

## A6 Series — Miniature Switches and Pilot Devices: 16mm

### Key features:

- 16mm (5/8") mounting hole
- LED illumination
- Compact design saves space
- Momentary, Maintained, Selectors, and E-Stops
- Gold-clad Silver contacts for reliable low level switching
- Snap action contacts
- IP40 (dustproof) or IP65 (oiltight) versions



UL Recognized  
File No. E55996



CSA Certified  
File No. LR21451



|                  |                         |           |                                                                                                                                                                                                                                                                                |                                                                      |                    |                    |
|------------------|-------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------|--------------------|
| Specifications   | Degree of Protection    |           | IP40: Dustproof<br>IP65 Watertight/Oiltight                                                                                                                                                                                                                                    |                                                                      |                    |                    |
|                  | Contact Configuration   |           | SPDT, DPDT                                                                                                                                                                                                                                                                     |                                                                      |                    |                    |
|                  | Maximum Voltage         |           | 250V AC/DC                                                                                                                                                                                                                                                                     |                                                                      |                    |                    |
|                  | Thermal Current         |           | 3A                                                                                                                                                                                                                                                                             |                                                                      |                    |                    |
|                  | Minimum Applicable Load |           | 5V AC/DC, 1mA                                                                                                                                                                                                                                                                  |                                                                      |                    |                    |
|                  | Contact Material        |           | Gold-clad silver                                                                                                                                                                                                                                                               |                                                                      |                    |                    |
|                  | Terminal Style          |           | .110" Solder/ Quick Connect                                                                                                                                                                                                                                                    |                                                                      |                    |                    |
|                  | Operating Temperature   |           | -25° to +55°C (no freezing)                                                                                                                                                                                                                                                    |                                                                      |                    |                    |
|                  | Operating Humidity      |           | 45 to 85% RH                                                                                                                                                                                                                                                                   |                                                                      |                    |                    |
|                  | Contact Resistance      |           | 50mΩ maximum (initial value)                                                                                                                                                                                                                                                   |                                                                      |                    |                    |
|                  | Insulation Resistance   |           | 100MΩ minimum (500V DC megger)                                                                                                                                                                                                                                                 |                                                                      |                    |                    |
|                  | Vibration Resistance    |           | 10 to 55Hz, amplitude 1.5mm p-p                                                                                                                                                                                                                                                |                                                                      |                    |                    |
|                  | Shock Resistance        |           | Damage limits: 500m/sec² (approx. 50G) Operating extremes: 200m/sec² (approx. 20G)                                                                                                                                                                                             |                                                                      |                    |                    |
|                  | Electrical Life         |           | 100,000 operations minimum (at full rated load)                                                                                                                                                                                                                                |                                                                      |                    |                    |
| Contact Ratings  | Mechanical Life         |           | Maintained: 100,000 operations minimum<br>Momentary: 1,000,000 operations minimum<br>Selector/Keylock: 250,000 operations minimum                                                                                                                                              |                                                                      |                    |                    |
|                  | Dielectric Strength     |           | Switch Unit: 2,000V AC, 1 min. between live/dead part and terminals of different poles;<br>1,000V AC, 1 minute between terminals of the same pole;<br>1,500V AC, 1 minute between contact and lamp terminals.<br>Illumination Unit: 2,000V AC, 1 min. between live part/ground |                                                                      |                    |                    |
|                  | Soldering Temperature   |           | 20W/5 seconds or 260°C/3 seconds                                                                                                                                                                                                                                               |                                                                      |                    |                    |
|                  | Operating Voltage       |           | 24V                                                                                                                                                                                                                                                                            | 120V                                                                 | 240V               |                    |
| LED Lamp Ratings | AC (50/60Hz)            | Resistive | —                                                                                                                                                                                                                                                                              | 1.0A                                                                 | 0.5A               |                    |
|                  |                         | Inductive | —                                                                                                                                                                                                                                                                              | 0.7A                                                                 | 0.5A               |                    |
|                  | DC                      | Resistive | 1.0A                                                                                                                                                                                                                                                                           | 0.2A                                                                 | —                  |                    |
|                  |                         | Inductive | 0.7A                                                                                                                                                                                                                                                                           | 0.1A                                                                 | —                  |                    |
| LED Lamp Ratings | Rated Voltage/Current   |           | 5V DC ±5%                                                                                                                                                                                                                                                                      | 6V AC/DC (±10%)                                                      | 12V AC/DC (±10%)   | 24V AC/DC (±10%)   |
|                  |                         |           | 8mA                                                                                                                                                                                                                                                                            | AC: A, R, W, Y: 8mA<br>G, S: 7mA<br>DC: A, R, W, Y: 6mA<br>G, S: 5mA | AC: 9mA<br>DC: 8mA | AC: 9mA<br>DC: 8mA |



1. AC Inductive Load, PF = 0.6 – 0.7; DC Inductive Load, L/R = 7ms.
2. LED lamp contains a built-in current limiting resistor and a protection diode.
3. LED's don't "burn out." Luminance is reduced to 50% of initial intensity after being lit for 50,000 hours continuously.

## AB6 Non-Illuminated Pushbuttons (Assembled)

### Non-Illuminated Pushbuttons

| Style                                                                                                                       | Contact      | Part Number            |                            |                        |                            |
|-----------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|----------------------------|------------------------|----------------------------|
|                                                                                                                             |              | Momentary              |                            | Maintained (Latching)  |                            |
|                                                                                                                             |              | Dustproof (IP40)       | Oiltight (IP65)            | Dustproof (IP40)       | Oiltight (IP65)            |
| <b>Standard Button</b><br>Round 18mm<br>   | SPDT<br>DPDT | AB6M-M1-①<br>AB6M-M2-① | AB6M-M1P-①<br>AB6M-M2P-①   | AB6M-A1-①<br>AB6M-A2-① | AB6M-A1P-①<br>AB6M-A2P-①   |
| Square 18mm<br>                            | SPDT<br>DPDT | AB6Q-M1-①<br>AB6Q-M2-① | AB6Q-M1P-①<br>AB6Q-M2P-①   | AB6Q-A1-①<br>AB6Q-A2-① | AB6Q-A1P-①<br>AB6Q-A2P-①   |
| Rectangular 18mm x 24mm<br>                | SPDT<br>DPDT | AB6H-M1-①<br>AB6H-M2-① | AB6H-M1P-①<br>AB6H-M2P-①   | AB6H-A1-①<br>AB6H-A2-① | AB6H-A1P-①<br>AB6H-A2P-①   |
| <b>Oversize Button</b><br>Round 23.5mm<br> | SPDT<br>DPDT | —                      | AB6M-M1P-M①<br>AB6M-M2P-M① | —                      | AB6M-A1P-M①<br>AB6M-A2P-M① |
| Square 23.5mm<br>                        | SPDT<br>DPDT | —                      | AB6Q-M1P-Q①<br>AB6Q-M2P-Q① | —                      | AB6Q-A1P-Q①<br>AB6Q-A2P-Q① |
| Rectangular 17.5 X 23.5mm<br>            | SPDT<br>DPDT | —                      | AB6Q-M1P-H①<br>AB6Q-M2P-H① | —                      | AB6Q-A1P-H①<br>AB6Q-A2P-H① |

### ① Button Color Code

| Color  | Code |
|--------|------|
| Black  | B    |
| Green  | G    |
| Red    | R    |
| Blue   | S    |
| White  | W    |
| Yellow | Y    |



1. In place of ①, specify Button Color Code from the table at right.
2. To order as sub-assembled, see page 459.
3. For accessories, see page 466.
4. For dimensions, see page 468.

### AB6-V Pushlock Turn Reset

| Shape                                                                                                        | Operation           | Contact      | Part Number            |                          | Remarks                                                                   |
|--------------------------------------------------------------------------------------------------------------|---------------------|--------------|------------------------|--------------------------|---------------------------------------------------------------------------|
|                                                                                                              |                     |              | Dustproof (IP40)       | Oiltight (IP65)          |                                                                           |
| 23.5mm Round Mushroom<br> | Pushlock Turn Reset | SPDT<br>DPDT | AB6M-V1-R<br>AB6M-V2-R | AB6M-V1P-R<br>AB6M-V2P-R | 1. Button available in red only.<br>2. Replacement button: order AB6M-V-R |

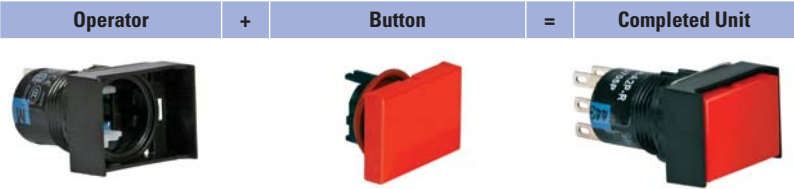
### Buzzer

| Style                                                                               | Shape        | Voltage | Part Number |
|-------------------------------------------------------------------------------------|--------------|---------|-------------|
|  | Round (18mm) | 12V DC  | UZ6-11      |
|                                                                                     |              | 24V DC  | UZ6-12      |

### Buzzer Ratings

|                       |                                         |
|-----------------------|-----------------------------------------|
| Frequency             | 2 kHz ± 500 Hz                          |
| Amplitude             | 80db @ 0.1m (at rated voltage)          |
| Operating Voltage     | 6V AC/DC or 12 - 24V AC/DC ± 10%        |
| Adjustable Cycle      | 55 to 600 cycles per minute             |
| Current Draw          | DC: 7mA, AC: 20mA                       |
| Life                  | 1000 hrs. minimum                       |
| Insulation Voltage    | 60V AC/DC                               |
| Operating Temperature | -20 to 55 C (no freezing), 45 to 85% rh |

AB6 Non-Illuminated Pushbuttons (Sub-Assembled)



Operators

| Style                                                                                                            | Contact | Operator   | Part Number |           |             |
|------------------------------------------------------------------------------------------------------------------|---------|------------|-------------|-----------|-------------|
|                                                                                                                  |         |            | Round       | Square    | Rectangular |
| <br>Non-Illuminated Pushbuttons | SPDT    | Momentary  | AB6M-M100   | AB6Q-M100 | AB6H-M100   |
|                                                                                                                  |         | Maintained | AB6M-A100   | AB6Q-A100 | AB6H-A100   |
|                                                                                                                  | DPDT    | Momentary  | AB6M-M200   | AB6Q-M200 | AB6H-M200   |
|                                                                                                                  |         | Maintained | AB6M-A200   | AB6Q-A200 | AB6H-A200   |

 Oversize rectangular button uses square operator.

Buttons

| Description                                                                                                 | Part Number      |                 |
|-------------------------------------------------------------------------------------------------------------|------------------|-----------------|
|                                                                                                             | Button           |                 |
|                                                                                                             | Dustproof (IP40) | Oiltight (IP65) |
| <br>Round                | AB6M-BK1-①       | AB6M-BK2-①      |
| <br>Square               | AB6Q-BK1-①       | AB6Q-BK2-①      |
| <br>Rectangular          | AB6H-BK1-①       | AB6H-BK2-①      |
| <br>Round Oversize       | —                | AB6M-BK2-M①     |
| <br>Square Oversize      | —                | AB6Q-BK2-Q①     |
| <br>Rectangular Oversize | —                | AB6Q-BK2-H①     |

① Button Color Code

| Color  | Code |
|--------|------|
| Black  | B    |
| Green  | G    |
| Red    | R    |
| Blue   | S    |
| White  | W    |
| Yellow | Y    |

-  1. In place of ①, specify Button Color Code from table.  
2. Buttons which are rated IP65 include a waterproof rubber gasket.  
3. For accessories, see page 466.

## AL6 Illuminated Pushbuttons (Assembled)

### LED Illuminated Pushbuttons

| Description          | Style                                                                                                                 | Contact      | Part Numbers             |                              |                          |                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------|--------------|--------------------------|------------------------------|--------------------------|------------------------------|
|                      |                                                                                                                       |              | Momentary                |                              | Maintained (Latching)    |                              |
|                      |                                                                                                                       |              | Dustproof (IP40)         | Oiltight (IP65)              | Dustproof (IP40)         | Oiltight (IP65)              |
| <b>Standard Lens</b> | Round (18mm lens)<br>                | SPDT<br>DPDT | AL6M-M1③-②<br>AL6M-M2③-② | AL6M-M1③P-②<br>AL6M-M2③P-②   | AL6M-A1③-②<br>AL6M-A2③-② | AL6M-A1③P-②<br>AL6M-A2③P-②   |
|                      | Square (18mm lens)<br>               | SPDT<br>DPDT | AL6Q-M1③-②<br>AL6Q-M2③-② | AL6Q-M1③P-②<br>AL6Q-M2③P-②   | AL6Q-A1③-②<br>AL6Q-A2③-② | AL6Q-A1③P-②<br>AL6Q-A2③P-②   |
|                      | Rectangular (18mm x 24mm lens)<br>   | SPDT<br>DPDT | AL6H-M1③-②<br>AL6H-M2③-② | AL6H-M1③P-②<br>AL6H-M2③P-②   | AL6H-A1③-②<br>AL6H-A2③-② | AL6H-A1③P-②<br>AL6H-A2③P-②   |
| <b>Oversize Lens</b> | Round (24mm lens)<br>               | SPDT<br>DPDT | —                        | AL6M-M1③P-M②<br>AL6M-M2③P-M② | —                        | AL6M-A1③P-M②<br>AL6M-A2③P-M② |
|                      | Square (24mm lens)<br>             | SPDT<br>DPDT | —                        | AL6Q-M1③P-Q②<br>AL6Q-M2③P-Q② | —                        | AL6Q-A1③P-Q②<br>AL6Q-A2③P-Q② |
|                      | Rectangular (18mm x 24mm lens)<br> | SPDT<br>DPDT | —                        | AL6Q-M1③P-H②<br>AL6Q-M2③P-H② | —                        | AL6Q-A1③P-H②<br>AL6Q-A2③P-H② |



1. In place of ②, specify Lens/LED Color Code from table below.
2. In place of ③, specify Voltage Code from table below.
3. Lamps also available in 5V DC, 6V AC/DC or 12 V AC/DC, change "4" using voltage/lamp codes (ie AL6M-M13-② uses 12V AC/DC LED).
4. LED lamp is included in unit and contains a current-limiting resistor and a protection diode. (External resistor not required.)
5. To order as sub-assembled, see page 461.
6. For accessories, see page 466.
7. For dimensions, see page 468.
8. Light independent of switch position.

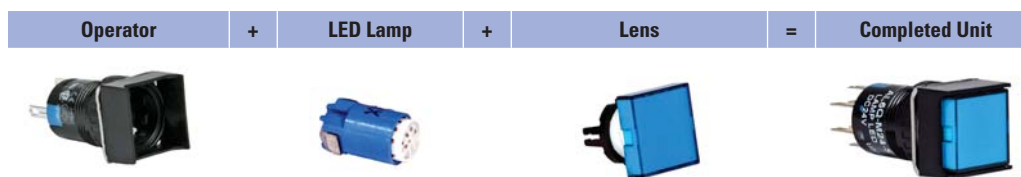
#### ②Lens/LED Color Code

| Color      | Code |
|------------|------|
| Amber      | A    |
| Green      | G    |
| Red        | R    |
| Blue       | S    |
| Warm White | W    |
| Cool White | JW   |
| Yellow     | Y    |

#### ③Voltage Code

| Voltage   | Code |
|-----------|------|
| 5V DC     | 1    |
| 6V AC/DC  | 2    |
| 12V AC/DC | 3    |
| 24V AC/DC | 4    |

## AL6 Illuminated Pushbuttons (Sub-Assembled)



## Operators

| Style                                                                                                            | Contact | Operator   | Part Number |           |             |
|------------------------------------------------------------------------------------------------------------------|---------|------------|-------------|-----------|-------------|
|                                                                                                                  |         |            | Round       | Square    | Rectangular |
| AL6 Illuminated Pushbuttons<br> | SPDT    | Momentary  | AL6M-M100   | AL6Q-M100 | AL6H-M100   |
|                                                                                                                  |         | Maintained | AL6M-A100   | AL6Q-A100 | AL6H-A100   |
|                                                                                                                  | DPDT    | Momentary  | AL6M-M200   | AL6Q-M200 | AL6H-M200   |
|                                                                                                                  |         | Maintained | AL6M-A200   | AL6Q-A200 | AL6H-A200   |



Oversize rectangular button uses square operator.

## Lenses

| Unit        | Part Number                                                                                       |                                                                                                   |                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|             | Dustproof (IP40)                                                                                  | Oiltight (IP65)                                                                                   |                                                                                                     |
| Size        | Standard                                                                                          | Standard                                                                                          | Oversize                                                                                            |
| Round       | AL6M-LK1-②<br>  | AL6M-LK2-②<br>  | AL6M-LK2-M ②<br>  |
| Square      | AL6Q-LK1-②<br> | AL6Q-LK2-②<br> | AL6Q-LK2-Q ②<br> |
| Rectangular | AL6H-LK1-②<br> | AL6H-LK2-②<br> | AL6Q-LK2-H ②<br> |



1. In place of ②, specify Lens Color Code from table below.
2. Lenses which are rated IP65 include a waterproof rubber gasket.
3. For accessories, see page 466.

## ② Lens/LED Color Code

| Color      | Code |
|------------|------|
| Amber      | A    |
| Green      | G    |
| Red        | R    |
| Blue       | S    |
| Warm White | W    |
| Cool White | JW   |
| Yellow     | Y    |

## LED Lamps

| Appearance                                                                          | Rated Voltage | Part Number |
|-------------------------------------------------------------------------------------|---------------|-------------|
|  | 5V DC         | LATD-5 ②    |
|                                                                                     | 6V AC/DC      | LATD-6 ②    |
|                                                                                     | 12V AC/DC     | LATD-1 ②    |
|                                                                                     | 24V AC/DC     | LATD-2 ②    |



1. In place of ②, specify LED Color Code from table at left.

## AL6 Pilot Lights (Assembled)

### LED Pilot Lights

| Description                                                                                                         | Part Number      |                 |
|---------------------------------------------------------------------------------------------------------------------|------------------|-----------------|
|                                                                                                                     | Dustproof (IP40) | Oiltight (IP65) |
| Round (18mm Lens)<br>              | AL6M-P③-②        | AL6M-P③P-②      |
| Square (18mm Lens)<br>             | AL6Q-P③-②        | AL6Q-P③P-②      |
| Rectangular (18mm x 24mm Lens)<br> | AL6H-P③-②        | AL6H-P③P-②      |



1. In place of ②, specify Lens Color Code from table below.
2. In place of ③, specify Voltage Code from table below.
3. LEDs also available in 5V DC, 6V AC/DC or 12 V AC/DC, change "4" using voltage codes (ie AL6M-P3-② uses 12V AC/DC LED).
4. LED is included and contains built-in current limiting resistor and reverse polarity protection diode. (no external resistor required)
5. To order sub-assembled, see page 463.
6. For accessories, see page 466.
7. For dimensions, see page 468.
8. For one piece pilot lights and/or dome lens pilot lights, see AP series miniature pilot lights.

### ② Lens/LED Color Code

| Color      | Code |
|------------|------|
| Amber      | A    |
| Green      | G    |
| Red        | R    |
| Blue       | S    |
| Warm White | W    |
| Cool White | JW   |
| Yellow     | Y    |

### ③ Voltage Code

| Voltage   | Code |
|-----------|------|
| 5V DC     | 1    |
| 6V AC/DC  | 2    |
| 12V AC/DC | 3    |
| 24V AC/DC | 4    |

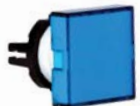
## AL6 Pilot Lights (Sub-Assembled)

| Operator                                                                          | + | LED Lamp                                                                          | + | Lens                                                                              | = | Completed Unit                                                                      |
|-----------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------|
|  |   |  |   |  |   |  |

## Operators

| Style                                                                             | Part Number |          |             |
|-----------------------------------------------------------------------------------|-------------|----------|-------------|
|                                                                                   | Round       | Square   | Rectangular |
| AL6 Pilot Lights                                                                  |             |          |             |
|  | AL6M-P00    | AL6Q-P00 | AL6H-P00    |

## Lenses

| Degree of Protection | Part Number                                                                                       |                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|                      | Dustproof IP40                                                                                    | Oiltight IP65                                                                                     |
| Round                | AL6M-LK1-②<br>   | AL6M-LK3-②<br>   |
| Square               | AL6Q-LK1-②<br> | AL6Q-LK3-②<br> |
| Rectangular          | AL6H-LK1-②<br> | AL6H-LK3-②<br> |



1. In place of ②, specify Lens Color Code from table below.
2. Lenses which are rated IP65 include a waterproof rubber gasket.
3. For accessories, see page 466.

## ② Lens/LED Color Code

| Color      | Code |
|------------|------|
| Amber      | A    |
| Green      | G    |
| Red        | R    |
| Blue       | S    |
| Warm White | W    |
| Cool White | JW   |
| Yellow     | Y    |

## LED Lamps

| Appearance                                                                          | Rated Voltage | Part Number |
|-------------------------------------------------------------------------------------|---------------|-------------|
|  | 5V DC         | LATD-5 ②    |
|                                                                                     | 6V AC/DC      | LATD-6 ②    |
|                                                                                     | 12V AC/DC     | LATD-1 ②    |
|                                                                                     | 24V AC/DC     | LATD-2 ②    |



1. In place of ②, specify LED Color Code from table at left.

# AS6 Selector and Keylock Switches

## AS6 Selector Switches and Keylock Switches (2 & 3 Position)

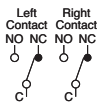
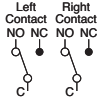
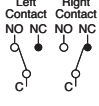
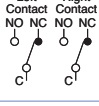
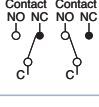
| Style                                                                                                       |                | Function                     |                                                                                     | Knob       | Key          |
|-------------------------------------------------------------------------------------------------------------|----------------|------------------------------|-------------------------------------------------------------------------------------|------------|--------------|
| Round Selector<br>         | 2-Position 90° | Maintained                   |    | AS6M-2Y2P  | AS6M-2KT2P①  |
|                                                                                                             |                | Spring Return Right          |    | AS6M-21Y2P | AS6M-21KT2PB |
| Round Keylock<br>          | 3-Position 45° | Maintained                   |    | AS6M-3Y2P  | AS6M-3KT2P①  |
|                                                                                                             |                | Spring Return Right → Center |    | AS6M-31Y2P | AS6M-31KT2P① |
|                                                                                                             |                | Spring Return Left → Center  |    | AS6M-32Y2P | AS6M-32KT2P① |
|                                                                                                             |                | 2-Way Return → Center        |    | AS6M-33Y2P | AS6M-33KT2PD |
| Square Selector<br>        | 2-Position 90° | Maintained                   |    | AS6Q-2Y2P  | AS6Q-2KT2P①  |
|                                                                                                             |                | Spring Return to Right       |    | AS6Q-21Y2P | AS6Q-21KT2PB |
| Square Keylock<br>        | 3-Position 45° | Maintained                   |    | AS6Q-3Y2P  | AS6Q-3KT2P①  |
|                                                                                                             |                | Spring Return Right → Center |    | AS6Q-31Y2P | AS6Q-31KT2P① |
|                                                                                                             |                | Spring Return Left → Center  |    | AS6Q-32Y2P | AS6Q-32KT2P① |
|                                                                                                             |                | 2-Way Return → Center        |  | AS6Q-33Y2P | AS6Q-33KT2PD |
| Rectangular Selector<br> | 2-Position 90° | Maintained                   |  | AS6H-2Y2P  | AS6H-2KT2P①  |
|                                                                                                             |                | Spring Return Right          |  | AS6H-21Y2P | AS6H-21KT2PB |
| Rectangular Keylock<br>  | 3-Position 45° | Maintained                   |  | AS6H-3Y2P  | AS6H-3KT2P①  |
|                                                                                                             |                | Spring Return Right → Center |  | AS6H-31Y2P | AS6H-31KT2P① |
|                                                                                                             |                | Spring Return Left → Center  |  | AS6H-32Y2P | AS6H-32KT2P① |
|                                                                                                             |                | 2-Way Return → Center        |  | AS6H-33Y2P | AS6H-33KT2PD |



1. All models are IP65 and DPDT.
2. In place of ①, specify Key Retention Code. See table on right.
3. Available as assembled units only.
4. For accessories, see page 466.
5. For dimensions, see page 468.

## Contact Operations

(for all selectors)

| Contents      | Operator Position & Contact Operation |                                                                                     |
|---------------|---------------------------------------|-------------------------------------------------------------------------------------|
| 2-pos. (DPDT) | Left                                  |  |
|               | Right                                 |  |
| 3-pos. (DPDT) | Left                                  |  |
|               | Center                                |  |
|               | Right                                 |  |

## ① Key Retention Codes

| Code | Description                                                   |
|------|---------------------------------------------------------------|
| A    | Key not retained in any position (removable in all positions) |
| B    | Key retained in right position only                           |
| C    | Key retained in left position only                            |
| D    | Key retained in left and right (3 position only)              |
| E    | Key retained in center only (3 position only)                 |
| G    | Key retained right and center (3 position only)               |
| H    | Key retained left and center (3 position only)                |



Key cannot be removed in a spring return position.

Switch Engraving Order Form – A6 Series

Copy this order form and use it to specify Letter Height, Maximum Number of Lines and Text to be engraved.  
To insure engraving accuracy, fax it to your IDEC representative or Distributor.

Your Company:

Name:

Address:

PO:

Telephone:

Fax:

Email:

Part Number to be Engraved:

Please check one of the boxes below to indicate your choice of engraving options:

Rectangular Switch

|                          | # of Lines | Letter Height | Max. Characters Per Line |
|--------------------------|------------|---------------|--------------------------|
| <input type="checkbox"/> | 1          | 5/32          | 6                        |
| <input type="checkbox"/> | 2          | 5/32          | 6                        |
| <input type="checkbox"/> |            | 1/8           | 6                        |
| <input type="checkbox"/> | 3          | 1/8           | 6                        |
| <input type="checkbox"/> | 4          | N/A           |                          |

Square Switch

|                          | # of Lines | Letter Height | Max. Characters Per Line |
|--------------------------|------------|---------------|--------------------------|
| <input type="checkbox"/> | 1          | 5/32          | 5                        |
| <input type="checkbox"/> | 2          | 5/32          | 5                        |
| <input type="checkbox"/> |            | 1/8           | 6                        |
| <input type="checkbox"/> | 3          | 1/8           | 6                        |
| <input type="checkbox"/> | 4          | N/A           |                          |

Round Switch

|                          | # of Lines | Letter Height | Max. Characters Per Line |
|--------------------------|------------|---------------|--------------------------|
| <input type="checkbox"/> | 1          | 5/32          | 3                        |
| <input type="checkbox"/> |            | 1/8           | 3                        |
| <input type="checkbox"/> | 2          | 5/32          | Custom*                  |
| <input type="checkbox"/> | 3          | 1/8           | Custom*                  |
| <input type="checkbox"/> | 4          | 3/32          | Custom*                  |

\*Engraving is possible, but character size will be smaller than standard sizes.

- 
1. Engraving is done on the button itself for non-Illuminated pushbuttons and on marking plate for illuminated pushbuttons and pilot lights.

2. Please enter text exactly how you want it engraved, take care to emphasize capital or small letters.

Enter text to be engraved:

Line 1:

Line 2:

Line 3:

Line 4:

Sample Letter Sizes

1/8 Letters: OPEN

5/32 Letters: OPEN

For IDEC Internal Use Only:

Work Order #:

## Accessories

| Appearance                    |  | Description                                                                                                              | Used With                                          | Part Number |
|-------------------------------|--|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------|
| Locking Ring Wrench           |  | Made of metal. Used for tightening plastic locking ring during installation. Tightening torque should not exceed 3kgf-cm | Ø 5/8" (16mm) units                                | MT-001      |
|                               |  |                                                                                                                          | Ø 31/64" (12mm) AP2M units                         | MT-002      |
|                               |  |                                                                                                                          | Ø 13/32" (10mm) AP1M units                         | MT-003      |
| Lens Removal Tool             |  | Made of metal. Used for removing lens or button from the housing                                                         | All pushbuttons and pilot lights                   | MT-101      |
| Lamp Holder Tool              |  | Made of rubber. Used for removing and replacing LED lamps in illuminated units                                           | All illuminated pushbuttons and pilot lights       | OR-77       |
| Switch Guard                  |  | Prevents inadvertent switch operation. IP40 dust-tight. 90 degrees opening maintained                                    | Round/Square                                       | AL-K6       |
|                               |  |                                                                                                                          | Rectangular                                        | AL-KH6      |
|                               |  | Prevents inadvertent switch operation. IP65 oiltight 180 degrees opening, spring return                                  | Round/Square                                       | AL-K6SP     |
|                               |  |                                                                                                                          | Rectangular                                        | AL-KH6SP    |
| Terminal Cover                |  | Made of translucent nylon. Fits over and shields the terminals                                                           | All 5/8" (16mm) units                              | AL-V6       |
| Dust Cover                    |  | Fits over the lens or button to provide extra protection from dust (not applicable for oversize lenses or buttons).      | All round units                                    | AL-D6       |
|                               |  |                                                                                                                          | All square units                                   | AL-DQ6      |
|                               |  |                                                                                                                          | All rectangular units                              | AL-DH6      |
| Adaptor Socket                |  | Plug-on terminal adaptor with solder terminals                                                                           |                                                    | AL-C6       |
|                               |  | Plug-on terminal adaptor with PCB terminals                                                                              | All 5/8" (16mm) units                              | AL-C6V      |
| Mounting Hole Plug            |  | Fills unused panel cutouts. Made of nitrile rubber. Push-in installation from front of panel. IP65 (oiltight).           | Rubber                                             | AL-B6       |
|                               |  | Fills unused panel cutouts. Made of aluminum. Screw-on locking ring from inside of panel. IP65 (oiltight).               | Aluminum                                           | AL-BM6      |
|                               |  | Round Mounting Hole Plug                                                                                                 |                                                    | LA9Z-BS6    |
|                               |  | Square Mounting Hole Plug                                                                                                | Plastic (Applicable for flush mount switches only) | LA9Z-BS7    |
|                               |  | Rectangular Mounting Hole Plug                                                                                           |                                                    | LA9Z-BS8    |
| Replacement LED Lamps         |  | LED with built in current limiting resistor (with all illuminated assemblies).                                           | 5V DC                                              | LATD-5 ②    |
|                               |  |                                                                                                                          | 6V AC/DC                                           | LATD-6 ②    |
|                               |  |                                                                                                                          | 12V AC/DC                                          | LATD-1 ②    |
|                               |  |                                                                                                                          | 24V AC/DC                                          | LATD-2 ②    |
| Replacement Locking Ring      |  | Fastens operators to panel (included with all operators).                                                                | All switches & pilot lights                        | HA9Z-LN     |
| Anti-Rotation Ring            |  | Prevents rotation of switches in panel (included with all operators).                                                    | All switches & pilot lights                        | AL6-LP      |
| Replacement Engraving Inserts |  | Engraving plates to allow legends underneath translucent lenses (included with all lenses).                              | Round standard                                     | AL6M-W      |
|                               |  |                                                                                                                          | Square standard                                    | AL6Q-W      |
|                               |  |                                                                                                                          | Rectangular standard                               | AL6H-W      |
|                               |  |                                                                                                                          | Round oversize                                     | AL6M-MW     |
|                               |  |                                                                                                                          | Square/rectangular oversize                        | AL6Q-QW     |
| Replacement Keys              |  | Pair of keys (#132).<br>All key switches use same standard key.                                                          | All key selectors                                  | AS6-SK      |

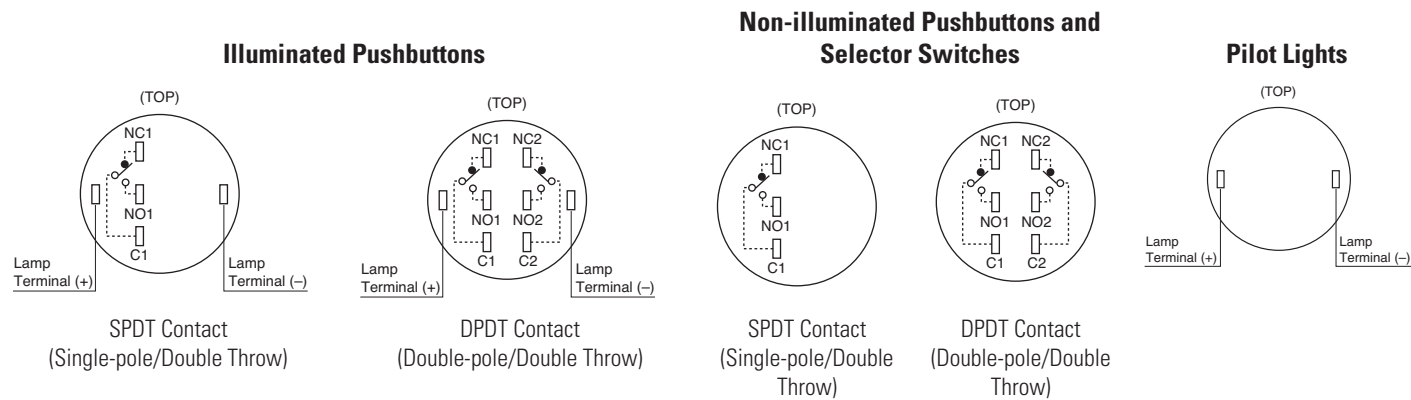


- In place of ② specify color code. A=Amber, G=Green, Y=Yellow, R=Red, S=Blue, W=Warm White, JW=Cool White.
- LEDs include built-in current limiting resistor and reverse polarity protection diode.

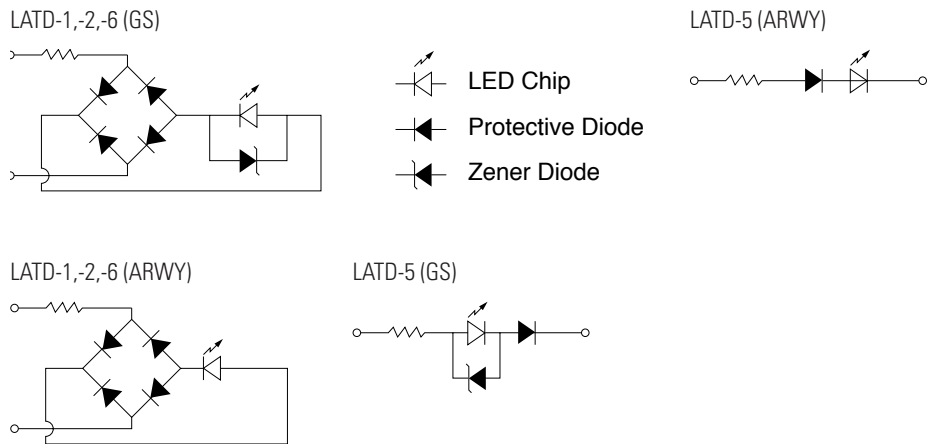
| Appearance                                  |  | Description                                                                      | Used With                                                                                                                                                                                            | Part Number |
|---------------------------------------------|--|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Flush Bezel                                 |  | ø24mm round, metal (aluminum color), panel cut-out ø20.2mm                       | Pushbuttons, pilot lights, illuminated pushbutton, selector switches, key selector switches and illuminated selector switches.<br><br><br>A6 Switch<br>+<br><br>Flush Bezel<br>=<br><br>Flush Switch | LA9Z-SM61   |
|                                             |  | ø24mm round, plastic (black), square panel cut-out ø20.2mm                       |                                                                                                                                                                                                      | LA9Z-S61B   |
|                                             |  | 24mm square, plastic (black), panel cut-out 20.2 x 20.2mm                        |                                                                                                                                                                                                      | LA9Z-S71B   |
|                                             |  | 24 x 30mm rectangular, plastic (black), rectangular panel cut-out ø20.2 x 26.2mm |                                                                                                                                                                                                      | LA9Z-S81B   |
| Switch Guard w/ Flush Bezel (spring return) |  | Rectangular, plastic (black)                                                     |                                                                                                                                                                                                      | LA9Z-KS8    |

Schematics — A Series: 5/8" (16mm)

Terminal Arrangement (Top View)

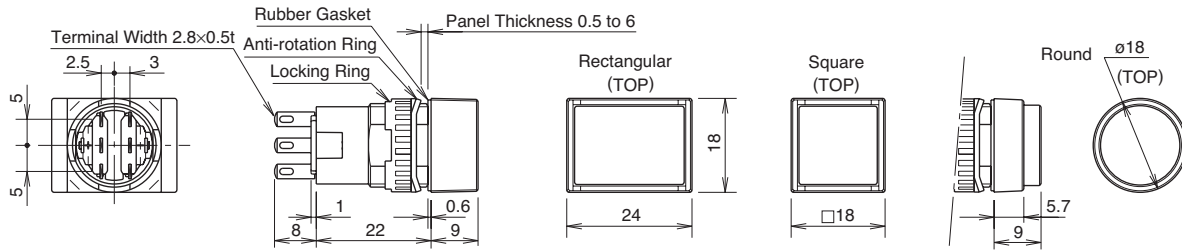


IDEC's Superbright LED Internal Circuits

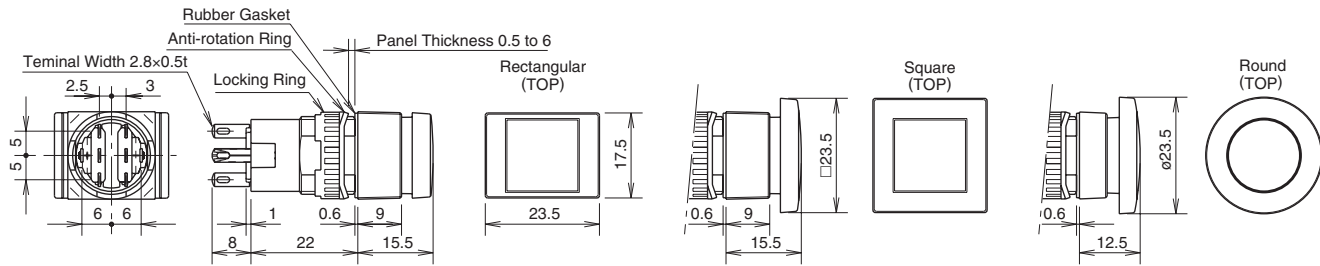


**Dimensions (mm)**

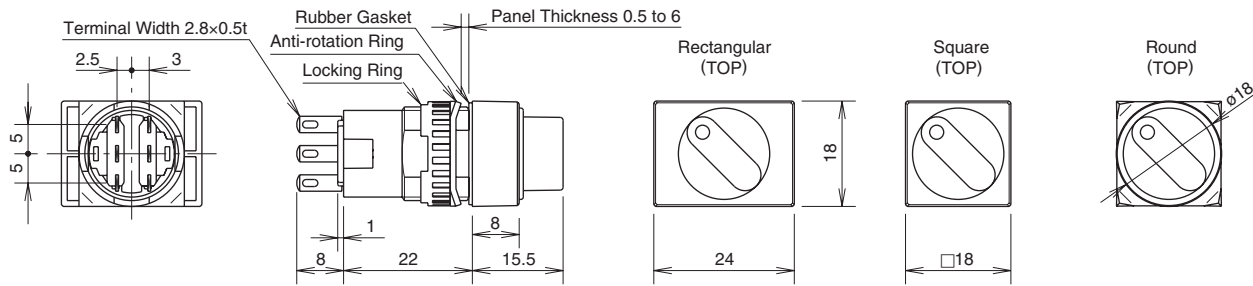
**Pushbuttons, Ø 5/8" (16mm)**



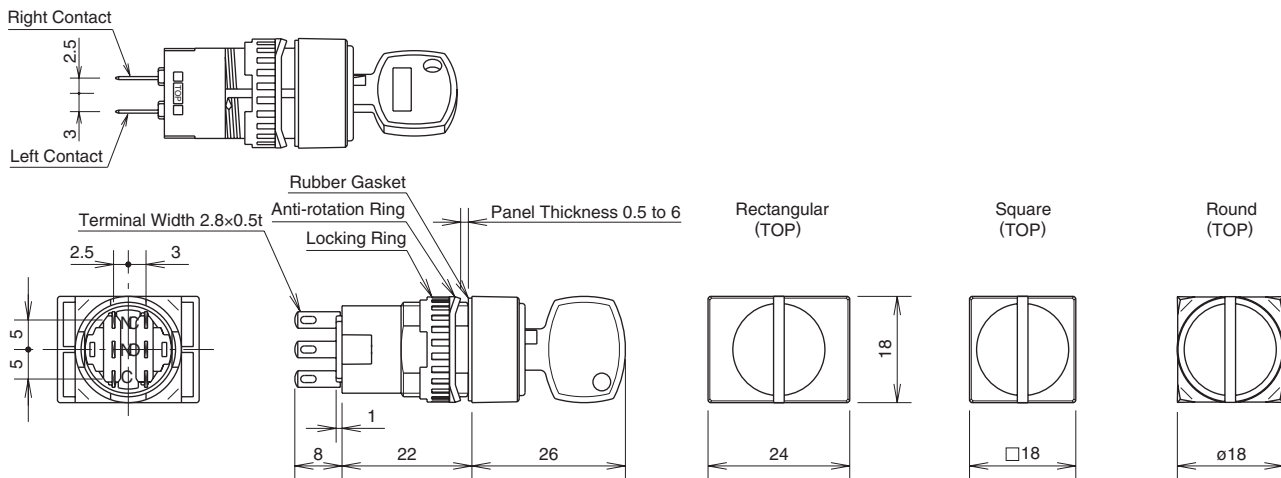
**Oversize Lens**



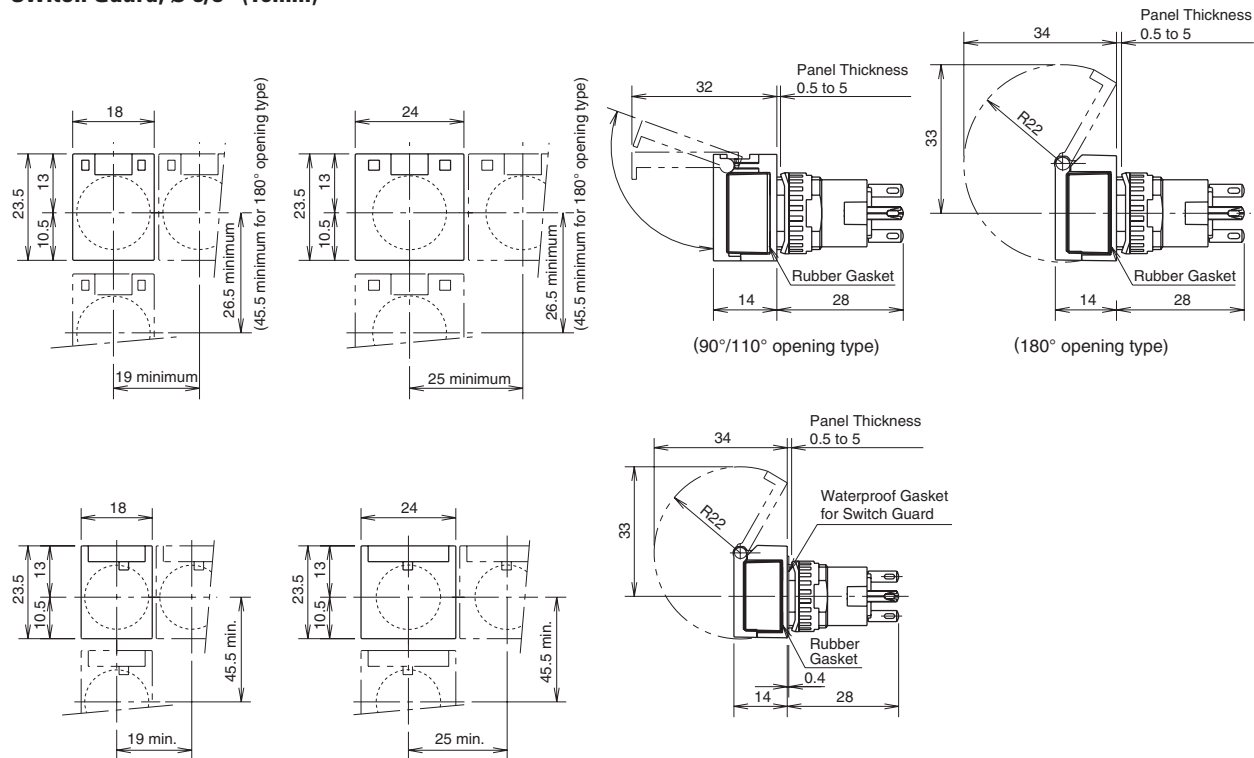
**Selector Switches, Ø 5/8" (16mm)**



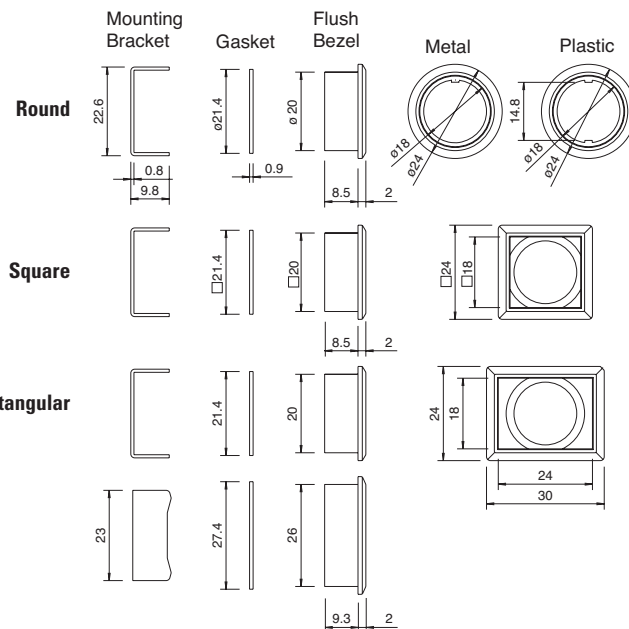
**Key Selector Switches, Ø 5/8" (16mm)**



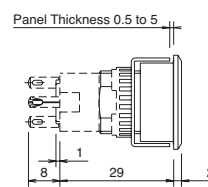
**Switch Guard, Ø 5/8" (16mm)**



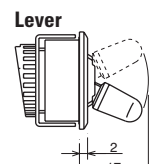
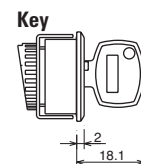
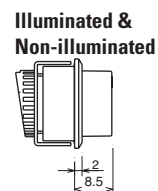
## Flush Bezel



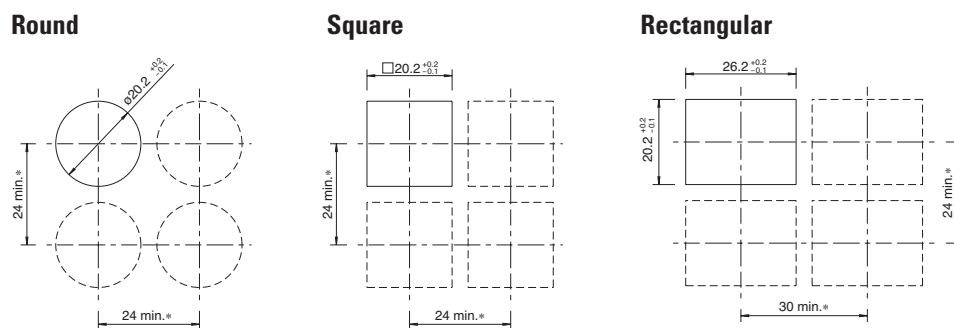
### Flush Bezel with Switch



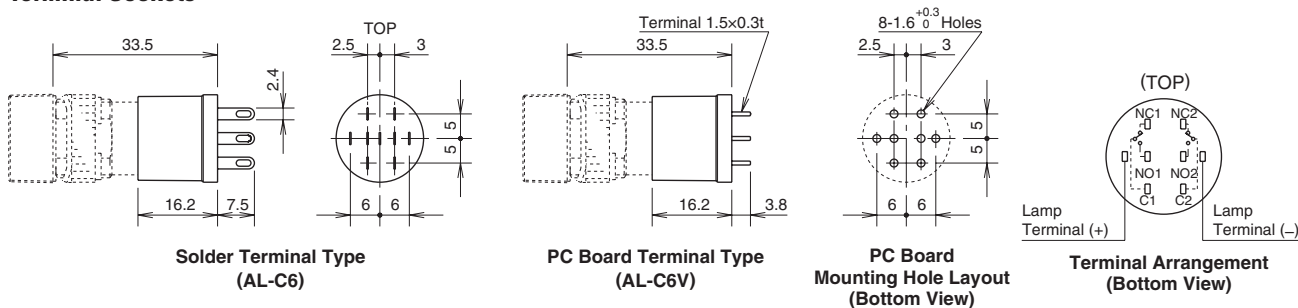
## Selector Switches



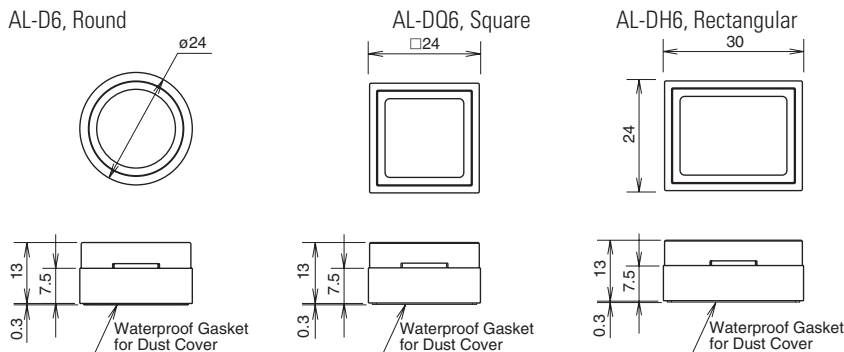
### Flush Bezel Mounting Hole Layout



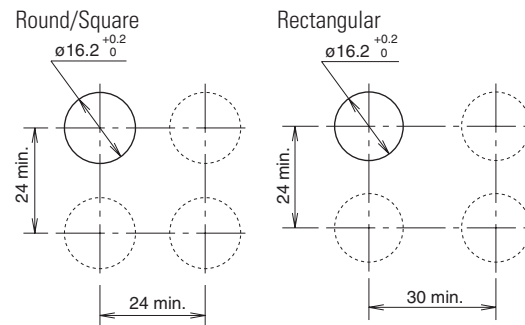
## Terminal Sockets



## Dust Covers



## Panel Cut-Outs For Units w/Dust Cover



## Marking Plates

### Pushbuttons with Standard Size Lens

| Style            | Round—AL6M-W       | Square—AL6Q-W | Rectangular—AL6H-W                                 |
|------------------|--------------------|---------------|----------------------------------------------------|
| Dimensions       |                    |               |                                                    |
|                  | $\phi 5/8"$ (16mm) |               |                                                    |
| Outside (OD)     | (13.8mm)           | (13.8mm)      | (OD <sup>1</sup> x OD <sup>2</sup> ) 13.8 x 19.8mm |
| Marking Area (a) | (12mm)             | (12mm)        | (a <sup>1</sup> x a <sup>2</sup> ) 12 x 18mm       |

Engraving must be made on the engraving area within 0.02" (0.5mm) deep.

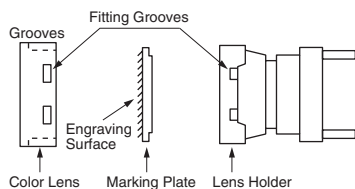
### Pushbuttons with Oversize Lens

| Style            | Round—AL6M-MW          | Square/Rectangular—AL6Q-QW |
|------------------|------------------------|----------------------------|
| Dimensions       |                        |                            |
| Outside (OD)     | $\phi 0.491"$ (12.6mm) | 0.491" (12.6mm)            |
| Marking Area (a) | $\phi 0.429"$ (11mm)   | 0.429" (11mm)              |

## Replacing & and Marking Plate

### Removal

Remove the lens holder assembly (lens, marking plate and holder) from the operator by holding the color lens recesses with the lens removal tool (Part No.MT-101) and pulling out. Remove marking plate by pushing the color lens from the rear to disengage the latches. Marking plate must be engraved on the side as shown in the figure on the right.  
 $\phi 5/8"$  (16mm)



### Installation

For illuminated pushbuttons:

1. Insert marking plate inside lens in correct direction
2. Press color lens on to lens holder to engage latches.
3. Insert lens holder into housing in correct direction.

Do not loosen spring on illuminated pushbutton units (except on pilot light units). The marking plate must be engraved on the front side as shown above.