

Carefully read the manual before installing or operating the equipment, attention to personal safety.

Standard: IEC 60947-5-1

NJS5 Series

Time Delay Relay

Operation Instructions



1. Functions and Scope

NJS5 series time delay relay (hereinafter referred to as relay) is mainly used as the time control elements in the control circuit with 50Hz/60Hz, up to 400VAC and up to 24VDC rated control supply voltage as delay element to make or break circuit according to preset time.

2. Type Designation

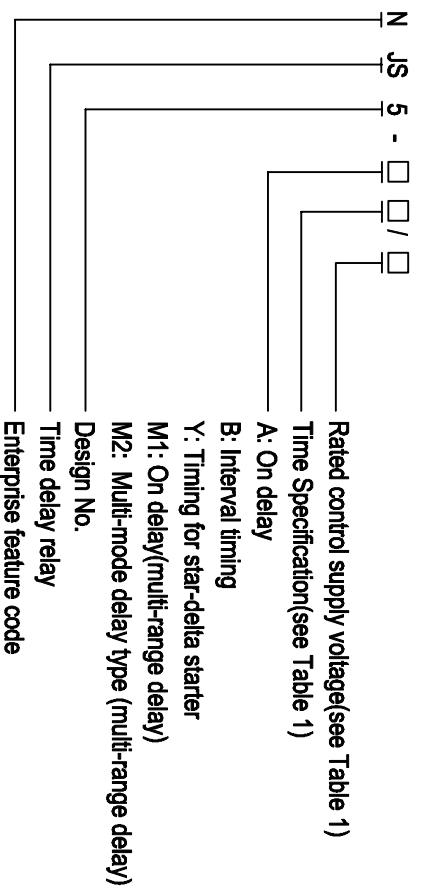


Table 1 Rated Control Supply Voltage and Time Specification

Type	Rated Control Supply Voltage	Time Specification
NJS5-A	AC220V,AC380V	5s, 10s, 30s, 60s, 2min, 3min, 5min, 10min, 20min
NJS5-B	AC220V,AC380V	
NJS5-Y	AC380V	
NJS5-M1	AC36V,AC110V,AC220V,AC230V, AC380V,AC400V,DC24V	1s, 10s, 1min, 10min, 1h, 10h, 1d, 10d(multi-level adjustable)
NJS5-M2	AC110V,AC220V,AC230V,AC240V AC380V,AC400V,DC24V	1s, 10s, 100s, 10min, 100min, 10h, 100h(multi-level adjustable)

3. Conditions

3.1 Normal operating conditions

3.1.1 Ambient air temperature

- a) the upper limit does not exceed +40℃;
- b) the lower limit does not exceed -5℃;
- c) the average in 24h does not exceed +35℃.

3.1.2 Altitude

The altitude of the site of installation does not exceed 2,000m.

3.1.3 Atmospheric conditions

3.1.3.1 Humidity

The relative humidity of the installation site does not exceed 50% at a maximum temperature of +40℃, higher may be permitted at lower temperatures. Special measures may be necessary in cases of occasional condensation due to variations in temperature.

3.1.3.2 Pollution degree

Pollution degree 3.

3.2 Mounting condition

3.2.1 In the medium with no explosion hazard and no gas that is enough to corrode metal and destroy the insulation and the place shall not have severe conductive dust.

3.2.2 In the place where is provided with anti-snow and anti-rain equipment but not filled with water steam.

3.2.3 In the place without significant shake, shock and vibration.

3.2.4 Indoors where is without strong alkali and acid.

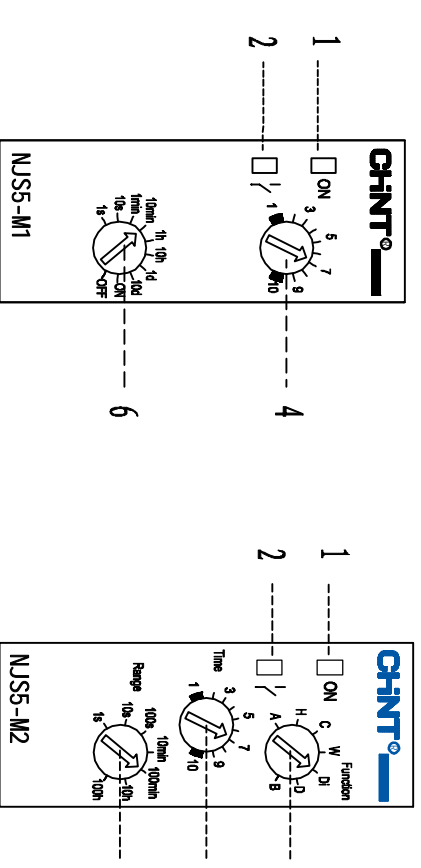
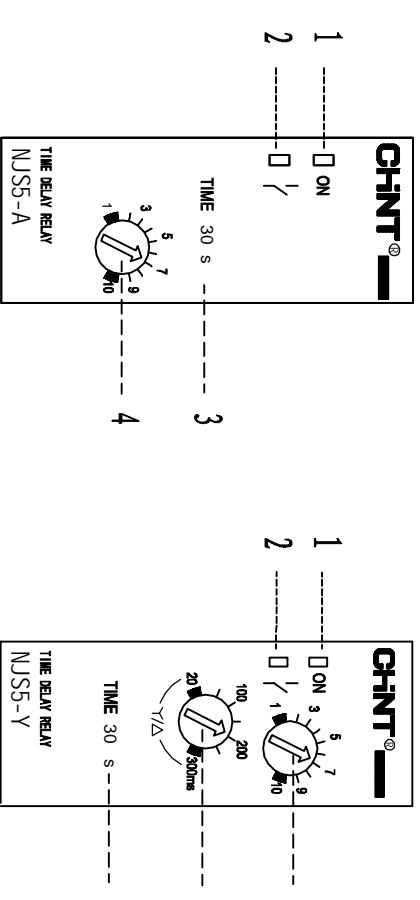
3.2.5 In the place where is free of direct sunshine, strong magnetic field and electronic interference.

3.2.6 Overvoltage category: II.

3.3 Protection grade: IP20.

3.4 Transport and Storage Conditions: -25℃ to +55℃.

4. Panel Diagram



- 1: Power indicator (red LED)
- 2: Action indicator (green LED)
- 3: Time delay specification
- 4: Adjustment of time range (t)
- 5: Adjustment of star-delta conversion time t' (20ms~300ms)
- 6: Delay specification and ON/OFF function setting
- 7: Delay function adjustment

5 Main Technical Parameters

5.1 Auxiliary circuits parameters of the equipment see Table 2.

5.2 Main technical parameters see Table 3.

5.3 Immunity tests level see Table 4.

5.4 Rated insulation voltage U_i: AC400V.

5.5 Type and maximum ratings of SCPD: NT00-6A.

5.6 Types of NJS5-M2 time delay: A, H, C, W, DI, D, B.

Table 2 - Auxiliary circuits parameters

Type	Contact form	Conventional free air thermal current I _n / A	Utilization category	Rated operational voltage U _e / V	Rated operational current I _e / A
NJS5-A	1 delayed NJS5-B NJS5-M1 NJS5-M2 changeover	5	AC-15	220	0.75
NJS5-B				380	0.47
NJS5-M1					
NJS5-M2	2 delayed N/O		DC-13	220	0.27

Table 3 - Main technical parameters

Type	NJS5-A,NJS5-B,NJS5-Y	NJS5-M1,NJS5-M2
Setting accuracy	≤ 10%	≤ 10%
Repeat accuracy	≤ 2.5%	≤ 0.5%
Mechanical durability	1×10 ⁶ cycles	1×10 ⁶ cycles
Electrical durability	3×10 ⁴ cycles	1×10 ⁵ cycles
Recovery time	≤1s	≤1s
Mounting	DIN-rail	DIN-rail and device type
Power consumption	≤3VA	≤3VA

Table 4 - Immunity tests level

Item	Test level required
Electrostatic discharges	8 kV (air discharge)
Radiated radio-frequency electromagnetic fields (80 MHz to 1 GHz)	10 V/m
Electrical fast transients/bursts	2 kV on power ports 1 kV on signal and control ports, duration 1min
Surges (1.2/50 μs - 8/20 μs)	2 kV (line to earth) 1 kV (line to line)
Conducted disturbances induced by radio-frequency fields (150kHz to 80 MHz)	10V

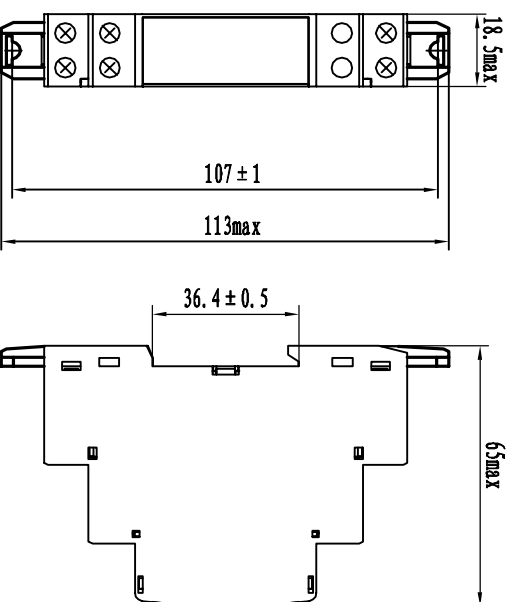


Figure 1 - Dimensions [mm]

6 Dimensions and Wiring Diagrams and Operational Diagrams

6.1 Dimensions [mm] see Figure 1.

6.2 Wiring diagrams and operational diagrams see Figure 2.

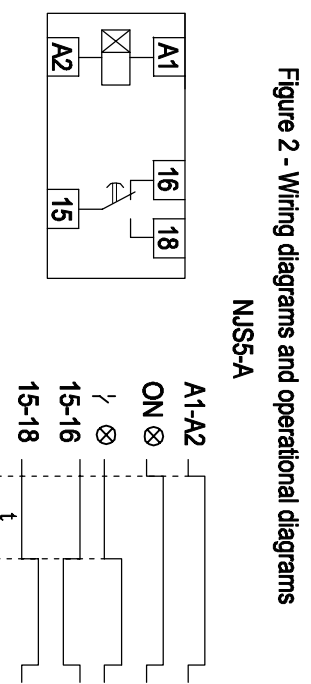
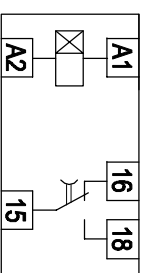
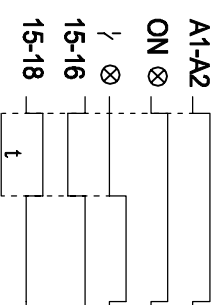


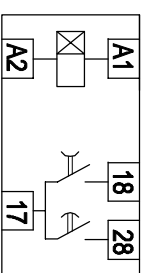
Figure 2 - Wiring diagrams and operational diagrams



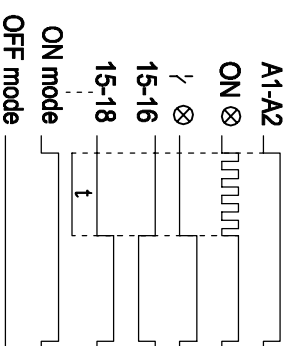
NJS5-B



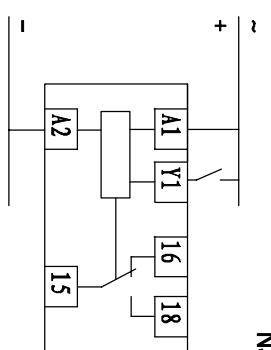
NJS5-Y



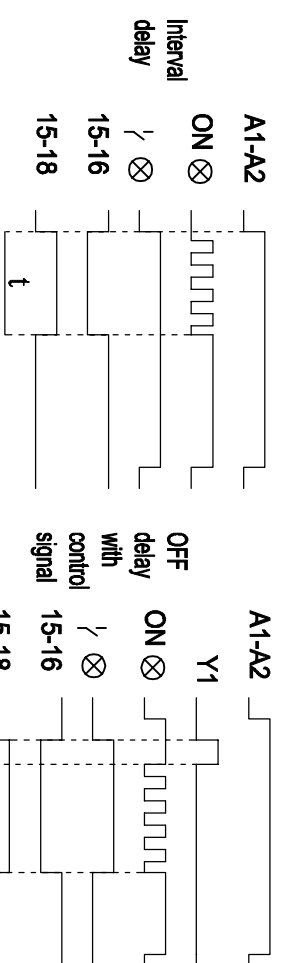
NJS5-M1



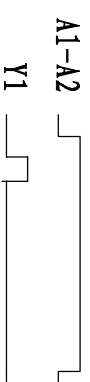
NJS5-M2



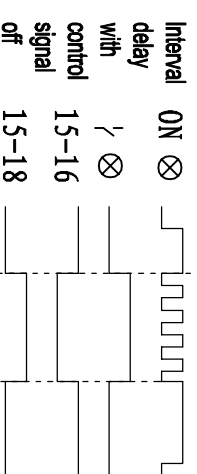
Timing Chart of Function A



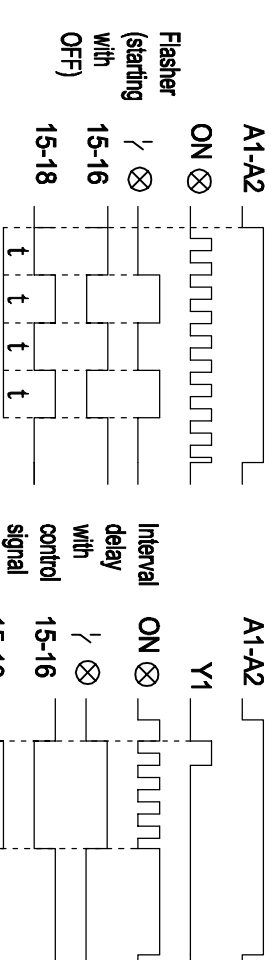
Timing Chart of Function C



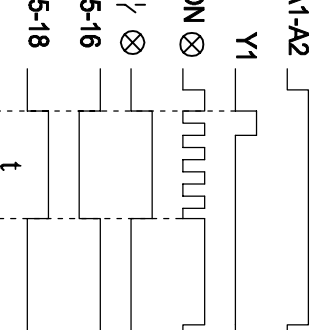
Timing Chart of Function H



Timing Chart of Function W



Timing Chart of Function D



Timing Chart of Function B

7 Mounting and Operation

7.1 This equipment must be installed by qualified personnel.

7.2 It shall be used within 85%~110% of the rated control supply voltage.

7.3 It shall be wired correctly according to the wiring diagram.

7.4 Time scale on the relay case is nominal value which does not mean the actual delay time, but only for reference when being adjusted, so it is necessary to check the delay numerical value when being used.

7.5 If turn the knob in the process of delay, the delay time will be incorrect, so it shall be setting before power on.

7.6 The mounting of the relay is DIN-rail TS 35 (IEC/EN 60715).

8 Notes

8.1 When being used, time interval from power off to power on again shall no less than 1s, otherwise the reset may be unreliable or the delay may be inaccurate.

8.2 The case shall not be removed, so as to prevent electric shock or result in damage or malfunction.

8.3 The relay shall not be used in the place where is easy to have dust, corrosive gas, direct sunshine and rain.

8.4 The relay shall be stored and used under conditions with rated voltage, specified temperature, altitude and humidity.

9 Ordering Instructions

9.1 The following information must be indicated when placing an order.

9.1.1 Complete model of time relay.

9.1.2 Delay specification of time relay (NJS5-A, NJS5-B and NJS5-Y), except for multi-range type.

9.1.3 Rated control supply voltage of relay.

9.1.4 Order quantity.

9.2 Ordering examples: NJS5-A 10min AC220V 100 units

NJS5-M1 AC220V 100 units

Waste electrical products should not be disposed of with

household waste. Please recycle where facilities exist. Check with

you local authority of retailer for recycling advice.

Preserve this manual for backup use.

ZHEJIANG CHINT ELECTRICS CO.,LTD