

# Ø16mm L6 Series Miniature Control Units



IDEC CORPORATION

## ø16 L6 Series Miniature Control Units

| Series               |                                    | L6 Series Miniature Control Units                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
|----------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting Hole Size   |                                    | ø16                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
| Type                 |                                    | LA□L/LA□P                                                                                                                                                                                                                                                                                                                                        | LA□B                                                                                                                                                                          | LA1T                                                                                                                             | LA□S                                                                                                                                                                              |
| Appearance           |                                    |                                                                                                                                                                                                                                                                 |                                                                                              |                                                |                                                                                                |
| Unit                 |                                    | Illuminated Pushbuttons<br>(momentary, maintained)<br>Pilot Lights                                                                                                                                                                                                                                                                               | Pushbuttons<br>(momentary, maintained)                                                                                                                                        | Lever Switches<br>(2-position maintained)<br>(2-position spring return)<br>(3-position maintained)<br>(3-position spring return) | Selector Switches<br>(2-position maintained)<br>(2-position spring return)<br>(3-position maintained)<br>(3-position spring return)                                               |
| Bezel Size           |                                    |   18 × 24                                                                                                                                                                    |   18 × 24 |                                              |   18 × 24 |
| Bezel Color          |                                    | Black                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
| Light Source         |                                    | LED Lamp<br>(IDEC's LFTD type)                                                                                                                                                                                                                                                                                                                   | —                                                                                                                                                                             | —                                                                                                                                | —                                                                                                                                                                                 |
| Lens/Button Color    |                                    | Lens: amber, blue, green,<br>white, red, yellow                                                                                                                                                                                                                                                                                                  | Button: black, blue, green,<br>red, white, yellow                                                                                                                             | Lever: black                                                                                                                     | Knob: black                                                                                                                                                                       |
| Contact              | Contact Configuration              | SPDT, DPDT (gold-clad silver contact, silver contact)                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
|                      | Contact Rating<br>(resistive load) | 125V AC/0.1A, 30V DC/0.1A (gold-clad silver contact)<br>125V AC/5A, 30V DC/3A (silver contact)                                                                                                                                                                                                                                                   |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
| Durability           | Electrical                         | Momentary: 100,000 operations minimum<br>Maintained: 100,000 operations minimum                                                                                                                                                                                                                                                                  |                                                                                                                                                                               | 100,000 operations minimum                                                                                                       | 100,000 operations minimum                                                                                                                                                        |
|                      | Mechanical                         | Momentary: 2,000,000 operations minimum<br>Maintained: 250,000 operations minimum                                                                                                                                                                                                                                                                |                                                                                                                                                                               | 250,000 operations minimum                                                                                                       | 250,000 operations minimum                                                                                                                                                        |
| Degree of Protection |                                    | IP65 (IEC 60529)                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
| Terminal Style       |                                    | Solder/tab terminal #110<br>PC board terminal (gold contacts only)                                                                                                                                                                                                                                                                               |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
| Accessories          | Switch Guard                       | Yes                                                                                                                                                                                                                                                                                                                                              | Yes                                                                                                                                                                           | —                                                                                                                                | —                                                                                                                                                                                 |
|                      | Socket                             | —                                                                                                                                                                                                                                                                                                                                                | —                                                                                                                                                                             | —                                                                                                                                | —                                                                                                                                                                                 |
|                      | Terminal Cover                     | Yes                                                                                                                                                                                                                                                                                                                                              | Yes                                                                                                                                                                           | Yes                                                                                                                              | Yes                                                                                                                                                                               |
|                      | Dust Cover                         | Yes                                                                                                                                                                                                                                                                                                                                              | Yes                                                                                                                                                                           | —                                                                                                                                | —                                                                                                                                                                                 |
|                      | Mounting Hole Plug                 | Yes                                                                                                                                                                                                                                                                                                                                              | Yes                                                                                                                                                                           | Yes                                                                                                                              | Yes                                                                                                                                                                               |
| Approvals            |                                    |     |                                                                                                                                                                               |                                                                                                                                  |                                                                                                                                                                                   |
| Page                 |                                    | 5                                                                                                                                                                                                                                                                                                                                                | 8                                                                                                                                                                             | 10                                                                                                                               | 12                                                                                                                                                                                |

| Series               |                                 |                                                                                                | L6 Series Miniature Control Units                                                                                                       |                                                                                                                                                 |
|----------------------|---------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting Hole Size   |                                 |                                                                                                | ø16                                                                                                                                     |                                                                                                                                                 |
| Type                 |                                 |                                                                                                | LA□K                                                                                                                                    | LA□F                                                                                                                                            |
| Appearance           |                                 |                                                                                                |                                                        |                                                                                                                                                 |
| Unit                 |                                 |                                                                                                | Key Selector Switches<br>(2-position maintained)<br>(2-position spring return)<br>(3-position maintained)<br>(3-position spring return) | Illuminated Selector Switches<br>(2-position maintained)<br>(2-position spring return)<br>(3-position maintained)<br>(3-position spring return) |
| Bezel Size           |                                 |                                                                                                |                                                       |                                                                                                                                                 |
| Bezel Color          |                                 |                                                                                                | Black                                                                                                                                   |                                                                                                                                                 |
| Light Source         |                                 |                                                                                                | —                                                                                                                                       | LED lamp (IDEC's LFTD type)                                                                                                                     |
| Lens/Button Color    |                                 |                                                                                                | Key cylinder: chrome-plated (metal)                                                                                                     | Illumination color: amber, blue, green, red, white, yellow                                                                                      |
| Contact              | Contact Configuration           | SPDT, DPDT (gold-clad silver contact, silver contact)                                          |                                                                                                                                         |                                                                                                                                                 |
|                      | Contact Rating (resistive load) | 125V AC/0.1A, 30V DC/0.1A (gold-clad silver contact)<br>125V AC/5A, 30V DC/3A (silver contact) |                                                                                                                                         |                                                                                                                                                 |
| Durability           | Electrical                      | 100,000 operations minimum                                                                     |                                                                                                                                         |                                                                                                                                                 |
|                      | Mechanical                      | 250,000 operations minimum                                                                     |                                                                                                                                         |                                                                                                                                                 |
| Degree of Protection |                                 |                                                                                                | IP65 (IEC 60529)                                                                                                                        |                                                                                                                                                 |
| Terminal Style       |                                 |                                                                                                | Solder/tab terminal #110<br>PC board terminal (gold contacts only)                                                                      |                                                                                                                                                 |
| Accessories          | Switch Guard                    | —                                                                                              | —                                                                                                                                       | —                                                                                                                                               |
|                      | Socket                          | —                                                                                              | —                                                                                                                                       | —                                                                                                                                               |
|                      | Terminal Cover                  | Yes                                                                                            | Yes                                                                                                                                     | Yes                                                                                                                                             |
|                      | Dust Cover                      | —                                                                                              | —                                                                                                                                       | —                                                                                                                                               |
|                      | Mounting Hole Plug              | Yes                                                                                            | Yes                                                                                                                                     | Yes                                                                                                                                             |
| Approvals            |                                 |                                                                                                |                                                      |                                                                                                                                                 |
| Page                 |                                 |                                                                                                | 13                                                                                                                                      | 16                                                                                                                                              |

| Series               |                          | L6 Series Miniature Control Units                                                                                                                                                                         |
|----------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting Hole Size   |                          | ø16                                                                                                                                                                                                       |
| Type                 |                          | LA3Z                                                                                                                                                                                                      |
| Appearance           |                          |                                                                                                                        |
| Unit                 |                          | Buzzer                                                                                                                                                                                                    |
| Bezel Size           |                          | <div>18 × 24</div>                                                                                                                                                                                        |
| Bezel Color          |                          | Black                                                                                                                                                                                                     |
| Ratings              | Operating Voltage (±10%) | 6V AC/DC<br>12V to 24V AC/DC                                                                                                                                                                              |
|                      | Sound Pressure (at 0.1m) | Steady sound: 80 dB minimum (at the rated voltage)                                                                                                                                                        |
|                      | Sound Frequency          | 2 kHz ±500 Hz                                                                                                                                                                                             |
|                      | Sound Cycle              | Slow intermittent sound: 55 cycles per minute ±10%<br>Quick intermittent sound: 600 cycles per minute ±10%                                                                                                |
| Degree of Protection |                          | IP40 (enclosed type)                                                                                                                                                                                      |
| Terminal Style       |                          | Solder/tab terminal #110                                                                                                                                                                                  |
| Accessories          | Switch Guard             | —                                                                                                                                                                                                         |
|                      | Socket                   | —                                                                                                                                                                                                         |
|                      | Terminal Cover           | Yes                                                                                                                                                                                                       |
|                      | Dust Cover               | —                                                                                                                                                                                                         |
|                      | Mounting Hole Plug       | Yes                                                                                                                                                                                                       |
| Remarks              |                          | <ul style="list-style-type: none"><li>• Continuous, intermittent (slow), intermittent (quick) sounds can be selected with a built-in slide switch.</li><li>• PC board terminals also available.</li></ul> |
| Approvals            |                          | —                                                                                                                                                                                                         |
| Page                 |                          | 20                                                                                                                                                                                                        |

## Light duty L6 series

**Suitable for electronic devices and for food processing and packaging industries.**

- Locking lever removable contact blocks
- Bright and clear LED illumination
- Gold-clad cross bar contacts and silver contacts
- Degree of protection: IP65 (IEC 60529) (except buzzers)
- UL recognized and CSA certified (except buzzers)
- EN compliant (except buzzers) (EN60947-1, EN60947-5-1, TÜV Rheinland)
- RoHS compliant



## Specifications and Ratings

### Contact Ratings

#### • Gold Contact

|                                    |                  |        |
|------------------------------------|------------------|--------|
| Maximum Voltage                    | 250V AC/DC       |        |
| Thermal Current                    | 3A               |        |
| Operating Voltage                  | 125V AC          | 30V DC |
| Operating Current (resistive load) | 0.1A             | 0.1A   |
| Contact Material                   | Gold-clad silver |        |

Minimum applicable load (reference value): 5V AC/DC, 1 mA  
(Applicable range is subject to the operating condition and load.)

#### • Silver Contact

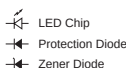
| General Data       |            |                | General Data |      |      |
|--------------------|------------|----------------|--------------|------|------|
| Insulation Voltage |            |                | 250V         |      |      |
| Operating Voltage  |            |                | 30V          | 125V | 250V |
| Operating Current  | AC 50/60Hz | Resistive Load | —            | 5A   | 2A   |
|                    |            | Inductive Load | —            | 2A   | 1.5A |
|                    | DC         | Resistive Load | 3A           | 0.4A | —    |
|                    |            | Inductive Load | 1A           | 0.2A | —    |
| Thermal Current    |            |                | 5A           |      |      |
| Contact Material   |            |                | Silver       |      |      |

AC inductive load: PF = 0.6 to 0.7

DC inductive load: L/R = 7 ms maximum

### Built-in LED Lamp Ratings

|                        |                                                                                                                      |                |                |
|------------------------|----------------------------------------------------------------------------------------------------------------------|----------------|----------------|
| Type No.               | LFTD-5②                                                                                                              | LFTD-1②        | LFTD-2②        |
| Lamp Base              | SX6S/8x5.4                                                                                                           |                |                |
| Rated Voltage          | 5V DC                                                                                                                | 12V AC/DC      | 24V AC/DC      |
| Operating Voltage      | 5V DC ±5%                                                                                                            | 12V AC/DC ±10% | 24V AC/DC ±10% |
| Current Draw           | AC                                                                                                                   | —              | 9 mA           |
|                        | DC                                                                                                                   | 8 mA           | 8 mA           |
| Color Code ②           | Specify a color code in place of ② in the Type No.<br>A (amber), G (green), R (red), S (blue), W (white), Y (yellow) |                |                |
| Lamp Base Color        | Same as illumination color                                                                                           |                |                |
| Voltage Marking        | Die stamped on the lamp base                                                                                         |                |                |
| Life (reference value) | Approx. 50,000 hours<br>(When used on complete DC, luminance reduces to 50% of the initial intensity.)               |                |                |
| Internal Circuit       | A, R, W, Y                                                                                                           |                | A, R, W, Y     |
|                        |                                                                                                                      |                |                |
|                        | G, S                                                                                                                 |                | G, S           |
|                        |                                                                                                                      |                |                |



### Specifications

|                                            |                                |                                                                                                                                                                                     |
|--------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature                      |                                | −25 to +55°C (no freezing)                                                                                                                                                          |
| Storage Temperature                        |                                | −30 to +80°C                                                                                                                                                                        |
| Operating Humidity                         |                                | 45 to 85% RH (no condensation)                                                                                                                                                      |
| Contact Resistance                         |                                | 50 mΩ maximum (initial value)                                                                                                                                                       |
| Insulation Resistance                      |                                | 100 MΩ minimum (500V DC megger)                                                                                                                                                     |
| Dielectric Strength                        | Switch Unit                    | Between live part and ground:<br>2,500V AC, 1 minute<br>Between terminals of different poles:<br>2,500V AC, 1 minute<br>Between terminals of the same poles:<br>1,000V AC, 1 minute |
|                                            | Illumination Unit              | Between live part and ground:<br>2,500V AC, 1 minute                                                                                                                                |
| Vibration Resistance                       |                                | Operating extremes:<br>5 to 55 Hz, amplitude 0.5 mm                                                                                                                                 |
| Shock Resistance                           |                                | Damage limits: 1,000 m/s <sup>2</sup> (100G)<br>Operating extremes: 100 m/s <sup>2</sup> (10G)                                                                                      |
| Mechanical Durability (minimum operations) | Momentary:                     | 2,000,000                                                                                                                                                                           |
|                                            | Maintained:                    | 250,000                                                                                                                                                                             |
|                                            | Lever switches:                | 250,000                                                                                                                                                                             |
|                                            | Selector switches:             | 250,000                                                                                                                                                                             |
| Electrical Durability (minimum operations) | Key selector switches:         | 250,000                                                                                                                                                                             |
|                                            | Illuminated selector switches: | 250,000                                                                                                                                                                             |
|                                            | Momentary:                     | 100,000 (*1, *3)                                                                                                                                                                    |
|                                            | Maintained:                    | 100,000 (*2, *3)                                                                                                                                                                    |
| Degree of Protection                       | Lever switches:                | 100,000 (*2, *3)                                                                                                                                                                    |
|                                            | Selector switches:             | 100,000 (*2, *3)                                                                                                                                                                    |
|                                            | Key selector switches:         | 100,000 (*2, *3)                                                                                                                                                                    |
|                                            | Illuminated selector switches: | 100,000 (*2, *3)                                                                                                                                                                    |
| Terminal Style                             | *1                             | Switching frequency 1,800 operations/h                                                                                                                                              |
|                                            | *2                             | Switching frequency 1,200 operations/h                                                                                                                                              |
|                                            | *3                             | 125V resistive load 5A: 50,000<br>3A: 100,000                                                                                                                                       |
| Weight (approx.)                           | 17g (LA1L-M1C24)               |                                                                                                                                                                                     |
|                                            | 15g (LA1P-1C04)                |                                                                                                                                                                                     |
|                                            | 13g (LA1B-M1C2)                |                                                                                                                                                                                     |
|                                            | 15g (LA1T-2C2)                 |                                                                                                                                                                                     |
| Weight (approx.)                           | 15g (LA1S-2C2)                 |                                                                                                                                                                                     |
|                                            | 27g (LA1K-2C2A)                |                                                                                                                                                                                     |
|                                            | 18g (LA1F-2C24)                |                                                                                                                                                                                     |
|                                            |                                |                                                                                                                                                                                     |

## LA1L / LA2L Illuminated Pushbuttons

| Shape                                                                                                                                                                                            | Operation Type | Contact Material | Operating Voltage | Contact | Type No.            |                   | ② Lens Color Code                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|-------------------|---------|---------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                  |                |                  |                   |         | Solder/Tab Terminal | PC Board Terminal |                                                                                                                                   |
| Round<br>LA1L<br><br><br>      | Momentary      | Gold             | 5V DC ±5%         | SPDT    | LA1L-M1C11②         | LA1L-M1C11V②      | Specify a lens color code in place of ② in the Type No.<br><br>A: amber<br>G: green<br>R: red<br>W: white<br>S: blue<br>Y: yellow |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-M1C21②         | LA1L-M1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA1L-M1C13②         | LA1L-M1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-M1C23②         | LA1L-M1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA1L-M1C14②         | LA1L-M1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-M1C24②         | LA1L-M1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                | Silver           | 5V DC ±5%         | SPDT    | LA1L-M1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-M1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA1L-M1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-M1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA1L-M1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-M1C64②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  | Maintained     | Gold             | 5V DC ±5%         | SPDT    | LA1L-A1C11②         | LA1L-A1C11V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-A1C21②         | LA1L-A1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA1L-A1C13②         | LA1L-A1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-A1C23②         | LA1L-A1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA1L-A1C14②         | LA1L-A1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-A1C24②         | LA1L-A1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                | Silver           | 5V DC ±5%         | SPDT    | LA1L-A1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-A1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA1L-A1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-A1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA1L-A1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA1L-A1C64②         | —                 |                                                                                                                                   |
| Square<br>LA2L<br><br><br> | Momentary      | Gold             | 5V DC ±5%         | SPDT    | LA2L-M1C11②         | LA2L-M1C11V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-M1C21②         | LA2L-M1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA2L-M1C13②         | LA2L-M1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-M1C23②         | LA2L-M1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA2L-M1C14②         | LA2L-M1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-M1C24②         | LA2L-M1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                | Silver           | 5V DC ±5%         | SPDT    | LA2L-M1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-M1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA2L-M1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-M1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA2L-M1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-M1C64②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  | Maintained     | Gold             | 5V DC ±5%         | SPDT    | LA2L-A1C11②         | LA2L-A1C11V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-A1C21②         | LA2L-A1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA2L-A1C13②         | LA2L-A1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-A1C23②         | LA2L-A1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA2L-A1C14②         | LA2L-A1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-A1C24②         | LA2L-A1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                  |                | Silver           | 5V DC ±5%         | SPDT    | LA2L-A1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-A1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 12V AC/DC ±10%    | SPDT    | LA2L-A1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-A1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  | 24V AC/DC ±10%    | SPDT    | LA2L-A1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                  |                |                  |                   | DPDT    | LA2L-A1C64②         | —                 |                                                                                                                                   |

L-shaped lever contact types are also available for collective mounting.  
 To order L-shaped lever contacts, specify "T" in place of "C" in the Type No.

Example:      (Standard contact type)      (L-shaped lever contact type)  
                  LA1L-M1C11②      LA1L-M1T11②

## LA3L / LA4L Illuminated Pushbuttons

| Shape                                                                                                                                                                                                                    | Operation Type | Contact Material | Operating Voltage | Contact | Type No.            |                   | ② Lens Color Code                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|-------------------|---------|---------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                          |                |                  |                   |         | Solder/Tab Terminal | PC Board Terminal |                                                                                                                                   |
| Rectangular<br>LA3L<br><br><br>                        | Momentary      | Gold             | 5V DC ±5%         | SPDT    | LA3L-M1C11②         | LA3L-M1C11V②      | Specify a lens color code in place of ② in the Type No.<br><br>A: amber<br>G: green<br>R: red<br>W: white<br>S: blue<br>Y: yellow |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-M1C21②         | LA3L-M1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA3L-M1C13②         | LA3L-M1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-M1C23②         | LA3L-M1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA3L-M1C14②         | LA3L-M1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-M1C24②         | LA3L-M1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                | Silver           | 5V DC ±5%         | SPDT    | LA3L-M1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-M1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA3L-M1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-M1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA3L-M1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-M1C64②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          | Maintained     | Gold             | 5V DC ±5%         | SPDT    | LA3L-A1C11②         | LA3L-A1C11V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-A1C21②         | LA3L-A1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA3L-A1C13②         | LA3L-A1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-A1C23②         | LA3L-A1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA3L-A1C14②         | LA3L-A1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-A1C24②         | LA3L-A1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                | Silver           | 5V DC ±5%         | SPDT    | LA3L-A1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-A1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA3L-A1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-A1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA3L-A1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA3L-A1C64②         | —                 |                                                                                                                                   |
| Rectangular<br>3-sided Barrier<br>LA4L<br><br><br> | Momentary      | Gold             | 5V DC ±5%         | SPDT    | LA4L-M1C11②         | LA4L-M1C11V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-M1C21②         | LA4L-M1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA4L-M1C13②         | LA4L-M1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-M1C23②         | LA4L-M1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA4L-M1C14②         | LA4L-M1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-M1C24②         | LA4L-M1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                | Silver           | 5V DC ±5%         | SPDT    | LA4L-M1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-M1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA4L-M1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-M1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA4L-M1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-M1C64②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          | Maintained     | Gold             | 5V DC ±5%         | SPDT    | LA4L-A1C11②         | LA4L-A1C11V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-A1C21②         | LA4L-A1C21V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA4L-A1C13②         | LA4L-A1C13V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-A1C23②         | LA4L-A1C23V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA4L-A1C14②         | LA4L-A1C14V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-A1C24②         | LA4L-A1C24V②      |                                                                                                                                   |
|                                                                                                                                                                                                                          |                | Silver           | 5V DC ±5%         | SPDT    | LA4L-A1C51②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-A1C61②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 12V AC/DC ±10%    | SPDT    | LA4L-A1C53②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-A1C63②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  | 24V AC/DC ±10%    | SPDT    | LA4L-A1C54②         | —                 |                                                                                                                                   |
|                                                                                                                                                                                                                          |                |                  |                   | DPDT    | LA4L-A1C64②         | —                 |                                                                                                                                   |

L-shaped lever contact types are also available for collective mounting.  
To order L-shaped lever contact types, specify "T" in place of "C" in the Type No.

Example: (Standard contact type) LA3L-M1C11② (L-shaped lever contact type) LA3L-M1T11②

**LA□P Pilot Lights**

| Shape                                                                                                                                                                                                             | Operating Voltage | Type No.            |                   | ② Lens Color Code                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                   |                   | Solder/Tab Terminal | PC Board Terminal |                                                                                                                                   |
| Round<br>LA1P<br><br>                           | 5V DC ±5%         | LA1P-1C01②          | LA1P-1C01V②       | Specify a lens color code in place of ② in the Type No.<br><br>A: amber<br>G: green<br>R: red<br>W: white<br>S: blue<br>Y: yellow |
|                                                                                                                                                                                                                   | 12V AC/DC ±10%    | LA1P-1C03②          | LA1P-1C03V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 24V AC/DC ±10%    | LA1P-1C04②          | LA1P-1C04V②       |                                                                                                                                   |
| Square<br>LA2P<br><br>                          | 5V DC ±5%         | LA2P-1C01②          | LA2P-1C01V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 12V AC/DC ±10%    | LA2P-1C03②          | LA2P-1C03V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 24V AC/DC ±10%    | LA2P-1C04②          | LA2P-1C04V②       |                                                                                                                                   |
| Rectangular<br>LA3P<br><br>                 | 5V DC ±5%         | LA3P-1C01②          | LA3P-1C01V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 12V AC/DC ±10%    | LA3P-1C03②          | LA3P-1C03V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 24V AC/DC ±10%    | LA3P-1C04②          | LA3P-1C04V②       |                                                                                                                                   |
| Rectangular 3-sided Barrier<br>LA4P<br><br> | 5V DC ±5%         | LA4P-1C01②          | LA4P-1C01V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 12V AC/DC ±10%    | LA4P-1C03②          | LA4P-1C03V②       |                                                                                                                                   |
|                                                                                                                                                                                                                   | 24V AC/DC ±10%    | LA4P-1C04②          | LA4P-1C04V②       |                                                                                                                                   |

L-shaped lever contact types are also available for collective mounting.  
 To order L-shaped lever contact types, specify "T" in place of "C" in the Type No.

Example:      (Standard contact type)      (L-shaped lever contact type)  
                  LA1P-1C01②                      LA1P-1T01②



# ø16 L6 Series Miniature Control Units

| LA1B / LA2B Pushbuttons                                                                                                                                                                         |                   |                |                  |         |                     |                   |                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|------------------|---------|---------------------|-------------------|--------------------------------------------------------------------|
| Shape                                                                                                                                                                                           | Button Type       | Operation Type | Contact Material | Contact | Type No.            |                   | Color Code①②                                                       |
|                                                                                                                                                                                                 |                   |                |                  |         | Solder/Tab Terminal | PC Board Terminal |                                                                    |
| Round<br>LA1B<br><br><br>     | Button            | Momentary      | Gold             | SPDT    | LA1B-M1C1①          | LA1B-M1C1V①       | B: black<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-M1C2①          | LA1B-M1C2V①       |                                                                    |
|                                                                                                                                                                                                 |                   | Maintained     | Silver           | SPDT    | LA1B-M1C5①          | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-M1C6①          | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                | Gold             | SPDT    | LA1B-A1C1①          | LA1B-A1C1V①       |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-A1C2①          | LA1B-A1C2V①       |                                                                    |
|                                                                                                                                                                                                 | Illumination Lens | Momentary      | Gold             | SPDT    | LA1B-M1C1L②         | LA1B-M1C1VL②      | A: amber<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-M1C2L②         | LA1B-M1C2VL②      |                                                                    |
|                                                                                                                                                                                                 |                   |                | Silver           | SPDT    | LA1B-M1C5L②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-M1C6L②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                   | Maintained     | Gold             | SPDT    | LA1B-A1C1L②         | LA1B-A1C1VL②      |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-A1C2L②         | LA1B-A1C2VL②      |                                                                    |
|                                                                                                                                                                                                 |                   |                | Silver           | SPDT    | LA1B-A1C5L②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA1B-A1C6L②         | —                 |                                                                    |
| Square<br>LA2B<br><br><br> | Button            | Momentary      | Gold             | SPDT    | LA2B-M1C1①          | LA2B-M1C1V①       | B: black<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-M1C2①          | LA2B-M1C2V①       |                                                                    |
|                                                                                                                                                                                                 |                   | Maintained     | Silver           | SPDT    | LA2B-M1C5①          | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-M1C6①          | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                | Gold             | SPDT    | LA2B-A1C1①          | LA2B-A1C1V①       |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-A1C2①          | LA2B-A1C2V①       |                                                                    |
|                                                                                                                                                                                                 | Illumination Lens | Momentary      | Silver           | SPDT    | LA2B-A1C5①          | —                 | A: amber<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-A1C6①          | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                | Gold             | SPDT    | LA2B-M1C1L②         | LA2B-M1C1VL②      |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-M1C2L②         | LA2B-M1C2VL②      |                                                                    |
|                                                                                                                                                                                                 |                   | Maintained     | Silver           | SPDT    | LA2B-M1C5L②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-M1C6L②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                | Gold             | SPDT    | LA2B-A1C1L②         | LA2B-A1C1VL②      |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-A1C2L②         | LA2B-A1C2VL②      |                                                                    |
|                                                                                                                                                                                                 |                   |                | Silver           | SPDT    | LA2B-A1C5L②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                   |                |                  | DPDT    | LA2B-A1C6L②         | —                 |                                                                    |

L-shaped lever contact types are also available for collective mounting.  
 To order L-shaped lever contact types, specify “T” in place of “C” in the Type No.

Example:

(Standard contact type)

LA1B-M1C1①

(L-shaped lever contact type)

LA1B-M1T1①



## LA3B / LA4B Pushbuttons

| Shape                                                                                                                                                                                                                   | Button Type       | Operation Type | Contact Material | Contact | Type No.                |                          | Color Code <sup>①②</sup>                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|------------------|---------|-------------------------|--------------------------|--------------------------------------------------------------------|
|                                                                                                                                                                                                                         |                   |                |                  |         | Solder/Tab Terminal     | PC Board Terminal        |                                                                    |
| Rectangular<br>LA3B<br><br><br>                       | Button            | Momentary      | Gold             | SPDT    | LA3B-M1C1 <sup>①</sup>  | LA3B-M1C1V <sup>①</sup>  | B: black<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA3B-M1C2 <sup>①</sup>  | LA3B-M1C2V <sup>①</sup>  |                                                                    |
|                                                                                                                                                                                                                         |                   | Maintained     | Silver           | SPDT    | LA3B-M1C5 <sup>①</sup>  | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA3B-M1C6 <sup>①</sup>  | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                | Gold             | SPDT    | LA3B-A1C1 <sup>①</sup>  | LA3B-A1C1V <sup>①</sup>  |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA3B-A1C2 <sup>①</sup>  | LA3B-A1C2V <sup>①</sup>  |                                                                    |
|                                                                                                                                                                                                                         | Illumination Lens | Momentary      | Silver           | SPDT    | LA3B-A1C5 <sup>①</sup>  | —                        | A: amber<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA3B-A1C6 <sup>①</sup>  | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                | Gold             | SPDT    | LA3B-M1C1L <sup>②</sup> | LA3B-M1C1VL <sup>②</sup> |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA3B-M1C2L <sup>②</sup> | LA3B-M1C2VL <sup>②</sup> |                                                                    |
|                                                                                                                                                                                                                         |                   | Maintained     | Silver           | SPDT    | LA3B-M1C5L <sup>②</sup> | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA3B-M1C6L <sup>②</sup> | —                        |                                                                    |
| Rectangular<br>3-sided Barrier<br>LA4B<br><br><br> | Button            | Momentary      | Gold             | SPDT    | LA4B-M1C1 <sup>①</sup>  | LA4B-M1C1V <sup>①</sup>  | B: black<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA4B-M1C2 <sup>①</sup>  | LA4B-M1C2V <sup>①</sup>  |                                                                    |
|                                                                                                                                                                                                                         |                   | Maintained     | Silver           | SPDT    | LA4B-M1C5 <sup>①</sup>  | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA4B-M1C6 <sup>①</sup>  | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                | Gold             | SPDT    | LA4B-A1C1 <sup>①</sup>  | LA4B-A1C1V <sup>①</sup>  |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA4B-A1C2 <sup>①</sup>  | LA4B-A1C2V <sup>①</sup>  |                                                                    |
|                                                                                                                                                                                                                         | Illumination Lens | Momentary      | Silver           | SPDT    | LA4B-A1C5 <sup>①</sup>  | —                        | A: amber<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA4B-A1C6 <sup>①</sup>  | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                | Gold             | SPDT    | LA4B-M1C1L <sup>②</sup> | LA4B-M1C1VL <sup>②</sup> |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA4B-M1C2L <sup>②</sup> | LA4B-M1C2VL <sup>②</sup> |                                                                    |
|                                                                                                                                                                                                                         |                   | Maintained     | Silver           | SPDT    | LA4B-M1C5L <sup>②</sup> | —                        |                                                                    |
|                                                                                                                                                                                                                         |                   |                |                  | DPDT    | LA4B-M1C6L <sup>②</sup> | —                        |                                                                    |

L-shaped lever contact types are also available for collective mounting.  
To order L-shaped lever contact types, specify "T" in place of "C" in the Type No.

Example:                      (Standard contact type)                      (L-shaped lever contact type)  
                                          LA3B-M1C1<sup>①</sup>                                      LA3B-M1T1<sup>①</sup>

# ø16 L6 Series Miniature Control Units

## LA1T Lever Switches

| Shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Lever Operation |                           | Contact Material                                                                  | Contact                                                                           | Type No.            |                   |            |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|-------------------|------------|------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | Solder/Tab Terminal | PC Board Terminal |            |            |
| <div>Round<br/>LA1T</div> <div></div> <div></div> | 2-position      | Maintained                |  | Gold                                                                              | SPDT                | LA1T-2C1          | LA1T-2C1V  |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | DPDT                | LA1T-2C2          | LA1T-2C2V  |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   | Silver                                                                            | SPDT                | LA1T-2C5          | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | DPDT                | LA1T-2C6          | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 | Spring return from top    |  | Gold                                                                              | SPDT                | LA1T-21C1         | LA1T-21C1V |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | DPDT                | LA1T-21C2         | LA1T-21C2V |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   | Silver                                                                            | SPDT                | LA1T-21C5         | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | DPDT                | LA1T-21C6         | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 | Spring return from bottom |  | Gold                                                                              | SPDT                | LA1T-22C1         | LA1T-22C1V |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | DPDT                | LA1T-22C2         | LA1T-22C2V |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   | Silver                                                                            | SPDT                | LA1T-22C5         | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | DPDT                | LA1T-22C6         | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3-position      | Maintained                |  | Gold                                                                              | DPDT                | LA1T-3C2          | LA1T-3C2V  |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   | Silver                                                                            | DPDT                | LA1T-3C6          | —          |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           | Spring return from top                                                            |  | Gold                | DPDT              | LA1T-31C2  | LA1T-31C2V |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | Silver              | DPDT              | LA1T-31C6  | —          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           | Spring return from bottom                                                         |  | Gold                | DPDT              | LA1T-32C2  | LA1T-32C2V |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | Silver              | DPDT              | LA1T-32C6  | —          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           | Spring return two-way                                                             |  | Gold                | DPDT              | LA1T-33C2  | LA1T-33C2V |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                           |                                                                                   |                                                                                   | Silver              | DPDT              | LA1T-33C6  | —          |

L-shaped lever contact types are also available for collective mounting.  
To order L-shaped lever contact types, specify “T” in place of “C” in the Type No.

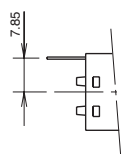
Example:                      (Standard contact type)                      (L-shaped lever contact type)  
                                         LA1T-2C1                                              LA1T-2T1

## Contact Operation

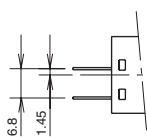
|                                                        |      | Operator Position & Contact Operation (Top View)                                                                                                                                                                         |                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |
|--------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                        |      | Down                                                                                                                                                                                                                     | Center                                                                                                                                                                                                                   | Up                                                                                                                                                                                                                          |
| 90° 2-position<br>Maintained<br>Spring return from top | SPDT |                                                                                                                                       | —                                                                                                                                                                                                                        |                                                                                                                                         |
|                                                        | DPDT | <div>Left Contact</div>  <div>Right Contact</div>  | —                                                                                                                                                                                                                        | <div>Left Contact</div>  <div>Right Contact</div>  |
| 90° 2-position<br>Spring return from bottom            | SPDT |                                                                                                                                       | —                                                                                                                                                                                                                        |                                                                                                                                         |
|                                                        | DPDT | <div>Left Contact</div>  <div>Right Contact</div>  | —                                                                                                                                                                                                                        | <div>Left Contact</div>  <div>Right Contact</div>  |
| 45° 3-position                                         | DPDT | <div>Left Contact</div>  <div>Right Contact</div>  | <div>Left Contact</div>  <div>Right Contact</div>  | <div>Left Contact</div>  <div>Right Contact</div>  |

## Dimensions

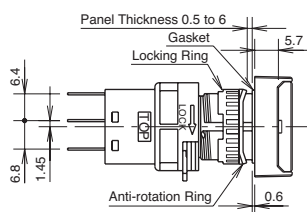
### Pilot Lights



### Pushbuttons

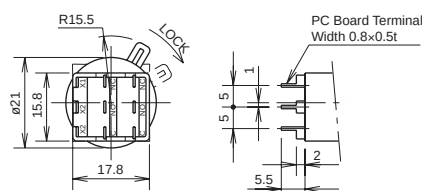


### Illuminated Pushbuttons

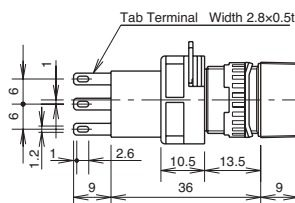


Note:

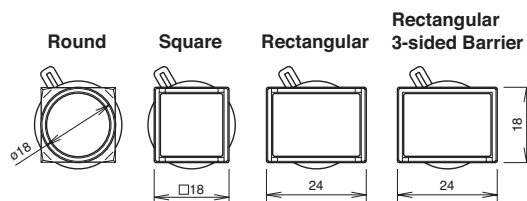
1. Pushbuttons do not have lamp terminals.
2. Pilot lights have only lamp terminals.
3. See page 26 for L-shaped lever contact types.



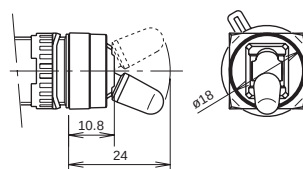
PC Board Terminal



Solder/Tab Terminal

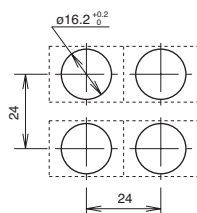


### Lever Switches



## Mounting Hole Layout

### Standard Contact Type

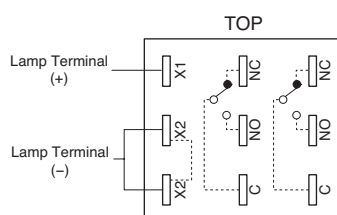


Note: Determine mounting centers to ensure easy operation.

- See page 26 for L-shaped lever contact types.

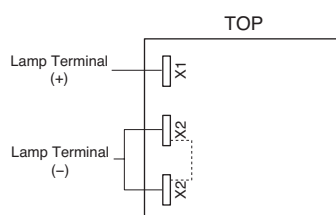
## Terminal Arrangement (Bottom View)

### Illuminated Pushbuttons



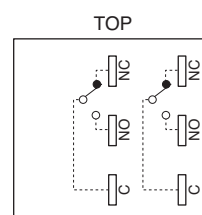
SPDT has C, NO, and NC only on the right.  
X2 terminals are interconnected.

### Pilot Lights



X2 terminals are interconnected.

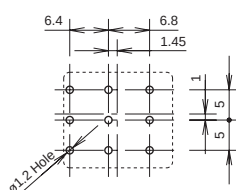
### Pushbuttons Lever Switches



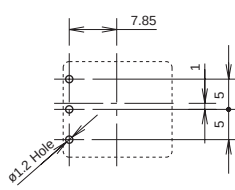
SPDT has C, NO, and NC only on the right.

## PC Board Drilling Layout (Bottom View)

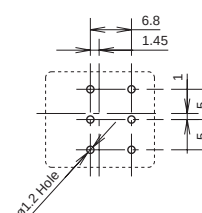
### Illuminated Pushbuttons



### Pilot Lights



### Pushbuttons Lever Switches



• See One Board Mounting on page 26 for details about PC boards.

All dimensions in mm.



## LA1K Key Selector Switches

| Shape                                                                                                                                                                                          | Position       |                          | Key Retained at ● | Contact Material | Contact | Type No.            |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------|-------------------|------------------|---------|---------------------|-------------------|
|                                                                                                                                                                                                |                |                          |                   |                  |         | Solder/Tab Terminal | PC Board Terminal |
| Round<br>LA1K<br><br><br> | 90° 2-position | Maintained               | A                 | Gold             | SPDT    | LA1K-2C1A           | LA1K-2C1VA        |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-2C2A           | LA1K-2C2VA        |
|                                                                                                                                                                                                |                |                          |                   | Silver           | SPDT    | LA1K-2C5A           | —                 |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-2C6A           | —                 |
|                                                                                                                                                                                                |                |                          | B                 | Gold             | SPDT    | LA1K-2C1B           | LA1K-2C1VB        |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-2C2B           | LA1K-2C2VB        |
|                                                                                                                                                                                                |                |                          |                   | Silver           | SPDT    | LA1K-2C5B           | —                 |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-2C6B           | —                 |
|                                                                                                                                                                                                |                | Spring return from right | C                 | Gold             | SPDT    | LA1K-2C1C           | LA1K-2C1VC        |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-2C2C           | LA1K-2C2VC        |
|                                                                                                                                                                                                |                |                          |                   | Silver           | SPDT    | LA1K-2C5C           | —                 |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-2C6C           | —                 |
|                                                                                                                                                                                                |                |                          | B                 | Silver           | SPDT    | LA1K-21C1B          | LA1K-21C1VB       |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-21C2B          | LA1K-21C2VB       |
|                                                                                                                                                                                                |                |                          |                   | Gold             | SPDT    | LA1K-21C5B          | —                 |
|                                                                                                                                                                                                |                |                          |                   |                  | DPDT    | LA1K-21C6B          | —                 |
|                                                                                                                                                                                                | 45° 3-position | Maintained               | A                 | Gold             | DPDT    | LA1K-3C2A           | LA1K-3C2VA        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6A         |
|                                                                                                                                                                                                |                |                          | B                 | Gold             | DPDT    | LA1K-3C2B           | LA1K-3C2VB        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6B         |
|                                                                                                                                                                                                |                |                          | C                 | Gold             | DPDT    | LA1K-3C2C           | LA1K-3C2VC        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6C         |
|                                                                                                                                                                                                |                |                          | D                 | Gold             | DPDT    | LA1K-3C2D           | LA1K-3C2VD        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6D         |
|                                                                                                                                                                                                |                |                          | E                 | Gold             | DPDT    | LA1K-3C2E           | LA1K-3C2VE        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6E         |
|                                                                                                                                                                                                |                |                          | G                 | Gold             | DPDT    | LA1K-3C2G           | LA1K-3C2VG        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6G         |
|                                                                                                                                                                                                |                |                          | H                 | Gold             | DPDT    | LA1K-3C2H           | LA1K-3C2VH        |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-3C6H         |
|                                                                                                                                                                                                |                | Spring return from right | B                 | Gold             | DPDT    | LA1K-31C2B          | LA1K-31C2VB       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-31C6B        |
|                                                                                                                                                                                                |                |                          | D                 | Gold             | DPDT    | LA1K-31C2D          | LA1K-31C2VD       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-31C6D        |
|                                                                                                                                                                                                |                |                          | G                 | Gold             | DPDT    | LA1K-31C2G          | LA1K-31C2VG       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-31C6G        |
|                                                                                                                                                                                                |                | Spring return from left  | C                 | Gold             | DPDT    | LA1K-32C2C          | LA1K-32C2VC       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-32C6C        |
|                                                                                                                                                                                                |                |                          | D                 | Gold             | DPDT    | LA1K-32C2D          | LA1K-32C2VD       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-32C6D        |
|                                                                                                                                                                                                |                |                          | H                 | Gold             | DPDT    | LA1K-32C2H          | LA1K-32C2VH       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-32C6H        |
|                                                                                                                                                                                                |                | Spring return two-way    | D                 | Gold             | DPDT    | LA1K-33C2D          | LA1K-33C2VD       |
|                                                                                                                                                                                                |                |                          |                   |                  | Silver  | DPDT                | LA1K-33C6D        |

- For contact operation, see page 19.
- Two keys are supplied.
- L-shaped lever contact types are also available for collective mounting.  
To order L-shaped contact types, specify "T" in place of "C" in the Type No.

Example:      (Standard contact type)      (L-shaped lever contact type)  
                  LA1K-2C1A                      LA1K-2T1A

## LA2K Key Selector Switches

| Shape                                                                                                                                                                                           | Position                 | Key Retained at ● | Contact Material | Contact | Type No.            |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------|------------------|---------|---------------------|-------------------|
|                                                                                                                                                                                                 |                          |                   |                  |         | Solder/Tab Terminal | PC Board Terminal |
| Square<br>LA2K<br><br><br> | 90° 2-position           | A                 | Gold             | SPDT    | LA2K-2C1A           | LA2K-2C1VA        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-2C2A           | LA2K-2C2VA        |
|                                                                                                                                                                                                 |                          |                   | Silver           | SPDT    | LA2K-2C5A           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-2C6A           | —                 |
|                                                                                                                                                                                                 |                          | B                 | Gold             | SPDT    | LA2K-2C1B           | LA2K-2C1VB        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-2C2B           | LA2K-2C2VB        |
|                                                                                                                                                                                                 |                          |                   | Silver           | SPDT    | LA2K-2C5B           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-2C6B           | —                 |
|                                                                                                                                                                                                 |                          | C                 | Gold             | SPDT    | LA2K-2C1C           | LA2K-2C1VC        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-2C2C           | LA2K-2C2VC        |
|                                                                                                                                                                                                 |                          |                   | Silver           | SPDT    | LA2K-2C5C           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-2C6C           | —                 |
|                                                                                                                                                                                                 | Spring return from right | B                 | Silver           | SPDT    | LA2K-21C1B          | LA2K-21C1VB       |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-21C2B          | LA2K-21C2VB       |
|                                                                                                                                                                                                 |                          |                   | Gold             | SPDT    | LA2K-21C5B          | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-21C6B          | —                 |
|                                                                                                                                                                                                 | 45° 3-position           | A                 | Gold             | DPDT    | LA2K-3C2A           | LA2K-3C2VA        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6A           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6A           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6A           | —                 |
|                                                                                                                                                                                                 |                          |                   | Gold             | DPDT    | LA2K-3C2B           | LA2K-3C2VB        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6B           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6B           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6B           | —                 |
|                                                                                                                                                                                                 |                          | C                 | Gold             | DPDT    | LA2K-3C2C           | LA2K-3C2VC        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6C           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6C           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6C           | —                 |
|                                                                                                                                                                                                 |                          | D                 | Gold             | DPDT    | LA2K-3C2D           | LA2K-3C2VD        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6D           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6D           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6D           | —                 |
|                                                                                                                                                                                                 |                          | E                 | Gold             | DPDT    | LA2K-3C2E           | LA2K-3C2VE        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6E           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6E           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6E           | —                 |
|                                                                                                                                                                                                 |                          | G                 | Gold             | DPDT    | LA2K-3C2G           | LA2K-3C2VG        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6G           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6G           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6G           | —                 |
|                                                                                                                                                                                                 |                          | H                 | Gold             | DPDT    | LA2K-3C2H           | LA2K-3C2VH        |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6H           | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-3C6H           | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-3C6H           | —                 |
|                                                                                                                                                                                                 | Spring return from right | B                 | Gold             | DPDT    | LA2K-31C2B          | LA2K-31C2VB       |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-31C6B          | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-31C6B          | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-31C6B          | —                 |
|                                                                                                                                                                                                 |                          | D                 | Gold             | DPDT    | LA2K-31C2D          | LA2K-31C2VD       |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-31C6D          | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-31C6D          | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-31C6D          | —                 |
|                                                                                                                                                                                                 | Spring return from left  | C                 | Gold             | DPDT    | LA2K-32C2C          | LA2K-32C2VC       |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-32C6C          | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-32C6C          | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-32C6C          | —                 |
|                                                                                                                                                                                                 |                          | D                 | Gold             | DPDT    | LA2K-32C2D          | LA2K-32C2VD       |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-32C6D          | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-32C6D          | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-32C6D          | —                 |
|                                                                                                                                                                                                 | Spring return two-way    | D                 | Gold             | DPDT    | LA2K-33C2D          | LA2K-33C2VD       |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-33C6D          | —                 |
|                                                                                                                                                                                                 |                          |                   | Silver           | DPDT    | LA2K-33C6D          | —                 |
|                                                                                                                                                                                                 |                          |                   |                  | DPDT    | LA2K-33C6D          | —                 |

- For contact operation, see page 19.
- Two keys are supplied.
- L-shaped lever contact types are also available for collective mounting.  
To order L-shaped contact types, specify "T" in place of "C" in the Type No.

Example: (Standard contact type) LA2K-2C1A (L-shaped lever contact type) LA2K-2T1A

## LA3K Key Selector Switches

| Shape                                                                                                                                                                                                | Position       |                          | Key Retained at ● | Contact Material | Contact | Type No.            |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------|-------------------|------------------|---------|---------------------|-------------------|
|                                                                                                                                                                                                      |                |                          |                   |                  |         | Solder/Tab Terminal | PC Board Terminal |
| Rectangular<br>LA3K<br><br><br> | 90° 2-position | Maintained               | A                 | Gold             | SPDT    | LA3K-2C1A           | LA3K-2C1VA        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-2C2A           | LA3K-2C2VA        |
|                                                                                                                                                                                                      |                |                          |                   | Silver           | SPDT    | LA3K-2C5A           | —                 |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-2C6A           | —                 |
|                                                                                                                                                                                                      |                |                          | B                 | Gold             | SPDT    | LA3K-2C1B           | LA3K-2C1VB        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-2C2B           | LA3K-2C2VB        |
|                                                                                                                                                                                                      |                |                          |                   | Silver           | SPDT    | LA3K-2C5B           | —                 |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-2C6B           | —                 |
|                                                                                                                                                                                                      |                | Spring return from right | C                 | Gold             | SPDT    | LA3K-2C1C           | LA3K-2C1VC        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-2C2C           | LA3K-2C2VC        |
|                                                                                                                                                                                                      |                |                          |                   | Silver           | SPDT    | LA3K-2C5C           | —                 |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-2C6C           | —                 |
|                                                                                                                                                                                                      |                |                          | B                 | Silver           | SPDT    | LA3K-21C1B          | LA3K-21C1VB       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-21C2B          | LA3K-21C2VB       |
|                                                                                                                                                                                                      |                |                          |                   | Gold             | SPDT    | LA3K-21C5B          | —                 |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-21C6B          | —                 |
|                                                                                                                                                                                                      | 45° 3-position | Maintained               | A                 | Gold             | DPDT    | LA3K-3C2A           | LA3K-3C2VA        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6A           | —                 |
|                                                                                                                                                                                                      |                |                          | B                 | Gold             | DPDT    | LA3K-3C2B           | LA3K-3C2VB        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6B           | —                 |
|                                                                                                                                                                                                      |                |                          | C                 | Gold             | DPDT    | LA3K-3C2C           | LA3K-3C2VC        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6C           | —                 |
|                                                                                                                                                                                                      |                |                          | D                 | Gold             | DPDT    | LA3K-3C2D           | LA3K-3C2VD        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6D           | —                 |
|                                                                                                                                                                                                      |                |                          | E                 | Gold             | DPDT    | LA3K-3C2E           | LA3K-3C2VE        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6E           | —                 |
|                                                                                                                                                                                                      |                |                          | G                 | Gold             | DPDT    | LA3K-3C2G           | LA3K-3C2VG        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6G           | —                 |
|                                                                                                                                                                                                      |                | Spring return from right | H                 | Gold             | DPDT    | LA3K-3C2H           | LA3K-3C2VH        |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-3C6H           | —                 |
|                                                                                                                                                                                                      |                |                          | B                 | Gold             | DPDT    | LA3K-31C2B          | LA3K-31C2VB       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-31C6B          | —                 |
|                                                                                                                                                                                                      |                |                          | D                 | Gold             | DPDT    | LA3K-31C2D          | LA3K-31C2VD       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-31C6D          | —                 |
|                                                                                                                                                                                                      |                | Spring return from left  | G                 | Gold             | DPDT    | LA3K-31C2G          | LA3K-31C2VG       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-31C6G          | —                 |
|                                                                                                                                                                                                      |                |                          | C                 | Gold             | DPDT    | LA3K-32C2C          | LA3K-32C2VC       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-32C6C          | —                 |
|                                                                                                                                                                                                      |                |                          | D                 | Gold             | DPDT    | LA3K-32C2D          | LA3K-32C2VD       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-32C6D          | —                 |
|                                                                                                                                                                                                      |                | Spring return two-way    | D                 | Gold             | DPDT    | LA3K-32C2H          | LA3K-32C2VH       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-32C6H          | —                 |
|                                                                                                                                                                                                      |                |                          |                   | Silver           | DPDT    | LA3K-33C2D          | LA3K-33C2VD       |
|                                                                                                                                                                                                      |                |                          |                   |                  | DPDT    | LA3K-33C6D          | —                 |

- For contact operation, see page 19.
- Two keys are supplied.
- L-shaped lever contact types are also available for collective mounting.  
To order L-shaped contact types, specify "T" in place of "C" in the Type No.

Example: (Standard contact type) LA3K-2C1A      (L-shaped lever contact type) LA3K-2T1A



# LA1F Illuminated Selector Switches

| Shape                                                                                                                                                                                          | Operation Type |                                                                                                                 | Contact Material | Operating Voltage | Contact | Type No.            |                   | ② Color Code                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|------------------|-------------------|---------|---------------------|-------------------|--------------------------------------------------------------------|
|                                                                                                                                                                                                |                |                                                                                                                 |                  |                   |         | Solder/Tab Terminal | PC Board Terminal |                                                                    |
| Round<br>LA1F<br><br><br> | 90° 2-position | Maintained<br>                 | Gold             | 5V DC ±5%         | SPDT    | LA1F-2C11②          | LA1F-2C11V②       | A: amber<br>G: green<br>R: red<br>W: white<br>S: blue<br>Y: yellow |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-2C21②          | LA1F-2C21V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA1F-2C13②          | LA1F-2C13V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  |                   | DPDT    | LA1F-2C23②          | LA1F-2C23V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           | 5V DC ±5%         | SPDT    | LA1F-2C14②          | LA1F-2C14V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  |                   | DPDT    | LA1F-2C24②          | LA1F-2C24V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | SPDT    | LA1F-2C51②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-2C61②          | —                 |                                                                    |
|                                                                                                                                                                                                |                | Spring return from right<br>   | Gold             | 5V DC ±5%         | SPDT    | LA1F-2C53②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-2C63②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA1F-2C54②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           |                   | DPDT    | LA1F-2C64②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 5V DC ±5%         | SPDT    | LA1F-21C11②         | LA1F-21C11V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-21C21②         | LA1F-21C21V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Gold             | 24V AC/DC ±10%    | SPDT    | LA1F-21C13②         | LA1F-21C13V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  |                   | DPDT    | LA1F-21C23②         | LA1F-21C23V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA1F-21C14②         | LA1F-21C14V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           |                   | DPDT    | LA1F-21C24②         | LA1F-21C24V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 5V DC ±5%         | SPDT    | LA1F-21C51②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-21C61②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA1F-21C53②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  |                   | DPDT    | LA1F-21C63②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA1F-21C54②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  |                   | DPDT    | LA1F-21C64②         | —                 |                                                                    |
|                                                                                                                                                                                                | 45° 3-position | Maintained<br>               | Gold             | 5V DC ±5%         | DPDT    | LA1F-3C21②          | LA1F-3C21V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-3C23②          | LA1F-3C23V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-3C24②          | LA1F-3C24V②       |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA1F-3C61②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-3C63②          | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-3C64②          | —                 |                                                                    |
|                                                                                                                                                                                                |                | Spring return from right<br> | Gold             | 5V DC ±5%         | DPDT    | LA1F-31C21②         | LA1F-31C21V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-31C23②         | LA1F-31C23V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-31C24②         | LA1F-31C24V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA1F-31C61②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-31C63②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-31C64②         | —                 |                                                                    |
|                                                                                                                                                                                                |                | Spring return from left<br>  | Gold             | 5V DC ±5%         | DPDT    | LA1F-32C21②         | LA1F-32C21V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-32C23②         | LA1F-32C23V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-32C24②         | LA1F-32C24V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA1F-32C61②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-32C63②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-32C64②         | —                 |                                                                    |
|                                                                                                                                                                                                |                | Spring return two-way<br>    | Gold             | 5V DC ±5%         | DPDT    | LA1F-33C21②         | LA1F-33C21V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-33C23②         | LA1F-33C23V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-33C24②         | LA1F-33C24V②      |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA1F-33C61②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA1F-33C63②         | —                 |                                                                    |
|                                                                                                                                                                                                |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA1F-33C64②         | —                 |                                                                    |

- Specify a color code in place of ② in the Type No.
- For contact operation, see page 19.
- L-shaped lever contact types are also available for collective mounting.  
To order L-shaped contact types, specify "T" in place of "C" in the Type No.

Example: (Standard contact type) LA1F-2C11② (L-shaped lever contact type) LA1F-2T11②

## LA2F Illuminated Selector Switches

| Shape                                                                                                                                                                                           | Operation Type |                                                                                                                 | Contact Material | Operating Voltage | Contact | Type No.            |                   | ② Color Code                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|------------------|-------------------|---------|---------------------|-------------------|--------------------------------------------------------------------|
|                                                                                                                                                                                                 |                |                                                                                                                 |                  |                   |         | Solder/Tab Terminal | PC Board Terminal |                                                                    |
| Square<br>LA2F<br><br><br> | 90° 2-position | Maintained<br>                 | Gold             | 5V DC ±5%         | SPDT    | LA2F-2C11②          | LA2F-2C11V②       | A: amber<br>G: green<br>R: red<br>W: white<br>S: blue<br>Y: yellow |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-2C21②          | LA2F-2C21V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA2F-2C13②          | LA2F-2C13V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA2F-2C23②          | LA2F-2C23V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | SPDT    | LA2F-2C14②          | LA2F-2C14V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-2C24②          | LA2F-2C24V②       |                                                                    |
|                                                                                                                                                                                                 |                | Spring return from right<br>   | Gold             | 5V DC ±5%         | SPDT    | LA2F-2C51②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-2C61②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA2F-2C53②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA2F-2C63②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | SPDT    | LA2F-2C54②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-2C64②          | —                 |                                                                    |
|                                                                                                                                                                                                 | 45° 3-position | Maintained<br>               | Gold             | 5V DC ±5%         | SPDT    | LA2F-21C11②         | LA2F-21C11V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-21C21②         | LA2F-21C21V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA2F-21C13②         | LA2F-21C13V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA2F-21C23②         | LA2F-21C23V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | SPDT    | LA2F-21C14②         | LA2F-21C14V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-21C24②         | LA2F-21C24V②      |                                                                    |
|                                                                                                                                                                                                 |                | Spring return from right<br> | Gold             | 5V DC ±5%         | SPDT    | LA2F-21C51②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-21C61②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | SPDT    | LA2F-21C53②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA2F-21C63②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | SPDT    | LA2F-21C54②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-21C64②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                | Spring return from left<br>  | Gold             | 5V DC ±5%         | DPDT    | LA2F-3C21②          | LA2F-3C21V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-3C23②          | LA2F-3C23V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-3C24②          | LA2F-3C24V②       |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA2F-3C61②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-3C63②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-3C64②          | —                 |                                                                    |
|                                                                                                                                                                                                 |                | Spring return two-way<br>    | Gold             | 5V DC ±5%         | DPDT    | LA2F-31C21②         | LA2F-31C21V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-31C23②         | LA2F-31C23V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-31C24②         | LA2F-31C24V②      |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 | Silver           | 5V DC ±5%         | DPDT    | LA2F-31C61②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 12V AC/DC ±10%    | DPDT    | LA2F-31C63②         | —                 |                                                                    |
|                                                                                                                                                                                                 |                |                                                                                                                 |                  | 24V AC/DC ±10%    | DPDT    | LA2F-31C64②         | —                 |                                                                    |

- Specify a color code in place of ② in the Type No.
- For contact operation, see page 19.
- L-shaped lever contact types are also available for collective mounting.  
To order L-shaped contact types, specify "T" in place of "C" in the Type No.

Example: (Standard contact type) LA2F-2C11②      (L-shaped lever contact type) LA2F-2T11②

# LA3F Illuminated Selector Switches

| Shape                                                                                                                                                                                                | Operation Type |                                                                                                                     | Contact Material         | Operating Voltage | Contact | Type No.            |                   | ② Color Code                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------|---------|---------------------|-------------------|--------------------------------------------------------------------|
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   |         | Solder/Tab Terminal | PC Board Terminal |                                                                    |
| Rectangular<br>LA3F<br><br><br> | 90° 2-position | Maintained<br><br>                 | Gold                     | 5V DC ±5%         | SPDT    | LA3F-2C11②          | LA3F-2C11V②       | A: amber<br>G: green<br>R: red<br>W: white<br>S: blue<br>Y: yellow |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-2C21②          | LA3F-2C21V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | SPDT    | LA3F-2C13②          | LA3F-2C13V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-2C23②          | LA3F-2C23V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Silver                   | 5V DC ±5%         | SPDT    | LA3F-2C14②          | LA3F-2C14V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-2C24②          | LA3F-2C24V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | SPDT    | LA3F-2C51②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-2C61②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | SPDT    | LA3F-2C53②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-2C63②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Spring return from right | 5V DC ±5%         | SPDT    | LA3F-21C11②         | LA3F-21C11V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Gold                     | 12V AC/DC ±10%    | DPDT    | LA3F-21C21②         | LA3F-21C21V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | SPDT    | LA3F-21C13②         | LA3F-21C13V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-21C23②         | LA3F-21C23V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | SPDT    | LA3F-21C14②         | LA3F-21C14V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-21C24②         | LA3F-21C24V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Silver                   | 5V DC ±5%         | SPDT    | LA3F-21C51②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-21C61②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | SPDT    | LA3F-21C53②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-21C63②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | SPDT    | LA3F-21C54②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          |                   | DPDT    | LA3F-21C64②         | —                 |                                                                    |
|                                                                                                                                                                                                      | 45° 3-position | Maintained<br><br>               | Gold                     | 5V DC ±5%         | DPDT    | LA3F-3C21②          | LA3F-3C21V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-3C23②          | LA3F-3C23V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-3C24②          | LA3F-3C24V②       |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Silver                   | 5V DC ±5%         | DPDT    | LA3F-3C61②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-3C63②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-3C64②          | —                 |                                                                    |
|                                                                                                                                                                                                      |                | Spring return from right<br><br> | Gold                     | 5V DC ±5%         | DPDT    | LA3F-31C21②         | LA3F-31C21V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-31C23②         | LA3F-31C23V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-31C24②         | LA3F-31C24V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Silver                   | 5V DC ±5%         | DPDT    | LA3F-31C61②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-31C63②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-31C64②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                | Spring return from left<br><br>  | Gold                     | 5V DC ±5%         | DPDT    | LA3F-32C21②         | LA3F-32C21V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-32C23②         | LA3F-32C23V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-32C24②         | LA3F-32C24V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Silver                   | 5V DC ±5%         | DPDT    | LA3F-32C61②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-32C63②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-32C64②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                | Spring return two-way<br><br>    | Gold                     | 5V DC ±5%         | DPDT    | LA3F-33C21②         | LA3F-33C21V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-33C23②         | LA3F-33C23V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-33C24②         | LA3F-33C24V②      |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     | Silver                   | 5V DC ±5%         | DPDT    | LA3F-33C61②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 12V AC/DC ±10%    | DPDT    | LA3F-33C63②         | —                 |                                                                    |
|                                                                                                                                                                                                      |                |                                                                                                                     |                          | 24V AC/DC ±10%    | DPDT    | LA3F-33C64②         | —                 |                                                                    |

- Specify a color code in place of ② in the Type No.
- For contact operation, see page 19.
- L-shaped lever contact types are also available for collective mounting.  
To order L-shaped contact types, specify "T" in place of "C" in the Type No.

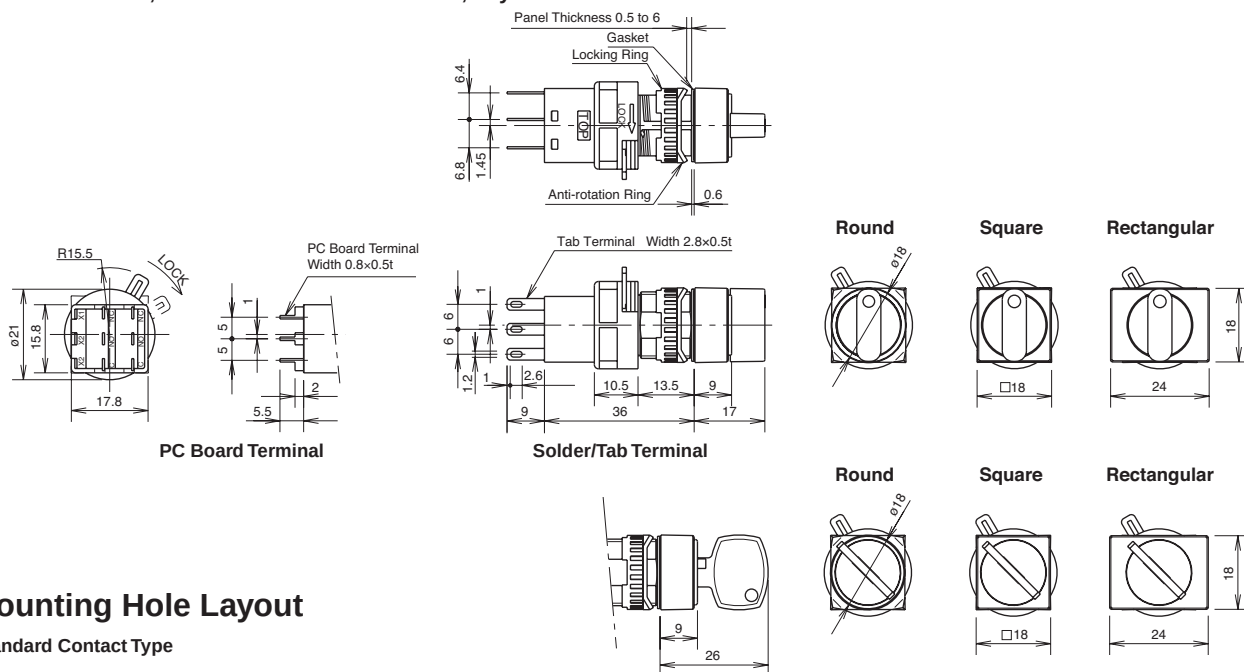
Example: (Standard contact type) LA3F-2C11② (L-shaped lever type) LA3F-2T11②

## Contact Operation

| Operator Position and Contact Position (Top View) |           |         |      |        |       |
|---------------------------------------------------|-----------|---------|------|--------|-------|
|                                                   | Positions | Contact | Left | Center | Right |
| 90° 2-Position                                    |           | SPDT    |      | —      |       |
|                                                   |           | DPDT    |      | —      |       |
| 45° 3-Position                                    |           | DPDT    |      |        |       |

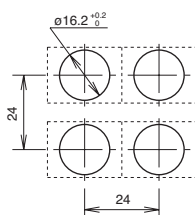
## Dimensions

### Selector Switches, Illuminated Selector Switches, Key Selector Switches



## Mounting Hole Layout

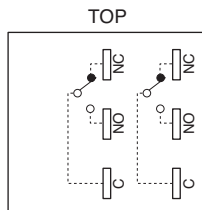
### Standard Contact Type



Note: Determine mounting centers to ensure easy operation.  
• See page 26 for L-shaped lever contact types.

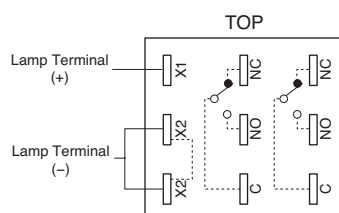
## Terminal Arrangement (Bottom View)

### Selector Switches Key Selector Switches



SPDT has C, NO, and NC only on the right.

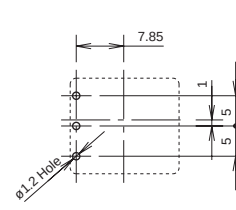
### Illuminated Selector Switches



SPDT has C, NO, and NC only on the right.  
X2 terminals are interconnected.

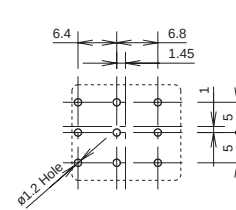
## PC Board Drilling Layout (Bottom View)

### Selector Switches Key Selector Switches



• See Single Board Mounting on page 26 for details about PC boards.

### Illuminated Selector Switches



All dimensions in mm.

## LA3Z Buzzers

**Continuous / intermittent (slow) / intermittent (quick) sound can be selected with a built-in slide switch**

- Collective mounting possible.
- Separate type control unit with locking lever, easy installation even when mounted collectively.
- Solder/tab and PC board terminal types available.
- Single board mounting possible.

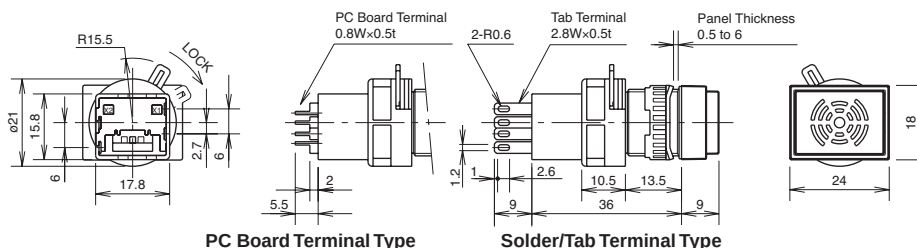
## Specifications

|                          |                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------|
| Insulation Voltage       | 60V AC/DC                                                                                                        |
| Operating Voltage        | 6V AC/DC $\pm 10\%$<br>12 to 24V AC/DC $\pm 10\%$                                                                |
| Current Draw             | AC: 20 mA, DC: 7 mA                                                                                              |
| Sound Pressure (at 0.1m) | Steady sound: 80 dB minimum<br>(at the rated voltage)                                                            |
| Sound Frequency          | 2 kHz $\pm 500\text{Hz}$                                                                                         |
| Sound Cycle              | Slow intermittent:<br>55 cycles per minute $\pm 10\%$<br>Quick intermittent:<br>600 cycles per minute $\pm 10\%$ |
| Operating Temperature    | $-20$ to $+55^{\circ}\text{C}$ (no freezing)                                                                     |
| Operating Humidity       | 45 to 85% RH (no condensation)                                                                                   |
| Insulation Resistance    | 100 M $\Omega$ minimum (500V DC megger)                                                                          |
| Dielectric Strength      | Between live and dead parts:<br>1,000V AC, 1 minute                                                              |
| Vibration Resistance     | Operating extremes:<br>5 to 55 Hz, amplitude 0.5 mm                                                              |
| Shock Resistance         | Damage limits: 1,000 m/s <sup>2</sup> (100G)                                                                     |
| Durability               | 1,000 hours minimum                                                                                              |
| Degree of Protection     | IP40 (enclosed type)                                                                                             |
| Terminal Style           | Solder/tab terminal #110<br>PC board terminal                                                                    |
| Weight (approx.)         | 16g                                                                                                              |

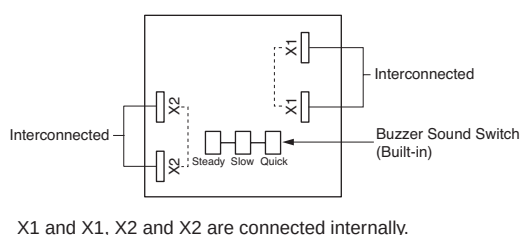
| Shape                                                                               | Operating Voltage          | Type No.            |                   |
|-------------------------------------------------------------------------------------|----------------------------|---------------------|-------------------|
|                                                                                     |                            | Solder/Tab Terminal | PC Board Terminal |
|  | 6V AC/DC $\pm 10\%$        | LA3Z-1X2            | LA3Z-1X2V         |
|                                                                                     | 12 to 24V AC/DC $\pm 10\%$ | LA3Z-1X4            | LA3Z-1X4V         |

- L-shaped lever types are not available.

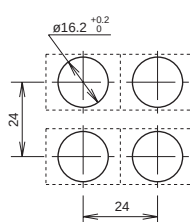
## Dimensions



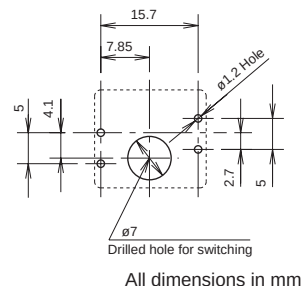
## Terminal Arrangement (Bottom View)



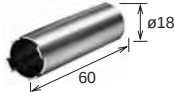
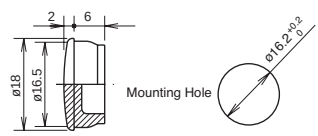
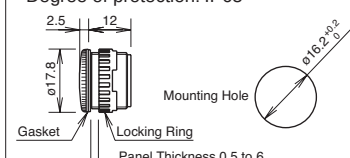
## Mounting Hole Layout



## PC Board Layout (Bottom View)



## Accessories

| Shape                                                                                                                  |              | Material                                 | Type No. | Ordering Type No. | Package Quantity | Dimensions (mm)                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------|----------|-------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Locking Ring Wrench<br>               |              | Metal (nickel-plated brass)              | MT-001   | MT-001            | 1                | <ul style="list-style-type: none"> <li>Used to tighten the locking ring when installing an L6 control unit onto a panel.</li> <li>Tighten the locking ring to a torque of 0.88 N·m maximum.</li> </ul>                                                                                                                                     |
| Lamp Holder Tool<br>                  |              | Rubber                                   | OR-44    | OR-44             | 1                | <ul style="list-style-type: none"> <li>Used to install and remove LED lamps.</li> </ul>                                                                                                                                                                                                                                                    |
| Lens Removal Tool<br>                 |              | Stainless Steel                          | MT-101   | MT-101            | 1                | <ul style="list-style-type: none"> <li>Used to remove lens and buttons.</li> </ul>                                                                                                                                                                                                                                                         |
| Switch Guard (180° Spring return)<br> | Round/Square | Guard (polyarylate)<br>Base (polyacetal) | AL-K6SP  | AL-K6SP           | 1                | <ul style="list-style-type: none"> <li>Degree of protection: IP65</li> <li>Used to protect pushbuttons from inadvertent operation</li> <li>See page 24 for dimensions.</li> </ul>                                                                      |
|                                                                                                                        | Rectangular  |                                          | AL-KH6SP | AL-KH6SP          | 1                |                                                                                                                                                                                                                                                                                                                                            |
| Dust Cover<br>                      | Round        | Elastomer (boot)<br>Polypropylene (base) | AL-D6    | AL-D6             | 1                | <ul style="list-style-type: none"> <li>Mounting centers will differ when the dust cover is used. (See page 24 for dimensions.)</li> <li>Operating temperature: -10 to +55°C</li> <li>See page 24 for dimensions.</li> </ul>                                                                                                                |
|                                                                                                                        | Square       |                                          | AL-DQ6   | AL-DQ6            | 1                |                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                        | Rectangular  |                                          | AL-DH6   | AL-DH6            | 1                |                                                                                                                                                                                                                                                                                                                                            |
| Terminal Cover<br>                  |              | Plastic (white)                          | H6-VL2   | H6-VL2PN10        | 1                | <ul style="list-style-type: none"> <li>Terminal cover is not attached and must be ordered separately.</li> <li>When wiring the terminals, insert the lead wires into the terminal cover holes before soldering.</li> <li>Cannot be used for round and square L-shaped lever contact types.</li> <li>See page 24 for dimensions.</li> </ul> |
| Mounting Hole Plug<br>              | Rubber       | Nitril rubber (black)                    | AL-B6    | AL-B6PN05         | 5                | <ul style="list-style-type: none"> <li>Degree of protection: IP65</li> </ul>                                                                                                                                                                          |
|                                                                                                                        | Metal        | Metal diecast (Locking ring: plastic)    | AL-BM6   | AL-BM6            | 1                | <ul style="list-style-type: none"> <li>Degree of protection: IP65</li> </ul>                                                                                                                                                                          |

## Ø16 L6 Series Miniature Control Units

### Maintenance Parts

| Shape                                                                                                                   | For Use On                                               | Material            | Type No.   | Ordering Type No. | Package Quantity | Color Code                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------|------------|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lens</b><br>                        | Round                                                    | Polyarylate         | AL6M-L②    | AL6M-L②PN05       | 5                | Specify a color code in place of ② in the Ordering Type No.<br>A: amber, C: clear, G: green, R: red, S: blue, Y: yellow<br>Note: When the LED color is white, use a clear (C) lens. |
|                                                                                                                         | Square                                                   |                     | AL6Q-L②    | AL6Q-L②PN05       |                  |                                                                                                                                                                                     |
|                                                                                                                         | Rectangular                                              |                     | AL6H-L②    | AL6H-L②PN05       |                  |                                                                                                                                                                                     |
| <b>Button</b><br>                      | Round                                                    | Polyarylate         | AB6M-B①    | AB6M-B① PN05      | 5                | Specify a color code in place of ① in the Ordering Type No.<br>B: black, G: green, R: red, S: blue, Y: yellow, W: white                                                             |
|                                                                                                                         | Square                                                   |                     | AB6Q-B①    | AB6Q-B① PN05      |                  |                                                                                                                                                                                     |
|                                                                                                                         | Rectangular                                              |                     | AB6H-B①    | AB6H-B① PN05      |                  |                                                                                                                                                                                     |
| <b>Marking Plate</b><br>               | Round                                                    | Acrylic             | AL6M-W     | AL6M-WPN05        | 5                | <ul style="list-style-type: none"> <li>• White</li> <li>• See page 25 for dimensions and engraving area.</li> </ul>                                                                 |
|                                                                                                                         | Square                                                   |                     | AL6Q-W     | AL6Q-WPN05        |                  |                                                                                                                                                                                     |
|                                                                                                                         | Rectangular                                              |                     | AL6H-W     | AL6H-WPN05        |                  |                                                                                                                                                                                     |
| <b>Locking Ring</b><br>              | All L6 control units                                     | Plastic             | HA9Z-LN    | HA9Z-LNPN10       | 10               | <ul style="list-style-type: none"> <li>• Black</li> </ul>                                                                                                                           |
| <b>Anti-rotation Ring</b><br>        | All L6 control units                                     | Stainless Steel     | AL6-LP     | AL6-LPPN10        | 10               |                                                                                                                                                                                     |
| <b>Safety Lever Lock</b><br>         | All L6 control units except L-shaped lever contact types | Polyacetal          | HA9Z-LS    | HA9Z-LSPN05       | 5                | <ul style="list-style-type: none"> <li>• Safety lever lock is not attached and must be ordered separately.</li> </ul>                                                               |
| <b>Spare Key</b><br>                 | Key selector                                             | Nickel-plated brass | AS6-SK-132 | AS6-SK-132PN02    | 2                | <ul style="list-style-type: none"> <li>• Thickness: 2.0 mm</li> </ul>                                                                                                               |
| <b>Illuminated Selector Knob</b><br> | Illuminated selector                                     | Plastic             | LA1A-F②    | LA1A-F②PN02       | 2                | Specify a color code in place of ② in the Ordering Type No.<br>A: amber, G: green, R: red, S: blue, Y: yellow, W: white                                                             |



## LED Lamps

| Operating Voltage                                                                                   | Current Draw |      | Type No. | Ordering Type No.      | ② Illumination Color Code                                                                                                         | Package Quantity | Base       |
|-----------------------------------------------------------------------------------------------------|--------------|------|----------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------|------------|
|                                                                                                     | AC           | DC   |          |                        |                                                                                                                                   |                  |            |
| 5V DC ±5%<br>      | —            | 8 mA | LFTD-5②  | LFTD-5②<br>LFTD-5②PN10 | Specify a color code in place of ② in the Ordering Type No.<br>A: amber<br>G: green<br>R: red<br>S: blue<br>W: white<br>Y: yellow | 1<br>10          | SX6S/8×5.4 |
| 12V AC/DC ±10%<br> | 9 mA         | 8 mA | LFTD-1②  | LFTD-1②<br>LFTD-1②PN10 |                                                                                                                                   | 1<br>10          |            |
| 24V AC/DC ±10%<br> | 9 mA         | 8 mA | LFTD-2②  | LFTD-2②<br>LFTD-2②PN10 |                                                                                                                                   | 1<br>10          |            |

## Transformer

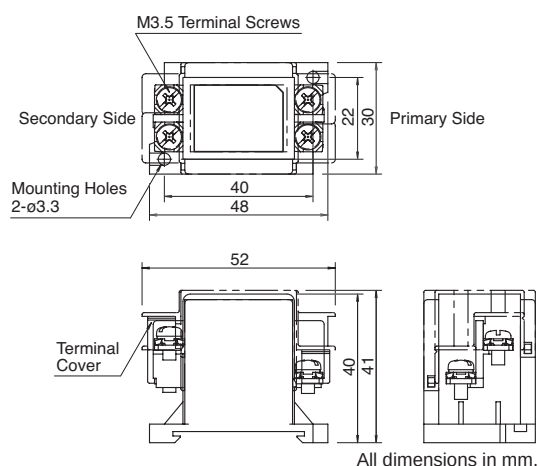
| Shape                                                                                                               | Primary Voltage | Secondary Voltage | Type No. | Applicable LED Lamp |
|---------------------------------------------------------------------------------------------------------------------|-----------------|-------------------|----------|---------------------|
| Separate Mounting Type for 24V<br> | 100/110V AC     | 24V AC, 0.5W      | TWR512   | LFTD-2②             |
|                                                                                                                     | 200/220V AC     |                   | TWR522   |                     |
|                                                                                                                     | 400/440V AC     |                   | TWR542   |                     |

- Terminal covers are supplied.
- Connect only one LFTD LED lamp to each transformer.
- Use plastic mounting clip BC9Z-E/NS35N when mounting 400/440V AC primary voltage models.

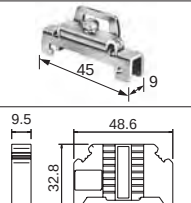
## Specifications

|                              |                       |                                                  |
|------------------------------|-----------------------|--------------------------------------------------|
| Operating Voltage            |                       | 100/110V AC, 200/220V AC, 400/440V AC (50/60 Hz) |
| Power Consumption            |                       | 2.4VA                                            |
| Rated Insulation Voltage     |                       | 600V                                             |
| Insulation Resistance        |                       | 100 MΩ minimum (500V DC megger)                  |
| Dielectric Strength          |                       | 2500V AC, 1 minute                               |
| Standard Operating Condition | Operating Temperature | −30 to +60°C (no freezing)                       |
|                              | Relative Humidity     | 35 to 85% (no condensation)                      |
| Vibration Resistance         | Operating Extremes    | 5 to 55 Hz, amplitude 0.5 mm                     |
| Shock Resistance             | Damage Limits         | 1,000 m/s <sup>2</sup> (100G)                    |
| Terminal Screw               |                       | M3.5                                             |
| Applicable Wire              |                       | 2 mm <sup>2</sup> maximum, 2 wires maximum       |

## Dimensions



## Accessories

| Description   | Appearance                                                                          | Description                                    | Type No.     | Ordering Type No. | Package Quantity |
|---------------|-------------------------------------------------------------------------------------|------------------------------------------------|--------------|-------------------|------------------|
| DIN Rail      |  | Aluminum<br>Weight: Approx. 200g<br>Length: 1m | BAA1000      | BAA1000PN10       | 10               |
|               |                                                                                     | Steel<br>Weight: Approx. 320g<br>Length: 1m    | BAP1000      | BAP1000PN10       |                  |
| Mounting Clip |  | Steel<br>Weight: Approx. 15g                   | BNL6         | BNL6PN10          |                  |
|               |                                                                                     | Plastic<br>Weight: Approx. 15g                 | BC9Z-E/NS35N | BC9Z-E/NS35NPN10  |                  |

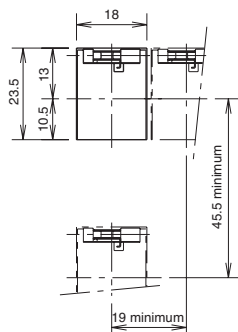
- Use plastic mounting clip BC9Z-E/NS35N when using 400/440V AC primary voltage transformers.

# Ø16 L6 Series Miniature Control Units

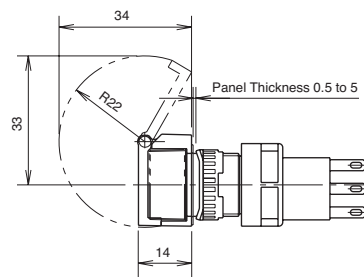
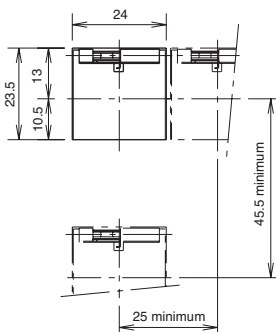
## Dimensions

### • Switch Guard

For Round/Square Units (AL-K6SP)

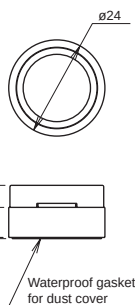


For Rectangular Units (AL-KH6SP)

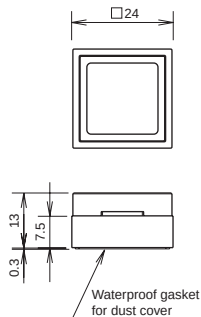


### • Dust Cover

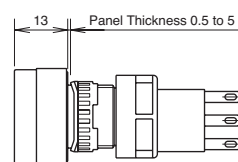
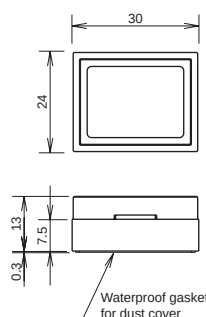
For Round Units (AL-DM6)



For Square Units (AL-DQ6)

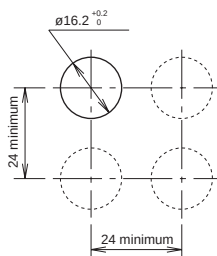


For Rectangular Units (AL-DH6)

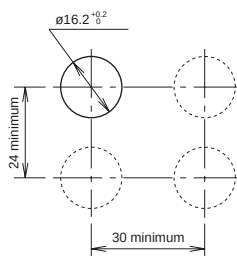


## Mounting Hole Layout

Round/Square Units

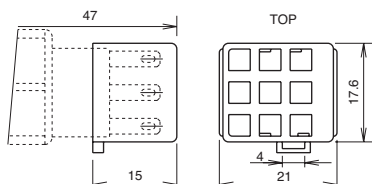


Rectangular Units



Note: Determine mounting centers to ensure easy operation.

### • Terminal Cover



Depth behind the panel when using terminal cover: 47 mm

### • Marking Plate

| Shape       | Size         | Engraving area |
|-------------|--------------|----------------|
| Round       | Ø13.7 mm     | Ø12 mm         |
| Square      | □13.7 mm     | □12 mm         |
| Rectangular | 13.7×19.7 mm | 12×18 mm       |

Engraving depth: 0.5 mm maximum

## Safety Precautions

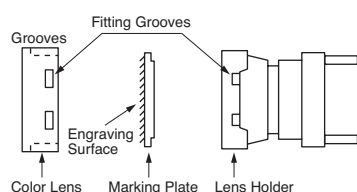
- Turn off power to the L6 series control units before installation, removal, wiring, maintenance, and inspection. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid burning your hand, use the lamp holder tool when replacing lamps.
- For wiring, use wires of proper size to meet the voltage and current requirements. Improper soldering may cause overheating and create a fire hazard.

## Instructions

### Replacement of Lens and Marking Plate

#### • Removal

Remove the operator (color lens, marking plate, lens holder, and spring) by holding the color lens recesses with the Lens Removal Tool (MT-101) and pulling it out. Remove the marking plate by disengaging the latches between the color lens and lens holder. The marking plate must be engraved on the front side as shown below.



When using a color film, insert it between the color lens and marking plate. Illumination selector knob can be removed by turning the knob and pulling it out.

#### • Installation

Place the marking plate on the lens holder in the correct direction, and press the color lens onto the lens holder to engage the latches. Insert the lens holder into the housing in the correct direction.

### Marking

For L6 series illuminated pushbuttons, legends and symbols can be engraved on the built-in marking plates, or printed film can be inserted under the lens.

#### • Marking Plate & Engraving Area

| Lens                    | Round                                                                                                                                                                                                                        | Square | Rectangular |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|
| Built-in Marking Plate  |                                                                                                                                                                                                                              |        |             |
|                         | <ul style="list-style-type: none"> <li>• Engraving must be made on the engraving area less than 0.5mm deep.</li> <li>• The marking plate is made of white acrylic resin.</li> </ul>                                          |        |             |
| Applicable Marking Film |                                                                                                                                                                                                                              |        |             |
|                         | <ul style="list-style-type: none"> <li>• Two 0.1mm-thick films or one 0.2mm-thick film can be installed in the lens.</li> <li>• Marking film is not supplied.</li> <li>• Recommended marking film: Polyester film</li> </ul> |        |             |

### Replacing the LED Lamp

Lamps can be replaced using the lamp holder tool (OR-44) from the front of the panel, or by removing the contact block from the operator unit.

#### • Removing the LED lamp from the front of the panel

1. Slip the lamp holder tool onto the lamp head. Then push slightly, and turn the lamp holder tool counterclockwise.

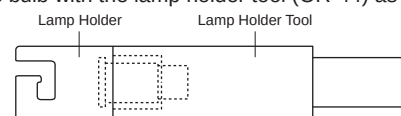


2. Press the lamp head to remove from the lamp holder.



#### • Installing the LED lamp from the front of the panel

1. Insert the LED lamp head into the lamp holder. Make sure that the lamp is pushed in completely.
2. Hold the bulb with the lamp holder tool (OR-44) as shown below.



3. Place the insertion guide of the lamp holder and the TOP marking side or the groove in the operator unit in the same direction. Insert the lamp holder into the housing with the lamp holder tool. Then push the lamp lightly and turn it clockwise to install.

#### • Replacing the LED lamp by removing the contact block

The LED lamp can be replaced easily by removing the contact block.



### Panel Mounting

Remove the contact block from the operator. Insert the operator into the panel cut-out from the front, then install the contact block to the operator.

#### • Removing the contact block



Turn the locking lever on the contact block in the direction opposite to the arrow on the housing. Then the contact block can be removed.

#### • Installing the contact block

Insert the contact block with the TOP markings on the contact block and the operator placed in the same direction. Then lock the units, turning the locking lever in the direction of the arrow.

#### • Notes for mounting

Use the optional Ring Wrench (MT-001) to mount the operator onto a panel. Tightening torque should not exceed 0.88 N·m. Do not use pliers. Do not tighten with excessive force, otherwise the locking ring will be damaged.

## Instructions

## Wiring

Solder the terminal at 350°C within 3 seconds using a 60W soldering iron. Sn-Ag-Cu type is recommended when using lead-free solder. When soldering, do not touch the switch housing with the soldering iron. Also ensure that no tensile force is applied to the terminal. Do not bend the terminal or apply excessive force to the terminal.

Use a non-corrosive rosin flux.

## Notes on Terminal Cover

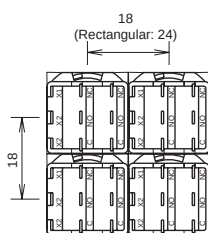
Insert the terminal cover into the contact block with the TOP markings on the contact block and the terminal cover in the same direction.

Note: When wiring, insert the lead wires into the terminal cover holes before soldering.

## L-Shaped Lever Contact Type

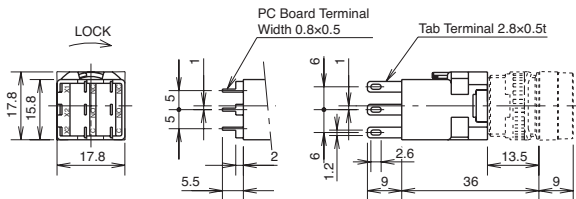
L-shaped lever contact types are available for 18-mm mounting centers, except buzzers. (Rectangular types have 24-mm mounting centers.)

To order L-shaped lever contact types, specify "T" in place of "C" in the Type No.

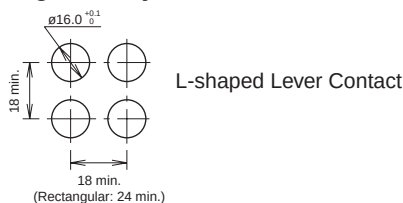


Example: (Standard contact type) LA1L-M1C14② (L-shaped lever contact type) LA1L-M1T14②

- **Dimensions**



- **Mounting Hole Layout**



## Connection

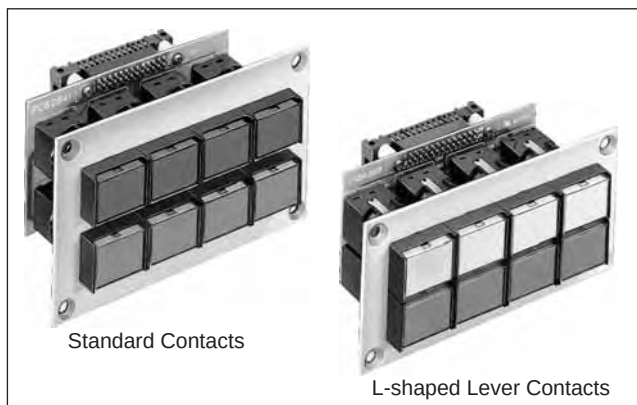
Positive lock connectors and easy-lock connectors can be used on the tab terminals.

- **Recommended Connectors**

| Item     | Positive-lock Connector<br>(Tyco Electronics) |          | Easy-lock Connector<br>(Nichifu Co., Ltd.) |             |
|----------|-----------------------------------------------|----------|--------------------------------------------|-------------|
| Terminal | 0.2 to 0.5 mm <sup>2</sup>                    | 175412-1 | 0.2 to 0.3 mm <sup>2</sup>                 | OSS-62852F3 |
|          | 0.2 to 1.25 mm <sup>2</sup>                   | 174778-1 | 0.5 to 1.25 mm <sup>2</sup>                | OSS-62815F3 |
| Housing  | 174779-1                                      |          | NET1-28-1P                                 |             |

Note: Positive-lock is a registered trademark of Tyco Electronics.

## Single Board Mounting



Mounting PC board terminal control units on a PC board offers the following features.

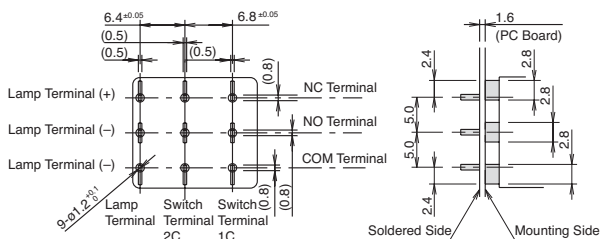
## Features

- Reduced installation labor, easy wiring, space saving, and standardization.
- Since the contact blocks on the PC board can be removed easily using a locking lever, the L6 series control units are easy to maintain.
- Because the L6 series control units require no studs for fastening the control unit to a PC board, special preparation of the control panel is not needed.

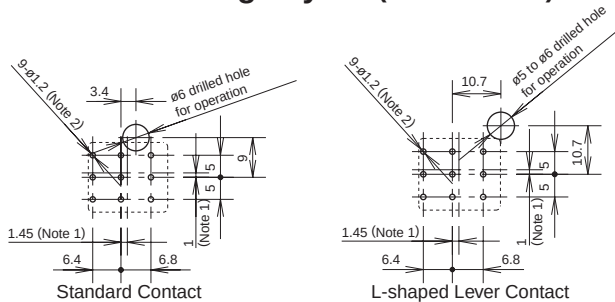
## Notes for Designing PC board and Circuit

- Use 1.6-mm-thick glass epoxy PC board with drilled holes.
- Design a circuit so that the L6 series control unit can operate within the rated voltage and current range. Make sure that inrush current and voltage do not exceed the rating.

- Minimum applicable load is 5V AC/DC, 1 mA on gold contacts. Applicable range is subject to the operating condition and load.
- Since the 2.8-mm-wide terminal touches the PC board as shown on the right, short circuit may occur with pattern lines. Design a circuit carefully to prevent short circuit.



### PC Board Drilling Layout (Bottom View)



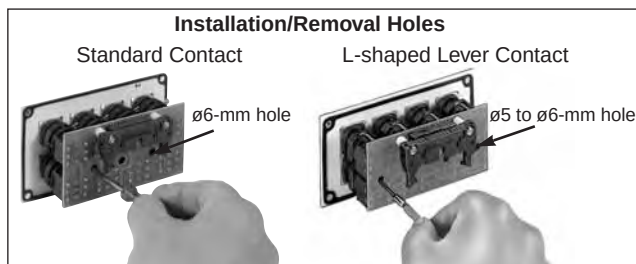
Note 1: When designing, note the alignment of centerlines of the contact blocks and centerlines of the operators.

Note 2: The diameter of the terminal hole is 1.2 mm.

## Single Board Mounting

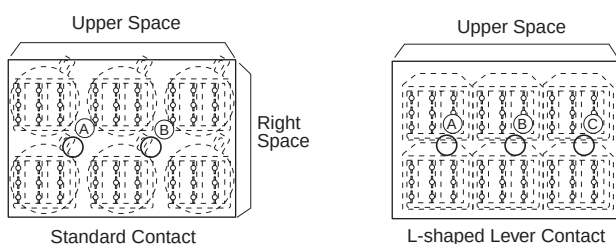
### Installation and Removal of Contact Blocks

Turn the locking lever to install and remove contact blocks on the PC board using a screwdriver from a hole (standard contact Ø6 mm, L-shaped lever contact Ø5 mm to Ø6 mm) in the PC board. The locking lever can be used for both standard contact types and L-shaped lever contact types but determine location of the control units so that the locking lever can be operated.



Hole diameter may vary to meet installation requirements. When the locking lever can be accessed by using a screwdriver from the upper or right space, holes are not necessary.

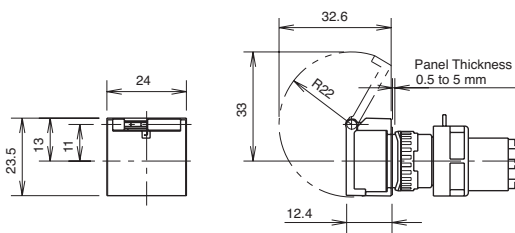
#### <Example>



### Switch Guard for Single Board Mounting



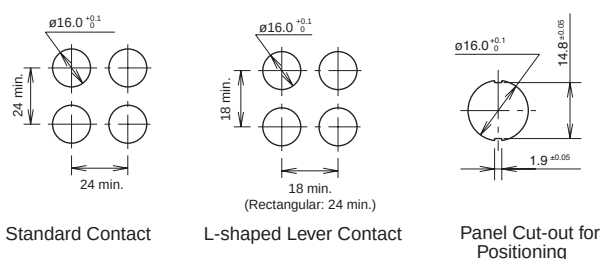
Specification: Rectangular type  
Degree of Protection: IP65  
Type No.: LA9Z-K3



Note: The panel depth is the same for control units with or without switch guards. Both types can be installed on the same PC board.

### Mounting Holes and Assembly Procedure

Drill mounting holes in the panel as shown below. When the units are mounted collectively, provide adequate clearance.



#### • Assembly Procedure

1. Install the operator to the panel.
2. Mount the contact block to the operator from the rear.
3. Turn the locking lever to lock the contact block.
4. Insert the PC board to terminals and solder.

Note 1: Make sure that each terminal is inserted into the PC board correctly.

Note 2: Do not apply tensile force to the connector cable for an extended period of time.

Note 3: Do not expose the contact block to water.

Note 4: Ensure to lock contact blocks when the contact blocks are installed on the operators.

Specifications and other descriptions in this catalog are subject to change without notice.



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