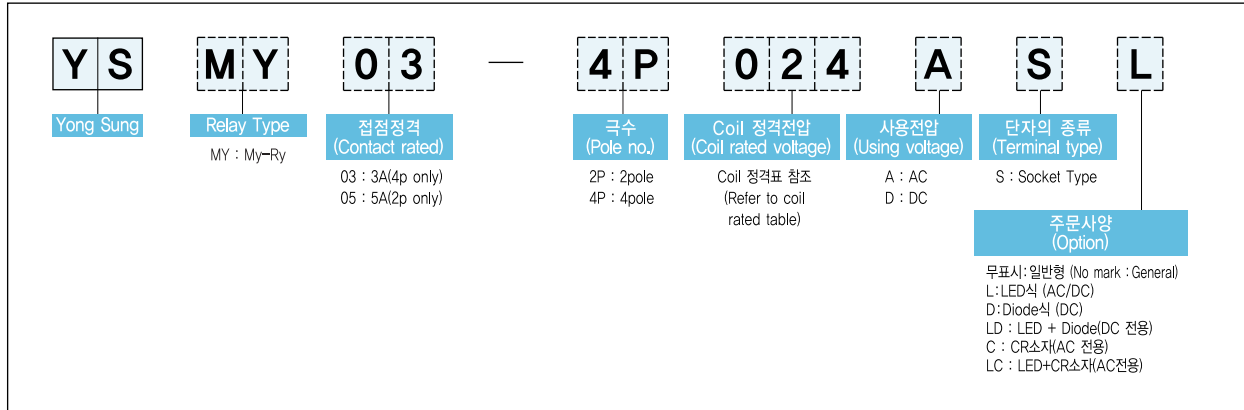


## 9-1

소형 파워 릴레이  
Mini Power Relay

## 형식 구분도 | Type Classification Diagram |



## 특징 | Features |

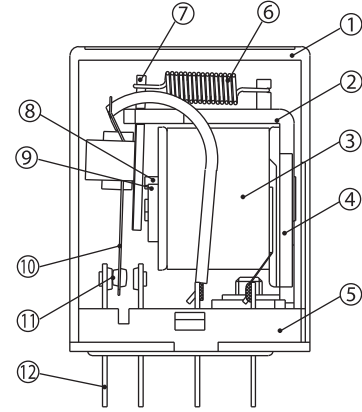
- 소형경량이므로 복잡한 제어회로에 적합합니다.
- 소형으로서 개폐용량이 높습니다.
- 소전류 소모형으로 DC용은 반도체 회로에 적합합니다.
- 종류가 다양하므로 용도별 선택이 용이합니다.
- With mini-size and lightness, it is suitable for complicated control circuit.
- High switching capacity and small size.
- Suitable for semiconductor circuit due to lower current consumption.
- Various types are available.

## 성능 개요 | Performance Summary |

|                                      |                                                             |                                            |
|--------------------------------------|-------------------------------------------------------------|--------------------------------------------|
| 접촉저항 (Contact resistance)            |                                                             | 50mΩ 이하 (초기치) (Below 50mΩ , initial value) |
| 절연저항 (Insulation resistance)         |                                                             | 100MΩ 이상 (Above 100MΩ) (DC 500V, Meg)      |
| 내전압<br>(Withstand voltage)           | 접점상호간 (Between contacts)                                    | AC 1,000V/min                              |
|                                      | 충전부와 비충전부간<br>(Between charging part and non-charging part) | AC 2,000V/min                              |
| 수명<br>(Lifetime)                     | 기계적 (Mechanical)                                            | 300만회 이상 (Above 3,000,000 times)           |
|                                      | 전기적 (Electrical)                                            | 50만회 이상 (Above 500,000 times)              |
| 동작시간 (Operating time)                |                                                             | 20ms 이하 (Below 20ms)                       |
| 복귀시간 (Return time)                   |                                                             | 20ms 이하 (Below 20ms)                       |
| 내진동 (Withstand vibration)            |                                                             | 복진폭 (Double amplitude) 1.0mm (10~ 55Hz)    |
| 최대개폐빈도<br>(Max. Switching frequency) | 기계적 (Mechanical)                                            | 20 times/min                               |
|                                      | 전기적 (Electrical)                                            | 20 times/min                               |
| 사용주위온도 (Ambient temperature)         |                                                             | -25℃ ~ +40℃                                |
| 상대습도 (Relative humidity)             |                                                             | MAX. 90%                                   |

## 부품 재질 | Part Materials |

| No. | 부품 (Part)              | 재질 (Materials)              |
|-----|------------------------|-----------------------------|
| 1   | 커버 (Cover)             | PC 수지 (Polycarbonate resin) |
| 2   | 프레임 (Frame)            | 탄소강 (Carbon steel)          |
| 3   | 코일 (Coil)              | 구리선 (Copper wire)           |
| 4   | 보빈 (Bobbin)            | 66 나일론 수지 (Nylon 66 resin)  |
| 5   | 베이스 (Base)             | 66 나일론 수지 (Nylon 66 resin)  |
| 6   | 리턴 스프링 (Return spring) | 스테인리스 (Stainless steel)     |
| 7   | 전기자 (Armature)         | 순철 (Pure iron)              |
| 8   | 평와셔 (Washer plate)     | 동판 (Plate copper)           |
| 9   | 샤프트 (Shaft)            | 순철 (Pure iron)              |
| 10  | 유동단자 (Moving terminal) | 인청동 (Phosphor bronze)       |
| 11  | 접점 (Contact)           | 은합금 (Silver alloy)          |
| 12  | 고정단자 (Fixed terminal)  | 황동 (Brass)                  |



## 접점 정격 | Contact Rated |

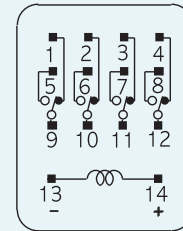
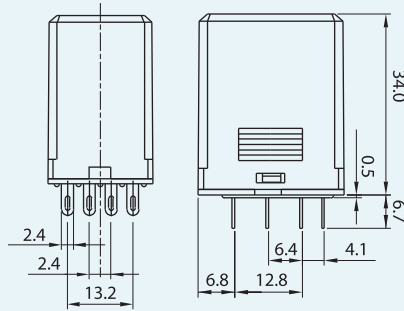
| 구분<br>(Classification) | 극수<br>(Pole No.) | 접점허용전력 (Contact allowable power) |                          | 전압(V)<br>(Voltage) | 정격부하 (Rated load)                           |                                                        | 정격통전전류(A)<br>(Rated conductive current) |
|------------------------|------------------|----------------------------------|--------------------------|--------------------|---------------------------------------------|--------------------------------------------------------|-----------------------------------------|
|                        |                  | 저항부하<br>(Resistive load)         | 유도부하<br>(Inductive load) |                    | 저항부하<br>(Resistive load)<br>(COS $\phi$ =1) | 유도부하<br>(Inductive load)<br>(COS $\phi$ =0.4, L/R=7ms) |                                         |
| MY03                   | 4                | AC660VA                          | AC176VA                  | AC220V             | 3                                           | 0.8                                                    | 3                                       |
|                        |                  | DC72W                            | DC36W                    | DC24V              | 3                                           | 1.5                                                    |                                         |
| MY05                   | 2                | AC1100VA                         | AC440VA                  | AC220V             | 5                                           | 2                                                      | 5                                       |
|                        |                  | DC120W                           | DC48W                    | DC24V              | 5                                           | 2                                                      |                                         |

## 코일 정격 | Coil Rated |

|    | 정격전압(V)<br>(Rated voltage) | 정격전류(mA)<br>(Rated current) | COIL 저항(Ω)<br>(Coil resistance) | 소비전력(VA,W)<br>(Power consumption) | 동작전압(V)<br>(Operation voltage) | 복귀전압(V)<br>(Return voltage) | 최대허용전압(V)<br>(Max. allowable voltage) |
|----|----------------------------|-----------------------------|---------------------------------|-----------------------------------|--------------------------------|-----------------------------|---------------------------------------|
| AC | 24                         | 50                          | 167                             | 1.2VA                             | 80% 이하<br>(Below 80%)          | 30% 이상<br>(Above 30%)       | 110%                                  |
|    | 110                        | 12                          | 3,600                           | 1.3VA                             |                                |                             |                                       |
|    | 220                        | 8                           | 12,500                          | 1.6VA                             |                                |                             |                                       |
| DC | 24                         | 48                          | 500                             | 1.2W                              |                                | 10% 이상<br>(Above 10%)       |                                       |
|    | 48                         | 23                          | 1,760                           | 1.2W                              |                                |                             |                                       |
|    | 110                        | 11                          | 10,080                          | 1.2W                              |                                |                             |                                       |
|    | 125                        | 10                          | 12,710                          | 1.2W                              |                                |                             |                                       |
|    | 220                        | 6.8                         | 33,450                          | 1.4W                              |                                |                             |                                       |

※ 주 (Note) 1. 정격전류의 허용범위 (23°C일때) :  $\pm 15\%$  (Allowable range of rating current (at 23°C) :  $\pm 15\%$ )  
 2. Coil 저항의 허용범위 (23°C일때) :  $\pm 10\%$  (Allowable range of coil resistance (at 23°C) :  $\pm 10\%$ )  
 3. LED Type은 회로에 따라 반광이 발생될 수 있으니 사용전 검토 바랍니다.  
 (Preliminary examination recommended due to possible dimness phenomena depending on circuit for LED type.)

YS MY03-4P

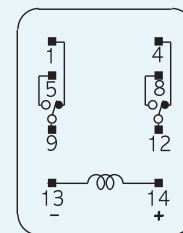
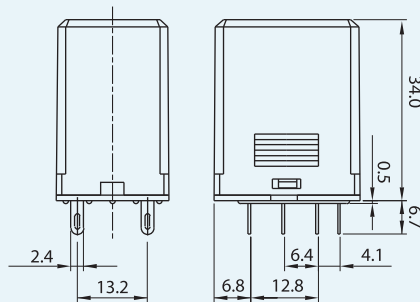


YS MY03-4P

※ 적용소켓 : YS SKMY-4  
(Applied socket : YS SKMY-4)



YS MY05-2P



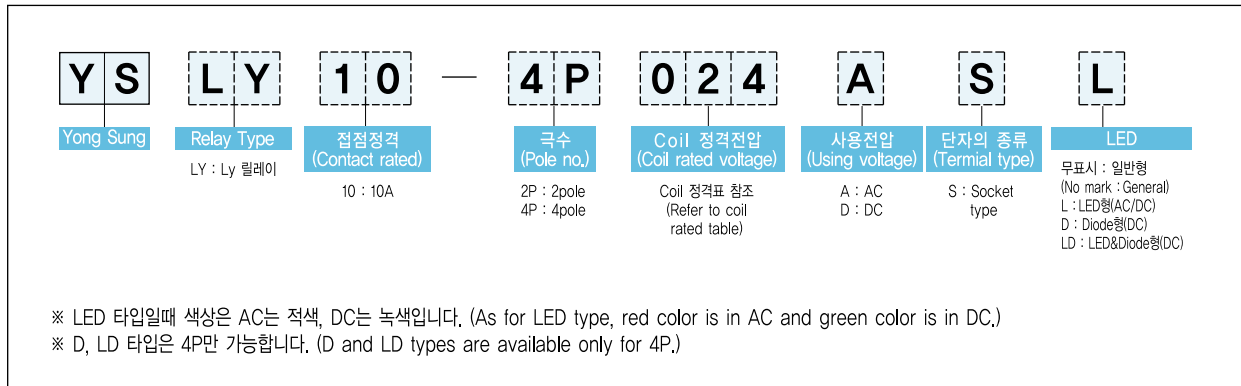
YS MY05-2P

※ 적용소켓 : YS SKMY-2  
(Applied socket : YS SKMY-2)



## ■ C€

## 형식 구분도 | Type Classification Diagram |



## 특징 | Features |

- LED 내장형, 다이오드 내장형, C·R회로 외장(주문형) 등 다양한 종류의 선택이 가능합니다.
- 소형 경량이므로 복잡한 제어회로에 적용 가능합니다.
- There are various options, such as Inner mounted LED type, Inner mounted Diode type, Outer mounted C,R circuit etc.
- Light and small-sized type for applying to complicated control circuit.

## 사용시 주의사항 | Remarks in Use |

- DC용은 결선 시 극성에 유의하십시오.
- DC 정격은 완전 직류치를 표시한 것입니다.
- Double-check with polarity when wiring for DC use.
- DC rated indicates constant-direct current value.

## 성능 개요 | Performance Summary |

|                                      |                                                             |                                            |
|--------------------------------------|-------------------------------------------------------------|--------------------------------------------|
| 접촉저항 (Contact resistance)            |                                                             | 50mΩ 이하 (초기치) (Below 50mΩ , initial value) |
| 절연저항 (Insulation resistance)         |                                                             | 100MΩ 이상 (Above 100MΩ) (DC 500V. Meg)      |
| 내전압<br>(Withstand voltage)           | 접점상호간 (Between contact)                                     | AC 1,000V/Min (50~60Hz)                    |
|                                      | 충전부와 비충전부간<br>(Between charging part and non-charging part) | AC 2,000V/Min (50~60Hz)                    |
| 기계적수명 (Mechanical lifetime)          |                                                             | 300만회 이상 (Above 3,000,000 times)           |
| 전기적수명 (Electrical lifetime)          |                                                             | 20만회 이상 (Above 200,000 times)              |
| 동작시간 (Operating time)                |                                                             | 20ms 이하 (Below 20ms)                       |
| 복귀시간 (Return time)                   |                                                             | 20ms 이하 (Below 20ms)                       |
| 내진동 (Withstand vibration)            |                                                             | 복진폭 (Double amplitude) 1.0mm (10~ 55Hz)    |
| 최대개폐빈도<br>(Max. Switching frequency) | 기계적 (Mechanical)                                            | 300 times/min                              |
|                                      | 전기적 (Electrical)                                            | 30 times/min                               |
| 사용주위온도 (Ambient temperature)         |                                                             | -25℃ ~ +40℃                                |
| 상대습도 (Relative humidity)             |                                                             | 45 ~ 85%                                   |

## 접점 정격 | Contact Rated |

|                                                      |                                        |                                        |                  |      |       |
|------------------------------------------------------|----------------------------------------|----------------------------------------|------------------|------|-------|
| 정격절연전압 (U <sub>i</sub> ) (Rated insulation voltage)  |                                        |                                        | AC 250V, DC 250V |      |       |
| 정격통전전류 (I <sub>th</sub> ) (Rated conductive current) |                                        |                                        | 10A              |      |       |
| 최대개폐전류 (Max. Switching current)                      |                                        |                                        | 10A              |      |       |
| 교류 (AC)                                              | 정격전압 (U <sub>e</sub> ) (Rated voltage) |                                        | 24V              | 110V | 220V  |
|                                                      | 정격전류 (I <sub>e</sub> ) (Rated current) | 저항부하 (Resistive load) $\cos\phi = 1$   | 10A              | 10A  | 5A    |
|                                                      |                                        | 유도부하 (Inductive load) $\cos\phi = 0.4$ | 10A              | 7.5A | 3.75A |
|                                                      | 최대 개폐용량 (Max. Switching capacity)      | 저항부하 (Resistive load) $\cos\phi = 1$   | 1,100VA          |      |       |
|                                                      |                                        | 유도부하 (Inductive load) $\cos\phi = 0.4$ | 825VA            |      |       |
| 직류 (DC)                                              | 정격전압 (U <sub>e</sub> ) (Rated voltage) |                                        | 24V              | 110V | 220V  |
|                                                      | 정격전류 (I <sub>e</sub> ) (Rated current) | 저항부하 (Resistive load)                  | 10A              | 2.2A | 1.1A  |
|                                                      |                                        | 유도부하 (Inductive load) L/R = 7ms        | 5A               | 1.1A | 0.54A |
|                                                      | 최대 개폐용량 (Max. Switching capacity)      | 저항부하 (Resistive load)                  | 240W             |      |       |
|                                                      |                                        | 유도부하 (Inductive load) L/R = 7ms        | 120W             |      |       |

※ 주        개폐전류의 최대치는 10A입니다.

※ Note     Maximum switching current is 10A.

## 코일 정격 | Coil Rated |

|    | 정격전압(V)<br>(Rated voltage) | 정격전류(mA)<br>(Rated current) |           | COIL 저항(Ω)<br>(Coil resistance) | 소비전력(VA,W)<br>(Power consumption) |           | 동작전압(V)<br>(Operation voltage) | 복귀전압(V)<br>(Return voltage) | 최대허용전압(V)<br>(Max. allowable voltage) |
|----|----------------------------|-----------------------------|-----------|---------------------------------|-----------------------------------|-----------|--------------------------------|-----------------------------|---------------------------------------|
| AC | 24                         | 93.6                        | 80        | 78                              | 2.25                              | 1.92      |                                | 30% 이상<br>(Above 30%)       | 110%                                  |
|    | 100/110                    | 22.5/25.5                   | 19.0/21.8 | 1,800                           | 2.25/2.81                         | 1.90/2.40 |                                |                             |                                       |
|    | 200/220                    | 12.5/14.3                   | 11.8/13.4 | 6,700                           | 2.50/3.15                         | 2.36/2.95 |                                |                             |                                       |
| DC | 24                         | 69                          |           | 350                             | 1.66                              |           | 80% 이하<br>(Below 80%)          | 10% 이상<br>(Above 10%)       | 110%                                  |
|    | 48                         | 30                          |           | 1,600                           | 1.44                              |           |                                |                             |                                       |
|    | 110                        | 15.9                        |           | 6,900                           | 1.75                              |           |                                |                             |                                       |
|    | 125                        | 12.0                        |           | 10,400                          | 1.50                              |           |                                |                             |                                       |
|    | 220                        | 6.9                         |           | 32,000                          | 1.52                              |           |                                |                             |                                       |

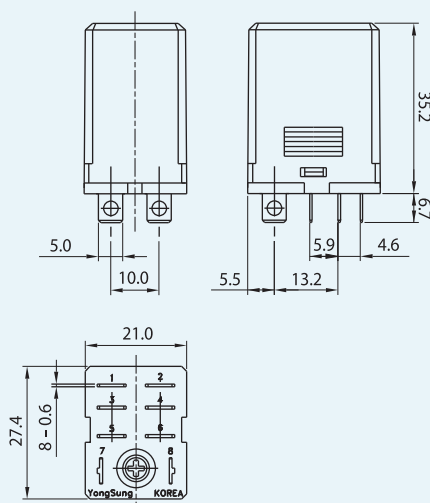
- ※ 주        1. 정격전류의 허용범위는 20℃에서 +15%, -20%입니다.  
               2. 코일저항은 허용범위는 20℃에서 ±15%입니다.  
               3. 코일특성은 20℃에서의 수치입니다.  
               4. 상기 수치는 일반형에 대한 코일정격입니다.

- ※ Note    1. Allowable range of rated current (at 20℃) : +15%, -20%.  
               2. Allowable range of coil resistance (at 20℃) : ±15%.  
               3. Coil characteristic is specified at 20℃.  
               4. Above data indicates coil resistance based on general type.

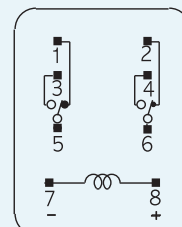
## 외형 / 치수도 | Shape / Dimension Drawing |

(unit : mm)

YS LY10-2P



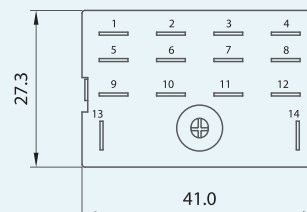
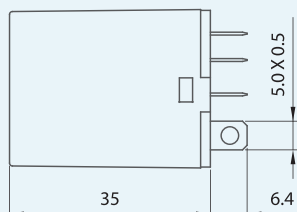
내부 결선도  
(Inside Connection  
Diagram)



YS LY10-2P

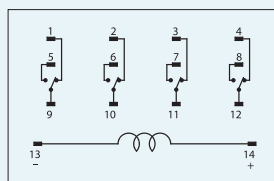
※ 적용소켓 : YS SKLY-2  
(Applied socket : YS SKLY-2)

YS LY10-4P

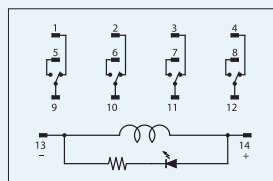


## 내부 결선도 | Inside Connection Diagram |

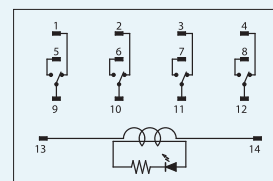
YS LY10-4P



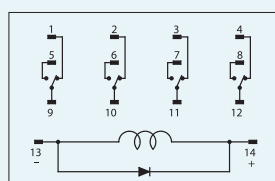
YS LY10-4P L(DC)



YS LY10-4P L(AC)



YS LY10-4P D(DC)



YS LY10-4P LD(DC)

