

# POWER RELAY

## 1 POLE - 5A SLIM TYPE

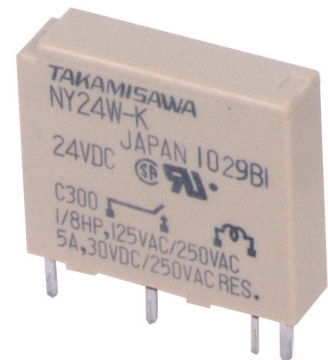
### NY Series

RoHS Compliant



#### ■ FEATURES

- Slim type with 5mm thickness
  - Suited for high density mounting
- Low power consumption and high sensitivity
  - Nominal coil power: 120mW
  - Operating power: 54mW
- UL and CSA recognized
- High insulation
  - Surge voltage: 5,080V
  - Dielectric strength: 3,000VAC (coil and contacts)
- SIL pitch terminals
- Plastic sealed type, RTIII
- Compatible with solid state I/O module type SN in size and pin (terminal) arrangement
- Environmentally friendly cadmium free contact type
- RoHS compliant



#### ■ APPLICATIONS

PLC, FA equipment etc.

#### ■ PART NUMBERS

[Example] NY P - 12 W - K - IE  
 (a) (b) \* (c) (d) (e) \* (f)

|     |                    |                                                       |
|-----|--------------------|-------------------------------------------------------|
| (a) | Relay type         | NY series                                             |
| (b) | Mounting type      | Nil : PCB mounting type<br>P : Socket mounting type   |
| (c) | Coil rated voltage | 12 : 4.5...24VDC<br>Please refer to coil rating table |
| (d) | Contact design     | W : Bifurcated contact                                |
| (e) | Enclosure          | K : Plastic sealed type, RTIII                        |
| (f) | Insulation         | IE : Conform to IEC standard                          |

Note: Actual marking omits the hyphen (-) of \* and IE.

## ■ SPECIFICATIONS

| Item         |                                   | Specifications   | Remarks/Conditions                                                                                                                                  |
|--------------|-----------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Data | Configuration                     |                  | 1a (1 Form A, SPST-NO)                                                                                                                              |
|              | Construction                      |                  | Bifurcated                                                                                                                                          |
|              | Material                          |                  | Gold overlay silver alloy (AgNi +Au)                                                                                                                |
|              | Resistance                        |                  | Max. 30mΩ                                                                                                                                           |
|              | Contact rating                    |                  | 5A, 250VAC/30VDC                                                                                                                                    |
|              | Max. carrying current             |                  | 5A                                                                                                                                                  |
|              | Max. switching voltage            |                  | 270VAC/125 VDC                                                                                                                                      |
|              | Max. switching power              |                  | 1,250VA/150W                                                                                                                                        |
|              | Max. switching current            |                  | 5A                                                                                                                                                  |
|              | Min. switching load <sup>*1</sup> |                  | 1mA, 5VDC                                                                                                                                           |
| Coil         | Rated power (20°C)                |                  | 120mW                                                                                                                                               |
|              | Operate power (20°C)              |                  | 54mW                                                                                                                                                |
|              | Operating temperature range       |                  | -40°C to +90°C                                                                                                                                      |
| Time         | Operate (at nominal voltage)      |                  | Max. 10ms                                                                                                                                           |
|              | Release (at nominal voltage)      |                  | Max. 5ms                                                                                                                                            |
| Life         | Mechanical                        |                  | Min. 20 x 10 <sup>6</sup> operations                                                                                                                |
|              | Electrical (resistive)            |                  | Min. 100 x 10 <sup>3</sup> operations<br>(at 3A, 250VAC/30VDC resistive)<br>Min. 50 x 10 <sup>3</sup> operations<br>(at 5A, 250VAC/30VDC resistive) |
| Insulation   | Insulation resistance (initial)   |                  | Min. 1,000MΩ                                                                                                                                        |
|              | Dielectric strength               | Open contacts    | 750VAC, 1minute                                                                                                                                     |
|              |                                   | Coil to contacts | 3,000VAC, 1 minute                                                                                                                                  |
|              | Surge strength                    | Coil to contacts | 5,080V / 1.2 x 50μs standard wave                                                                                                                   |
|              | Clearance / Creepage              |                  | Min. 3mm / Min. 3mm                                                                                                                                 |
| Others       | Vibration resistance              | Misoperation     | 10 to 55 to 10Hz single amplitude 0.75mm                                                                                                            |
|              |                                   | Endurance        | 10 to 55 to 10Hz single amplitude 2.5mm                                                                                                             |
|              | Shock resistance                  | Misoperation     | Min. 100m/s <sup>2</sup> (11±1ms)                                                                                                                   |
|              |                                   | Endurance        | Min. 1,000m/s <sup>2</sup> (6±1ms)                                                                                                                  |
|              | Dimensions / Weight               |                  | 5.0×20.1×17.5mm / Approximately 3.5g                                                                                                                |
|              | Sealing                           |                  | Plastic sealed, RTIII                                                                                                                               |

\*: Minimum switching loads mentioned above are reference values. Please perform the confirmation test with actual load before production since reference values may vary according to switching frequencies, environmental conditions

## ■ COIL DATA

| Coil Code | Rated Coil Voltage (VDC) | Coil Resistance $\pm 10\%$ ( $\Omega$ ) | Must Operate Voltage <sup>*1</sup> (VDC) | Must Release Voltage <sup>*1</sup> (VDC) | Nominal Power (mW) |
|-----------|--------------------------|-----------------------------------------|------------------------------------------|------------------------------------------|--------------------|
| 4.5       | 4.5                      | 169                                     | 3                                        | 0.45                                     | 120                |
| 5         | 5                        | 208                                     | 3.35                                     | 0.5                                      |                    |
| 6         | 6                        | 300                                     | 4                                        | 0.6                                      |                    |
| 9         | 9                        | 675                                     | 6                                        | 0.9                                      |                    |
| 12        | 12                       | 1,200                                   | 8                                        | 1.2                                      |                    |
| 18        | 18                       | 2,700                                   | 12.1                                     | 1.8                                      |                    |
| 24        | 24                       | 4,800                                   | 16.1                                     | 2.4                                      |                    |

Note: All values in the table are valid at 20°C and zero contact current, unless otherwise specified.

\*1: Specified operated values are valid for pulse wave voltage.

Note: Please use at rated coil voltage. Please refer to characteristic data and set up adequate voltage in case of use at over voltage.

## ■ SAFETY STANDARDS

| Type | Compliance                                             | Contact Rating                                                 |
|------|--------------------------------------------------------|----------------------------------------------------------------|
| UL   | Flammability: UL 94-V-0 (plastics)                     |                                                                |
|      | UL 508<br>ANSI/ISA12.12.01<br>File No. E56140, E199193 | 3A, 250VAC/30VDC (General use)<br>5A, 250VAC/30VDC (resistive) |
| CSA  | C22.2 No. 14<br>File No. LR40304                       | 1/8 HP, 250VAC /125VAC<br>Pilot duty: C300, D150, R300         |

Also conform to IEC61010, 61131 reinforced insulation.

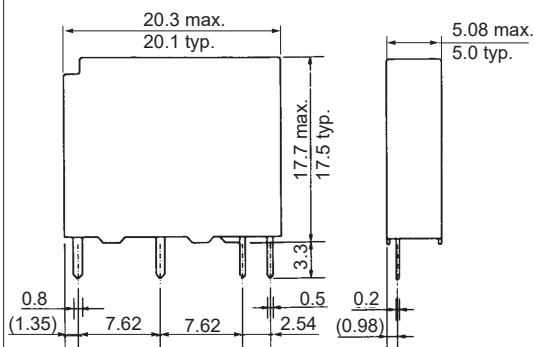
## ■ PART NUMBER LIST

| Part Number   | Mounting Type   | Contact Design     | Enclosure      | Insulation              | Socket |
|---------------|-----------------|--------------------|----------------|-------------------------|--------|
| NY-( )W-K-IE  | PCB mounting    | Bifurcated contact | Plastic sealed | Conform to IEC standard | -      |
| NYP-( )W-K-IE | Socket mounting |                    |                |                         | JL-5N  |

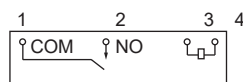
## ■ DIMENSIONS

### NY type

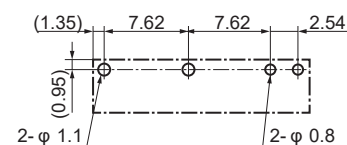
#### ● Dimensions



#### ● Schematics (BOTTOM VIEW)

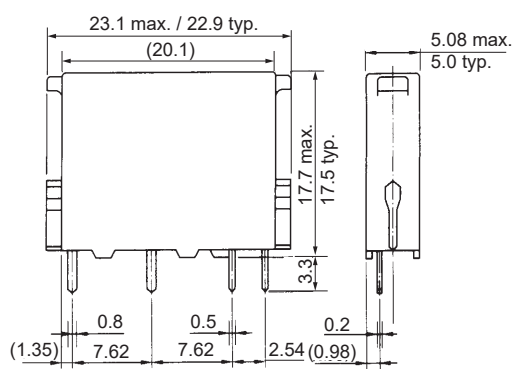


#### ● PC board mounting hole layout (BOTTOM VIEW)

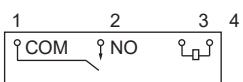


### NYP type

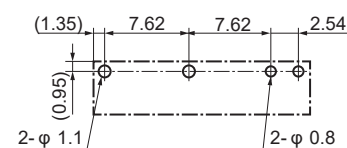
#### ● Dimensions



#### ● Schematics (BOTTOM VIEW)

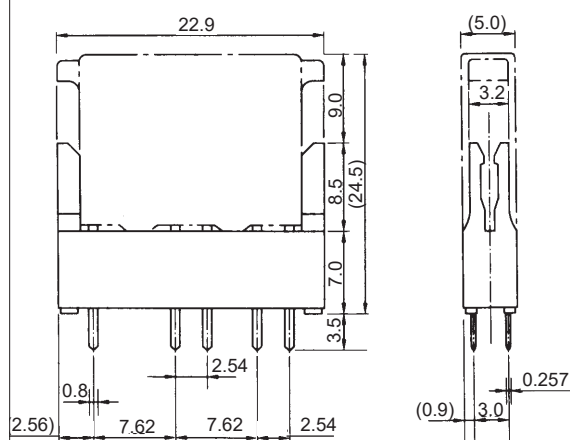


#### ● PC board mounting hole layout (BOTTOM VIEW)

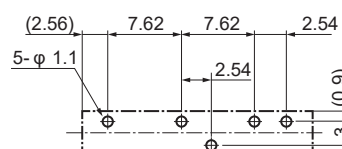


### Socket type JL-5N

#### ● Dimensions



#### ● PC board mounting hole layout (BOTTOM VIEW)



Note: Dimensions do not include tolerances.

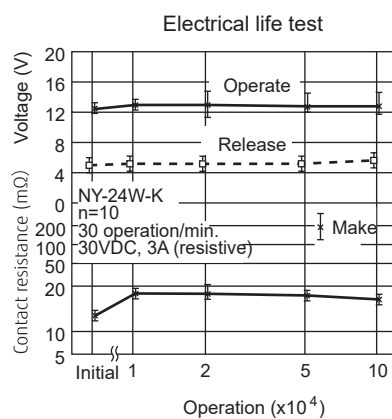
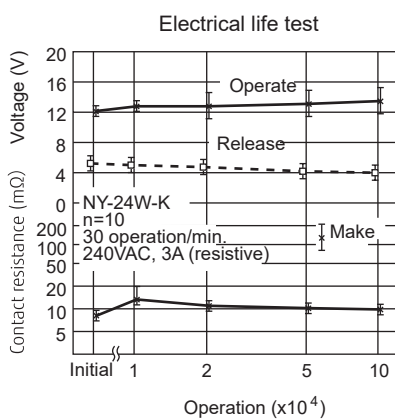
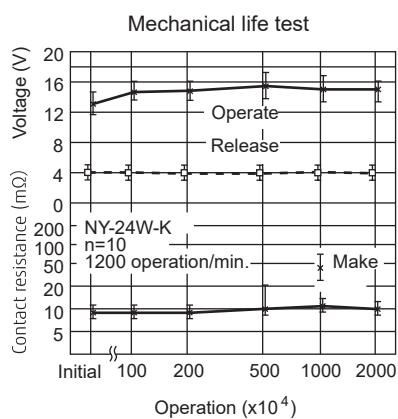
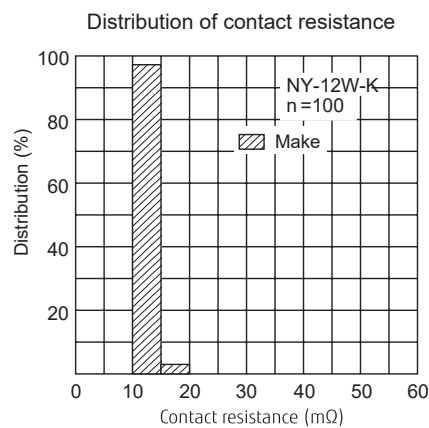
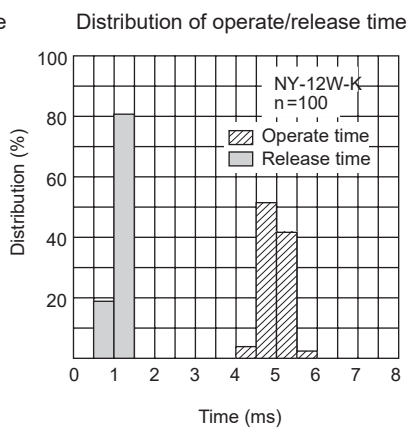
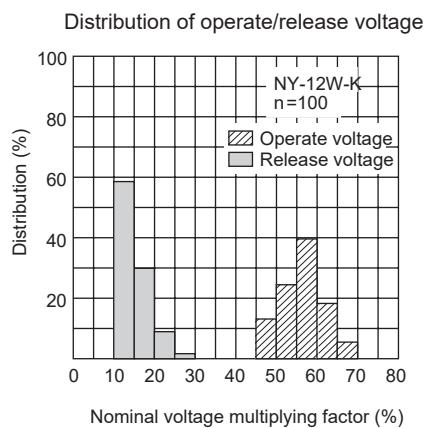
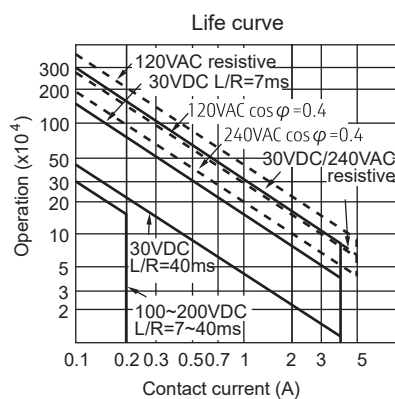
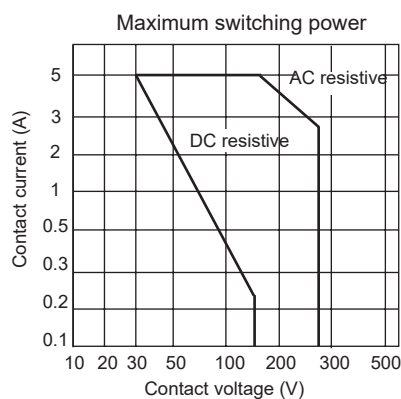
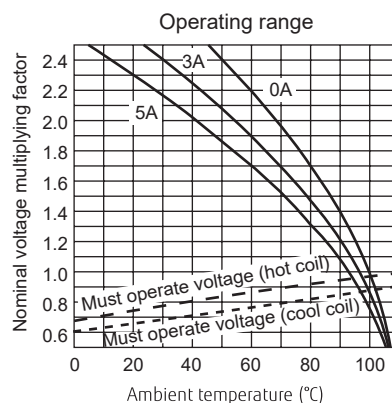
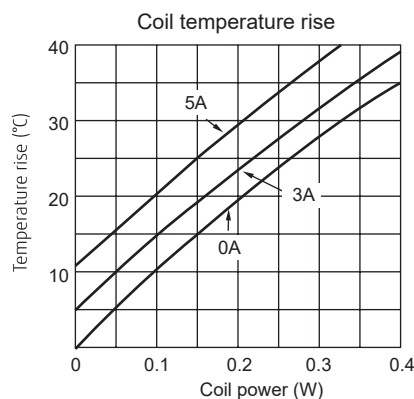
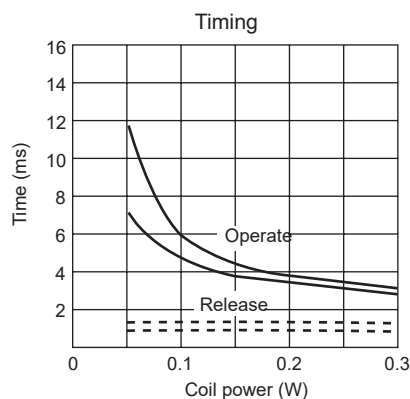
Note: Dimensions of the terminals do not include thickness of pre-soldering.

Note: Tolerance for PC board mounting hole/pad layout:  $\pm 0.1$ .

Unit: mm

## ■ CHARACTERISTIC DATA

(Characteristic data is not guaranteed value but measured values of samples from production line.)



## CAUTIONS

- All values mentioned in this datasheet are provided under ideal conditions. Please perform the confirmation test before actual use.
- Reflow soldering is prohibited.
- Do not use relays in the atmosphere with sulfide gas, chloride gas or nitric oxide. Contact resistance may increase.
- Do not use silicon or silicon-containing product or materials near relays. It may cause contact failure.

## GENERAL INFORMATION

### 1. RoHS Compliance

- All relays produced by FCL Components are compliant with RoHS directive 2011/65/EU, including commission delegated directive 2015/863.

### 2. Recommended lead free solder condition

- Lead free solder plating on relay terminals is Sn-3.0Ag-0.5Cu, unless otherwise specified. This material has been verified to be compatible with PbSn assembly process.
- Recommended solder for assembly: Sn-3.0Ag-0.5Cu.

#### Flow Solder Condition:

Pre-Heating: Maximum 120°C within 90 sec.

Soldering: Dip within 5 sec. at 255°C±5°C solder bath

Relay must be cooled by air immediately after soldering

#### Solder by Soldering Iron:

Soldering Iron: 30-60W

Temperature: Maximum 340-360°C

Duration: Maximum 3 sec.

**We highly recommend that you confirm your actual solder conditions**

### 3. Moisture Sensitivity

- Moisture Sensitivity Level standard is not applicable to electromechanical relays, unless otherwise indicated.

### 4. Tin Whiskers

- Dipped SnAgCu solder is known as presenting a low risk to tin whisker development. No considerable length whisker was found by our in-house test.

## Contact

### Japan

FCL COMPONENTS LIMITED  
Shinagawa Seaside Park Tower  
12-4, Higashi-shinagawa 4-chome,  
Tokyo 140 0002, Japan  
Tel: +81-3-3450-1682  
Email: [fcl-contact@cs.fcl-components.com](mailto:fcl-contact@cs.fcl-components.com)

### North and South America

FCL COMPONENTS AMERICA, INC.  
c/o Masuda, Funai, Eifert & Mitchell, Ltd.  
203 N LaSalle Street Suite 170, Chicago, IL  
60601-1265, USA  
Tel: +1-408-745-4900  
Email: [contact@fcl-components.us](mailto:contact@fcl-components.us)

### Europe

FCL COMPONENTS EUROPE B.V.  
Siriusdreef 9  
2132 WT Hoofddorp  
The Netherlands  
Tel: +31-23-556-0910  
Email: [info@fcl-components.eu](mailto:info@fcl-components.eu)

### China

FCL COMPONENTS (SHANGHAI) CO.,LTD.  
Unit 1105, Central Park - Jing An,  
No.329 Heng Feng Road, Shanghai  
200070, China  
Tel: +86-21-3253 0998  
Email: [fcsh@fcl-components.com](mailto:fcsh@fcl-components.com)

### Asia

FCL COMPONENTS HONG KONG CO.,  
LIMITED  
Unit 2313, Seapower Tower, Concordia  
Plaza, No.1 Science Museum Road,  
TST, Kowloon, Hong Kong  
Tel: +852-2881-8495  
Email: [fcak@fcl-components.com](mailto:fcak@fcl-components.com)

Web: [www.fcl-components.com/en/](http://www.fcl-components.com/en/)

© 2026 FCL Components Limited. All rights reserved. All trademarks or registered trademarks are the property of their respective owners.

FCL Components Products are intended for general use, including without limitation, in personal, household and office environments, in buildings and for ordinary use in the industry. FCL Components Products are not intended to be used in applications where extremely high safety is required ("High Safety Required Applications"), such as, but not limited to, applications in nuclear facilities, in aircraft automatic flight control, in air traffic control, in mass transit system control, in missile launch system, in weapon systems, in medical equipment for life support or any application involving a direct serious risk of physical injury or death.

Please do not use FCL Components Products without securing the sufficient safety and reliability required for the High Safety Required Applications.

In addition, FCL Components shall not be liable against the customer and/or any third party for any claims or damages arising in connection with the use of FCL Components Products in the High Safety Required Applications.

FCL Components warrants that its Products, if properly used and services, will conform to their specification and will be free from defects in material and workmanship for twelve months from delivery.

The implied warranties of merchantability and fitness for a particular purpose and all other warranties, representations and conditions, express or implied by statute, trade usage or otherwise, except as set forth in this warranty, are excluded and shall not apply to the Products delivered.

The contents, data and information in this datasheet are provided by FCL Components Limited as a service only to its user and only for general information purposes. The use of the contents, data and information provided in this datasheet is at the users' own risk.

FCL Components has assembled this datasheet with care and will endeavor to keep the contents, data and information correct, accurate, comprehensive, complete and up to date.

FCL Components Limited and affiliated companies do however not accept any responsibility or liability on their behalf, nor on behalf of its employees, for any loss or damage, direct, indirect or consequential, with respect to this datasheet, its contents, data, and information and related graphics and the correctness, reliability, accuracy, comprehensiveness, usefulness, availability and completeness thereof. Nor do FCL Components Limited and affiliated companies accept on their behalf, nor on behalf of its employees, any responsibility or liability with respect to these datasheets, its contents, data, information and related graphics and the correctness, reliability, accuracy, comprehensiveness, usefulness, availability and completeness thereof. Rev. July 13, 2026.