

AIRPAX®

LEGA Series

Low-Depth, Hydraulic-Magnetic Circuit Breakers



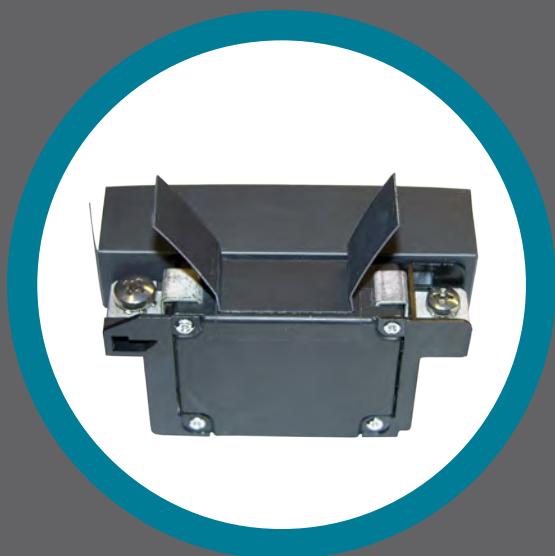
Introduction • **123**

Configurations • **124**

Delay Curves • **127**

Operating Characteristics • **128**

Decision Tables • **129**





AIRPAX® | LEGA Series

Low-Depth, Hydraulic-Magnetic Circuit Breakers

INTRODUCTION

Developed to meet the evolving demand for low-profile datacenter rack power distribution units, the Airpax™ LEGA series circuit breaker provides a cost effective solution with uncompromising performance and reliability in a low-depth package. The UL-489 Listed product includes TÜV certification to EN60947-2 for global acceptance in UL-60950 and EN60950 ITE applications, a variety of limited access actuator styles and secure screw terminals oriented for ease of assembly and efficient power conductor routing.

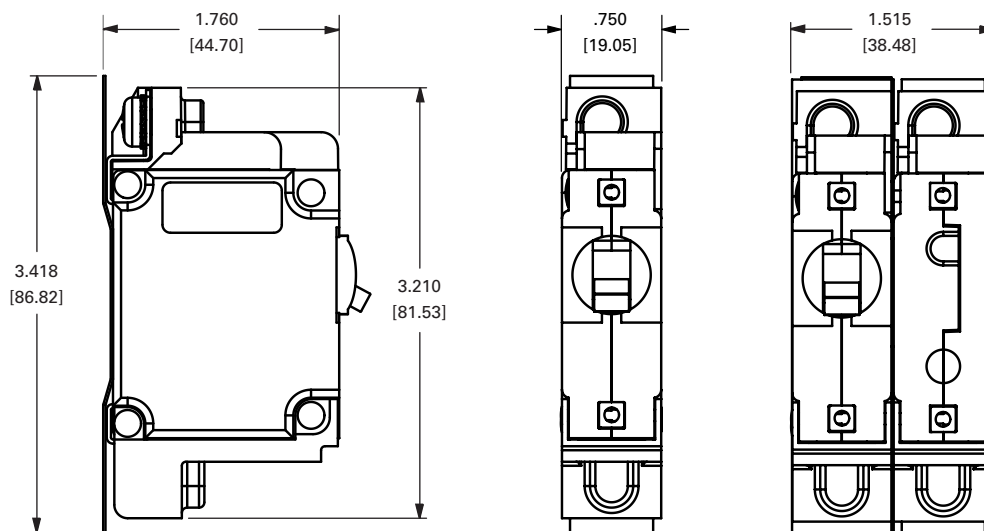
FEATURES

- Retains proven high performance specifications & reliability of the Airpax™ LEG series
- Low-depth design to minimize PDU intrusion into equipment rack space
- Rear access screw terminals provide secure vibration resistant connection for high reliability applications
- Terminal orientation allows simple power conductor routing and ease of assembly
- Global agency certifications for UL60950 and EN60950 ITE requirements
- Short toggle and flat rocker actuators available for protection against accidental “turn-off”
- Barriers fold-away to allow easier screw access

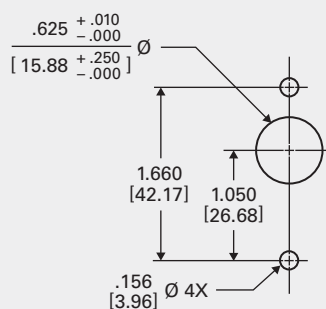
SPECIFICATIONS

Agency Certification	Rated Amperage	Maximum Voltage	Short Circuit Amperage	Phase
UL-489	1.00A - 30.0A	120vac, 50/60Hz	5,000A	1
UL-489	1.00A - 30.0A	120/240vac, 50/60Hz	5,000A	1
UL-489	1.00A - 50.0A	80vdc	5,000A	—
UL-489	1.00A - 20.0A (3 pole)	208Y/120	5,000A	3
TÜV (EN60947-2) lcs	1.00A - 30.0A	250vac, 50/60Hz	3,000A	1
TÜV TUV (EN60947-2) lcs	1.00A - 50.0A	80vdc	3,000A	—
TÜV (EN60947-2) lcs	1.00A - 30.0A	240/415vac, 50/60Hz	3,000A	1 & 3

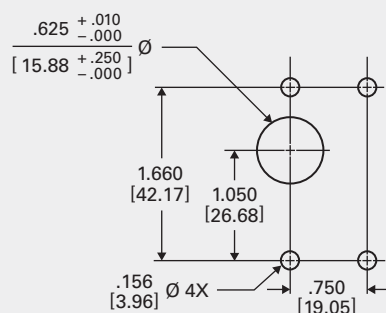
CONFIGURATIONS - TOGGLE HANDLE



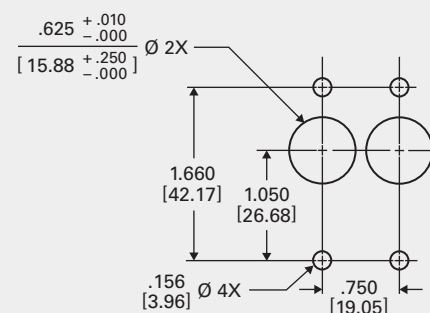
Single Pole, Toggle Handle



Two Pole, Single Toggle Handle

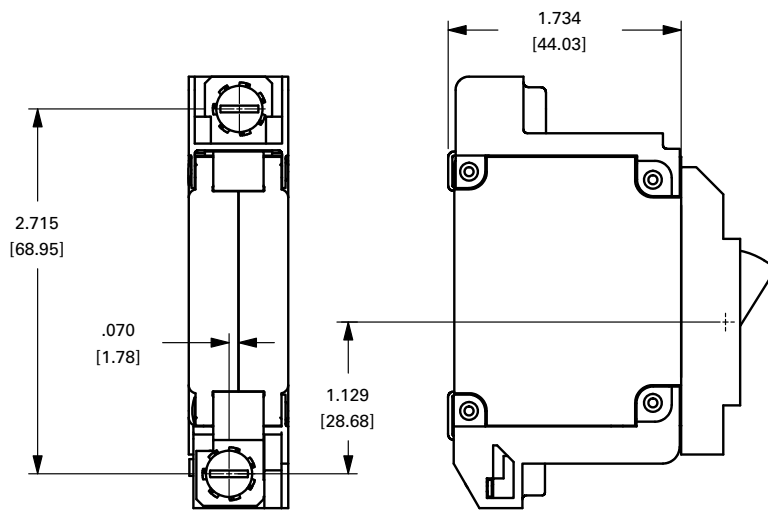
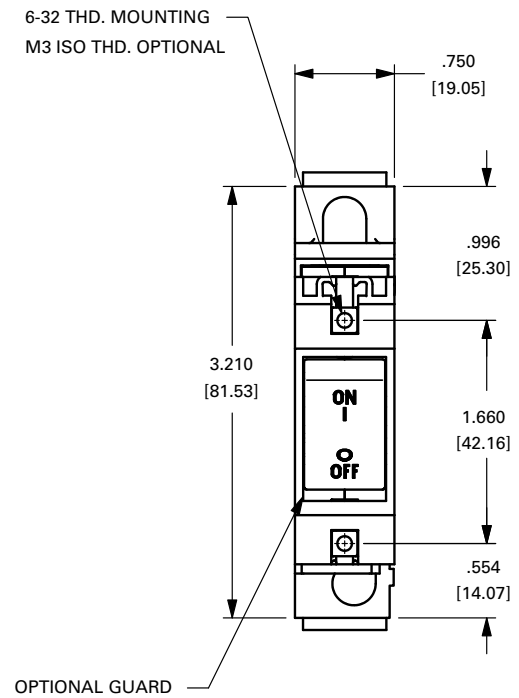
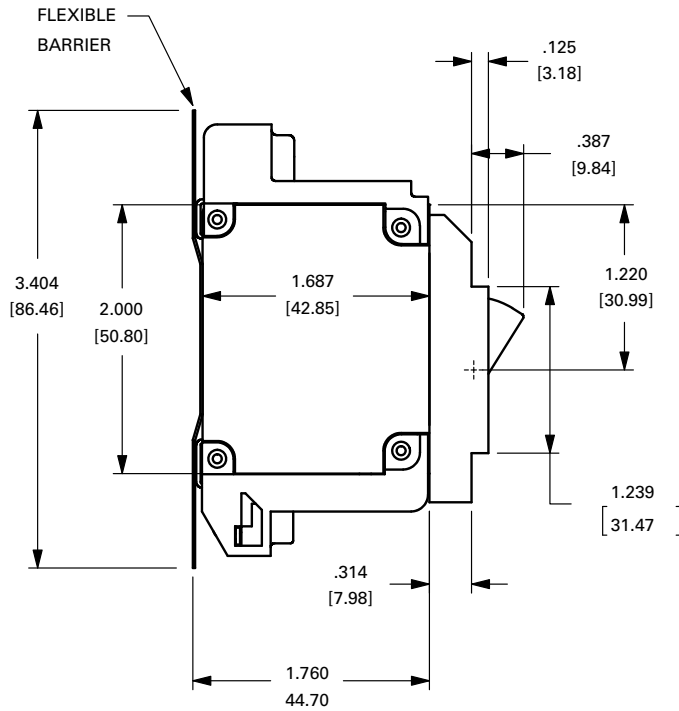


Two Pole, Two Toggle Handles

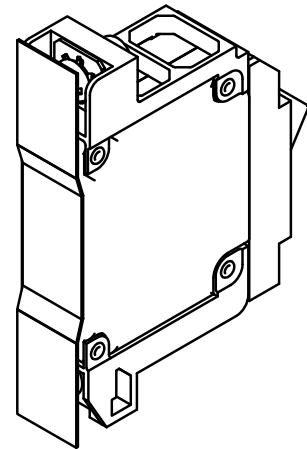


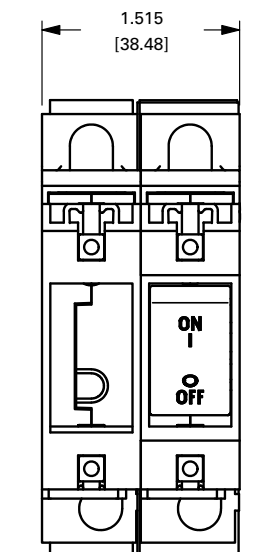
Panel Mounting Detail: Tolerance for Mtg. $\pm .005$ [.13] unless noted.

CONFIGURATIONS - BX & ZX ROCKER HANDLES

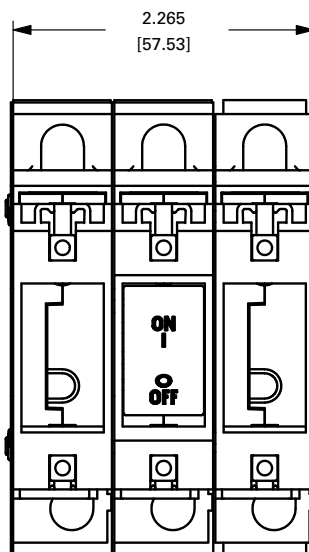


Note: Barrier removed for clarity

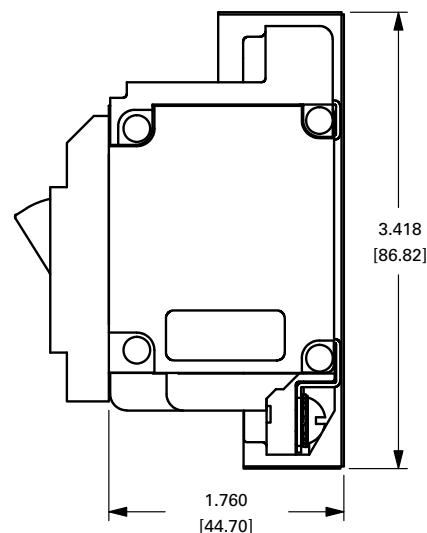




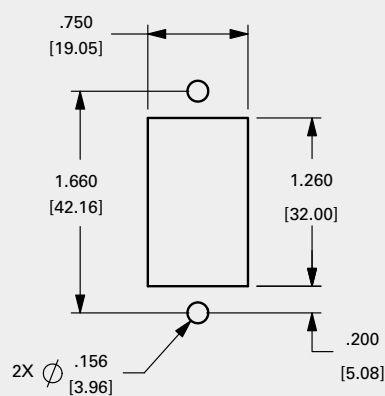
TWO POLE
(OPTIONAL, HANDLE MAY BE
IN POLE 2 INSTEAD OF POLE 1)



THREE POLE

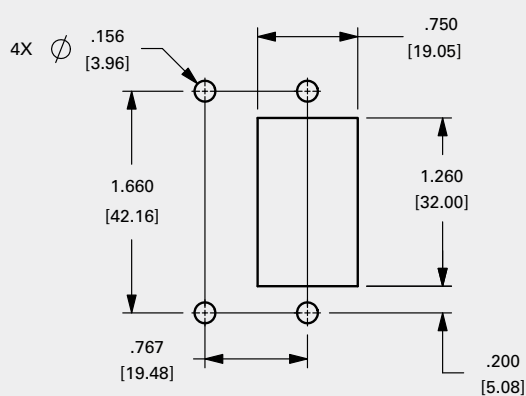


Single Pole, Rocker Handle



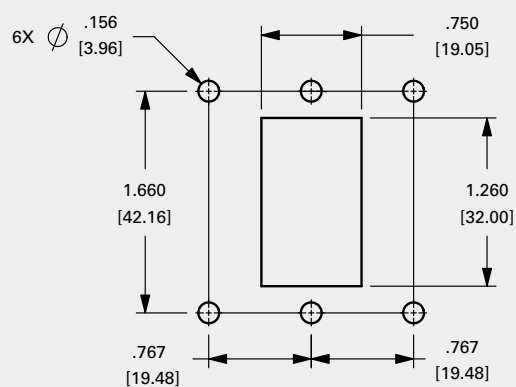
SINGLE POLE

Two Pole, Rocker Handle



TWO POLE

Three Pole, Rocker Handle

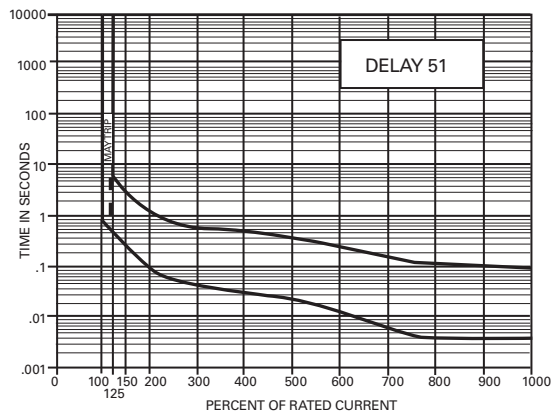


THREE POLE

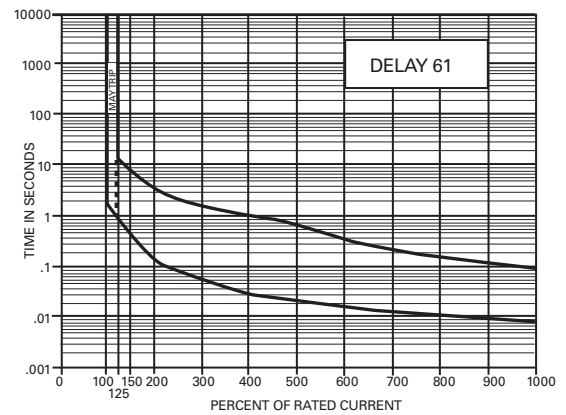
Panel Mounting Detail: Tolerance for Mtg. $\pm .005$ [.13] unless noted.

DELAY CURVES

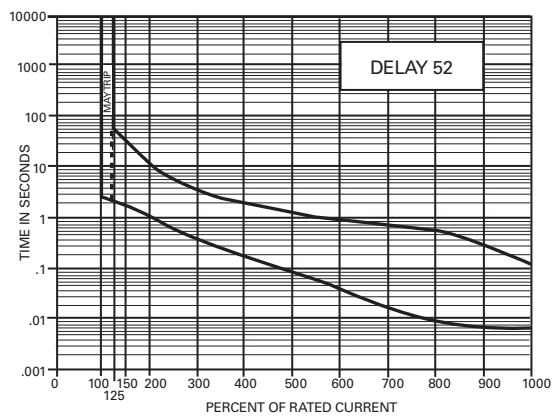
DC Short Delay



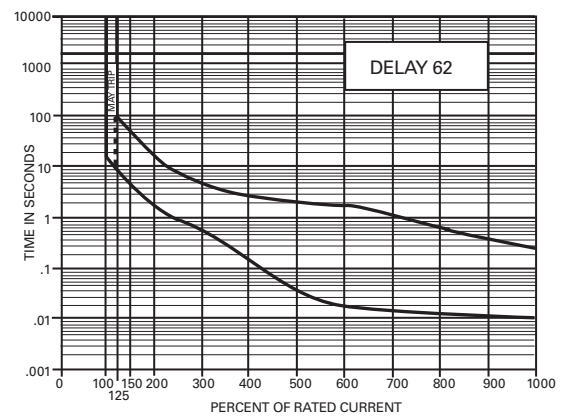
50/60Hz Short Delay



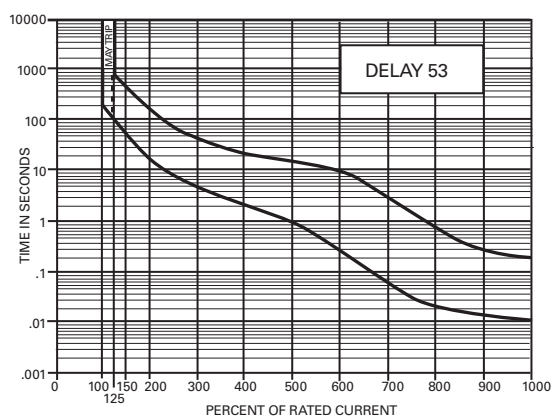
DC Medium Delay



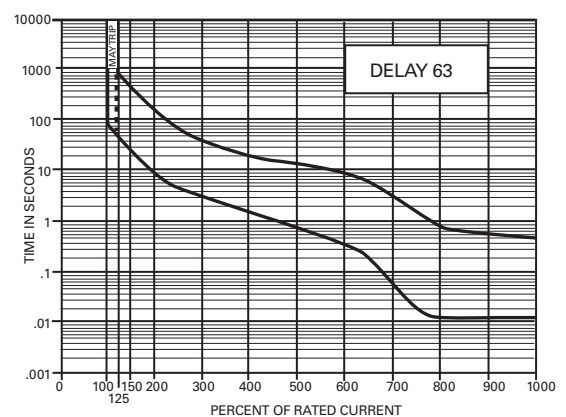
50/60Hz Medium Delay



DC Long Delay (Motor Start)



50/60Hz Long Delay (Motor Start)



OPERATING CHARACTERISTICS - SERIES TRIP

The most popular configuration for hydraulic-magnetic circuit breakers is the series trip, where the sensing coil and contacts are in series with the load being protected. The handle position conveniently indicates circuit status. In addition to providing conventional over-current protection, it's simultaneously used as an ON-OFF switch.



PERCENTAGE OF RATED CURRENT VS TRIP TIME IN SECONDS AT +25°C (VERTICAL MOUNT)

Delay	100%	125%	150%	200%	400%	600%	800%	1000%
51	No Trip	.500 to 6.5	.300 to 3.0	.100 to 1.2	.031 to .500	.011 to .25	.004 to .1	.004 to .08
52	No Trip	2 to 60	1.8 to 30	1 to 10	.15 to 2.0	.04 to 1	.008 to .5	.006 to .1
53	No Trip	80 to 700	40 to 400	15 to 150	2 to 20	.23 to 9	.018 to .55	.012 to .2
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	.02 to 2	.015 to .8	.01 to .25
63	No Trip	50 to 700	30 to 400	10 to 150	1.5 to 20	.4 to 10	.013 to .85	.013 to .5

INRUSH PULSE TOLERANCE

Delay	Pulse Tolerance
61, 62, 63	10 times rated current (approx)
61F, 62F, 63F	12 times rated current (approx)

The table above provides a comparison of inrush pulse tolerance with and without the inertial delay feature 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	
	DC (ohms)	AC, 50/60Hz (ohms)
	51, 52, 53	61, 62, 63
0.200	36.6	34.2
1.00	1.38	1.47
2.00	0.31	0.25
5.00	0.053	0.051
10.0	0.016	0.013
20.0	0.006	0.005
30.0	0.0027	0.0026
50.0	0.0019	—

DCR and Impedance based on 100% rated current applied and stabilized for a minimum of one hour. Tolerance .05-2.5 amperes ± 20%; 2.6 -20 amperes ± 25%, 21-50 amperes ± 50%. Consult factory for special values and for coil impedance of delays not shown.

DECISION TABLES

1. Type & Handle			
Step 1a		Step 1b	
LEG	One handle per unit	A	Standard toggle & mounting, Low depth construction
LEGH	One handle per pole	ZXA*	ZX rocker with integral mounting, Low depth construction
LMG	One handle per unit, mid-trip	BXA*	BX flat rocker with integral mounting, Low depth construction
LMGH	One handle per pole, mid-trip	** All types are UL-489 Listed * Rockers can not have option "H", a handle per pole (for example LEGHZXA or LMGBXA is incorrect)	

2. Poles & Terminals	
6	Single Pole, Screw Terminals
66	Two Poles, Screw Terminals
666	Three Poles, Screw Terminals

3. Internal Configuration	
1	Series

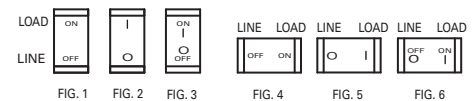
4. Frequency & Delay			
Step 4a		Step 4b	
SW	Switch only		Standard
51	DC short delay	F	Inertial wheel
52	DC medium delay	All delays can add an optional inertial wheel by adding an "F" to the end of the code. Example: 61 becomes 61F	
53	DC long delay		
61	50/60Hz short delay		
62	50/60Hz medium delay		
63	50/60Hz long delay (motor start)		

5. Rated Current		*** Ratings over 30 amps only available with DC delay characteristics Other ratings available upon request
1.0	1 amp	
5.0	5 amp	
7.5	7.5 amp	
10.0	10 amp	
12.5	12.5 amp	
15.0	15 amp	
16.0	16 amp	
20.0	20 amp	
25.0	25 amp	
30.0	30 amp	
40.0	40 amp***	
50.0	50 amp***	

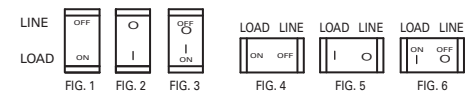
6. Additional Options	
	Standard hardware, no options required
A	Metric thread mounting inserts and terminal hardware
G	Hand guard (available for ZX & BX versions only)
M	Handle in opposite pole (2-pole only)
Q	APG/UPG style "fat" toggle actuator
X	Handle guard with no actuation feature (BX only, no mid-trip)

8. Approvals	
T	TÜV approved Certified to EN60947-2 Includes the CE mark

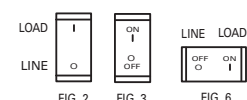
LEGBXA 66-1-62-20.0-AG-M6-T



MARKING DETAIL "A"



MARKING DETAIL "B"



MARKING DETAIL "C"

7. Handle Colors, Indicators & Markings

Toggle Handle

Unmarked	Marked ON - OFF I - O	Handle Color	Unmarked	Marked ON - OFF I - O	Handle Color	Unmarked	Marked ON - OFF I - O	Handle Color	Unmarked	Marked ON - OFF I - O	Handle 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 (Single-Color Rocker)

Marking Detail A

Unmarked	Vertical Mount ON - OFF (fig 1)	Vertical Mount I - O (fig 2)	Vertical Mount ON - OFF I - O (fig 3)	Horizontal Mount ON - OFF (fig 4)	Horizontal Mount I - O (fig 5)	Horizontal Mount ON - OFF I - O (fig 6)	Handle Color	Indicating Color	Marking Color	Indicates
- 00	- 01	- 02	- 03	- 04	- 05	- 06	Black	—	White	—
- 20	- 21	- 22	- 23	- 24	- 25	- 26	Red	—	White	—
- 40	- 41	- 42	- 43	- 44	- 45	- 46	Gray	—	Black	—
- 50	- 51	- 52	- 53	- 54	- 55	- 56	Orange	—	Black	—
- 90	- 91	- 92	- 93	- 94	- 95	- 96	White	—	Black	—

ZX Rocker Handle (Two-Color Rocker)

Marking Detail A & B

Unmarked	Vertical Mount ON - OFF (fig 1)	Vertical Mount I - O (fig 2)	Vertical Mount ON - OFF I - O (fig 3)	Horizontal Mount ON - OFF (fig 4)	Horizontal Mount I - O (fig 5)	Horizontal Mount ON - OFF I - O (fig 6)	Handle Color	Indicating Color	Marking Color	Indicates
- A0	- A1	- A2	- A3	- A4	- A5	- A6	Black	White	White	ON
- B0	- B1	- B2	- B3	- B4	- B5	- B6	Black	Red	White	ON
- C0	- C1	- C2	- C3	- C4	- C5	- C6	Black	Green	White	ON
- F0	- F1	- F2	- F3	- F4	- F5	- F6	Black	White	White	OFF
- G0	- G1	- G2	- G3	- G4	- G5	- G6	Black	Red	White	OFF
- H0	- H1	- H2	- H3	- H4	- H5	- H6	Black	Green	White	OFF
- J0	- J1	- J2	- J3	- J4	- J5	- J6	Black	White	White	ON
- K0	- K1	- K2	- K3	- K4	- K5	- K6	Black	Red	White	ON
- L0	- L1	- L2	- L3	- L4	- L5	- L6	Black	Green	White	ON

BX Rocker Handle (Two-Color Rocker)

Marking Detail C

Unmarked	Vertical Mount ON - OFF (fig 1)	Vertical Mount I - O (fig 2)	Vertical Mount ON - OFF I - O (fig 3)	Horizontal Mount ON - OFF (fig 4)	Horizontal Mount I - O (fig 5)	Horizontal Mount ON - OFF I - O (fig 6)	Handle Color	Indicating Color	Marking Color	Indicates
- M0	—	- M2	- M3	—	—	- M6	Black	White	White	OFF
- N0	—	- N2	- N3	—	—	- N6	Black	Red	Red	OFF
- P0	—	- P2	- P3	—	—	- P6	Black	Green	Green	OFF
- R0	—	- R2	- R3	—	—	- R6	Black	Yellow	Yellow	OFF

Bezel of BX is black. Consult factory for other marking options.

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

©2013 Sensata Technologies, Inc. All rights reserved worldwide. The following data sheet is an excerpt from our Airpax™ Power Protection Catalog, **Literature # 2455005000**, printed in the USA, **May 9th, 2013**.

Important Notice: Sensata Technologies reserves the right to make changes to, or to discontinue, any product or service identified in this publication without notice. Before placing orders, users should obtain the latest version of the relevant information to verify that the information being relied upon is current.

Sensata Technologies assumes no responsibility for customers' product designs or applications. Users must determine the suitability of the Sensata device described in this publication for their application, including the level of reliability required. Many factors beyond Sensata's control can affect the use and performance of a Sensata product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. As these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the Sensata product to determine whether it is fit for a particular purpose and suitable for the user's application.

Sensata Technologies products are sold subject to Sensata's Terms and Conditions of Sale which can be found at: www.sensata.com/terms.htm



Sensata Technologies Inc.
529 Pleasant Street
Attleboro, MA 02703, USA
Phone: +1 508-236-3287

<http://airpax.sensata.com/>