

# AIRPAX®

## LEJ & LEJA Series Hydraulic-Magnetic Circuit Breakers



|                        |              |
|------------------------|--------------|
| <i>Introduction</i>    | • <b>133</b> |
| <i>Configurations</i>  | • <b>134</b> |
| <i>Delay Curves</i>    | • <b>142</b> |
| <i>Decision Tables</i> | • <b>143</b> |





## AIRPAX® | LEJ & LEJA Series

### Hydraulic-Magnetic Circuit Breakers

## INTRODUCTION

The LEJ/LEJA series circuit breaker meets the evolving demand for the high performance protection of critical data center and telecommunications applications requiring up to 277VAC per pole, UL 489 listing in the smallest case size currently available in the marketplace. The LEJ/LEJA platform is based on the highly successful and field proven LEG/LEGA designs while incorporating state-of-the-art arc quenching technologies and offering voltage ratings that are well suited for global applications that require 208VAC through 277VAC ratings for increased power efficiency.

Typical applications include power distribution units (PDUs) used in data center enclosures, telecom AC power supplies and a variety of Industrial applications benefiting from the higher power density. Like the LEG/LEGA product family, the LEJ/LEJA series offers a variety of features including different terminations and actuators to meet most any requirements.

## FEATURES

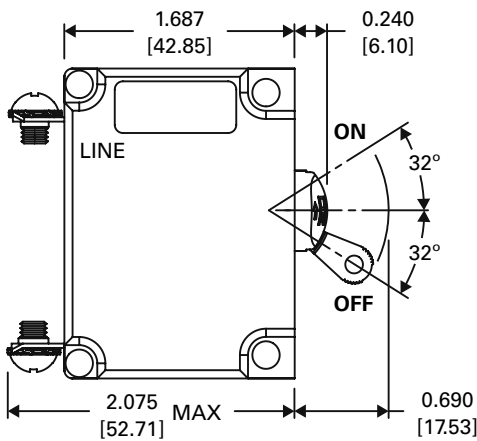
- Up to two poles, 2 amps to 20 amps rated current at 240VAC per pole
- UL 489 listed and TÜV approvals available
- Up to 10,000AIC short circuit amperage rating
- Low Depth "A" option provides a 31% lower depth compared to standard LEJ product
- Maintains the high performance characteristics, reliability, panel cut out and mounting dimensions of LEG/LEGA products

## SPECIFICATIONS

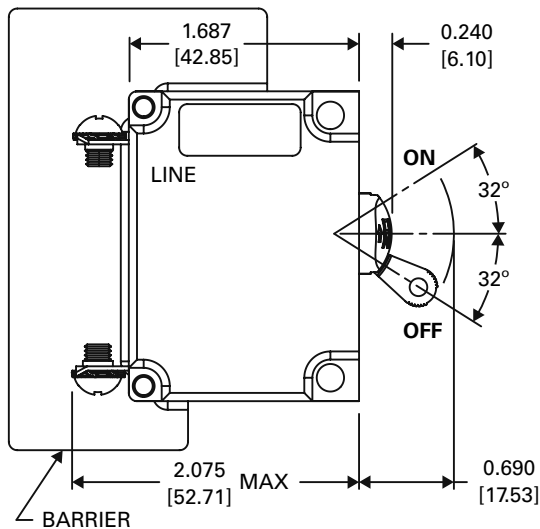
| Agency Certification | Rated Amperage | Maximum Voltage per Pole | Short Circuit Amperage |
|----------------------|----------------|--------------------------|------------------------|
| UL 489               | 2 to 20 amps   | 240 VAC, 50/60 Hz        | 5000                   |
| TÜV (EN60947-2)      | 2 to 20 amps   | 240 VAC, 50/60 Hz        | 5000                   |
| UL489                | 2 to 20 amps   | 240 VAC, 50/60 Hz        | 10000                  |
| UL489                | 2 to 20 amps   | 277 VAC, 50/60 Hz        | 10000                  |

## CONFIGURATIONS: LEJ TOGGLE HANDLE

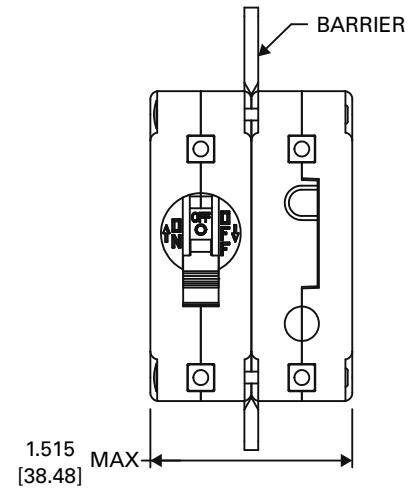
### SINGLE POLE



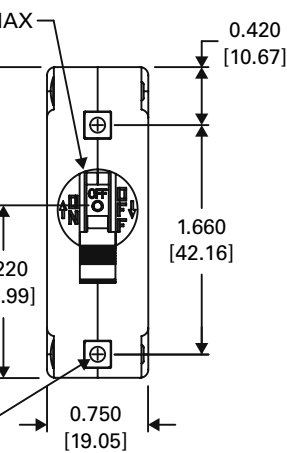
### TWO POLE, 2 HANDLE



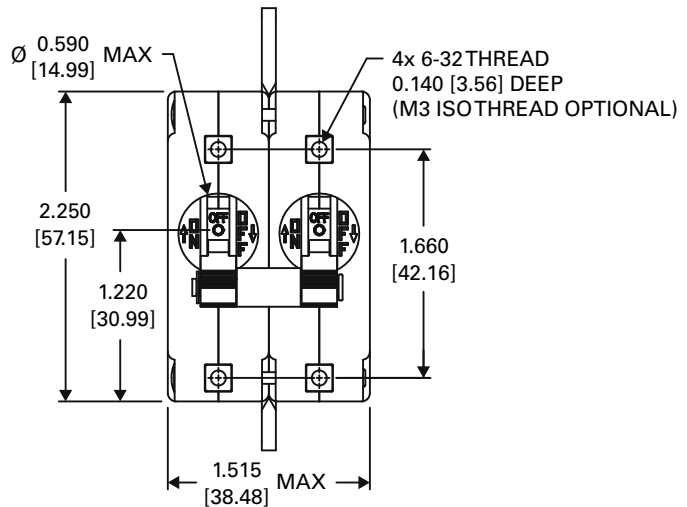
### TWO POLE, 1 HANDLE



OPTIONAL, HANDLE MAY BE IN POLE 1 INSTEAD OF POLE 2

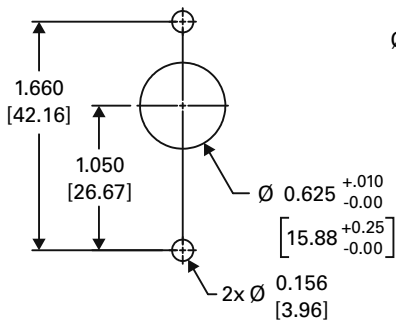


2x 6-32 THREAD  
0.140 [3.56] DEEP  
(M3 ISO THREAD  
OPTIONAL)

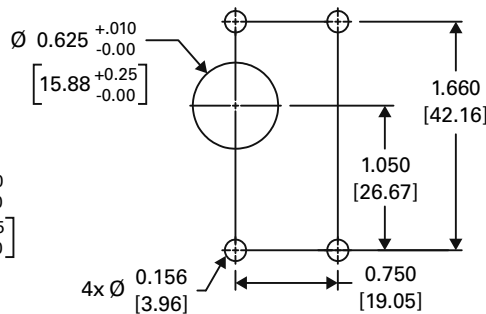


4x 6-32 THREAD  
0.140 [3.56] DEEP  
(M3 ISO THREAD OPTIONAL)

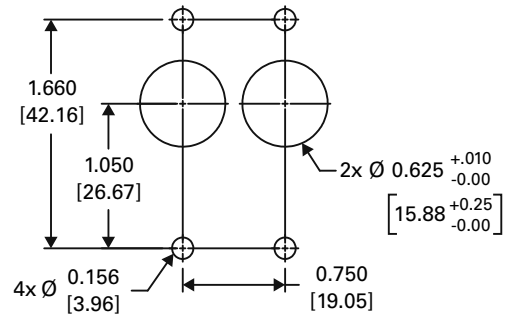
### PANEL MOUNT CUTOUT - 1 POLE



### PANEL MOUNT CUTOUT - 2 POLE, 1 HANDLE



### PANEL MOUNT CUTOUT - 2 POLE, 2 HANDLE

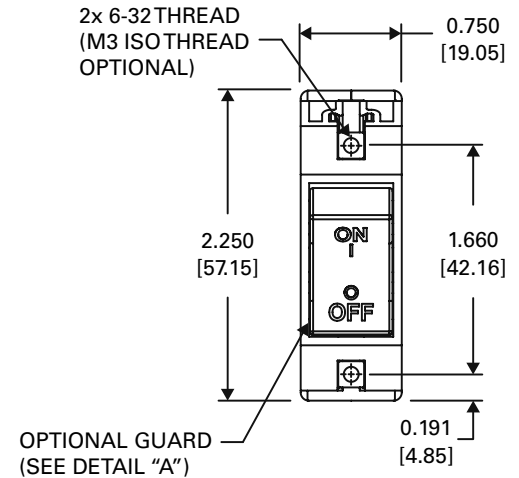
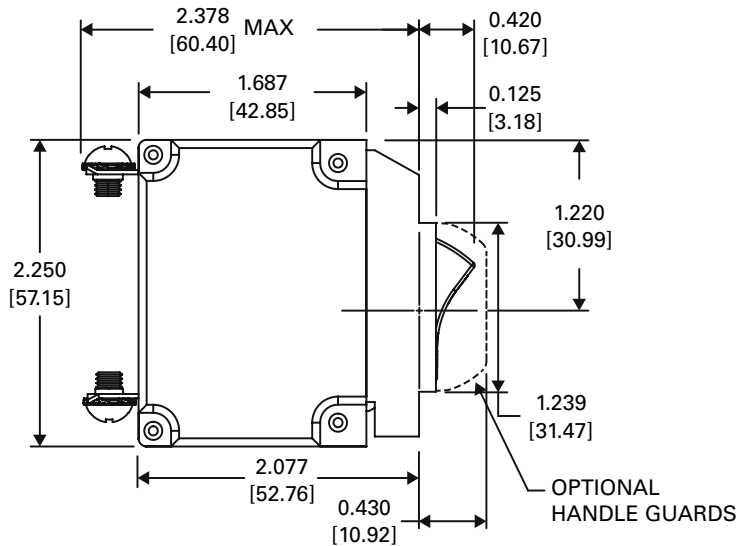


#### NOTES:

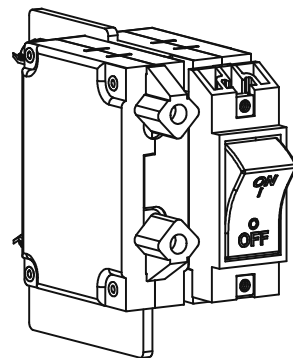
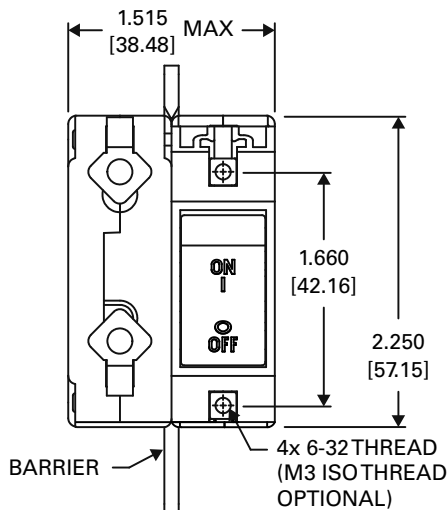
1. All mounting inserts shall be utilized when panel mounting circuit breakers. Panel mounting screws shall have recommended torque applied: 6/32 mounting inserts 6 - 8 inch pounds. M3 mounting inserts 4 - 5 inch pounds.
2. Panel mounting screws shall not extend beyond back of mounting panel more than specified mounting insert depth.
3. Mounting detail tolerance:  $\pm 0.005$  [0.13] unless noted.

## CONFIGURATIONS: LEJZX ROCKER HANDLE

### SINGLE POLE

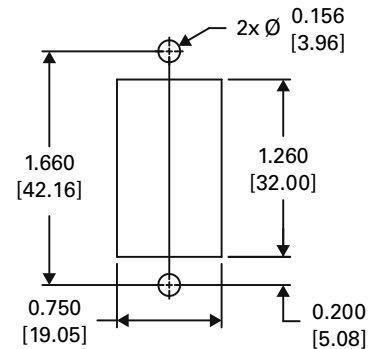


### TWO POLE



OPTIONAL, HANDLE MAY BE IN POLE 2 INSTEAD OF POLE 1

### PANEL MOUNT CUTOUT - 1 or 2 POLE

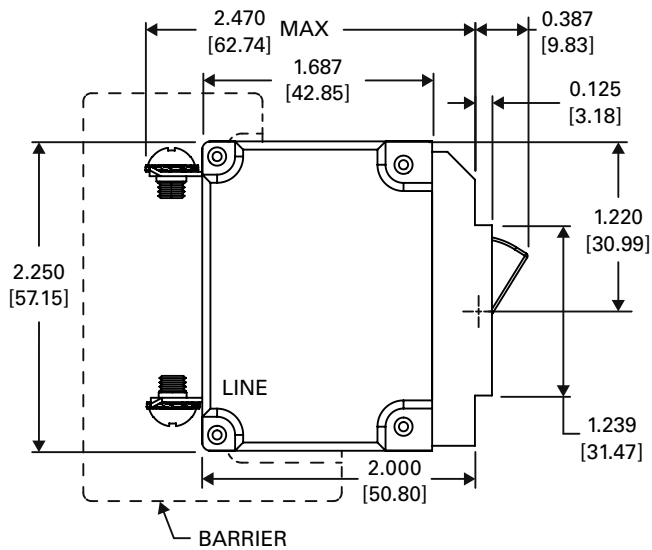


#### NOTES:

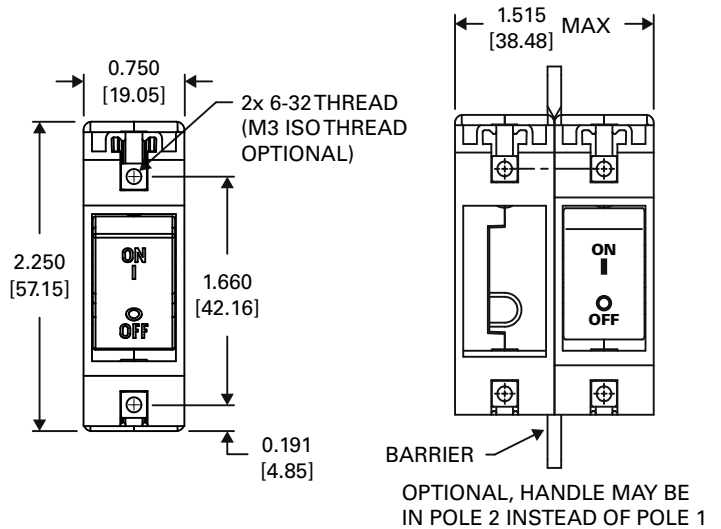
1. All mounting inserts shall be utilized when panel mounting circuit breakers. Panel mounting screws shall have recommended torque applied: 6/32 mounting inserts 6 - 8 inch pounds. M3 mounting inserts 4 - 5 inch pounds.
2. Panel mounting screws shall not extend beyond back of mounting panel more than specified mounting insert depth.
3. Mounting detail tolerance:  $\pm 0.005$  [0.13] unless noted.
4. Two pole ZX has standoffs (as shown). It uses 2 panel screws. A higher shock capability (4 panel screws) is available (consult factory).

## CONFIGURATIONS: LEJBX ROCKER HANDLE

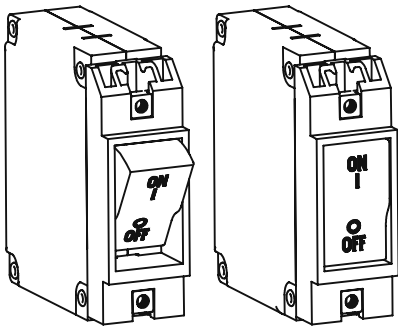
### SINGLE POLE



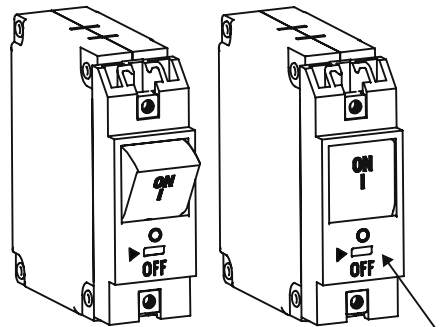
### TWO POLE



### BX HANDLE WITHOUT GUARD

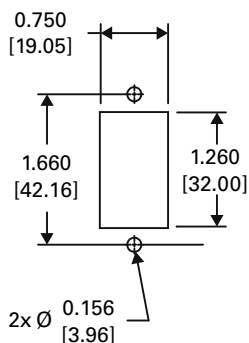


### GUARD (LIMITED ACCESS ACTUATE-OFF)

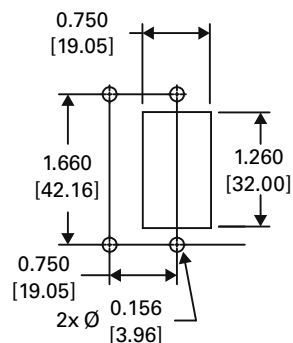


ACCESS TO ACTUATE OFF IS LIMITED  
TO A DEVICE SMALLER THAN  
0.069 [1.75] x 0.155 [3.94]

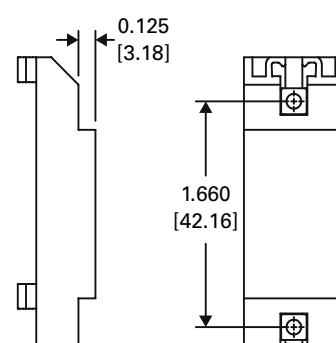
### PANEL MOUNT CUTOUT (1 POLE)



### PANEL MOUNT CUTOUT (2 POLE)

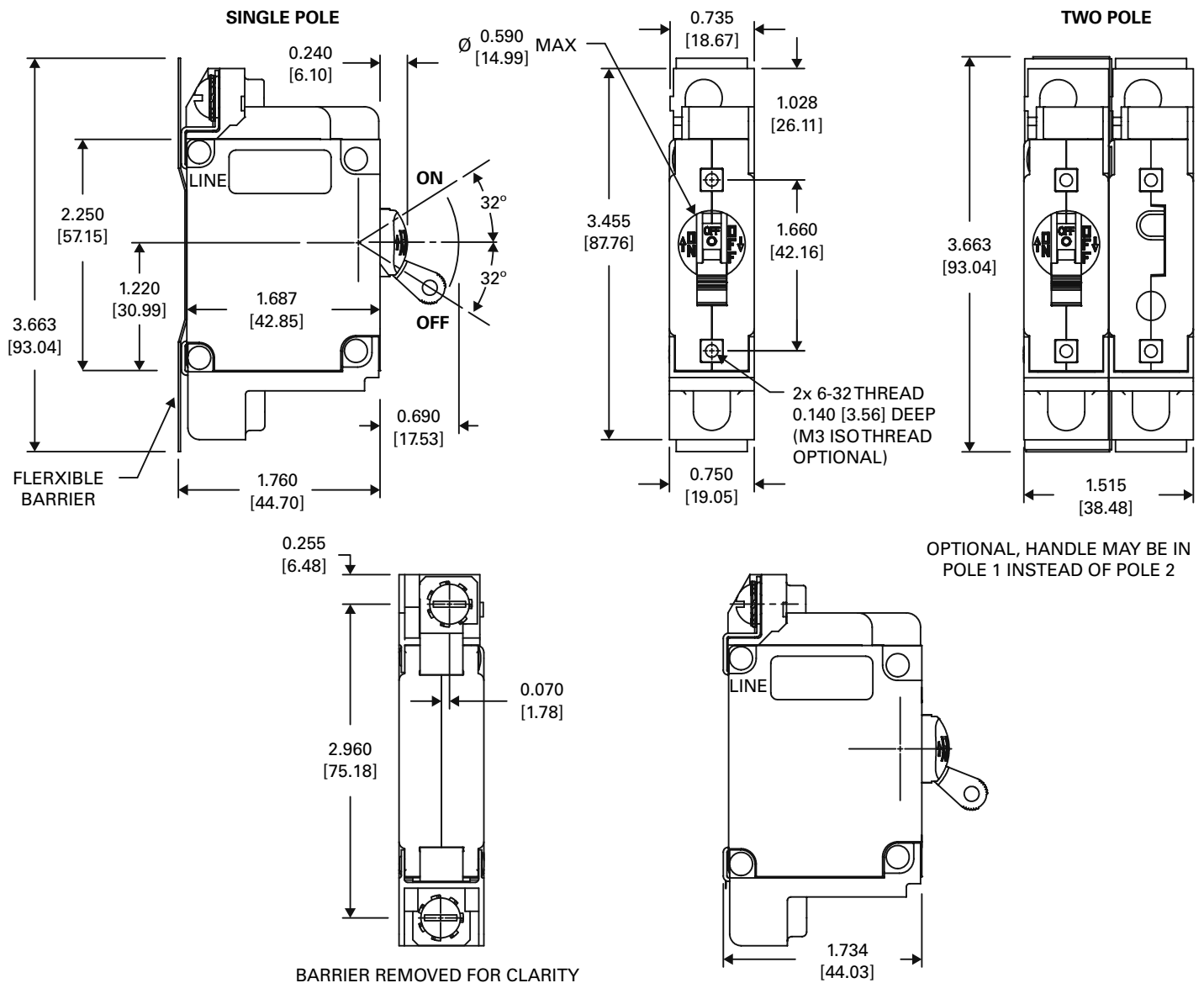


### PANEL PLUG (CONSULT FACTORY FOR AVAILABILITY)

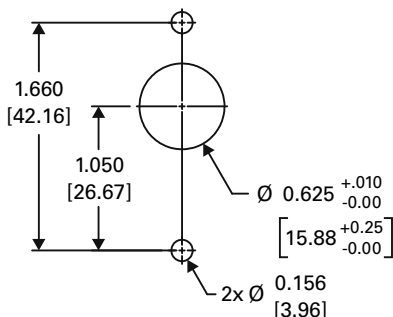


**P/N: 121-710-2450**  
6-32 THD. (BLACK)  
**P/N: 121-710-2451**  
M3 THD. (BLACK)  
**P/N: 121-450-3000**  
6-32 THD. (BLACK)  
**P/N: 121-450-3001**  
M3 THD. (BLACK)

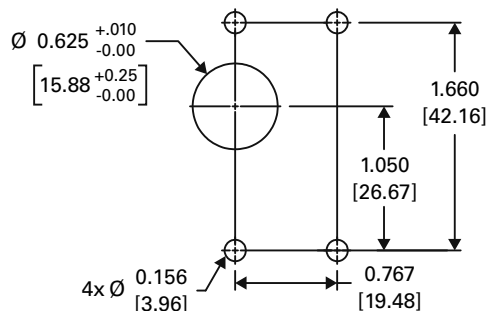
## CONFIGURATIONS: LEJA, TOGGLE HANDLE



### PANEL MOUNT CUTOUT - 1 POLE



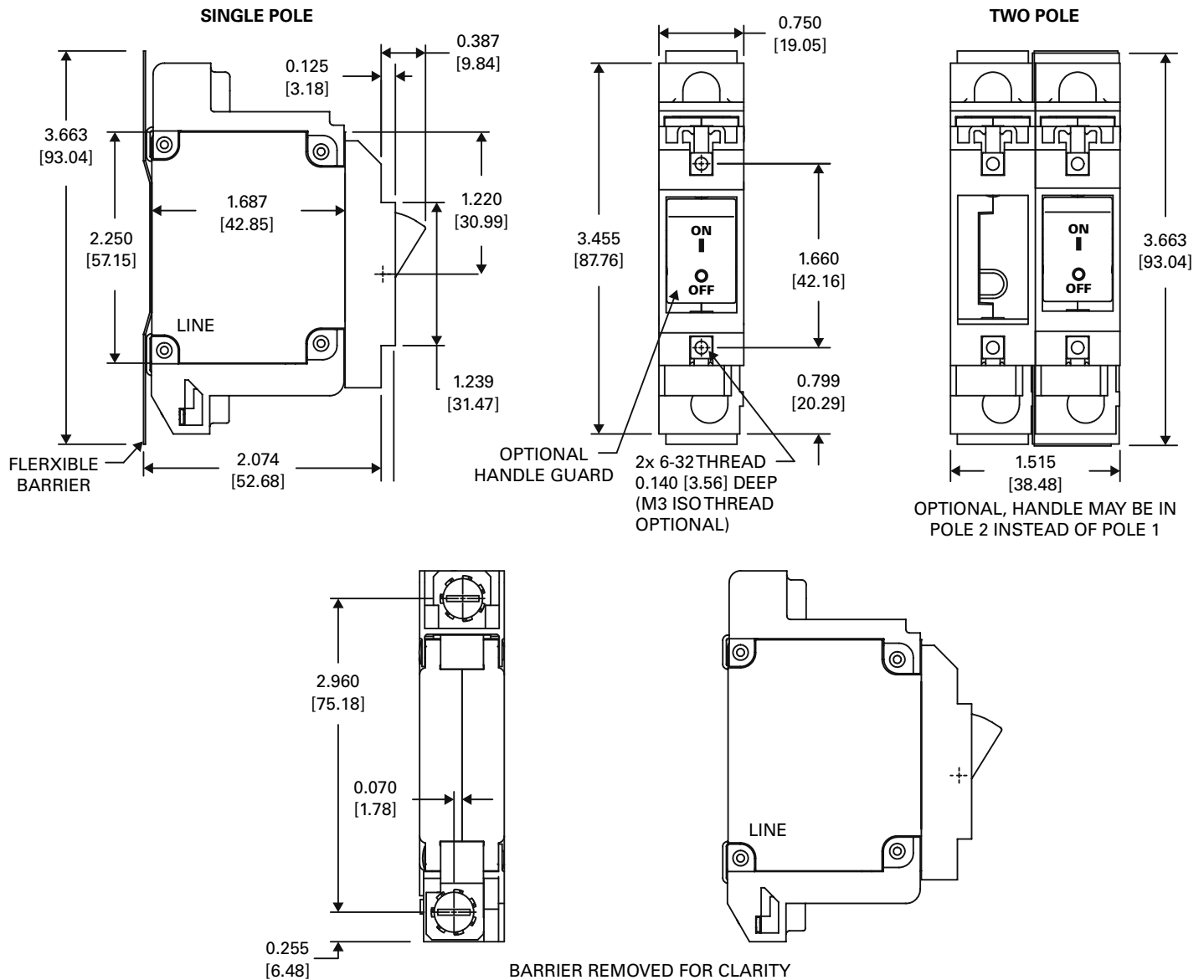
### PANEL MOUNT CUTOUT - 2 POLE, 1 HANDLE



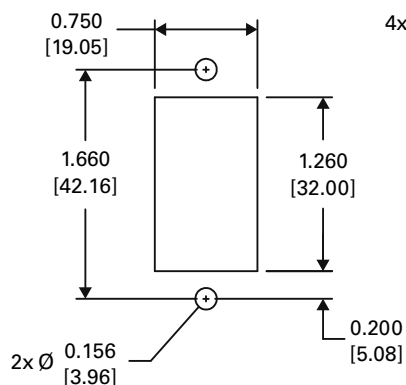
#### NOTES:

1. All mounting inserts shall be utilized when panel mounting circuit breakers. Panel mounting screws shall have recommended torque applied: 6/32 mounting inserts 6 - 8 inch pounds. M3 mounting inserts 4 - 5 inch pounds. Panel mounting screws shall not extend beyond back of mounting panel more than specified mounting insert depth.
2. Mounting detail tolerance:  $\pm 0.005$  [0.13] unless noted.
- 3.

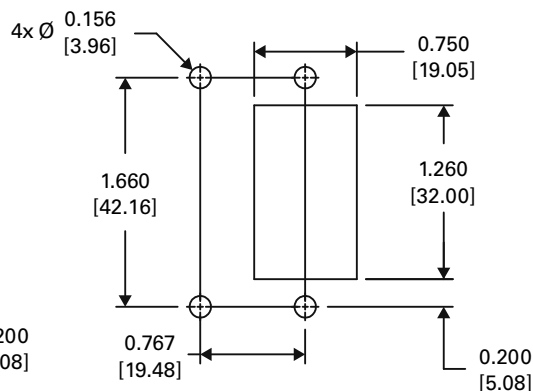
## CONFIGURATIONS: LEJXA ROCKER HANDLE



PANEL MOUNT CUTOUT - 1 POLE



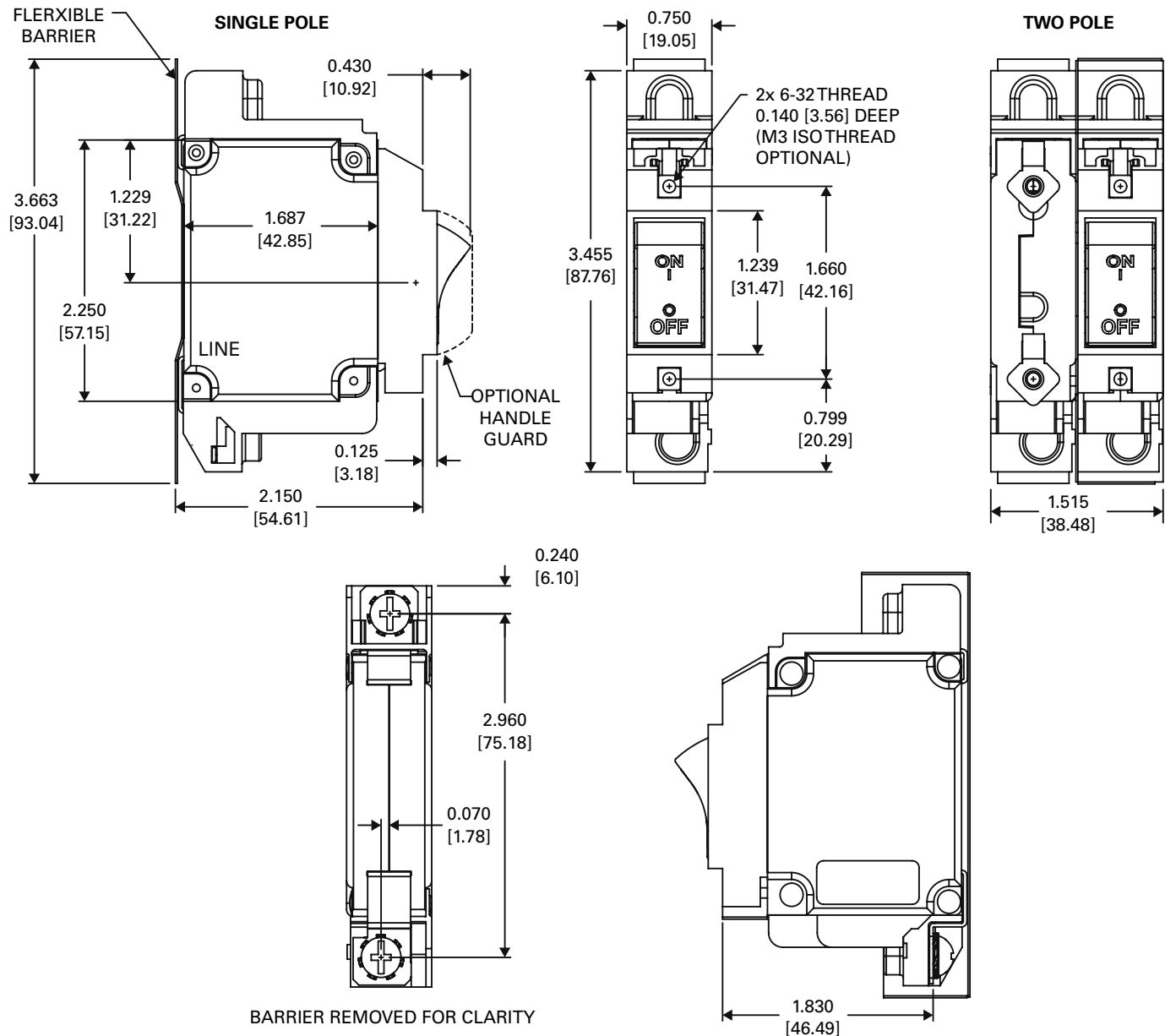
PANEL MOUNT CUTOUT - 2 POLE



**NOTES:**

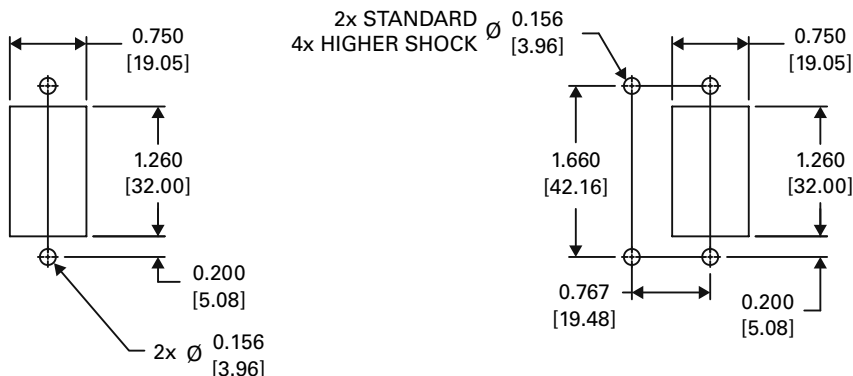
1. All mounting inserts shall be utilized when panel mounting circuit breakers. Panel mounting screws shall have recommended torque applied: 6/32 mounting inserts 6 - 8 inch pounds. M3 mounting inserts 4 - 5 inch pounds. Panel mounting screws shall not extend beyond back of mounting panel more than specified mounting insert depth.
2. Mounting detail tolerance:  $\pm 0.005$  [0.13] unless noted.
- 3.

## CONFIGURATIONS: LEJZXA, ROCKER HANDLE



### PANEL MOUNT CUTOUT - 1 POLE

### PANEL MOUNT CUTOUT - 2 POLE



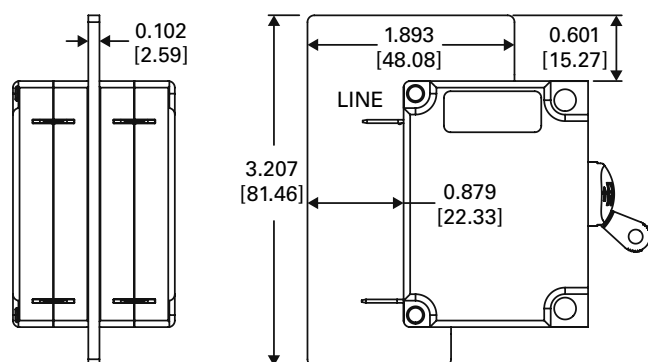
#### NOTES:

1. All mounting inserts shall be utilized when panel mounting circuit breakers. Panel mounting screws shall have recommended torque applied: 6/32 mounting inserts 6 - 8 inch pounds. M3 mounting inserts 4 - 5 inch pounds. Panel mounting screws shall not extend beyond back of mounting panel more than specified mounting insert depth.
2. Mounting detail tolerance:  $\pm 0.005$  [0.13] unless noted.
- 3.

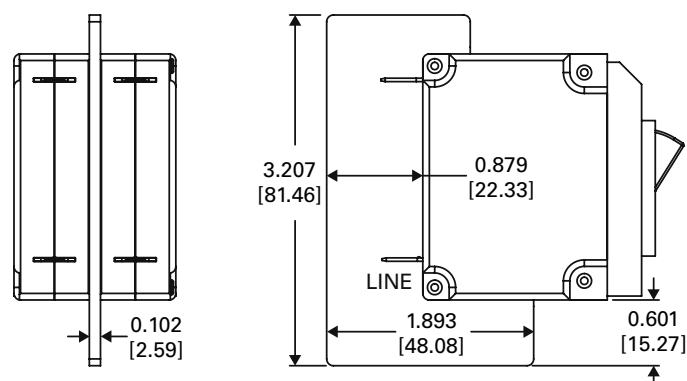


## BARRIER OPTIONS FOR MULTI-POLE UNITS

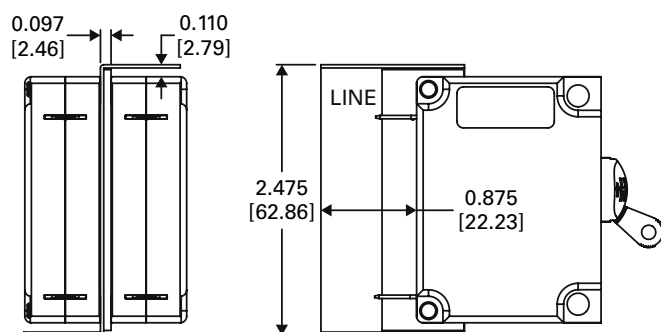
### STANDARD BARRIER - TOGGLE HANDLE



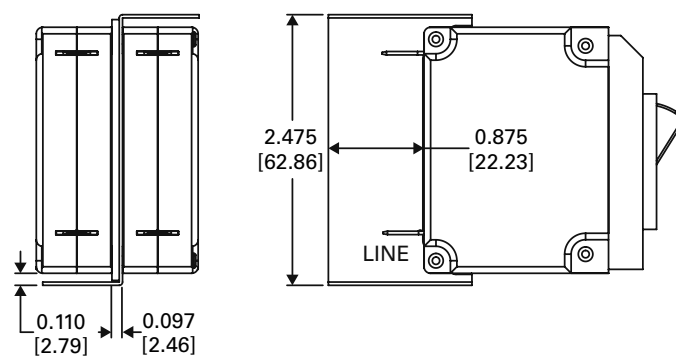
### STANDARD BARRIER - ZX & BX HANDLE



### OPTIONAL (-Z) BARRIER - TOGGLE HANDLE

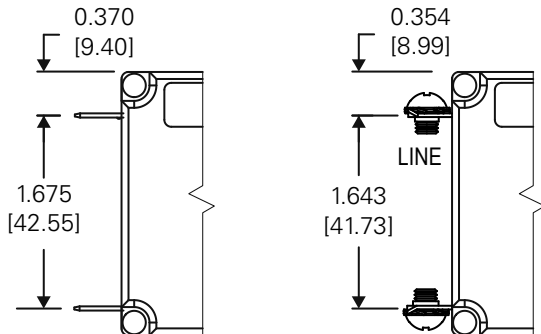


### OPTIONAL (-Z) BARRIER - ZX & BX HANDLE

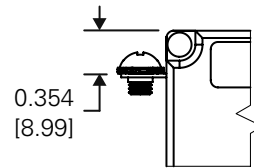


## TERMINAL OPTIONS

### STANDARD - QUICK CONNECT & SCREW TERMINALS



### OPTIONAL - FLAT BUS CONNECT SCREW TERMINAL

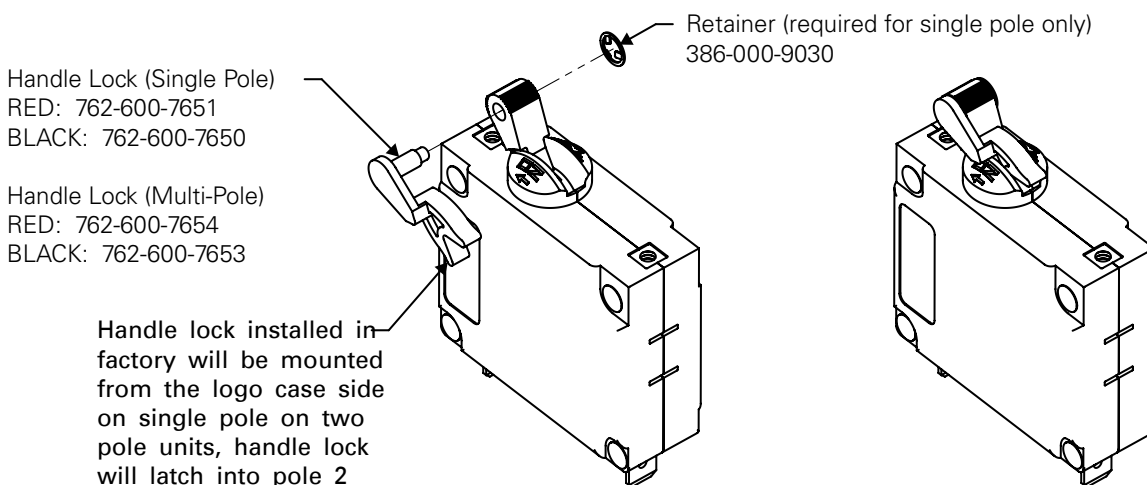


#### NOTES:

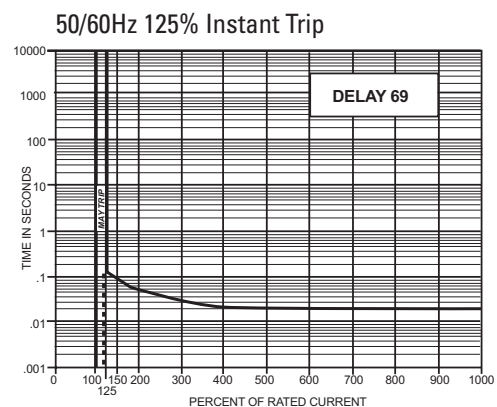
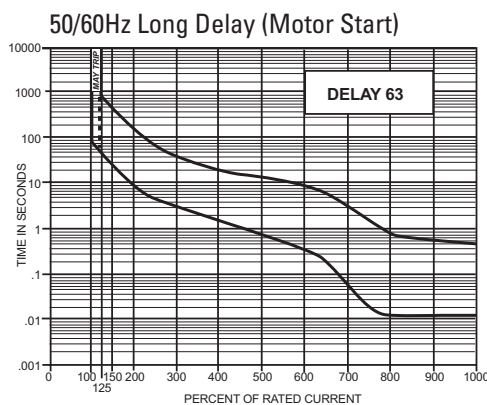
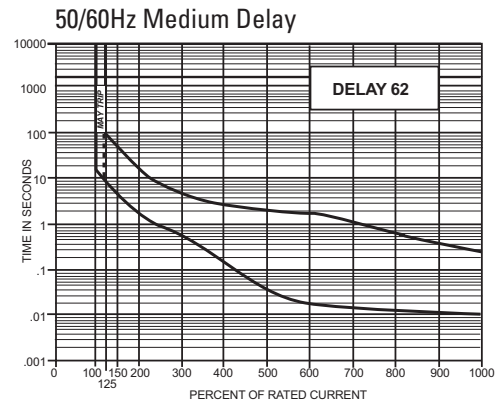
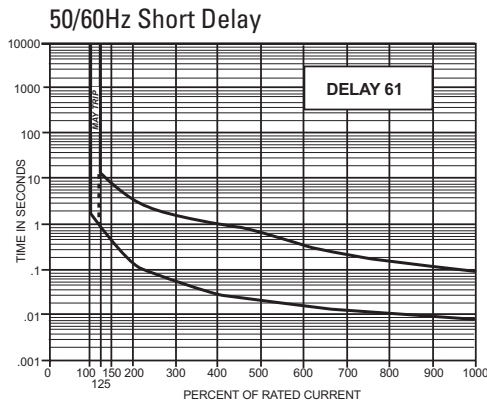
- Terminals:  
Quick Connect = 0.250 [6.35] wide x 0.031 [0.79] thick  
Screw = 10-32 or M5 x 0.8  
TÜV approval with screw terminals include external tooth lockwashers
- 10000 AIC available only with screw terminals

## OPTIONAL HANDLE LOCK FOR TOGGLE HANDLE

A handle lock option is available to prevent accidental actuation of the handle. The handle lock may be used in the ON or OFF position. This option is available pre-assembled or separately. Consult factory for ordering information.



## DELAY CURVES



## PERCENTAGE OF RATED CURRENT VS TRIP TIME IN SECONDS

| Delay | 100%    | 125%       | 150%       | 200%        | 400%      | 600%       | 800%        | 1000%      |
|-------|---------|------------|------------|-------------|-----------|------------|-------------|------------|
| 61    | No Trip | .700 to 12 | .35 to 7.0 | .130 to 3.0 | .030 to 1 | .015 to .3 | .01 to .15  | .008 to .1 |
| 62    | No Trip | 10 to 120  | 6 to 60    | 2 to 20     | .2 to 3.0 | .015 to 2  | .015 to .8  | .01 to .25 |
| 63    | No Trip | 50 to 700  | 30 to 400  | 10 to 150   | 1.5 to 20 | .015 to 10 | .013 to .85 | .013 to .5 |
| 69    | No Trip | 0.120 max  | 0.100 max  | 0.050 max   | 0.022 max | 0.017 max  | 0.017 max   | 0.017 max  |

## INRUSH PULSE TOLERANCE

| Delay      | Pulse Tolerance                 |
|------------|---------------------------------|
| 61, 62, 63 | 10 times rated current (approx) |

The table above provides a comparison of inrush pulse tolerance for each of the 50/60Hz delays. Pulse tolerance is defined as a single pulse of half sine wave peak current amplitude of 8 milliseconds duration that will not trip the circuit breaker. Consult Sensata Technologies for further assistance.

## TYPICAL RESISTANCE / IMPEDANCE

| Current Ratings (Amps) | Impedance                            |                                                                                                                                                                                                                                                    |
|------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | AC, 50/60Hz (ohms)<br>61, 62, 63, 69 |                                                                                                                                                                                                                                                    |
| 2.00                   | 0.29                                 | DCR and Impedance based on 100% rated current applied and stabilized for a minimum of one hour. Tolerance .05-2.5 amperes $\pm 20\%$ ; 2.6 -20 amperes $\pm 25\%$ . Consult factory for special values and for coil impedance of delays not shown. |
| 5.00                   | 0.051                                |                                                                                                                                                                                                                                                    |
| 10.0                   | 0.016                                |                                                                                                                                                                                                                                                    |
| 20.0                   | 0.006                                |                                                                                                                                                                                                                                                    |

## DECISION TABLES

| 1. Type & Handle |                                               |                                                                                                                                                                                                                                                                                                           |                                                           |                    |                                              |
|------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------|----------------------------------------------|
| Step 1a          |                                               | Step 1b (optional)                                                                                                                                                                                                                                                                                        |                                                           | Step 1c (optional) |                                              |
| LEJ              | One Handle per Unit, UL 489 Listed, CSA, TÜV* |                                                                                                                                                                                                                                                                                                           | Standard toggle & mounting (no entry, proceed to step 1c) | F                  | Flat bus connect screw terminal (ex. LUJZXF) |
| LEJH             | One Handle per Pole, UL 489 Listed, CSA, TÜV* | BX                                                                                                                                                                                                                                                                                                        | BX flat rocker with integral mounting                     | A                  | Low depth construction (ex. LEJA)            |
|                  |                                               | ZX                                                                                                                                                                                                                                                                                                        | ZX rocker with integral mounting                          |                    |                                              |
| LUJ              | One Handle per Unit, UL 489 Listed            | <i>* TÜV approval (EN60947-2) requires "T" added to end of part number</i><br><br><i>"ZX" &amp; "BX" versions are single handle construction only. 2-pole units handle may be located on either pole, other than standard handle locations shown. Units must be ordered as non descript part numbers.</i> |                                                           |                    |                                              |
| LUJH             | One Handle per Pole, UL 489 Listed            |                                                                                                                                                                                                                                                                                                           |                                                           |                    |                                              |

| 2. Poles & Terminals             |                                      |
|----------------------------------|--------------------------------------|
| 1                                | Single Pole, Quick Connect Terminals |
| 11                               | Two Poles, Quick Connect Terminals   |
| 6                                | Single Pole, Screw Terminals*        |
| 66                               | Two Poles, Screw Terminals*          |
| *Screw terminals only for 10KAIC |                                      |

| 3. Internal Configuration |        |
|---------------------------|--------|
| 1                         | Series |

| 4. Frequency & Delay |                                  |
|----------------------|----------------------------------|
| 61                   | 50/60Hz Short Delay              |
| 62                   | 50/60Hz Medium Delay             |
| 63                   | 50/60Hz Long Delay (Motor Start) |
| 69                   | 50/60Hz 125% Instant Trip        |

| 5. Rated Current                                                                                 |  |
|--------------------------------------------------------------------------------------------------|--|
| Use three numbers in build (2.00 or 15.0 or 20.0)                                                |  |
| Required value between <b>2.00</b> amps minimum and <b>20.0</b> amps maximum, full integers only |  |
| (specials available upon request)                                                                |  |

| 6. Additional Options |                                                                      |
|-----------------------|----------------------------------------------------------------------|
|                       | Standard hardware, no options required                               |
| A                     | Metric thread mounting inserts and terminal hardware                 |
| G                     | Handle guard w/ limited access (available for ZX & BX versions only) |
| M                     | Handle in opposite pole (2-pole only)                                |
| Z                     | Optional "Z" barrier (not available on "A" low depth)                |
| R                     | 240VAC, 10KAIC                                                       |
| E                     | 277VAC, 10KAIC                                                       |

| 8. Approvals |                                                                |
|--------------|----------------------------------------------------------------|
| T            | TÜV approved<br>Certified to EN60947-2<br>Includes the CE mark |

**LEJBXA 66-1-62-20.0-AG-M6-T**

## 7. Handle Colors, Indicators & Markings

### Toggle Handle

| Unmarked | Marked<br>ON - OFF<br>I - O | Handle<br>Color | Unmarked | Marked<br>ON - OFF<br>I - O | Handle<br>Color | Unmarked | Marked<br>ON - OFF<br>I - O | Handle<br>Color | Unmarked | Marked<br>ON - OFF<br>I - O | Handle<br>Color |
|----------|-----------------------------|-----------------|----------|-----------------------------|-----------------|----------|-----------------------------|-----------------|----------|-----------------------------|-----------------|
| - 00     | - 01                        | Black           | - 10     | - 11                        | Yellow          | - 20     | - 21                        | Red             | - 30     | - 31                        | Blue            |
| - 40     | - 41                        | Green           | - 60     | - 61                        | Orange          | - 90     | - 91                        | White           |          |                             |                 |

### ZX Rocker Handle (Two-Color Rocker, Marking Detail "A")

| Vertical Mount<br>ON - OFF<br>(fig 1) | Vertical Mount<br>I - O<br>(fig 2) | Vertical Mount<br>ON - OFF<br>I - O<br>(fig 3) | Horizontal Mount<br>ON - OFF<br>(fig 4) | Horizontal Mount<br>I - O<br>(fig 5) | Horizontal Mount<br>ON - OFF<br>I - O<br>(fig 6) | Handle<br>Color | Indicating<br>Color | Marking<br>Color | Indicates |
|---------------------------------------|------------------------------------|------------------------------------------------|-----------------------------------------|--------------------------------------|--------------------------------------------------|-----------------|---------------------|------------------|-----------|
| - F1                                  | - F2                               | - F3                                           | - F4                                    | - F5                                 | - F6                                             | Black           | White               | White            | OFF       |
| - G1                                  | - G2                               | - G3                                           | - G4                                    | - G5                                 | - G6                                             | Black           | Red                 | White            | OFF       |

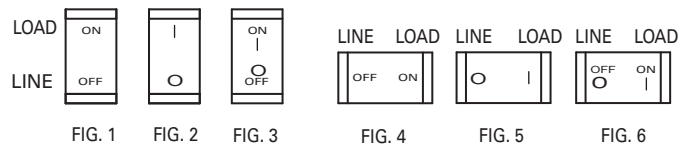
### BX Rocker Handle (Two-Color Rocker, Marking Detail "A")

| Vertical Mount<br>ON - OFF<br>(fig 1) | Vertical Mount<br>I - O<br>(fig 2) | Vertical Mount<br>ON - OFF<br>I - O<br>(fig 3) | Horizontal Mount<br>ON - OFF<br>(fig 4) | Horizontal Mount<br>I - O<br>(fig 5) | Horizontal Mount<br>ON - OFF<br>I - O<br>(fig 6) | Handle<br>Color | Indicating<br>Color | Marking<br>Color | Indicates |
|---------------------------------------|------------------------------------|------------------------------------------------|-----------------------------------------|--------------------------------------|--------------------------------------------------|-----------------|---------------------|------------------|-----------|
| —                                     | - M2                               | - M3                                           | —                                       | —                                    | - M6                                             | Black           | White               | White            | OFF       |
| —                                     | - N2                               | - N3                                           | —                                       | —                                    | - N6                                             | Black           | Red                 | Red              | OFF       |

For BX: Bezel of BX is black. BX markings are same color as indicating color. Consult factory for other marking options.

For ZX: Black, red, blue and green handles have white marking. White, yellow and orange handles have black marking.

Note, these are just a few of the options/orientations/colors available, please consult the factory for additional information.



### MARKING DETAIL "A"

NOTE: "ON" actuates towards the "up" and "right" direction

