

**Non-Illuminated Momentary Pushbutton Units**

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

**Flush Button****Extended Button****Mushroom Button****Jumbo Mushroom****Pushbutton Units—Flush, Extended, Mushroom Head or Jumbo Mushroom Head Operators**

| Contact Type | Button Color             | Flush Button Catalog Number | Extended Button Catalog Number | Mushroom Button Catalog Number | Jumbo Mushroom <sup>①</sup> Catalog Number |
|--------------|--------------------------|-----------------------------|--------------------------------|--------------------------------|--|
| 1NO          | Black                    | 10250T23B                   | 10250T25B                      | 10250T26B                      | 10250T27B                                  |
|              | Red                      | 10250T23R                   | 10250T112-53                   | 10250T122-53                   | 10250T172-53                               |
|              | Green                    | 10250T23G                   | 10250T25G                      | 10250T26G                      | 10250T27G                                  |
|              | Yellow                   | 10250T23Y                   | 10250T25Y                      | 10250T26Y                      | 10250T27Y                                  |
|              | Red—Engraved EMERG. STOP | —                           | —                              | —                              | 10250T17213-53                             |
| 1NC          | Black                    | 10250T101-51                | 10250T111-51                   | 10250T121-51                   | 10250T171-51                               |
|              | Red                      | 10250T102-51                | 10250T25R                      | 10250T26R                      | 10250T27R                                  |
|              | Green                    | 10250T103-51                | 10250T113-51                   | 10250T123-51                   | 10250T173-51                               |
|              | Yellow                   | 10250T104-51                | 10250T120-51                   | 10250T124-51                   | 10250T174-51                               |
|              | Red—Engraved EMERG. STOP | —                           | —                              | —                              | 10250T29                                   |
| 1NO-1NC      | Black                    | 10250T30B                   | 10250T31B                      | 10250T32B                      | 10250T33B                                  |
|              | Red                      | 10250T30R                   | 10250T31R                      | 10250T32R                      | 10250T33R                                  |
|              | Green                    | 10250T30G                   | 10250T31G                      | 10250T32G                      | 10250T33G                                  |
|              | Yellow                   | 10250T30Y                   | 10250T31Y                      | 10250T32Y                      | 10250T33Y                                  |
|              | Red—Engraved EMERG. STOP | —                           | —                              | —                              | 10250T33                                   |
| 2NO          | Black                    | 10250T101-2                 | 10250T111-2                    | 10250T121-2                    | 10250T171-2                                |
|              | Red                      | 10250T102-2                 | 10250T112-2                    | 10250T122-2                    | 10250T172-2                                |
|              | Green                    | 10250T103-2                 | 10250T113-2                    | 10250T123-2                    | 10250T173-2                                |
|              | Yellow                   | 10250T104-2                 | 10250T120-2                    | 10250T124-2                    | 10250T174-2                                |
|              | Red—Engraved EMERG. STOP | —                           | —                              | —                              | 10250T17213-2                              |
| 2NC          | Black                    | 10250T101-3                 | 10250T111-3                    | 10250T121-3                    | 10250T171-3                                |
|              | Red                      | 10250T102-3                 | 10250T112-3                    | 10250T122-3                    | 10250T172-3                                |
|              | Green                    | 10250T103-3                 | 10250T113-3                    | 10250T123-3                    | 10250T173-3                                |
|              | Yellow                   | 10250T104-3                 | 10250T120-3                    | 10250T124-3                    | 10250T174-3                                |
|              | Red—Engraved EMERG. STOP | —                           | —                              | —                              | 10250T17213-3                              |



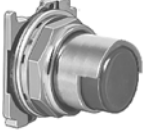



**Note**

① Anodized aluminum head is not suitable for use in ultraviolet light applications.

### Pushbuttons

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

#### Momentary Pushbutton Operators, Non-illuminated

| Button   | Color   | Catalog Number    |                      |                  |                  |                  |
|--|---|-------------------|----------------------|------------------|------------------|------------------|
|  |   | Vertical          | Horizontal           |                  |                  |                  |
| <b>10250T10_</b><br>      | Flush button ①  | Black             | <b>10250T101</b>     |                  |                  |                  |
|  |   | Red               | <b>10250T102</b>     |                  |                  |                  |
|  |   | Green             | <b>10250T103</b>     |                  |                  |                  |
|  |   | Yellow            | <b>10250T104</b>     |                  |                  |                  |
|  |   | Gray              | <b>10250T105</b>     |                  |                  |                  |
|  |   | White             | <b>10250T106</b>     |                  |                  |                  |
|  |   | Blue              | <b>10250T108</b>     |                  |                  |                  |
|  |   | Orange            | <b>10250T109</b>     |                  |                  |                  |
|  | <b>10250T11_</b><br>   | Extended button   | Black                | <b>10250T111</b> |                  |                  |
| Red  |   |                   | <b>10250T112</b>     |                  |                  |                  |
| Green  |   |                   | <b>10250T113</b>     |                  |                  |                  |
| Yellow   |   |                   | <b>10250T120</b>     |                  |                  |                  |
| White  |   |                   | <b>10250T116</b>     |                  |                  |                  |
| Blue   |   |                   | <b>10250T118</b>     |                  |                  |                  |
| Orange   |   |                   | <b>10250T119</b>     |                  |                  |                  |
| <b>10250T5_</b><br>      |   |                   | Half shrouded button | Black            | <b>10250T501</b> | <b>10250T511</b> |
|  |   |                   |                      | Red              | <b>10250T502</b> | <b>10250T512</b> |
|  | Green   | <b>10250T503</b>  |                      | <b>10250T513</b> |                  |                  |
|  | Yellow  | <b>10250T504</b>  |                      | <b>10250T514</b> |                  |                  |
|  | Gray  | <b>10250T505</b>  |                      | <b>10250T515</b> |                  |                  |
|  | White   | <b>10250T506</b>  |                      | <b>10250T516</b> |                  |                  |
|  | Blue  | <b>10250T508</b>  |                      | <b>10250T518</b> |                  |                  |
|  | Orange  | <b>10250T509</b>  |                      | <b>10250T519</b> |                  |                  |
|  | <b>10250T12_</b><br> | Mushroom button   |                      | Black            | <b>10250T121</b> |                  |
| Red  |   |                   | <b>10250T122</b>     |                  |                  |                  |
| Green  |   |                   | <b>10250T123</b>     |                  |                  |                  |
| Yellow   |   |                   | <b>10250T124</b>     |                  |                  |                  |
| Blue   |   |                   | <b>10250T129</b>     |                  |                  |                  |
| <b>10250T17_</b><br>    | Jumbo mushroom button ②   | Black             | <b>10250T171</b>     |                  |                  |                  |
|  |   | Red               | <b>10250T172</b>     |                  |                  |                  |
|  |   | Red (EMERG. STOP) | <b>10250T17213</b>   |                  |                  |                  |
|  |   | Green             | <b>10250T173</b>     |                  |                  |                  |
|  |   | Yellow            | <b>10250T174</b>     |                  |                  |                  |
| <b>10250ED1164_</b><br> | Low operating force—<br>jumbo mushroom ②③   | Black             | <b>10250ED1164-2</b> |                  |                  |                  |
|  |   | Red               | <b>10250ED1164-3</b> |                  |                  |                  |
|  |   | Green             | <b>10250ED1164-4</b> |                  |                  |                  |
|  |   | Yellow            | <b>10250ED1164-5</b> |                  |                  |                  |
|  |   | Clear             | <b>10250ED1164</b>   |                  |                  |                  |

**Note:** To order complete assembled unit using one composite catalog number, add contact block and legend plate suffix to the end of operator catalog number. Example: 10250T101-1TS33



**Operator**  
**10250T101**

+



**Contact Block**  
**10250T1**

+



**Legend Plate**  
**10250TS33**

#### Notes

- ① To order operator with factory assembled extended retaining nut, **10250TA12**, for thick panel applications, add suffix letter **E** to listed catalog number. Example: 10250T101**E**.
- ② Anodized aluminum head is not suitable for use in ultraviolet light applications.
- ③ Operating force—Standard = 2.4 lb; low force = 1.6 lb.

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

**10250TA\_**



**Mechanically Interlocked Pushbutton Operators**

| Description                                 | Catalog Number     |
|---|--------------------|
| Black flush and green flush                 | <b>10250TA66</b>   |
| Black flush and long red                    | <b>10250TA67</b>   |
| Black flush and red mushroom head           | <b>10250TA68</b>   |
| Black flush and lock-down red mushroom head | <b>10250TA69</b> ① |
| Black flush and red jumbo mushroom head     | <b>10250TA76</b>   |
| Green flush and long red                    | <b>10250TA72</b>   |
| Black long and long red                     | <b>10250TA73</b>   |
| Green flush and red mushroom head           | <b>10250TA77</b>   |
| Green flush and black flush                 | <b>10250TA75</b>   |

**Lockout Pushbutton Operators with Padlock Attachments**

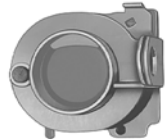
UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

The following pushbutton and mushroom operators include an integral padlock attachment for applications requiring lockout/tagout of specific machine functions. They are available in styles which allow locking of a button in the down position

(stopped position) or locking a button in the up position (to prevent starting). Select the **“Hand”** latch type which functions as a momentary pushbutton until the operator presses the button and moves the padlock attachment into position for

locking, or choose the **“Spring Loaded”** latch type where the padlock attachment springs into place when the button is pressed. Units accept a customer supplied 1/4 in padlock.

**10250TA16**



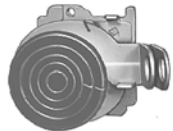
**Padlockable in the Down Position** ②

| Operator Type | Color             | Latch Type    | Catalog Number    |
|---------------|-------------------|---------------|-------------------|
| Flush head    | Red               | Hand          | <b>10250TA16</b>  |
| Mushroom head | Red               | Hand          | <b>10250TA42</b>  |
|               | Red               | Spring loaded | <b>10250TA45</b>  |
| Jumbo head ③  | Red               | Hand          | <b>10250TA52</b>  |
|               | Red               | Spring loaded | <b>10250TA55</b>  |
|               | Red (EMERG. STOP) | Spring loaded | <b>10250ED952</b> |

**Padlockable in the Up Position** ②

| Operator Type | Color | Latch Type | Catalog Number   |
|---------------|-------|------------|------------------|
| Mushroom head | Black | Hand       | <b>10250TA41</b> |
|               | Green | Hand       | <b>10250TA43</b> |

**10250TA4\_**



**10250TA5\_**



|                       |        |      |                  |
|-----------------------|--------|------|------------------|
| Jumbo mushroom head ③ | Black  | Hand | <b>10250TA51</b> |
|                       | Green  | Hand | <b>10250TA53</b> |
|                       | Yellow | Hand | <b>10250TA54</b> |

**Notes**

Hand attachment must be manually moved into place for locking. Spring loaded: when operator is pressed—attachment springs into place. Must be moved manually to release button.

- ① NC contacts must be mounted behind lock-down mushroom head operator to ensure lockout.
- ② Operators can be latched down without a padlock. Padlock not included.
- ③ Jumbo mushroom heads are not recommended for use in applications where exposure to ultraviolet light exists.

### Key Pushbutton Operator

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

These devices incorporate an integral locking mechanism which enables locking units in various positions (**Locked Down**), locking units to

prevent operation (**Locked Up**) or setting unit to lock when the button is pressed (**Push to Lock**), requiring the key to be inserted to return to

normal operation. With the key in the center position, these operators function as a normal momentary pushbutton (**Free**).

### Replacement Keys or Dissimilar Locks for Key Operators Below

Listed operators have identical locks and keys (Key Code H661) Catalog Number 10250ED824. For dissimilar lock and key combinations, see listing on **Page V7-T1-234**.

#### Replacement Keys

| Description                  | Catalog Number |
|------------------------------|----------------|
| Replacement keys (code H661) | 10250ED824     |

10250T43



### Key Pushbutton Operator

Key Position and Pushbutton Operations



Key Removal Positions

Vertical Mounting <sup>①</sup>  
Catalog Number

#### Three-Position

|         |      |           |         |           |
|---------|------|-----------|---------|-----------|
| Lock up | Free | Lock down | All     | 10250T430 |
| Lock up | Free | Lock down | L and R | 10250T431 |
| Lock up | Free | Lock down | C and R | 10250T432 |

#### Two-Position

|         |      |              |         |           |
|---------|------|--------------|---------|-----------|
| Lock up | Free | —            | L and C | 10250T433 |
| Lock up | Free | —            | L       | 10250T434 |
| —       | Free | Lock down    | C and R | 10250T435 |
| —       | Free | Lock down    | R       | 10250T436 |
| —       | Free | Push to lock | C and R | 10250T437 |
| —       | Free | Push to lock | R       | 10250T438 |

### Latch-In, Twist-to-Release Operator

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

10250ED1043-4



### Operator Only with Button

| Description   | Catalog Number |
|---|----------------|
| Latch-in, twist-to-release operator with red mushroom head button | 10250ED1043-4  |

#### Note

<sup>①</sup> Horizontal mounting available on request.

#### 1

#### Illuminated Momentary Pushbutton Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- LED or incandescent
- Full voltage, resistor or transformer type
- Plastic lenses

#### 24V Full Voltage Illuminated Pushbutton



#### Illuminated Pushbutton Units

| Type                     | Voltage     | Color             | LED/Lamp Number   | Illuminated Pushbutton |                        |                    |                   |                |                 |
|--------------------------|-------------|-------------------|-------------------|------------------------|------------------------|--------------------|-------------------|----------------|-----------------|
|                          |             |                   |                   | 1NO Catalog Number     | 1NO-1NC Catalog Number | 1NC Catalog Number |                   |                |                 |
| <b>LED Lamp</b>          |             |                   |                   |                        |                        |                    |                   |                |                 |
| Full voltage             | 24 Vac/Vdc  | Red               | Bayonet base      | 10250T397LRD24-53      | 10250T397LRD24-1       | 10250T397LRD24-51  |                   |                |                 |
|                          |             | Green             |                   | 10250T397LGD24-53      | 10250T397LGD24-1       | 10250T397LGD24-51  |                   |                |                 |
|                          |             | Amber             |                   | 10250T397LAD24-53      | 10250T397LAD24-1       | 10250T397LAD24-51  |                   |                |                 |
|                          |             | Yellow            |                   | 10250T397LYD24-53      | 10250T397LYD24-1       | 10250T397LYD24-51  |                   |                |                 |
|                          |             | Blue              |                   | 10250T397LLD24-53      | 10250T397LLD24-1       | 10250T397LLD24-51  |                   |                |                 |
|                          |             | White             |                   | 10250T397LWD24-53      | 10250T397LWD24-1       | 10250T397LWD24-51  |                   |                |                 |
|                          |             | 120 Vac/Vdc       |                   | Red                    | 10250T397LRD2A-53      | 10250T397LRD2A-1   | 10250T397LRD2A-51 |                |                 |
|                          | Green       | 10250T397LGD2A-53 | 10250T397LGD2A-1  | 10250T397LGD2A-51      |                        |                    |                   |                |                 |
|                          | Amber       | 10250T397LAD2A-53 | 10250T397LAD2A-1  | 10250T397LAD2A-51      |                        |                    |                   |                |                 |
|                          | Yellow      | 10250T397LYD2A-53 | 10250T397LYD2A-2  | 10250T397LYD2A-51      |                        |                    |                   |                |                 |
|                          | Blue        | 10250T397LLD2A-53 | 10250T397LLD2A-1  | 10250T397LLD2A-51      |                        |                    |                   |                |                 |
|                          | White       | 10250T397LWD2A-53 | 10250T397LWD2A-1  | 10250T397LWD2A-51      |                        |                    |                   |                |                 |
|                          | Transformer | 120 Vac           | Red               |                        | 10250T411LRD06-53      | 10250T411LRD06-1   | 10250T411LRD06-51 |                |                 |
|                          |             |                   | Green             |                        | 10250T411LGD06-53      | 10250T411LGD06-1   | 10250T411LGD06-51 |                |                 |
| Amber                    |             |                   | 10250T411LAD06-53 |                        | 10250T411LAD06-1       | 10250T411LAD06-51  |                   |                |                 |
| Yellow                   |             |                   | 10250T411LYD06-53 |                        | 10250T411LYD06-1       | 10250T411LYD06-51  |                   |                |                 |
| Blue                     |             |                   | 10250T411LLD06-53 |                        | 10250T411LLD06-1       | 10250T411LLD06-51  |                   |                |                 |
| White                    |             |                   | 10250T411LWD06-53 |                        | 10250T411LWD06-1       | 10250T411LWD06-51  |                   |                |                 |
| <b>Incandescent Lamp</b> |             |                   |                   |                        |                        |                    |                   |                |                 |
| Full voltage             |             |                   | 24 Vac/Vdc        |                        | Red                    | #757               | 10250T476C21-53   | 10250T476C21-1 | 10250T476C21-51 |
|                          |             |                   |                   |                        | Green                  |                    | 10250T476C22-53   | 10250T476C22-1 | 10250T476C22-51 |
|                          |             |                   |                   |                        | Amber                  |                    | 10250T476C43-53   | 10250T476C43-1 | 10250T476C43-51 |
|                          | Yellow      | 10250T476C23-53   |                   | 10250T476C23-1         | 10250T476C23-51        |                    |                   |                |                 |
|                          | Blue        | 10250T476C24-53   |                   | 10250T476C24-1         | 10250T476C24-51        |                    |                   |                |                 |
|                          | Clear       | 10250T476C25-53   |                   | 10250T476C25-1         | 10250T476C25-51        |                    |                   |                |                 |
|                          | White       | 10250T476C26-53   |                   | 10250T476C26-1         | 10250T476C26-51        |                    |                   |                |                 |
| Resistor                 | 120 Vac/Vdc | Red               | 120MB             | 10250T471C21-53        | 10250T471C21-1         | 10250T471C21-51    |                   |                |                 |
|                          |             | Green             |                   | 10250T471C22-53        | 10250T471C22-1         | 10250T471C22-51    |                   |                |                 |
|                          |             | Amber             |                   | 10250T471C43-53        | 10250T471C43-1         | 10250T471C43-51    |                   |                |                 |
|                          |             | Yellow            |                   | 10250T471C23-53        | 10250T471C23-1         | 10250T471C23-51    |                   |                |                 |
|                          |             | Blue              |                   | 10250T471C24-53        | 10250T471C24-1         | 10250T471C24-51    |                   |                |                 |
|                          |             | Clear             |                   | 10250T471C25-53        | 10250T471C25-1         | 10250T471C25-51    |                   |                |                 |
|                          |             | White             |                   | 10250T471C26-53        | 10250T471C26-1         | 10250T471C26-51    |                   |                |                 |
| Transformer              | 120 Vac     | Red               | #755              | 10250T75R ①            | 10250T76R ①            | 10250T77R ①        |                   |                |                 |
|                          |             | Green             |                   | 10250T75G ①            | 10250T76G ①            | 10250T77G ①        |                   |                |                 |
|                          |             | Amber             |                   | 10250T75A ①            | 10250T76A ①            | 10250T77A ①        |                   |                |                 |
|                          |             | Yellow            |                   | 10250T75Y ①            | 10250T76Y ①            | 10250T77Y ①        |                   |                |                 |
|                          |             | Blue              |                   | 10250T75B ①            | 10250T76B ①            | 10250T77B ①        |                   |                |                 |
|                          |             | Clear             |                   | 10250T75C ①            | 10250T76C ①            | 10250T77C ①        |                   |                |                 |
|                          |             | White             |                   | 10250T75W ①            | 10250T76W ①            | 10250T77W ①        |                   |                |                 |

**Note**

① For flashing module catalog number 10250TFL1, add suffix code **FM** to listed catalog number. Example: 10250T75R**FM**.

### Indicating Light Units ①

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- LED or incandescent
- Full voltage, resistor or transformer type
- Standard and PresTest types
- Plastic lenses

PresTest—This device incorporates a press-to-test feature whereby depressing the lens disconnects the light from the source being

monitored and connects the lamp to a continuously energized circuit for immediate detection of faulty lamps.

24V Full Voltage Illuminated Light



120 Vac Transformer PresTest



### Indicating Light Units

| Type                     | Voltage     | Color          | LED/Lamp Number | Indicating Light Catalog Number | PresTest Catalog Number |                |               |
|--------------------------|-------------|----------------|-----------------|---------------------------------|-------------------------|----------------|---------------|
| <b>LED Lamp</b>          |             |                |                 |                                 |                         |                |               |
| Full voltage             | 24 Vac/Vdc  | Red            | Bayonet base    | 10250T197LRP24                  | 10250T297LRP24          |                |               |
|                          |             | Green          |                 | 10250T197LGP24                  | 10250T297LGP24          |                |               |
|                          |             | Amber          |                 | 10250T197LAP24                  | 10250T297LAP24          |                |               |
|                          |             | Yellow         |                 | 10250T197LYP24                  | 10250T297LYP24          |                |               |
|                          |             | Blue           |                 | 10250T197LLP24                  | 10250T297LLP24          |                |               |
|                          |             | White          |                 | 10250T197LWP24                  | 10250T297LWP24          |                |               |
|                          |             | 120 Vac        |                 | Red                             | 10250T197LRP2A          | 10250T297LRP2A |               |
|                          |             |                |                 | Green                           | 10250T197LGP2A          | 10250T297LGP2A |               |
|                          | Amber       |                | 10250T197LAP2A  | 10250T297LAP2A                  |                         |                |               |
|                          | Yellow      |                | 10250T197LYP2A  | 10250T297LYP2A                  |                         |                |               |
|                          | Blue        |                | 10250T197LLP2A  | 10250T297LLP2A                  |                         |                |               |
|                          | White       |                | 10250T197LWP2A  | 10250T297LWP2A                  |                         |                |               |
|                          | Transformer |                | 120 Vac         | Red                             | 10250T181LRP06          | 10250T221LRP06 |               |
|                          |             |                |                 | Green                           | 10250T181LGP06          | 10250T221LGP06 |               |
|                          |             | Amber          |                 | 10250T181LAP06                  | 10250T221LAP06          |                |               |
|                          |             | Yellow         |                 | 10250T181LYP06                  | 10250T221LYP06          |                |               |
| Blue                     |             | 10250T181LLP06 |                 | 10250T221LLP06                  |                         |                |               |
| White                    |             | 10250T181LWP06 |                 | 10250T221LWP06                  |                         |                |               |
| <b>Incandescent Lamp</b> |             |                |                 |                                 |                         |                |               |
| Full voltage             |             | 24 Vac/Vdc     |                 | Red                             | #757                    | 10250T206NC1N  | 10250T235NC21 |
|                          | Green       |                | 10250T206NC2N   | 10250T235NC22                   |                         |                |               |
|                          | Amber       |                | 10250T206NC19N  | 10250T235NC43                   |                         |                |               |
|                          | Yellow      |                | 10250T206NC3N   | 10250T235NC23                   |                         |                |               |
|                          | Blue        |                | 10250T206NC4N   | 10250T235NC24                   |                         |                |               |
|                          | Clear       |                | 10250T206NC5N   | 10250T235NC25                   |                         |                |               |
|                          | White       |                | 10250T206NC6N   | 10250T235NC26                   |                         |                |               |
|                          | Resistor    | 120 Vac/Vdc    | Red             | 120MB                           | 10250T201NC1N           | 10250T231NC21  |               |
|                          |             |                | Green           |                                 | 10250T201NC2N           | 10250T231NC22  |               |
|                          |             |                | Amber           |                                 | 10250T201NC19N          | 10250T231NC43  |               |
|                          |             |                | Yellow          |                                 | 10250T201NC3N           | 10250T231NC23  |               |
|                          |             |                | Blue            |                                 | 10250T201NC4N           | 10250T231NC24  |               |
|                          |             |                | Clear           |                                 | 10250T201NC5N           | 10250T231NC25  |               |
|                          |             |                | White           |                                 | 10250T201NC6N           | 10250T231NC26  |               |
| Transformer ②            | 120 Vac     | Red            | #755            | 10250T34R                       | 10250T74NR              |                |               |
|                          |             | Green          |                 | 10250T34G                       | 10250T74NG              |                |               |
|                          |             | Amber          |                 | 10250T34A                       | 10250T74NA              |                |               |
|                          |             | Yellow         |                 | 10250T34Y                       | 10250T74NY              |                |               |
|                          |             | Blue           |                 | 10250T34B                       | 10250T74NB              |                |               |
|                          |             | Clear          |                 | 10250T34C                       | 10250T74NC              |                |               |
|                          |             | White          |                 | 10250T34W                       | 10250T74NW              |                |               |

**Notes**

- ① Standard indicating lights are rated UL (NEMA) 3S as well.
- ② For flashing lamp add letter **F** to listed catalog number. Example: 10250T34RF.

# 1

## Illuminated Pushbuttons and Indicating Lights

- LED or incandescent
- Full voltage, resistor or transformer type

### Illuminated Pushbutton



### Operators without Lens

### Indicating Light



### PresTest



### Master Test



| Type  | Voltage | LED/Lamp Number | Illuminated Pushbutton Catalog Number | Indicating Light Catalog Number | PresTest Catalog Number | Master Test Catalog Number |
|---|---------|-----------------|---------------------------------------|---------------------------------|-------------------------|----------------------------|
| <b>Incandescent Unit</b>                    |         |                 |                                       |                                 |                         |                            |
| Full voltage AC/DC                          | 6       | #755            | 10250T473                             | 10250T203N                      | 10250T232N              | —                          |
|   | 12      | #756            | 10250T474                             | 10250T204N                      | 10250T233N              | —                          |
|   | 24      | #757            | 10250T476                             | 10250T206N                      | 10250T235N              | —                          |
|   | 32      | #1828           | 10250T477                             | 10250T207N                      | 10250T238N              | —                          |
|   | 48      | #1835           | 10250T478                             | 10250T208N                      | 10250T239N              | —                          |
| Resistor AC/DC <sup>②</sup>                 | 120     | 120MB           | 10250T471                             | 10250T201N                      | 10250T231N              | —                          |
|   | 240     | 120MB           | 10250T472                             | 10250T202N                      | 10250T240N              | —                          |
| Transformer AC only <sup>③</sup>            | 24      | #755            | 10250T416                             | —                               | —                       | —                          |
|   | 120     |                 | 10250T411                             | 10250T181N                      | 10250T221N              | —                          |
|   | 240     |                 | 10250T422                             | 10250T182N                      | 10250T222N              | —                          |
|   | 277     |                 | 10250T419                             | 10250T198N                      | —                       | —                          |
|   | 380     |                 | 10250T413                             | 10250T183N                      | 10250T223N              | —                          |
|   | 480     |                 | 10250T414                             | 10250T184N                      | 10250T224N              | —                          |
| Neon AC/DC <sup>④</sup>                     | 120     | NE51H-R22       | —                                     | 10250T226N                      | —                       | —                          |
|   | 240     | NE51H-R68       | —                                     | 10250T227N                      | —                       | —                          |
| Solid-state 50/60 Hz only                   | 120     | 120MB           | —                                     | —                               | —                       | 10250T189N                 |
| <b>LED (LEDs not included) <sup>①</sup></b> |         |                 |                                       |                                 |                         |                            |
| Full voltage                                | —       | Bayonet base    | 10250T397L                            | 10250T197L                      | 10250T297L              | —                          |
| Transformer AC only                         | 24      |                 | 10250T416L                            | —                               | —                       | —                          |
|   | 120     |                 | 10250T411L                            | 10250T181L                      | 10250T221L              | —                          |
|   | 240     |                 | 10250T412L                            | 10250T182L                      | 10250T222L              | —                          |
|   | 277     |                 | 10250T419L                            | 10250T198L                      | —                       | —                          |
|   | 380     |                 | 10250T413L                            | 10250T183L                      | 10250T223L              | —                          |
|   | 480     |                 | 10250T414L                            | 10250T184L                      | 10250T224L              | —                          |
|   | 600     |                 | 10250T415L                            | 10250T185L                      | 10250T225L              | —                          |

### Notes

- ① These units do not include lamps. Order LED separately to match lens color. See **Page V7-T1-261** for LED Selection and **Page V7-T1-208** for Catalog Numbering System.
- ② Resistor units are not available for use with LEDs, choose either transformer or full voltage LED style.
- ③ For flashing lamp, add letter **F** to listed catalog number. Example: 10250T181NF.
- ④ Resistant to shock and vibration. For best illumination use amber, yellow or clear lens.

**Plastic**

**Indicating and Master Test Lenses**



| Color  | Plastic Catalog Number | Glass Catalog Number |
|--------|------------------------|----------------------|
| Red    | 10250TC1N              | 10250TC7N            |
| Green  | 10250TC2N              | 10250TC8N            |
| Amber  | 10250TC19N             | 10250TC9N            |
| Yellow | 10250TC3N              | —                    |
| Blue   | 10250TC4N              | 10250TC10N           |
| Clear  | 10250TC5N              | 10250TC11N           |
| White  | 10250TC6N              | 10250TC12N           |

**Glass**



**Illuminated Pushbutton Lenses**

**10250TC2**



| Color  | Catalog Number |
|--------|----------------|
| Red    | 10250TC21      |
| Green  | 10250TC22      |
| Yellow | 10250TC23      |
| Amber  | 10250TC43      |
| Blue   | 10250TC24      |
| Clear  | 10250TC25      |
| White  | 10250TC26      |

**Plastic**

**PresTest Lenses**



| Color  | Plastic Catalog Number | Glass Catalog Number |
|--------|------------------------|----------------------|
| Red    | 10250TC21              | 10250TC13N           |
| Green  | 10250TC22              | 10250TC14N           |
| Amber  | 10250TC43              | 10250TC15N           |
| Yellow | 10250TC23              | —                    |
| Blue   | 10250TC24              | 10250TC16N           |
| Clear  | 10250TC25              | 10250TC17N           |
| White  | 10250TC26              | 10250TC18N           |

**Glass**





**1 Push-Pull Emergency Stops (Compliant with IEC 60947-5-5)**

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- Two- and three-position
- Non-illuminated
- LONC contact block

**10250T579C47-71X****Two-Position Push-Pull Units****Operator Position** <sup>①</sup>

| Pull | Push | Button Type/Color                 | Lamp         | Type         | Voltage     | Catalog Number            |
|------|------|-----------------------------------|--------------|--------------|-------------|---------------------------|
| X    | 0    | 40 mm red—illuminated             | Incandescent | Transformer  | 120 Vac/Vdc | <b>10250T563C47-71X</b>   |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | Incandescent | Transformer  | 120 Vac/Vdc | <b>10250T563C53-71X</b>   |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | LED          | Transformer  | 120 Vac/Vdc | <b>10250T563LED06-71X</b> |
| X    | 0    | 40 mm red—illuminated             | Incandescent | Full voltage | 24 Vdc      | <b>10250T579C47-71X</b>   |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | Incandescent | Full voltage | 24 Vdc      | <b>10250T579C53-71X</b>   |
| X    | 0    | 40 mm red—illuminated             | Incandescent | Resistor     | 120 Vac/Vdc | <b>10250T580C47-71X</b>   |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | Incandescent | Resistor     | 120 Vac/Vdc | <b>10250T580C53-71X</b>   |
| X    | 0    | 40 mm red—illuminated             | Incandescent | Transformer  | 24 Vac      | <b>10250T589C47-71X</b>   |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | Incandescent | Transformer  | 24 Vac      | <b>10250T589C53-71X</b>   |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | LED          | Transformer  | 24 Vac      | <b>10250T589LED06-71X</b> |
| X    | 0    | 40 mm red—illuminated             | LED          | Transformer  | 24 Vac      | <b>10250T589LRD06-71X</b> |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | LED          | Full voltage | 24 Vdc      | <b>10250T597LED24-71X</b> |
| X    | 0    | 40 mm red—illuminated EMERG. STOP | LED          | Full voltage | 120 Vac/Vdc | <b>10250T597LED2A-71X</b> |
| X    | 0    | 40 mm red—illuminated             | LED          | Full voltage | 24 Vdc      | <b>10250T597LRD24-71X</b> |
| X    | 0    | 40 mm red—illuminated             | LED          | Full voltage | 120 Vac/Vdc | <b>10250T597LRD2A-71X</b> |
| X    | 0    | 40 mm red                         | —            | —            | —           | <b>10250T5B62-71X</b>     |
| X    | 0    | 40 mm red—EMERG. STOP             | —            | —            | —           | <b>10250T5B63-71X</b>     |
| X    | 0    | 65 mm red                         | —            | —            | —           | <b>10250T5J62-71X</b>     |
| X    | 0    | 65 mm red—EMERG. STOP             | —            | —            | —           | <b>10250T5J63-71X</b>     |





**Note**

① X = closed circuit, 0 = open circuit.



UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

### Two-Position Push-Pull Units

#### Operator Position <sup>①</sup>

|  | Pull | Push | Button Type/Color <sup>②</sup>  | Contact Type | Mounting Location |   | Catalog Number <sup>②</sup> |
|--|------|------|---|--------------|-------------------|---|-----------------------------|
|  |      |      |   |              | A                 | B |                             |
| <b>Two-Position Maintained Push, Maintained Pull</b>   |      |      |   |              |                   |   |                             |
| <br><b>10250T5B62-1X</b>  | 0    | X    | 40 mm/red   | 1NO          |                   |   | <b>10250T5B62-1X</b>        |
|  | X    | 0    |   | 1NC          |                   |   |                             |
| <br><b>10250T5B63-1X</b>  | 0    | X    | 40 mm engraved<br>EMERG. STOP/red   | 1NO          |                   |   | <b>10250T5B63-1X</b>        |
|  | X    | 0    |   | 1NC          |                   |   |                             |
| <br><b>10250T5J63-1X</b>  | 0    | X    | 65 mm aluminum engraved<br>EMERG. STOP/red  | 1NO          |                   |   | <b>10250T5J63-1X</b>        |
|  | X    | 0    |   | 1NC          |                   |   |                             |
| <br><b>10250ED1080-2</b> | 0    | X    | 65 mm aluminum engraved<br>EMERG. STOP/red<br><br>Special security<br>jumbo mushroom head | 1NO          |                   |   | <b>10250ED1080-2</b>        |
|  | X    | 0    |   | 1NC          |                   |   |                             |

### Button and Color Selection

|   | Color   | Suffix Code | Catalog Number   |
|---|---|-------------|------------------|
| <b>Standard</b><br>            | <b>Standard—40 mm</b>   |             |                  |
|   | Red   | <b>B62</b>  | <b>10250TB62</b> |
|   | Red (EMERG. STOP)   | <b>B63</b>  | <b>10250TB63</b> |
|   | Green   | <b>B61</b>  | <b>10250TB61</b> |
|   | Black   | <b>B60</b>  | <b>10250TB60</b> |
|   | Blue  | <b>B64</b>  | <b>10250TB64</b> |
| <b>Jumbo Mushroom Head</b><br> | <b>Jumbo Mushroom Head <sup>③</sup><br/>(Anodized) Aluminum—65 mm</b> |             |                  |
|   | Red   | <b>J62</b>  | <b>10250TJ62</b> |
|   | Red (EMERG. STOP)   | <b>J63</b>  | <b>10250TJ63</b> |
|   | Green   | <b>J61</b>  | <b>10250TJ61</b> |
|   | Black   | <b>J60</b>  | <b>10250TJ60</b> |
|   | Yellow  | <b>J64</b>  | <b>10250TJ64</b> |

#### Notes

- ① X = closed circuit, 0 = open circuit.
- ② To order different type or color buttons, substitute the underlined characters with appropriate suffix code from the table.  
Example: 10250TB64-1X.
- ③ Anodized aluminum head is not suitable for use in ultraviolet light applications.

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

10250T\_

#### Three-Position Push-Pull Units

Operator Position <sup>①</sup>



| Pull                                   | Intermediate | Push | Button Type/Color <sup>②</sup> | Contact Type | Mounting Location |   | Catalog Number <sup>②</sup> |
|--|--------------|------|--------------------------------|--------------|-------------------|---|-----------------------------|
|  |              |      |                                |              | A                 | B |                             |
| <b>Maintained Push, Momentary Pull</b> |              |      |                                |              |                   |   |                             |
| X                                      | 0            | 0    | 40 mm/black                    | 1NC          |                   |   | <b>10250T9B60-3X</b>        |
| X                                      | X            | 0    | 40 mm/red                      | 1NC          |                   |   | <b>10250T9B62-3X</b>        |
|  |              |      | 40 mm engraved EMERG. STOP/red |              |                   |   | <b>10250T9B63-3X</b>        |
| <b>Momentary Push, Momentary Pull</b>  |              |      |                                |              |                   |   |                             |
| X                                      | 0            | 0    | 40 mm/black                    | 1NC          |                   |   | <b>10250T4B60-3X</b>        |
| X                                      | X            | 0    | 40 mm/red                      | 1NC          |                   |   | <b>10250T4B62-3X</b>        |
| 0                                      | 0            | X    | 40 mm/black                    | 1NO          |                   |   | <b>10250T10B60-1X</b>       |
| X                                      | 0            | 0    | 40 mm/red                      | 1NC          |                   |   | <b>10250T10B62-1X</b>       |

#### Button and Color Selection

| Color   | Suffix Code | Catalog Number   |
|---|-------------|------------------|
| <b>Standard—40 mm</b>   |             |                  |
| Red   | <b>B62</b>  | <b>10250TB62</b> |
| Red (EMERG. STOP)   | <b>B63</b>  | <b>10250TB63</b> |
| Green   | <b>B61</b>  | <b>10250TB61</b> |
| Black   | <b>B60</b>  | <b>10250TB60</b> |
| Blue  | <b>B64</b>  | <b>10250TB64</b> |
| <b>Jumbo Mushroom Head <sup>③</sup> (Anodized) Aluminum—65 mm</b> |             |                  |
| Red   | <b>J62</b>  | <b>10250TJ62</b> |
| Red (EMERG. STOP)   | <b>J63</b>  | <b>10250TJ63</b> |
| Green   | <b>J61</b>  | <b>10250TJ61</b> |
| Black   | <b>J60</b>  | <b>10250TJ60</b> |
| Yellow  | <b>J64</b>  | <b>10250TJ64</b> |

#### Notes

- ① X = closed circuit, 0 = open circuit.
- ② To order different type or color buttons, substitute the underlined characters with appropriate suffix code from the table. Example: 10250T5B64-1X.
- ③ Anodized aluminum head is not suitable for use in ultraviolet light applications.

**Illuminated Push-Pull Units**

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

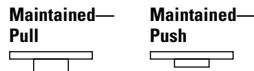
- LED or incandescent
- Full voltage, resistor or transformer type
- Two-position maintained

**Two-Position Push-Pull Operator**



**Two-Position Illuminated Maintained Push, Maintained Pull**

Operator Position ①



| Maintained Pull | Maintained Push | Lamp         | Type         | Voltage     | Contact Type | Mounting Location A      | Mounting Location B    | LED/Lamp Number | Red Standard Push-Pull Catalog Number ② |
|-----------------|-----------------|--------------|--------------|-------------|--------------|--------------------------|------------------------|-----------------|---|
| 0               | X               | LED          | Full Voltage | 24 Vac/Vdc  | 1NO          |                          |                        | Bayonet base    | <b>10250T597LRD24-1X</b>                |
| X               | 0               |              |              | 120 Vac/Vdc | 1NC          |                          |                        |                 | <b>10250T597LRD24A-1X</b>               |
|                 |                 |              | Transformer  | 24 Vac      |              | <b>10250T589LRD06-1X</b> |                        |                 |   |
|                 |                 |              |              | 120 Vac     |              | <b>10250T563LRD06-1X</b> |                        |                 |   |
| 0               | X               | Incandescent | Full voltage | 24 Vac/Vdc  | 1NO          |                          |                        | #757            | <b>10250T579C47-1X</b>                  |
| X               | 0               |              |              | 120 Vac/Vdc | 1NC          |                          |                        | 120MB           | <b>10250T580C47-1X</b>                  |
|                 |                 |              | Transformer  | 24 Vac      |              | #755                     | <b>10250T589C47-1X</b> |                 |   |
|                 |                 |              |              | 120 Vac     |              | <b>10250T563C47-1X</b>   |                        |                 |   |

**10250ED137\_**

**Jumbo Lens Illuminated E-Stops**







| Lamp | Button Type/Color  | Type         | Voltage    | Contact Type | Catalog Number     |
|------|--|--------------|------------|--------------|--------------------|
| LED  | Two-position illuminated maintained push/pull—<br>50 mm jumbo lens/red       | Full voltage | 24 Vac/Vdc | 1NO<br>1NC   | <b>10250ED1375</b> |
| LED  | Three-position illuminated momentary push/pull—<br>50 mm jumbo lens/red      | Full voltage | 24 Vac/Vdc | 1NC<br>1NC   | <b>10250ED1376</b> |
| LED  | Three-position illuminated momentary push/pull—<br>50 mm jumbo lens/red      | Full voltage | 24 Vac/Vdc | 1NO<br>1NC   | <b>10250ED1377</b> |
| LED  | Three-position illuminated maintained push/momentary pull—<br>50 mm lens/red | Full voltage |            | 1NO<br>1NC   | <b>10250ED1378</b> |

**Notes**

- ① X = closed circuit, 0 = open circuit.
- ② To order different type or color lens, substitute the underlined characters with appropriate suffix code from table on next page. Example: 10250T579C63-1X. For LEDs with different voltages see ordering example on **Page V7-T1-227**.

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

## Lens and Color Selection

|  | Color                                      | Incandescent<br>Suffix Code | LED<br>Suffix Code | Catalog Number |
|--|--|-----------------------------|--------------------|----------------|
| <b>Standard</b><br>                         | <b>Standard—40 mm</b>                      |                             |                    |                |
|  | Red  | C47                         | RD                 | 10250TC47      |
|  | Red (EMERG. STOP)                          | C53                         | ED                 | 10250TC53      |
|  | Green                                      | C48                         | GD                 | 10250TC48      |
|  | Blue                                       | C49                         | LD                 | 10250TC49      |
|  | Amber                                      | C50                         | AD                 | 10250TC50      |
|  | White                                      | C51                         | WD                 | 10250TC51      |
|  | Clear                                      | C52                         | CD                 | 10250TC52      |
| <b>Side-Lighted<br/>Aluminum</b><br>        | <b>Side-Lighted Aluminum—40 mm</b> ①       |                             |                    |                |
|  | Red  | C57                         | RS                 | 10250TC57      |
|  | Red (EMERG. STOP)                          | C63                         | ES                 | 10250TC63      |
|  | Green                                      | C58                         | GS                 | 10250TC58      |
|  | Blue                                       | C59                         | LS                 | 10250TC59      |
|  | Amber                                      | C64                         | AS                 | 10250TC64      |
|  | Yellow                                     | C60                         | YS                 | 10250TC60      |
|  | White                                      | C61                         | WS                 | 10250TC61      |
| Clear  | C62  | CS                          | 10250TC62          |                |
| <b>Aluminum Transparent<br/>Center</b><br> | <b>Aluminum Transparent Center—40 mm</b> ① |                             |                    |                |
|  | Red  | C65                         | RH                 | 10250TC65      |
|  | Green                                      | C66                         | GH                 | 10250TC66      |
| <b>Jumbo Lens</b><br>                     | <b>Jumbo Lens—50 mm</b>                    |                             |                    |                |
|  | Red  | —                           | —                  | 10250TC77      |

**Note**

① Clear anodized aluminum and colored lens.

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

**Three-Position Push-Pull Operator**



**Three-Position Illuminated Momentary Push, Momentary Pull**

**Operator Position ①**

| Momentary—Pull | Maintained—Intermediate | Momentary—Push | Lamp         | Type         | Voltage     | Contact Type | Mounting Location |   | LED/Lamp Number | Red Standard Push-Pull Catalog Number ③ |                           |
|----------------|-------------------------|----------------|--------------|--------------|-------------|--------------|-------------------|---|-----------------|---|---------------------------|
|                |                         |                |              |              |             |              | A                 | B |                 |   |                           |
| 0              | 0                       | X              | LED          | Full voltage | 24 Vac/Vdc  | 1NO          |                   |   | Bayonet base    | <b>10250T1097LRD24-1X</b>               |                           |
| X              | 0                       | 0              |              |              | 120 Vac     | 1NC          |                   |   |                 | <b>10250T1097LRD2A-1X</b>               |                           |
|                |                         |                |              |              | Transformer | 24 Vac       |                   |   |                 |   | <b>10250T1089LRD06-1X</b> |
|                |                         |                |              |              | 120 Vac     |              |                   |   |                 | <b>10250T1063LRD06-1X</b>               |                           |
| X              | 0                       | 0              | LED          | Full voltage | 24 Vac/Vdc  | 1NC          |                   |   | Bayonet base    | <b>10250T497LRD24-3X</b>                |                           |
| X              | X                       | 0              |              |              | 120 Vac     | 1NC          |                   |   |                 | <b>10250T497LRD2A-3X</b>                |                           |
|                |                         |                |              |              | Transformer | 24 Vac       |                   |   |                 |   | <b>10250T489LRD06-3X</b>  |
|                |                         |                |              |              | 120 Vac     |              |                   |   |                 | <b>10250T463LRD06-3X</b>                |                           |
| 0              | 0                       | X              | Incandescent | Full voltage | 24 Vac/Vdc  | 1NO          |                   |   | #757            | <b>10250T1079C47-1X</b>                 |                           |
| X              | 0                       | 0              |              |              | Resistor    | 120 Vac      |                   |   |                 | 1NC                                     | <b>10250T1080C47-1X</b>   |
|                |                         |                |              |              | Transformer | 24 Vac       |                   |   |                 |   | <b>10250T1089C47-1X</b>   |
|                |                         |                |              |              | 120 Vac     |              |                   |   |                 | <b>10250T1063C47-1X</b>                 |                           |
| X              | 0                       | 0              | Incandescent | Full voltage | 24 Vac/Vdc  | 1NC          |                   |   | #757            | <b>10250T479C47-3X</b>                  |                           |
| X              | X                       | 0              |              |              | Resistor    | 120 Vac      |                   |   |                 | 1NC                                     | <b>10250T480C47-3X</b>    |
|                |                         |                |              |              | Transformer | 24 Vac       |                   |   |                 |   | <b>10250T489C47-3X</b>    |
|                |                         |                |              |              | 120 Vac     |              |                   |   |                 | <b>10250T463C47-3X</b>                  |                           |

**Three-Position Push-Pull Operator**



**Three-Position Illuminated Maintained Push, Momentary Pull**

**Operator Position ①**

| Momentary—Pull | Maintained—Intermediate | Momentary—Push | Lamp         | Type         | Voltage     | Contact Type | Mounting Location |   | LED/Lamp Number | Red Standard Push-Pull Catalog Number ② |                          |
|----------------|-------------------------|----------------|--------------|--------------|-------------|--------------|-------------------|---|-----------------|---|--------------------------|
|                |                         |                |              |              |             |              | A                 | B |                 |   |                          |
| X              | 0                       | 0              | LED          | Full voltage | 24 Vac/Vdc  | 1NC          |                   |   | Bayonet base    | <b>10250T997LRD24-3X</b>                |                          |
| X              | X                       | 0              |              |              | 120 Vac     | 1NC          |                   |   |                 | <b>10250T997LRD2A-3X</b>                |                          |
|                |                         |                |              |              | Transformer | 24 Vac       |                   |   |                 |   | <b>10250T989LRD06-3X</b> |
|                |                         |                |              |              | 120 Vac     |              |                   |   |                 | <b>10250T963LRD06-3X</b>                |                          |
| X              | 0                       | 0              | Incandescent | Full voltage | 24 Vac/Vdc  | 1NC          |                   |   | #757            | <b>10250T979C47-3X</b>                  |                          |
| X              | X                       | 0              |              |              | Resistor    | 120 Vac      |                   |   |                 | 1NC                                     | <b>10250T980C47-3X</b>   |
|                |                         |                |              |              | Transformer | 24 Vac       |                   |   |                 |   | <b>10250T989C47-3X</b>   |
|                |                         |                |              |              | 120 Vac     |              |                   |   |                 | <b>10250T963C47-3X</b>                  |                          |

**Notes**

- ① X = closed circuit, 0 = open circuit.
- ② To order different type or color lens, substitute the underlined characters with appropriate suffix code from table on **Page V7-T1-222**. Example: 10250T1079C53-1X. For LEDs with different voltages see ordering example on **Page V7-T1-227**.
- ③ To order different type or color lens, substitute the underlined characters with appropriate suffix code from table on **Page V7-T1-222**. Example: 10250T979C53X. For LEDs with different voltages see ordering example on **Page V7-T1-227**.

**Potentiometers**

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

Vertical or Horizontal  
One-Hole Mounting <sup>①</sup>**Potentiometer with Knob and Standard Dial Plate—Linear Type ±10%**

| Potentiometer<br>Ohms   | Catalog Number   |
|---|------------------|
| <b>2 Watt (60V Max.) Single Potentiometer with Standard Aluminum Dial Plate <sup>②③</sup></b> |                  |
| 1000  | <b>10250T331</b> |
| 2500  | <b>10250T332</b> |
| 5000  | <b>10250T338</b> |
| 10000   | <b>10250T333</b> |
| 25000   | <b>10250T334</b> |
| 50000   | <b>10250T335</b> |
| Operator only <sup>④</sup>  | <b>10250T330</b> |
| Alternative—black plastic large legend with standard markings                                 | <b>E34LP99</b>   |

**Notes**

- ① Shown with standard aluminum dial plate.
- ② Large dial plate with space for legend is available at no charge. To order, add suffix **36** to catalog number. Example: 10250T331**36**. To order separately, see footnote <sup>③</sup> below.
- ③ Large dial plate has space at top for 15 letters. 3/32 in high. For custom stamped legend plates, order legend plate as separate item **10250TR30** and specify stamping.
- ④ For use with commercially purchased potentiometers having shaft dimensions per dimension drawing on **Page V7-T1-271**.

### Push-Pull Operators

An illuminated push-pull pushbutton unit, arranged for one-hole mounting, can replace two pushbuttons and a pilot light or the non-illuminated form can replace two pushbuttons. These units are available in three basic types:

- **Maintained**—(Two-position). Maintains in the pulled or pushed position until manually actuated to the opposite mode.
- **Momentary**—(Three-position). Spring returns to an intermediate position when pulled or pushed and released.
- **Momentary Pull, Maintained Push**—(Three-position). Spring returns to intermediate position when pulled. Maintains in pushed position until manually returned to intermediate (ready to reset) position. Maintained stop holds circuit open and will prevent other series connected operators from starting the system.

The operators, buttons, contact blocks, etc., are offered as building block components that can be intermixed to satisfy many requirements. This minimizes the need for a varied and costly inventory.

### Two-Position Maintained Push-Pull ①



### Typical Applications

| Control                                   | Line—Diagram             | Operator                                   | Circuits                  | Operator Mode  |                |                          |               |  |  |  |
|---|--------------------------|--|---------------------------|--|----------------|--------------------------|---------------|--|--|--|
| Three-wire three-position momentary       |                          | Momentary push and pull 10250T4            | 2NC contact block 10250T3 | <table border="0"> <tr> <td>START (mom.)</td> <td>Normal pos. (maint.)</td> <td>STOP (mom.)</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>         | START (mom.)   | Normal pos. (maint.)     | STOP (mom.)   |  |  |  |
| START (mom.)                              | Normal pos. (maint.)     | STOP (mom.)                                |                           |  |                |                          |               |  |  |  |
|   |                          |  |                           |  |                |                          |               |  |  |  |
| Two-wire two-position maintained          |                          | Maintained push and pull 10250T5           | 1NC contact block 10250T1 | <table border="0"> <tr> <td>START (maint.)</td> <td>No intermediate position</td> <td>STOP (maint.)</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> | START (maint.) | No intermediate position | STOP (maint.) |  |  |  |
| START (maint.)                            | No intermediate position | STOP (maint.)                              |                           |  |                |                          |               |  |  |  |
|   |                          |  |                           |  |                |                          |               |  |  |  |
| Three-wire momentary pull maintained push |                          | Maintained push and momentary pull 10250T9 | 2NC contact block 10250T3 | <table border="0"> <tr> <td>START (mom.)</td> <td>Normal pos. (maint.)</td> <td>STOP (maint.)</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>       | START (mom.)   | Normal pos. (maint.)     | STOP (maint.) |  |  |  |
| START (mom.)                              | Normal pos. (maint.)     | STOP (maint.)                              |                           |  |                |                          |               |  |  |  |
|   |                          |  |                           |  |                |                          |               |  |  |  |

#### Notes

A and B circuits shown in the application illustrations are defined in the "Application Guide" on the following page.  
 ① Shown without button on lens.



# 1.9

## Pushbuttons and Indicating Lights

### 30.5 mm Heavy-Duty Watertight/Oiltight—10250T

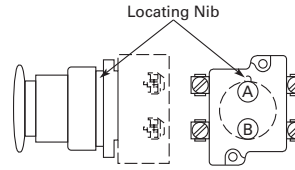
1

#### Application Guide

To assist in the selection of contact blocks, the sketch to the right shows pictorially by symbols **A** and **B** locations of contact circuits after assembly of contact blocks

and adapter to the operator. The table below shows the effect of the push and pull operations on either NO or NC contacts. (X = contact closed, O = contact open).

#### Contact Circuit Locations



10250T579C47-71X

#### Push-Pull Operator Components



#### Operator Position and Circuit Arrangement



#### Contact Block Mounting Location

| Type of Operator                                    | Out—Pull |   | Intermediate             |   | In—Push |   | Contact Block ① | Catalog Number     |
|---|----------|---|--------------------------|---|---------|---|-----------------|--------------------|
|   | A        | B | A                        | B | A       | B |                 |                    |
| <b>Two-Position Operator without Lens</b>           |          |   |                          |   |         |   |                 |                    |
| Maintained push-pull                                | O        | O | No intermediate position |   | X       | X | 1NO             | <b>10250T5</b>     |
|   | X or     | X |                          |   | O       | O | 1NC             |                    |
|   | O        | O |                          |   | X       | X | 2NO             |                    |
|   | X        | X |                          |   | O       | O | 2NC             |                    |
| Maintained push-pull with anti-theft jumbo mushroom | O        | O | No intermediate position |   | X       | X | 1NO             | <b>10250ED1080</b> |
|   | X or     | X |                          |   | O       | O | 1NC             |                    |
|   | O        | O |                          |   | X       | X | 2NO             |                    |
|   | X        | X |                          |   | O       | O | 2NC             |                    |
| <b>Three-Position Operator without Lens</b>         |          |   |                          |   |         |   |                 |                    |
| Momentary push-pull                                 | O        | O | O                        | O | X       | O | 1NO             | <b>10250T4 ①</b>   |
|   | X or     | X | O                        | O | O       | O | 1NC             |                    |
|   | O        | O | O                        | O | X       | O | 2NO             |                    |
|   | X        | X | O                        | X | O       | O | 2NC             |                    |
| Maintained push-momentary pull                      | O        | O | O                        | O | X       | O | 1NO             | <b>10250T9 ①</b>   |
|   | X or     | X | O                        | O | O       | O | 1NC             |                    |
|   | O        | O | O                        | O | X       | O | 2NO             |                    |
|   | X        | X | O                        | X | O       | O | 2NC             |                    |
| Momentary push-pull                                 | O        | O | O                        | O | X       | X | 1NO             | <b>10250T10 ①</b>  |
|   | X or     | X | O                        | O | O       | O | 1NC             |                    |
|   | O        | O | O                        | O | X       | X | 2NO             |                    |
|   | X        | X | O                        | O | O       | O | 2ND             |                    |

#### Note

① Maximum of two blocks, four circuits. Special function contact blocks shown on Page V7-T1-257 CANNOT be used with three-position push-pull operators 10250T4, 10250T9 or 10250T10.

### Push-Pull Light Units, Lenses and Buttons

#### Ordering Example with One Composite Number

Non-illuminated:

10250T5 + 10250TB62 + 10250T1 = **10250T5B62-1X**

Incandescent:

10250T5 + 10250T79 + 10250TC47 + 10250T1 = **10250T579C47-1X**

LED:

10250T5 + 10250T97L + 10250TC47 + Voltage code + 10250T1 = **10250T597LRD24-1X**

|               |               |
|---------------|---------------|
| 06—6 Vac/Vdc  | 60—60 Vac/Vdc |
| 12—12 Vac/Vdc | 2A—120 Vac    |
| 24—24 Vac/Vdc | 2D—120 Vdc    |
| 48—48 Vac/Vdc |               |





### Light Units for Illuminated Push-Pull Devices

| Light Unit Type                         | Type         | Voltage      | LED/Lamp Number | Catalog Number   |
|---|--------------|--------------|-----------------|------------------|
| LED<br>(LEDs not included) <sup>①</sup> | Full voltage | —            | Bayonet base    | <b>10250T97L</b> |
|   | Transformer  | 24           |                 | <b>10250T89L</b> |
|   | AC only      | 120          |                 | <b>10250T63L</b> |
|   | 50/60 Hz     | 208          |                 | <b>10250T64L</b> |
|   |              | 240          |                 | <b>10250T65L</b> |
|   |              | 277          |                 | <b>10250T82L</b> |
|   |              | 380          |                 | <b>10250T66L</b> |
|   |              | 480          |                 | <b>10250T67L</b> |
|   |              | 600          |                 | <b>10250T68L</b> |
|   | Incandescent | Full voltage | 6               |                  |
| AC or DC                                |              | 12           |                 | <b>10250T70</b>  |
|   |              | 24/28        |                 | <b>10250T79</b>  |
|   |              | 32           |                 | <b>10250T83</b>  |
| Resistor                                |              | 120          | 120MB           | <b>10250T80</b>  |
| AC or DC                                |              | 240          |                 | <b>10250T81</b>  |
| Transformer                             |              | 24           | #755            | <b>10250T89</b>  |
| AC only                                 |              | 120          |                 | <b>10250T63</b>  |
| 50/60 Hz                                |              | 208          |                 | <b>10250T64</b>  |
|   |              | 240          |                 | <b>10250T65</b>  |
|   |              | 277          |                 | <b>10250T82</b>  |
|   |              | 380          |                 | <b>10250T66</b>  |
|   |              | 480          |                 | <b>10250T67</b>  |
|   |              | 600          |                 | <b>10250T68</b>  |



#### Note

<sup>①</sup> These units do not include lamps. Order LED separately to match lens color, see **Page V7-T1-261**.

#### Alternate Lenses for Illuminated Push-Pull Devices

|   | Lens Color   | Incandescent Suffix Code | LED Suffix Code <sup>①</sup> | Catalog Number   |
|---|--|--------------------------|------------------------------|------------------|
| <b>Standard</b><br>                            | <b>Standard</b>                                    |                          |                              |                  |
|   | Red  | <b>C47</b>               | <b>RD</b>                    | <b>10250TC47</b> |
|   | Red (EMERG. STOP)                                  | <b>C53</b>               | <b>ED</b>                    | <b>10250TC53</b> |
|   | Green  | <b>C48</b>               | <b>GD</b>                    | <b>10250TC48</b> |
|   | Blue   | <b>C49</b>               | <b>LD</b>                    | <b>10250TC49</b> |
|   | Amber  | <b>C50</b>               | <b>AD</b>                    | <b>10250TC50</b> |
|   | White  | <b>C51</b>               | <b>WD</b>                    | <b>10250TC51</b> |
|   | Clear  | <b>C52</b>               | <b>CD</b>                    | <b>10250TC52</b> |
| <b>Side-Lighted Anodized Aluminum Ring</b><br> | <b>Side-Lighted Anodized Aluminum Ring</b>         |                          |                              |                  |
|   | Red  | <b>C57</b>               | <b>RS</b>                    | <b>10250TC57</b> |
|   | Red (EMERG. STOP)                                  | <b>C63</b>               | <b>ES</b>                    | <b>10250TC63</b> |
|   | Green  | <b>C58</b>               | <b>GS</b>                    | <b>10250TC58</b> |
|   | Blue   | <b>C59</b>               | <b>LS</b>                    | <b>10250TC59</b> |
|   | Amber  | <b>C64</b>               | <b>AS</b>                    | <b>10250TC64</b> |
|   | Yellow   | <b>C60</b>               | <b>YS</b>                    | <b>10250TC60</b> |
|   | White  | <b>C61</b>               | <b>WS</b>                    | <b>10250TC61</b> |
|   | Clear  | <b>C62</b>               | <b>CS</b>                    | <b>10250TC62</b> |
| <b>Heavy-Duty Aluminum</b><br>                | <b>Heavy-Duty Aluminum with Transparent Center</b> |                          |                              |                  |
|   | Red  | <b>C65</b>               | <b>RH</b>                    | <b>10250TC65</b> |
|   | Green  | <b>C66</b>               | <b>GH</b>                    | <b>10250TC66</b> |
|   | Amber  | <b>C67</b>               | <b>AH</b>                    | <b>10250TC67</b> |
|   | White  | <b>C68</b>               | —                            | <b>10250TC68</b> |
| <b>Jumbo Lens</b><br>                        | <b>Jumbo Lens — 50 mm</b>                          |                          |                              |                  |
| Red   | —  | —                        | <b>10250TC77</b>             |                  |

#### Buttons for Non-Illuminated Push-Pull Devices

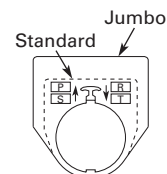
|   | Color   | Suffix Code | Catalog Number   |
|---|---|-------------|------------------|
| <b>Standard</b><br>                                | <b>Standard</b>   |             |                  |
|   | Red   | <b>B62</b>  | <b>10250TB62</b> |
|   | Red (EMERG. STOP)   | <b>B63</b>  | <b>10250TB63</b> |
|   | Green   | <b>B61</b>  | <b>10250TB61</b> |
|   | Black   | <b>B60</b>  | <b>10250TB60</b> |
|   | Blue  | <b>B64</b>  | <b>10250TB64</b> |
| <b>Jumbo Mushroom Head (Anodized) Aluminum</b><br> | <b>Jumbo Mushroom Head <sup>②</sup> (Anodized) Aluminum</b> |             |                  |
|   | Red   | <b>J62</b>  | <b>10250TJ62</b> |
|   | Red (EMERG. STOP)   | <b>J63</b>  | <b>10250TJ63</b> |
|   | Green   | <b>J61</b>  | <b>10250TJ61</b> |
|   | Black   | <b>J60</b>  | <b>10250TJ60</b> |
|   | Yellow  | <b>J64</b>  | <b>10250TJ64</b> |

#### Notes

- ① Suffix codes should only be used for assembling composite catalog numbers. To order lens above, order by catalog number.
- ② Anodized aluminum head is not suitable for use in ultraviolet light applications.

#### Legend Plates

For a complete listing of available legend plates see **Pages V7-T1-252 to V7-T1-254**.



### Selector Switch Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- Two-, three- and four-position maintained
- Non-illuminated and illuminated

#### Two-Position Maintained Switch



#### Two-Position Selector Switch

| Operator Position <sup>①</sup> |   | Operator Action <sup>②</sup> | Contact Type | Mounting Location |   | Non-Illuminated                        |   | Illuminated—120V Transformer         |                                       |
|--------------------------------|---|------------------------------|--------------|-------------------|---|--|---|--------------------------------------|---------------------------------------|
| X                              | 0 |                              |              | A                 | B | Black Knob Catalog Number <sup>③</sup> | Black Lever Catalog Number <sup>③</sup> | Red Knob Catalog Number <sup>③</sup> | Red Lever Catalog Number <sup>③</sup> |
| X                              | 0 |                              | 1NC          |                   |   | <u>10250T20KB</u>                      | <u>10250T20LB</u>                       | <u>10250ED1117-KR</u>                | <u>10250ED1117-LR</u>                 |
| 0                              | X |                              | 1NO          |                   |   |  |   |                                      |                                       |

#### Three-Position Maintained Switch



#### Three-Position Selector Switch

| Operator Position <sup>①</sup> |   |   | Operator Action <sup>②</sup> | Contact Type | Mounting Location |   | Non-Illuminated                        |   | Illuminated—120V Transformer         |                                       |
|--------------------------------|---|---|------------------------------|--------------|-------------------|---|--|---|--------------------------------------|---------------------------------------|
| X                              | 0 | 0 |                              |              | A                 | B | Black Knob Catalog Number <sup>③</sup> | Black Lever Catalog Number <sup>③</sup> | Red Knob Catalog Number <sup>③</sup> | Red Lever Catalog Number <sup>③</sup> |
| X                              | 0 | 0 |                              | 1NO          |                   |   | <u>10250T21KB</u>                      | <u>10250T21LB</u>                       | <u>10250ED1117-2KR</u>               | <u>10250ED1117-2LR</u>                |
| 0                              | 0 | X |                              | 1NO          |                   |   |  |   |                                      |                                       |

#### Three-Position Maintained Switch



|   |   |   |              |  |  |                   |                   |                        |                        |
|---|---|---|--------------|--|--|-------------------|-------------------|------------------------|------------------------|
| X | 0 | 0 | 1NO          |  |  | <u>10250T22KB</u> | <u>10250T22LB</u> | <u>10250ED1117-3KR</u> | <u>10250ED1117-3LR</u> |
| 0 | X | 0 | 2NC (Series) |  |  |                   |                   |                        |                        |
| 0 | 0 | X | 1NO          |  |  |                   |                   |                        |                        |

#### Three-Position Maintained Switch



#### Four-Position Selector Switch

| Operator Position <sup>①</sup> |   |   |   | Operator Action <sup>②</sup> | Contact Type | Mounting Location |   | Non-Illuminated                        |   | Illuminated—120V Transformer         |                                       |
|--------------------------------|---|---|---|------------------------------|--------------|-------------------|---|--|---|--------------------------------------|---------------------------------------|
| X                              | 0 | 0 | 0 |                              |              | A                 | B | Black Knob Catalog Number <sup>③</sup> | Black Lever Catalog Number <sup>③</sup> | Red Knob Catalog Number <sup>③</sup> | Red Lever Catalog Number <sup>③</sup> |
| X                              | 0 | 0 | 0 |                              | 1NC          |                   |   | <u>10250T46KB</u>                      | <u>10250T46LB</u>                       | <u>10250ED1117-4KR</u>               | <u>10250ED1117-4LR</u>                |
| 0                              | X | 0 | 0 |                              | 1NO          |                   |   |  |   |                                      |                                       |
| 0                              | 0 | X | 0 |                              | 1NO          |                   |   |  |   |                                      |                                       |
| 0                              | 0 | 0 | X |                              | 1NC          |                   |   |  |   |                                      |                                       |

#### Color Selection

| Illuminated |             |       |             |       |             | Non-Illuminated |             |       |             |        |             |
|-------------|-------------|-------|-------------|-------|-------------|-----------------|-------------|-------|-------------|--------|-------------|
| Color       | Code Letter | Color | Code Letter | Color | Code Letter | Color           | Code Letter | Color | Code Letter | Color  | Code Letter |
| Red         | <b>R</b>    | White | <b>W</b>    | Amber | <b>A</b>    | Black           | <b>B</b>    | Green | <b>G</b>    | Blue   | <b>L</b>    |
| Green       | <b>G</b>    | Blue  | <b>B</b>    | Clear | <b>C</b>    | Red             | <b>R</b>    | White | <b>W</b>    | Orange | <b>O</b>    |

#### Notes

- ① X = closed circuit, 0 = open circuit.
- ② M = Maintained.
- ③ To order different type or color selector switch, substitute the underlined character with appropriate suffix code from the Color Selection table. Example: 10250T20KG.

#### 1

### Selector Switch Selection



#### Cam and Contact Block Selection

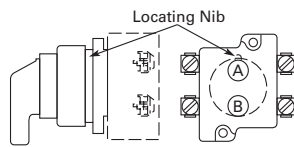
Selector switches in their varied forms (two-position, three-position and four-position) are a big factor contributing to the great flexibility of control that a well rounded line of “pushbuttons” can achieve. Because of their flexibility, they tend to cause difficulty with product selection and application. The following systematic approach should simplify that task.

Cam and contact block selection is better understood if you:

- Work with each incoming and outgoing wire/circuit separately.
- Recognize the terms NO and NC only identify the type of contact by its mode before mounting to the operator. The “X-O” table (Page V7-T1-232) shows how that contact will act after assembly to the operator with the selected cam shape. X = closed circuit, O = open circuit.

- Up to six NO or NC contacts may be mounted behind each plunger location for a total of twelve contacts. Single circuit contact blocks have only one plunger with the other side of the block “open.” Therefore, single circuit contact blocks transmit motion to blocks behind them only for the position containing the circuit.
- Each cam has two separate lobes, each of which operates one of the two contact block plungers independently of each other. Those are identified as position A (locating nib side) and position B (opposite of locating nib). The position designations give direction in selecting and mounting of the contact blocks.

#### Contact Circuit Locations

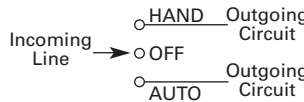


#### Systematic Approach

Application: **HAND-OFF-AUTO** selector switch. In this circuit, one incoming line is distributed to two other outgoing circuits by the switch. The two circuits can be looked at individually.

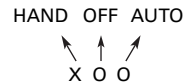
#### Step 1: Elementary Diagram.

Construct on paper, or in your mind, a simple elementary diagram of the switching scheme as follows:



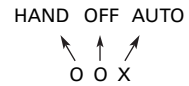
#### Step 2: “X-O” Pattern.

From the elementary diagram, you can construct an “X-O” diagram which describes when the contacts are to be closed (X) or open (O) in the various positions of the switch. The “X-O” for the **HAND** circuit looks like this:



In this circuit, you want a contact closed on the left (HAND) but open in the center and right.

For the **AUTO** circuit, the “X-O” diagram would look like this:



Putting them together, the complete “X-O” diagram is:



Once the “X-O” diagram has been generated the next step is to select the cam and contact block, or blocks, needed to perform the desired “X-O” functions. The selection tables on the following pages list the various types (shapes) of cams by number to choose from and the type of contact and position to achieve the function outlined in your “X-O” diagram.

### Step 3: Cam Selection.

The cam you select determines the operation of all contact blocks mounted to the operator. It is selected on the basis that it provides the simplest circuitry for the desired “X-O” diagram. The selection tables show all the “X-O” combinations. For the purpose of this example, the applicable portion of those tables is shown on this page.

Now to make the cam selection, make a simple worksheet such as:

|       | Cam 2       | Cam 3 |
|-------|-------------|-------|
| X O O | (A)NO-(B)NC | (A)NO |
| O O X | (B)NO       | (B)NO |

It becomes immediately obvious that cam 3 is the better choice for two reasons, (1) the series combination can be avoided making it simpler to wire, (2) only two contacts are required, which is less expensive than the three contacts required by cam 2.

### Step 4: Contact Block Selection.

Having selected the cam, contact block selection is simply a matter of gathering the A position and B position circuits into pairs which make up the most convenient contact block arrangement. If there is an imbalance in the number of circuits under A or B, then single circuit blocks must be selected for these leftover circuits.

Back to the worksheet, having selected cam 3 do this:



### Step 5: Selector Switch Operator.

Lastly, you have to choose from the many types of operators—knob and lever in various colors or keyed. Also what combinations of maintained and spring return functions are required. Selection of these operators can be found on **Page V7-T1-234**. For the example in step 4 you may want a three-position maintained black knob, cam 3—Catalog Number 10250T1323.

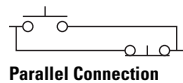
**The Complete Switch:** 10250T1323 with one 10250T2 or, for one composite catalog number, 10250T21KB found on **Page V7-T1-229**.

### Diagrams

Circuits shown illustrate connections to obtain a selector switch circuit combination and are shown with their appropriate line diagrams. Field wiring of jumper connections required as shown.

X = Closed circuit  
O = Open circuit

### Wiring of Jumper Connections



Four-position selector switches are limited to four contact blocks.

### Contact Blocks

For selection and number of available contact blocks per operator, see **Pages V7-T1-257 to V7-T1-260**.

### Example Selection Table

| No. | "X-O" Pattern | Cam Code #2 |          | Cam Code #3 |          |
|-----|---------------|-------------|----------|-------------|----------|
|     |               | Top A       | Bottom B | Top A       | Bottom B |
| 1   | X 0 0         |             |          |             | —        |
| 4   | 0 0 X         | —           |          | —           |          |

### Two-Position Selector Switch Contact Block Selection

| No. | Desired Circuit and Operator Position |   | Contact Blocks Required to Accomplish Circuit Function |                  |
|-----|---------------------------------------|---|--|------------------|
|     |                                       |   | Top Plunger A  | Bottom Plunger B |
| 1   | X                                     | 0 | or   |                  |
| 2   | 0                                     | X |  | or               |

**Note**  
① Wired in series.

#### 1 Three-Position Switch—Cam and Contact Block Selection

| No. | Desired Circuit and Operator Position |   |   | Operator with Cam Code #2 |                  | Operator with Cam Code #3 |                  |
|-----|---------------------------------------|---|---|---------------------------|------------------|---------------------------|------------------|
|     |                                       |   |   | Mounting Location         |                  | Mounting Location         |                  |
|     |                                       |   |   | Top Plunger A             | Bottom Plunger B | Top Plunger A             | Bottom Plunger B |
| 1   | X                                     | 0 | 0 |                           |                  |                           |                  |
| 2   | X                                     | X | 0 |                           |                  |                           |                  |
| 3   | X                                     | 0 | X |                           |                  |                           |                  |
| 4   | 0                                     | 0 | X |                           |                  |                           |                  |
| 5   | 0                                     | X | X |                           |                  |                           |                  |
| 6   | 0                                     | X | 0 |                           |                  |                           |                  |

#### Four-Position Switch—Contact Block Selection

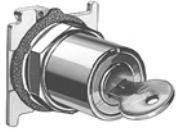
| No. | Desired Circuit and Operator Position |   |   |   | Mounting Location |                  | No. | Desired Circuit and Operator Position |                  |   |   | Mounting Location |   |
|-----|---------------------------------------|---|---|---|-------------------|------------------|-----|---------------------------------------|------------------|---|---|-------------------|---|
|     |                                       |   |   |   | Top Plunger A     | Bottom Plunger B |     | Top Plunger A                         | Bottom Plunger B |   |   |                   |   |
|     | 1                                     | X | 0 | 0 | 0                 |                  |     |                                       | 10               | X | 0 | X                 | 0 |
| 2   | 0                                     | X | 0 | 0 |                   |                  |     |                                       |                  |   |   |                   |   |
| 3   | 0                                     | 0 | X | 0 |                   |                  | 11  | X                                     | X                | X | 0 |                   |   |
| 4   | 0                                     | 0 | 0 | X |                   |                  |     |                                       |                  |   |   |                   |   |
| 5   | X                                     | 0 | 0 | X |                   |                  | 12  | 0                                     | X                | X | X |                   |   |
| 6   | 0                                     | X | X | 0 |                   |                  |     |                                       |                  |   |   |                   |   |
| 7   | 0                                     | 0 | X | X |                   |                  | 13  | X                                     | 0                | X | X |                   |   |
| 8   | X                                     | X | 0 | 0 |                   |                  |     |                                       |                  |   |   |                   |   |
| 9   | 0                                     | X | 0 | X |                   |                  | 14  | X                                     | X                | 0 | X |                   |   |

**Selector Switch Operators**

**Key Operators**

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

**Two-Position Maintained** <sup>①</sup>



**Key Operators with Cam**

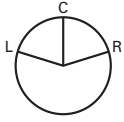
| Positions                | Operator Action <sup>②</sup> | Cam Code <sup>③</sup> | Optional Key Removal Positions <sup>④</sup> | Vertical Mounting Catalog Number | Horizontal Mounting Catalog Number |
|--------------------------|------------------------------|-----------------------|---|----------------------------------|------------------------------------|
| Two-position—60° throw   |                              | 1                     | 1, 2, 3                                     | 10250T1511_                      | 10250T1611_                        |
|                          |                              | 1                     | 2   | 10250T1571_                      | 10250T1581_                        |
| Three-position—60° throw |                              | 2                     | 1-7   | 10250T1522_                      | 10250T1622_                        |
|                          |                              | 3                     |   | 10250T1523_                      | 10250T1623_                        |
|                          |                              | 2                     | 1, 4, 5                                     | 10250T1532_                      | 10250T1632_                        |
|                          |                              | 3                     |   | 10250T1533_                      | 10250T1633_                        |
|                          |                              | 2                     | 4   | 10250T1542_                      | 10250T1642_                        |
|                          |                              | 3                     |   | 10250T1543_                      | 10250T1643_                        |
| Four-position—40° throw  |                              | 2                     | 2, 4, 6                                     | 10250T1652_                      | 10250T1662_                        |
|                          |                              | 3                     |   | 10250T1653_                      | 10250T1663_                        |
|                          |                              | 7                     | 7   | 10250T1677_                      | 10250T1687_                        |

**Notes**

- ① Horizontal mount, key removal #1 keyed selector switch, cam 1 shown.
- ② M = Maintained. S = Spring return in direction of arrow (R).
- ③ For selection of the proper cam and contact block to obtain the proper circuit sequence, see selection instructions and tables on **Pages V7-T1-230, V7-T1-231 and V7-T1-232.**
- ④ Choose key removal position required for application from table on **Page V7-T1-234.** Add key removal code no. to listed catalog number. Example: 10250T15112.



#### Key Removal Positions



| Code Suffix | Key Removal Position |
|-------------|----------------------|
| 1           | Right only           |
| 2           | Left only            |
| 3           | Right and left       |
| 4           | Center only          |
| 5           | Right and center     |
| 6           | Left and center      |
| 7           | All positions        |

**Note:** Key removal in “spring return from” positions not recommended.

#### Replacement Keys or Dissimilar Locks for Key Operators

Operators listed on **Page V7-T1-234** have identical locks and keys (Key Code H661) Catalog Number 10250ED824. For dissimilar lock and key combinations, see listing on this page.

#### Replacement Key

| Description                  | Catalog Number |
|------------------------------|----------------|
| Replacement keys (code H661) | 10250ED824     |

#### Selector Switch Operators with Dissimilar Locks and Keys (UL [NEMA] 4, 4X and 13)

The locks in all key operators listed on **Pages V7-T1-213, V7-T1-234** and **V7-T1-371** are identical and use key code number H661. Two keys are supplied with every lock. For additional code number H661 keys, order **Catalog Number 10250ED824**. For others, order 10250ED1130 and designate lock number. When dissimilar locks for each operator or each group of operators are required, select from the lock and key combination listed below. **When Ordering Operator Only** or a complete control unit with a substitute lock, order from table below and add “except Lock and Key Code No. ...”

#### “H” Series Locks without Master Key—with Key Slot Cover

| Lock and Key Code Numbers |      |      |
|---------------------------|------|------|
| H501                      | H635 | H663 |
| H620                      | H639 | H675 |
| H621                      | H643 | H683 |
| H634                      | H654 | H688 |

#### “M” Series Locks with Master Key—with Key Slot Cover

| Lock and Key Code Numbers |      |      |      |
|---------------------------|------|------|------|
| MD1                       | MD14 | ME8  | MJ6  |
| MD2                       | MD15 | ME11 | MJ10 |
| MD3                       | MD16 | ME16 | MJ11 |
| MD4                       | MD19 | ME17 | MJ13 |
| MD5                       | MD20 | ME18 | MJ15 |
| MD7                       | ME2  | ME19 | MJ16 |
| MD9                       | ME3  | MJ1  | MD17 |
| MD10                      | ME5  | MJ3  |      |
| MD11                      | ME6  | MJ4  |      |
| MD13                      | ME7  | MJ5  |      |

#### Master Keys for Above Locks

| Application | Catalog Number |
|-------------|----------------|
| For code:   |                |
| MD1–MD20    | 10250ED825-3   |
| ME2–ME18    | 10250ED825-4   |
| MJ1–MJ16    | 10250ED825-5   |

#### Selector Switch Operators with Caps

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

#### Selector Switch Operators with Caps

| Positions                              | Operator Action <sup>②</sup> | Black Knob Selector Switch—Vertical Mounting <sup>③</sup> |                | Black Lever Selector Switch—Vertical Mounting <sup>③</sup> |                |            |
|--|------------------------------|---|----------------|--|----------------|------------|
|  |                              | Cam Code <sup>④</sup>                                     | Catalog Number | Cam Code <sup>④</sup>                                      | Catalog Number |            |
| Two-Position Maintained <sup>①</sup>   | Two-position—60° throw       |   | 1              | 10250T1311   | 1              | 10250T3011 |
|  |                              |   | 1              | 10250T1371   | 1              | 10250T3071 |
| Three-Position Maintained <sup>⑤</sup> | Three-position—60° throw     |   | 2              | 10250T1322   | 2              | 10250T3022 |
|  |                              |   | 3              | 10250T1323   | 3              | 10250T3023 |
|  |                              |   | 2              | 10250T1332   | 2              | 10250T3032 |
|  |                              |   | 3              | 10250T1333   | 3              | 10250T3033 |
|  |                              |   | 2              | 10250T1342   | 2              | 10250T3042 |
|  |                              |   | 3              | 10250T1343   | 3              | 10250T3043 |
|  |                              |   | 2              | 10250T1352   | 2              | 10250T3052 |
|  |                              |   | 3              | 10250T1353   | 3              | 10250T3053 |
| Four-position—40° throw                |                              | 7   | 10250T1367     | 7  | 10250T3067     |            |

#### Notes

- ① Black knob selector switch, cam 1 shown.
- ② M = Maintained. S = Spring return in direction of arrow.
- ③ Field convertible to horizontal mounting or order operator only and separate operator cap.
- ④ For selection of the proper cam and contact block to obtain the proper circuit sequence, see selection instructions and tables on **Pages V7-T1-230, V7-T1-231** and **V7-T1-232**.
- ⑤ Black lever selector switch, cam 3 shown.

### Selector Switch Operators without Caps

Operators can be ordered with caps assembled to them by adding the code number from the table on this page to the end of catalog number below.  
Example: 10250T4011**KB**

#### Two-Position Selector Switch Maintained



### Selector Switch Operators without Caps

| Positions                | Operator Action ① | Cam Code ② | Catalog Number    |
|--------------------------|-------------------|------------|-------------------|
| Two-position—60° throw   |                   | 1          | <b>10250T4011</b> |
|                          |                   | 1          | <b>10250T4081</b> |
| Three-position—60° throw |                   | 2          | <b>10250T4022</b> |
|                          |                   | 3          | <b>10250T4023</b> |
|                          |                   | 2          | <b>10250T4032</b> |
|                          |                   | 3          | <b>10250T4033</b> |
|                          |                   | 2          | <b>10250T4042</b> |
|                          |                   | 3          | <b>10250T4043</b> |
| Four-position—40° throw  |                   | 2          | <b>10250T4052</b> |
|                          |                   | 3          | <b>10250T4053</b> |
|                          |                   | 7          | <b>10250T4067</b> |
|                          |                   |            |                   |

#### Knob



#### Lever



#### Lever for Use with Maintained Operators



#### Coin Slot



### Operating Caps

| Color  | Knob Catalog and Code Number | Lever Catalog and Code Number | Color  | Lever ③ Catalog and Code Number | Coin Slot Catalog and Code Number |
|--------|------------------------------|-------------------------------|--------|---------------------------------|-----------------------------------|
| Black  | <b>10250TKB</b>              | <b>10250TLB</b>               | Black  | <b>10250TSB</b>                 | <b>10250TCB</b>                   |
| Red    | <b>10250TKR</b>              | <b>10250TLR</b>               | Red    | <b>10250TSR</b>                 | <b>10250TCR</b>                   |
| Green  | <b>10250TKG</b>              | <b>10250TLG</b>               | Green  | <b>10250TSG</b>                 | <b>10250TCG</b>                   |
| Yellow | <b>10250TKY</b>              | <b>10250TLY</b>               | Yellow | <b>10250TSY</b>                 | <b>10250TCY</b>                   |
| White  | <b>10250TKW</b>              | <b>10250TLW</b>               | White  | <b>10250TSW</b>                 | <b>10250TCW</b>                   |
| Gray   | <b>10250TKA</b>              | <b>10250TLA</b>               | Gray   | <b>10250TSA</b>                 | <b>10250TCA</b>                   |
| Blue   | <b>10250TKL</b>              | <b>10250TLL</b>               | Blue   | <b>10250TSL</b>                 | <b>10250TCL</b>                   |
| Orange | <b>10250TKD</b>              | <b>10250TLO</b>               | Orange | <b>10250TSO</b>                 | <b>10250TCO</b>                   |

#### Notes

- ① M = Maintained. S = Spring return in direction of arrow (R).
- ② For selection of the proper cam and contact block to obtain the proper circuit sequence, see selection instructions and tables on **Pages V7-T1-230, V7-T1-231 and V7-T1-232**.
- ③ Designed for added ingress protection. For use in maintained operators only.

## Illuminated Selector Switch Operators

### Illuminated Selector Switches without Caps

#### Two-Position Selector Switch Maintained



#### Operator without Knob or Lever

| Positions                | Operator Action ① | Transformer Type—50/60 Hz<br>6 Volt #755 Lamp |                   |                                  | Full Voltage Type—AC or DC ④<br>Lamps: 6V—#755, 12V—#756, 24V—#757,<br>48V—#1835, 120/240V—120MB |                   |                                  |
|--------------------------|-------------------|---|-------------------|----------------------------------|--|-------------------|----------------------------------|
|                          |                   | Cam Code ②                                    | Voltage           | Code Number and Catalog Number ③ | Cam Code ②   | Voltage           | Code Number and Catalog Number ③ |
| Two-position—60° throw   |                   | 1   | 24                | <b>10250T5961</b>                | 1  | 6                 | <b>10250T6201</b>                |
|                          |                   |   | 120               | <b>10250T5971</b>                |  | 12                | <b>10250T6211</b>                |
|                          |                   |   | 208               | <b>10250T6511</b>                |  | 24                | <b>10250T6221</b>                |
|                          |                   |   | 240               | <b>10250T5981</b>                |  | 48                | <b>10250T6231</b>                |
|                          |                   |   | 380               | <b>10250T5991</b>                |  | 120               | <b>10250T6361</b>                |
|                          |                   |   | 480               | <b>10250T6001</b>                |  | 240 ⑤             | <b>10250T6371</b>                |
|                          |                   |   | 600               | <b>10250T6011</b>                |  |                   |                                  |
| Three-position—60° throw |                   | + 2 or 3                                      | 24                | <b>10250T602_</b>                | + 2 or 3   | 6                 | <b>10250T624_</b>                |
|                          |                   |   | 120               | <b>10250T603_</b>                |  | 12                | <b>10250T625_</b>                |
|                          |                   |   | 208               | <b>10250T652_</b>                |  | 24                | <b>10250T626_</b>                |
|                          |                   |   | 240               | <b>10250T604_</b>                |  | 48                | <b>10250T627_</b>                |
|                          |                   |   | 380               | <b>10250T605_</b>                |  | 120               | <b>10250T638_</b>                |
|                          |                   |   | 480               | <b>10250T606_</b>                |  | 240 ⑤             | <b>10250T639_</b>                |
|                          |                   | 600   | <b>10250T607_</b> |                                  |  |                   |                                  |
|                          |                   | + 2 or 3                                      | 24                | <b>10250T654_</b>                | + 2 or 3   | 6                 | <b>10250T612_</b>                |
|                          |                   |   | 120               | <b>10250T620_</b>                |  | 12                | <b>10250T632_</b>                |
|                          |                   |   | 208               | <b>10250T655_</b>                |  | 24                | <b>10250T642_</b>                |
|                          |                   |   | 240               | <b>10250T656_</b>                |  | 48                | <b>10250T672_</b>                |
|                          |                   |   | 380               | <b>10250T657_</b>                |  | 120               | <b>10250T622_</b>                |
|                          |                   |   | 480               | <b>10250T658_</b>                |  | 240               | <b>10250T682_</b>                |
|                          |                   | 600   | <b>10250T659_</b> |                                  |  |                   |                                  |
|                          | + 2 or 3          | 24  | <b>10250T660_</b> | + 2 or 3                         | 6  | <b>10250T613_</b> |                                  |
|                          |                   | 120   | <b>10250T621_</b> |                                  | 12   | <b>10250T633_</b> |                                  |
|                          |                   | 208   | <b>10250T661_</b> |                                  | 24   | <b>10250T643_</b> |                                  |
|                          |                   | 240   | <b>10250T662_</b> |                                  | 48   | <b>10250T673_</b> |                                  |
|                          |                   | 380   | <b>10250T663_</b> |                                  | 120  | <b>10250T623_</b> |                                  |
|                          |                   | 480   | <b>10250T664_</b> |                                  | 240  | <b>10250T683_</b> |                                  |
|                          | 600               | <b>10250T665_</b>                             |                   |                                  |  |                   |                                  |
|                          | + 2 or 3          | 24  | <b>10250T614_</b> | + 2 or 3                         | 6  | <b>10250T628_</b> |                                  |
|                          |                   | 120   | <b>10250T615_</b> |                                  | 12   | <b>10250T629_</b> |                                  |
|                          |                   | 208   | <b>10250T653_</b> |                                  | 24   | <b>10250T630_</b> |                                  |
|                          |                   | 240   | <b>10250T616_</b> |                                  | 48   | <b>10250T631_</b> |                                  |
|                          |                   | 380   | <b>10250T617_</b> |                                  | 120  | <b>10250T640_</b> |                                  |
|                          |                   | 480   | <b>10250T618_</b> |                                  | 240 ⑤  | <b>10250T641_</b> |                                  |
|                          | 600               | <b>10250T619_</b>                             |                   |                                  |  |                   |                                  |
| Four-position—40° throw  |                   | 7   | 24                | <b>10250T6087</b>                | 7  | 6                 | <b>10250T6327</b>                |
|                          |                   |   | 120               | <b>10250T6097</b>                |  | 12                | <b>10250T6337</b>                |
|                          |                   |   | 208               | <b>10250T6547</b>                |  | 24                | <b>10250T6347</b>                |
|                          |                   |   | 240               | <b>10250T6107</b>                |  | 48                | <b>10250T6357</b>                |
|                          |                   |   | 380               | <b>10250T6117</b>                |  | 120               | <b>10250T6427</b>                |
|                          |                   |   | 480               | <b>10250T6127</b>                |  | 240 ⑤             | <b>10250T6437</b>                |
|                          |                   |   | 600               | <b>10250T6137</b>                |  |                   |                                  |

#### Notes

- ① M = Maintained. S = Spring return in direction of arrow (R).
- ② For selection of the proper cam and contact block, to obtain the proper circuit sequence, see selection tables on **Pages V7-T1-230, V7-T1-231 and V7-T1-232.**
- ③ Operator includes lens gasket and lens attachment screws.
- ④ Full voltage light units can be used at other than listed voltages by changing lamp. Replacement lamps are listed on **Page V7-T1-261.**
- ⑤ Resistor type. May generate excess heat if used in high density.

### Knob



### Lever



### Illuminated Knobs and Levers

| Color <sup>①</sup> | Knob Code Number and Catalog Number | Lever Code Number and Catalog Number |
|--------------------|-------------------------------------|--------------------------------------|
| Red                | 10250TER                            | 10250TFR                             |
| Green              | 10250TEG                            | 10250TFG                             |
| Yellow             | 10250TEA                            | 10250TFA                             |
| Blue               | 10250TEL                            | 10250TFL                             |
| Clear              | 10250TEC                            | 10250TFC                             |
| White              | 10250TEW                            | 10250TFW                             |
| Amber              | 10250TEM                            | 10250TFM                             |

### Joystick Units

#### Two-Position Joystick



### Joystick Units—UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

#### Operator Position <sup>②</sup>

|   | Up | Center | Down | Operator Action <sup>③</sup> | Contact Type | Mounting Location |   | Two-Position Assembled Unit Catalog Number <sup>④</sup> |
|---|----|--------|------|------------------------------|--------------|-------------------|---|---|
|   |    |        |      |                              |              | A                 | B |   |
| X |    | 0      | 0    |                              | 1NC          |                   |   | 10250T452-3X  |
| 0 |    | 0      | X    |                              | 1NC          |                   |   |   |

#### Notes

- ① Amber, clear and white lenses have a black arrow (pointer), red, green and blue lenses have a white arrow (pointer).
- ② X = closed circuit, 0 = open circuit.
- ③ M = Maintained. S = Spring return in direction of arrow (R).
- ④ Field convertible momentary to maintained or vice versa.

#### 1

### Joysticks

#### Two-Position Joystick Operators

The device mounts in the standard 30.5 mm mounting hole. Allow sufficient panel space for lever movement.

The maximum travel of the knob operator (full up to full down) is 2.2 in (24°) momentary, 2.5 in (30°) maintained, but ample space for lever operation must be allowed. These operators are field convertible from momentary to maintained operation or vice versa.

The use of NC contacts is preferred because they provide positive drive contact opening and a direct relationship between lever movement and affected terminal, i.e., up movement affects the top terminals.

#### Application Caution

Joystick operators are not recommended on certain DC applications above 24 Vdc which may involve lightly engaging the contacts (teasing) to achieve speed control, positioning, jogging, etc. Excessive arcing and deterioration of the contacts will occur.

#### Two-Position Joystick Operator



#### Two-Position Joystick Operators—UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

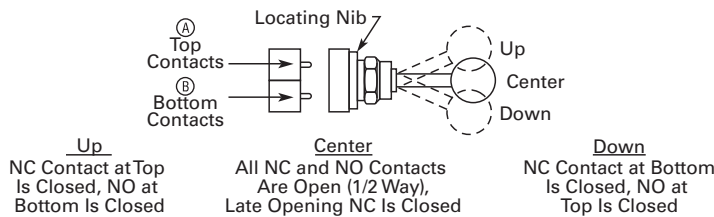
| Contact Block Limitations   | Two-Position Operator Only—AC Applications Only<br>Description <sup>①</sup> | Catalog Number    |
|---|---|-------------------|
| <b>Momentary Mode</b><br>4NC contact blocks max.<br>3NO contact blocks max. | Momentary up and down   | <b>10250T452</b>  |
|   | Maintained up—momentary down  | <b>10250T4521</b> |
|   | Maintained down—momentary up  | <b>10250T4522</b> |
| <b>Maintained Mode</b><br>2 contact blocks max.                             | Maintained up and down  | <b>10250T4525</b> |

#### Contact Block Operation and Selection

##### Handle Position <sup>②</sup>

| Up | Center | Down | Contact Block Type <sup>④</sup> | Mounting Location <sup>②③</sup> |          | Catalog Number               |
|----|--------|------|---------------------------------|---------------------------------|----------|------------------------------|
|    |        |      |                                 | Top A                           | Bottom B |                              |
|    |        |      | 1NC                             |                                 |          | <b>10250T51</b>              |
|    |        |      | 1NC                             |                                 |          | <b>10250T51</b>              |
|    |        |      | 2LONC (Series)                  |                                 |          | <b>10250T45</b>              |
|    |        |      | 1NC                             |                                 |          | <b>10250T3</b>               |
|    |        |      | 1NC                             |                                 |          | <b>10250T3</b>               |
|    |        |      | 1LONC                           |                                 |          | <b>10250T45</b>              |
|    |        |      | 1LONC                           |                                 |          | <b>10250T45</b>              |
|    |        |      | 1NC                             |                                 |          | <b>10250T44 <sup>⑤</sup></b> |
|    |        |      | 1NO                             |                                 |          | <b>10250T44 <sup>⑤</sup></b> |
|    |        |      | 1NC                             |                                 |          | <b>10250T44 <sup>⑤</sup></b> |
|    |        |      | 1NO                             |                                 |          | <b>10250T44 <sup>⑤</sup></b> |

#### A and B Mounting Location



#### Notes

- ① Field convertible momentary to maintained or vice versa. To expedite shipment of maintained types, order momentary operator 10250T452 which is a stocked device.
- ② Bolded circuit corresponds to "X-O" circuit selection. X = closed circuit, O = open circuit.
- ③ See above for "A" and "B" mounting location.
- ④ NO = normally open, NC = normally closed, LONC = late opening normally closed.
- ⑤ Four circuits in single block depth—rated 300V max.

### Four-Position Joystick Operators

The joystick operated control unit is intended for AC application only. For other use, see **Application** **Caution** on preceding page.

The panel area required for the four-position operator is equivalent to two standard pushbutton operators.

The latch holds the lever in the center position. The trigger latch must be released before lever can move into any position.

**Four-Position Joystick Operator**



**Four-Position Joystick Operator with Latch**



### Four-Position Joystick Operators—UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

| Contact Block Limitations                     | Description ①               | Catalog Number    |
|---|-----------------------------|-------------------|
| <b>Operator Only—AC Application Only</b>      |                             |                   |
| Four contact blocks max.—two in each position | Four-position—without latch | <b>10250T451_</b> |
|   | Four-position—with latch    | <b>10250T461_</b> |
| <b>Hole Plug</b>                              |                             |                   |
| Four contact blocks max.—two in each position | To plug unused hole         | <b>10250TA7</b>   |

### Field Conversion—Gate

The factory assembled four-position operator is assembled with a gate arranged for four handle positions.

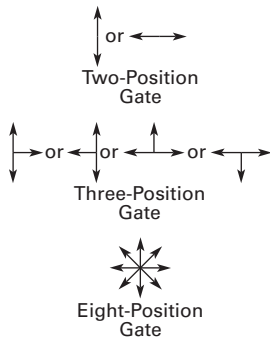
#### Handle Positions



Four-Position Gate

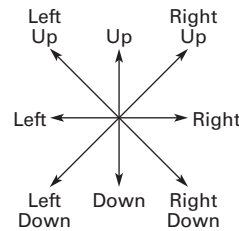
Three additional gates, supplied with every operator, allow on the job conversion to three- or eight-position operation as illustrated.

### Two-, Three- or Eight-Position Operation



The eight-position gate controls the four functions shown as “Up,” “Down,” “Left” and “Right.” The remaining four diagonal positions each actuate two adjacent functions; for example, “Left Down” actuates both “Left” and “Down.” The operator may be arranged for spring return of handle to center position, or maintained in up to eight positions (see description of maintained position operator).

### Adjacent Functions



### Maintained Position

For maintained position (non-spring return), locate required maintained position or positions of operating lever and add appropriate suffix number to the catalog number selected from the table above.

### Maintained Positions

| Maintained Positions |      |      |       | Suffix Number |
|----------------------|------|------|-------|---------------|
| Up                   | Down | Left | Right |               |
| X                    | —    | —    | —     | <b>1</b>      |
| —                    | —    | —    | —     | <b>2</b>      |
| —                    | X    | —    | —     | <b>3</b>      |
| —                    | —    | X    | —     | <b>4</b>      |
| —                    | —    | —    | —     | <b>5</b>      |
| X                    | —    | X    | —     | <b>6</b>      |
| X                    | —    | —    | X     | <b>7</b>      |
| —                    | X    | X    | —     | <b>8</b>      |
| —                    | X    | —    | X     | <b>9</b>      |
| —                    | —    | X    | X     | <b>10</b>     |
| X                    | X    | X    | —     | <b>11</b>     |
| X                    | X    | —    | X     | <b>12</b>     |
| X                    | —    | X    | X     | <b>13</b>     |
| —                    | X    | X    | X     | <b>14</b>     |
| X                    | X    | X    | X     | <b>15</b>     |

On an eight-position gate, when an adjacent vertical and horizontal position are both maintained, the included diagonal position is also maintained.

**Note**

① Momentary operators—spring return to center. For maintained operators add suffix code from table on this page. Example: 10250T45110. Operator without latch, maintained in left and right positions.