

## 3-1-3

## 선택 스위치 Selector Switch

### 형식 구분도 | Type Classification Diagram |

| C S A                   | 1 6      | — | S 0                            | M 9                                                                                                                                                                                                      | 1 1                                             | — |                                                                   | B                 |
|-------------------------|----------|---|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---|-------------------------------------------------------------------|-------------------|
| CSA 시리즈<br>(CSA series) | 16 : Ø16 |   | S0 : 선택 스위치<br>(Select switch) | 동작방식 *<br>(Operating method)                                                                                                                                                                             | 접점구성<br>(Contact form)                          |   | 외형<br>(shape)                                                     | 손잡이 색상<br>(color) |
|                         |          |   |                                | M9 : 90° 2단 수동복귀<br>(90° 2 stage manual return)<br>M3 : 90° 3단 수동복귀<br>(90° 3 stage manual return)<br>S9 : 90° 2단 자동복귀<br>(90° 2 stage spring return)<br>S3 : 90° 3단 자동복귀<br>(90° 3 stage spring return) | 11 : 1C(1a1b)<br>22 : 2C(2a2b)<br>33 : 3C(3a3b) |   | 무표시(None) : 원형(Circle)<br>S : 정사각형(Square)<br>E : 직사각형(Rectangle) | B : 흑색(Black)     |

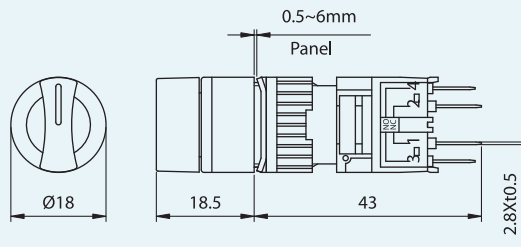
NOTE\* M3, S3 복귀타입은 기본 2a2b로 제작됩니다. (The M3 and A3 return type is basically made of 2a2b)

Ø16  
시리즈

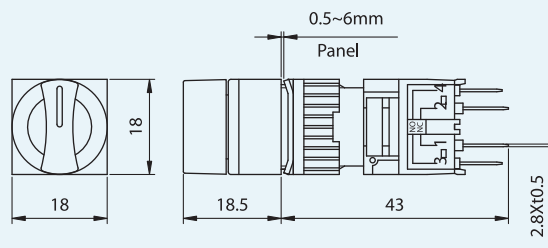
### 외형 / 치수도 | Shape / Dimension Drawing |

(unit : mm)

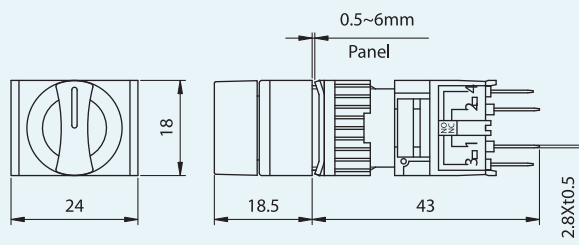
#### 원형 (Circle)



#### 정사각형 (Square)



#### 직사각형 (Rectangle)



## Ø16 시리즈

## 3-1

CSA16 시리즈  
CSA16 Series

## 특징 | Features |

- 일체형 무극성 LED 적용하여 AC/DC 공용 사용 가능합니다. (LED 교체불가)
- 조작부와 접점부가 분리형으로 되어 교체가 쉽습니다. (표시등 제외)
- Usable for both AC/DC by applying non-polarity LED. (Disable to replace LED)
- It is easy to exchange because control part and contact part are separated. (Except pilot lamp)

## 성능 개요 | Performance Summary |

|                               |                                                    |
|-------------------------------|----------------------------------------------------|
| 절연 저항 (Insulation resistance) | Above 100MΩ (DC 500V meg)                          |
| 접촉 저항 (Contact resistance)    | Below 50mΩ (초기치(Initial value))                    |
| 내전압 (Withstand voltage)       | 접점과 접점 (Between contacts) : AC 1,000V/min.         |
|                               | 접점과 램프 (Contact to lamp terminal) : AC 1,500V/min. |
| 기계적 수명 (Mechanical life time) | 500,000회(times) (분당 30회(30 times/1minute))         |
| 전기적 수명 (Electrical life time) | 100,000회(times) (분당 20회(20 times/1minute))         |
| 사용주위온도 (Ambient temperature)  | -25℃ ~ +55℃ (결로되지 않는 조건 (Non condensation))        |
| 상대 습도 (Relative humidity)     | 45 ~ 85%                                           |
| 납땜 (Soldering)                | 230℃ 3초 이내 (230℃ less than 3 seconds)              |
| 접점 재질 (Contact material)      | 은합금 (Silver alloy)                                 |
| 보호등급 (Protection degree)      | IP40                                               |

## 접점 정격 | Contact Rated |

|                                           |                              |                                |      |      |      |
|-------------------------------------------|------------------------------|--------------------------------|------|------|------|
| 정격 절연 전압 (Rated insulation voltage) (Ui)  |                              |                                | 250V |      |      |
| 정격 통전 전류 (Rated conductive current) (Ith) |                              |                                | 5A   |      |      |
| AC                                        | 정격 전압 (Rated voltage) (Ue)   |                                | 24V  | 110V | 220V |
|                                           | 정격전류 (Ie)<br>(Rated current) | 저항부하 (Resistive load) COSØ=1   | 5A   | 5A   | 3A   |
|                                           |                              | 유도부하 (inductive load) COSØ=0.7 | 5A   | 3A   | 2A   |
| DC                                        | 정격 전압 (Rated voltage) (Ue)   |                                | 24V  | 110V | 220V |
|                                           | 정격전류 (Ie)<br>(Rated current) | 저항부하 (Resistive load) T=1ms    | 5A   | 1A   | 0.5A |
|                                           |                              | 유도부하 (inductive load) T=15ms   | 1A   | 0.2A | 0.1A |

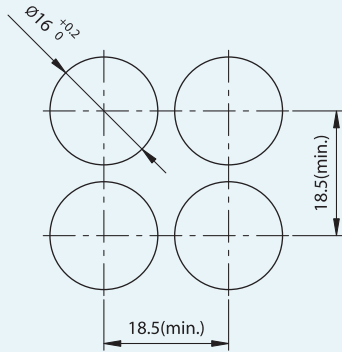
## 램프 정격 | Lamp Rated |

|                              |                                                                       |                           |                           |                           |
|------------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|
| 정격 전압 (Rated voltage)        | AC/DC 6V                                                              | AC/DC 12V                 | AC/DC 24V                 | AC/DC 220V                |
| 정격 전류 (Rated current)        | 3~6.5mA                                                               | 3.5~6.0mA                 | 3.5~6.0mA                 | 1.5~3.0mA                 |
| 소비 전력<br>(Power consumption) | 0.04W 이하<br>(Below 0.04W)                                             | 0.07W 이하<br>(Below 0.07W) | 0.14W 이하<br>(Below 0.14W) | 0.66W 이하<br>(Below 0.66W) |
| 색상<br>(Color)                | 적색, 녹색, 황색, 오렌지색, 청색, 백색<br>(Red, Green, Yellow, Orange, Blue, White) |                           |                           |                           |
| 수명(Life times)               | 40,000시간 (hours)                                                      |                           |                           |                           |

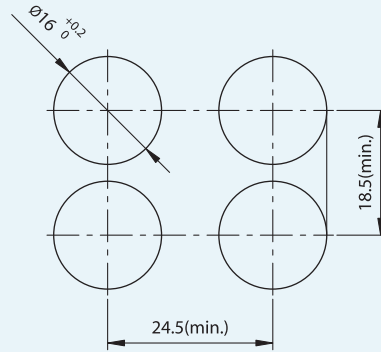
※ Note : 정격전류와 소비전력은 DC 정격 전압에서의 수치임. (Rated current and power consumption are the values at DC rated voltage.)

## 판넬 가공 치수 | Cut-out Dimension |

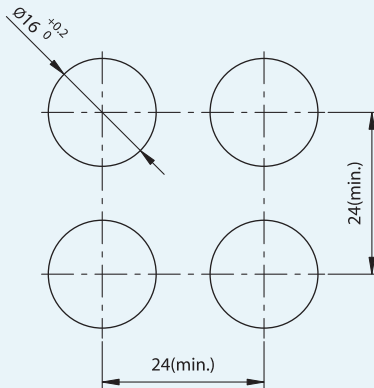
(unit : mm)



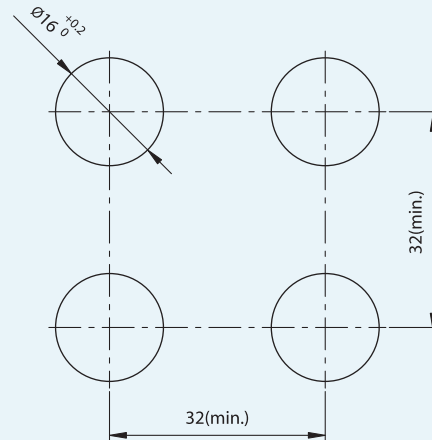
원형/정사각형 (Circle/square)



직사각형 (Rectangle)



버섯형 (Mushroom)



누름 락 회전 복귀 (Push lock turn reset)

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## 선택 스위치 / 키 스위치 동작 | Select Switch / Key Switch Operation |

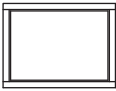
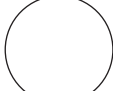
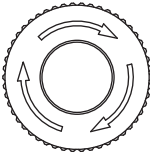
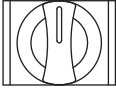
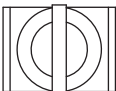
|    |    |    |    |
|----|----|----|----|
|    |    |    |    |
| M9 | M3 | S9 | S3 |

※ 참고 : 모든 방향에서 키가 빠집니다.

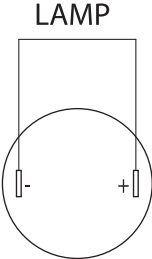
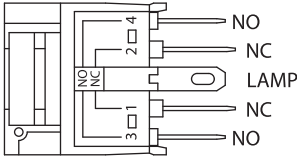
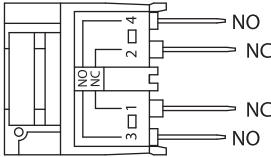
※ Reference : Key release at all position

# Ø16 시리즈

## 전면부 외형 | Shape of Front Parts

|                                                                                           | 원형<br>(Circle)                                                                      | 정사각형<br>(Square)                                                                    | 직사각형<br>(Rectangle)                                                                   | 버섯형<br>(Mushroom)                                                                   |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 표시등<br>(Lamp)                                                                             |    |    |    | —                                                                                   |
| 누름 버튼 스위치/<br>조광형 누름 버튼 스위치<br>(Push button switch/<br>Illuminated push<br>button switch) |    |    |    |  |
| 누름 락 회전 복귀 스위치<br>(Push lock turn<br>reset switch)                                        | —                                                                                   | —                                                                                   | —                                                                                     |  |
| 선택 스위치<br>(Select switch)                                                                 |  |  |  | —                                                                                   |
| 키스위치<br>(Key switch)                                                                      |  |  |  | —                                                                                   |

## 단자 배치 | Terminal Arrangement

| 제품군 (Group)   | 표시등 (Lamps)                                                                         | 조광형스위치 (Illuminated switches)                                                       | 스위치 (Switches (no lamp))                                                              |
|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 부호 (Mark)     | L1                                                                                  | P1, S1                                                                              | P0, S0, K0                                                                            |
| 단자 (Terminal) |  |  |  |