay will start the T1 delay again.

6) If the product is used in environment with strong electric field and the reset and pause wire is relatively long, please use shielded wire. Do not connect the reset and pause terminals to external voltage, otherwise the relay can be damaged.

7) The relay is installed on a panel, with mounting clamp and 8 pin or 11 pin socket included upon delivery. For rail mounting type, user can use CZS08C or CZF11A-E base.

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.

Table 5 Fault Analysis and Troubleshooting

Symptoms	Cause analysis	Troubleshooting method
The power is on but the digital display is not on.	The power supply pin is not connected or the connection is not correct or the connection is disconnected; power is not connected or the control power supply voltage is not consistent with rated control power supply voltage.	Select power supply voltage that is consistent with product rated control power supply voltage and conduct wiring properly according to product instruction.
Power is on, but the relay cannot function normally.	The control wire connection of the relay is not correct or disconnected; the preset delay value is not correct; the control power supply voltage is outside the fluctuation range.	Select power supply voltage that is consistent with product rated control power supply voltage and conduct wiring properly according to product instruction.

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 according to local regulations.

CHINT

QC PASS

NJS1 Series
Time Delay Relay
IEC/EN 60947-5-1

JDQ Check 10

Test date: Please see the packing

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CHINT ELECTRICS

NJS1 Series
Time Delay Relay
User Instruction

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