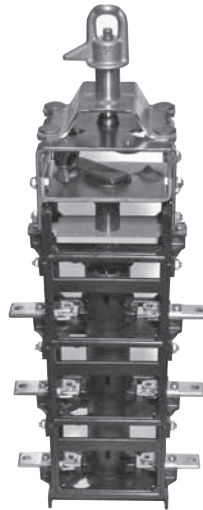
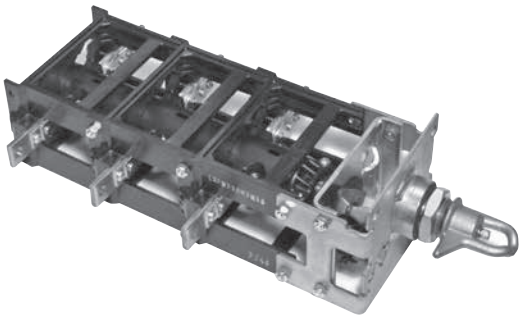


# Two-position sidewall (horizontal) and cover (vertical) mounted loadbreak switches



## General

Eaton's Cooper Power™ series compact two-position loadbreak/loadmake switch is designed for use in transformer (mineral) oil, Envirotemp™ FR3™ fluid, or an approved equivalent fluid-filled "Class 1" pad-mounted transformers or distribution switchgear.

The switch mechanism uses a manually charged over-toggle stored spring assembly, which is independent of operator speed. The spring loaded activating mechanism ensures quick loadbreak or loadmake operation in less than one cycle. The two-position switch incorporates a double "O" ring shaft sealing system and two types of mounting systems, including a weld-in bracket assembly, and an easy to install ring mount system. Also incorporated into the switch mechanism are internal stops which restrict the handle orientation to only two positions.

The two-position switch is hotstick operable and requires minimal input torque to operate. The switch contacts are factory assembled and gaged to a predetermined spring pressure to ensure uniform contact pressure between the contacts and the blades.

The silver-plated copper blades are securely keyed between the vented rotor halves which ensure proper blade and contact alignment during switching. All of these features make the two-position switch a reliable, no-maintenance switch product.

Refer to *Service Information MN800004EN Two-Position Sidewall (Horizontal) and Cover (Vertical) Mounted Loadbreak Switches Installation Instructions* for installation details.

## Design/production tests

The two-position switch has been tested to meet the sequential test requirements described by IEEE Std C37.74™-2003 standard. Tests are also conducted on production switches in accordance with Eaton requirements.

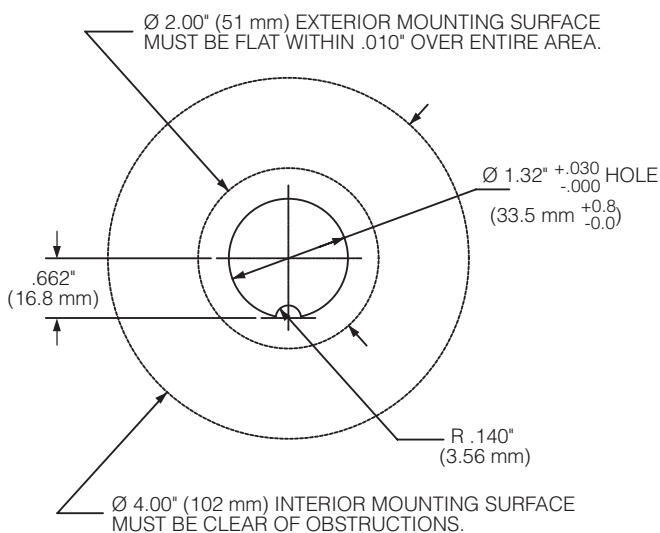
- Physical Inspection
- Turn Tested (on/off/on)
- Operation Torque Verification
- Resistance Testing

**EATON**

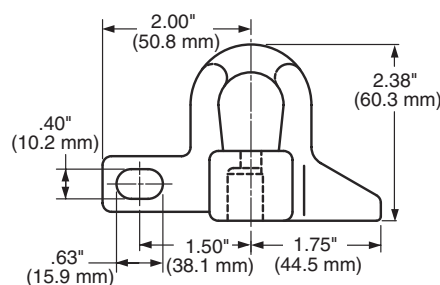
Powering Business Worldwide

**Table 1. Ratings and Characteristics**

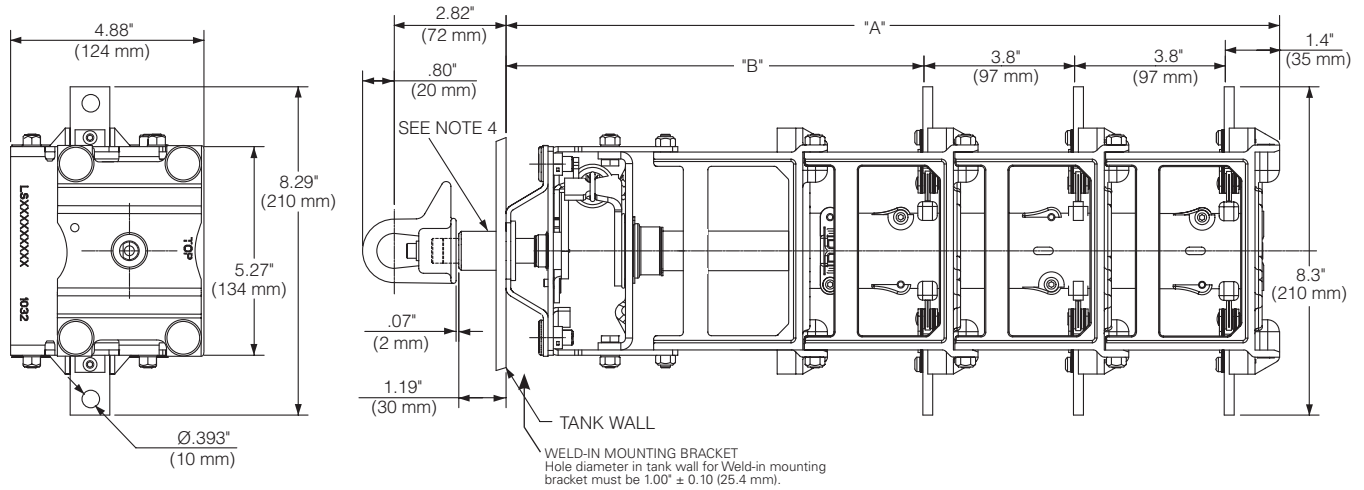
Description	Units	Ratings			
<b>Rated Voltage</b>					
Maximum rating phase-to-phase	kV	15.5	27.6	38	46
Maximum rating phase-to-ground	kV	8.9	15.6	21.9	26.5
Power Frequency	Hz	60	60	60	60
Current Rating (Continuous)	A	550	400	300	65
Switching Current	A	550	400	300	65
Magnetizing Interrupting Current	A	21	21	10.5	10.5
Cable Charging Current	A	10	25	20	15
<b>Fault Withstand Current (Momentary)</b>					
10 cycle symmetric rms	kA	12	12	12	12
10 cycle asymmetric rms	kA	19.2	19.2	19.2	19.2
45 cycles symmetric rms	kA	16	16	16	16
1 second symmetric rms	kA	12	12	12	12
2 second symmetric rms	kA	8	8	8	8
3 second symmetric rms	kA	7	7	7	7
<b>Fault Close and Latch</b>					
10 cycle symmetric rms	kA		12	12	12
10 cycle asymmetric rms	kA		19.2	19.2	19.2
15 cycle symmetric rms	kA	12			
15 cycle asymmetric rms	kA	19.2			
<b>Impulse Withstand Voltage (1.2/50 <math>\mu</math>s)</b>					
To ground and between phases	kV	200	200	200	200
Across open contacts	kV	235	235	235	235
<b>Power Frequency Withstand (1 minute)</b>					
To ground and between phases	kV	70	70	70	70
Across open contacts	kV	95	95	95	95
<b>DC Withstand (15 minutes)</b>					
To ground, between phases and across	kV	103	103	103	103
<b>Contacts</b>					
Corona (Extinction)	kV	26	26	26	26
Mechanical Life (Minimum Operations)		2,000	2,000	2,000	2,000



**Figure 1. Hole placement (Ring Mount system).**



**Figure 2. Padlockable handle.**



**Figure 3. Line illustration with dimensions of loadbreak switch with "WELD-IN SYSTEM" for horizontal or vertical mounting. (Shown with "Full" deck extension.)**

**Notes:**

1. Dimensions given are for reference only.
2. Switch shown with contacts "CLOSED" and flat of shaft on "BOTTOM" to position cast handle pointer to 9 o'clock when looking at switch with side marked "TOP" up. Handle is rotated approximately 90° CCW when it is in the "OPEN" position.

**Table 2. Dimensional Information for Figure 3**

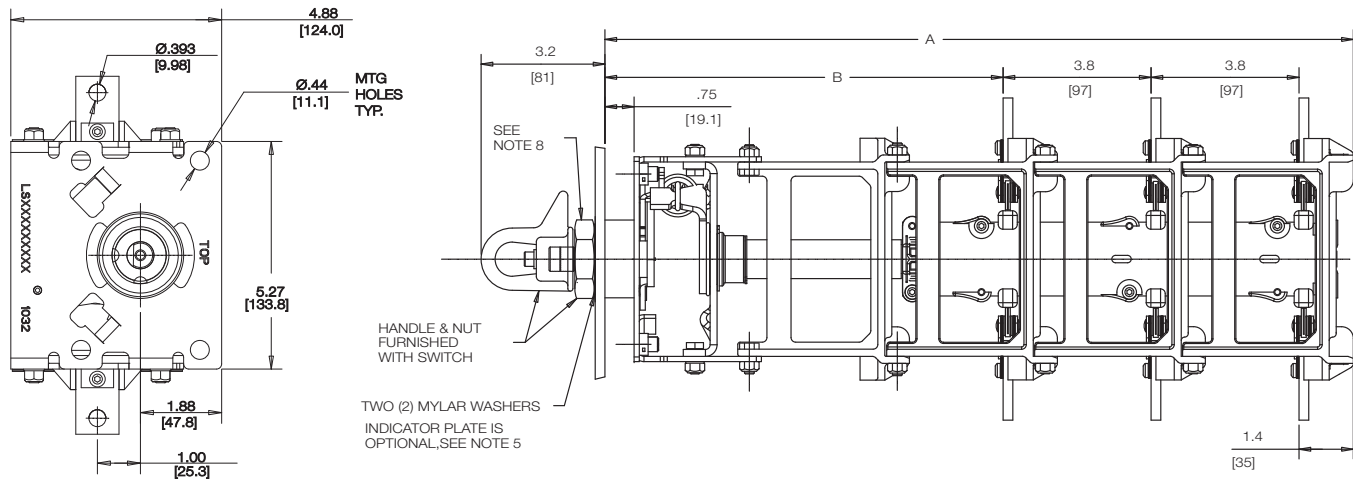
Number of Decks or Phases	Dimensions w/Standard Configuration (No Extensions) Inches/(mm)		Dimensions w/Short (1/2) Deck Extension Inches/(mm)		Dimensions w/Full Deck Extension Inches/(mm)		Dimensions w/Short (1/2) Deck + Full Deck Extension Inches/(mm)	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
1	8.14 (207)		10.2 (259)		12.0 (305)		14.0 (356)	
2	11.95 (303)	6.75 (171)	14.0 (356)	8.8 (224)	15.8 (400)	10.6 (269)	17.8 (452)	12.6 (321)
3	15.75 (400)		17.8 (452)		19.6 (497)		21.6 (549)	

**Table 3. Dimensional Information for Figure 4**

Ring Mount w/Standard Configuration (No Extensions) Inches/(mm)			Ring Mount w/Full Deck Extension Inches/(mm)		
Number of Decks or Phases	"A"	"B"	Number of Decks or Phases	"A"	"B"
1	7.83 (198 mm)		1	11.6 (295 mm)	
2	11.64 (296 mm)	6.4 (163 mm)	2	15.4 (391 mm)	10.2 (259 mm)
3	15.44 (392 mm)		3	19.3 (490 mm)	

Ring Mount w/ 1/2 Deck Extension Inches/(mm)			Ring Mount with 1/2 Deck + Full Deck Extension Inches/(mm)		
Number of Decks or Phases	"A"	"B"	Number of Decks or Phases	"A"	"B"
1	9.9 (251 mm)		1	13.7 (347 mm)	
2	13.7 (34.7 mm)	8.5 (215 mm)	2	17.5 (444 mm)	12.3 (312 mm)
3	17.5 (444 mm)		3	21.3 (541 mm)	



**Figure 4. Line illustration with dimensions of loadbreak switch with "Ring Mount system" for horizontal or vertical mounting.**

**Notes:**

1. Dimensions given are for reference only.
2. Switch shown with contacts "CLOSED" and flat of shaft on "BOTTOM" to position cast handle pointer to 9 o'clock when looking at switch with side marked "TOP" up. Handle is rotated approximately 90° CCW when it is in the "OPEN" position.
3. Ring mount switch can be mounted turned 90° sideways utilizing second slot in mounting insert.

### Ordering information—horizontal mount

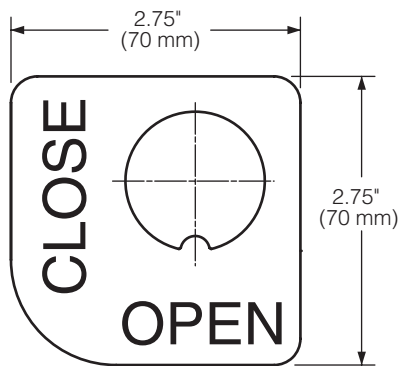
To order the two-position sidewall (horizontal) mounted loadbreak switch, specify catalog numbers as listed in Table 4.

**Table 4. Loadbreak Switch Significant Digit Catalog Numbers**

1	2	3	4	5	6	7	8	9	10	11	12																																																				
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\* **NORMAL** style switch has all externally located parts built from plated steel, aluminum and brass materials.  
 \*\* **STAINLESS STEEL/NON-CORROSIVE** style switch has all externally located parts built from stainless steel and brass materials.  
 \*\*\* If digits 5-7 are "646" then digit 8 must be "F".

**Notes:** Catalog Number Example shown in Table 5 represents a standard, Bolt-In system, 300 A, 38 kV, Horizontal, three-phase, standard plated steel external parts, w/o indicator plate, with brass handle hardware kit, 6:00/9:00 positions. (Other handle position options available upon request for 9:00/12:00, 12:00/3:00, and 3:00/6:00 positions. Consult your Eaton representative for details.)



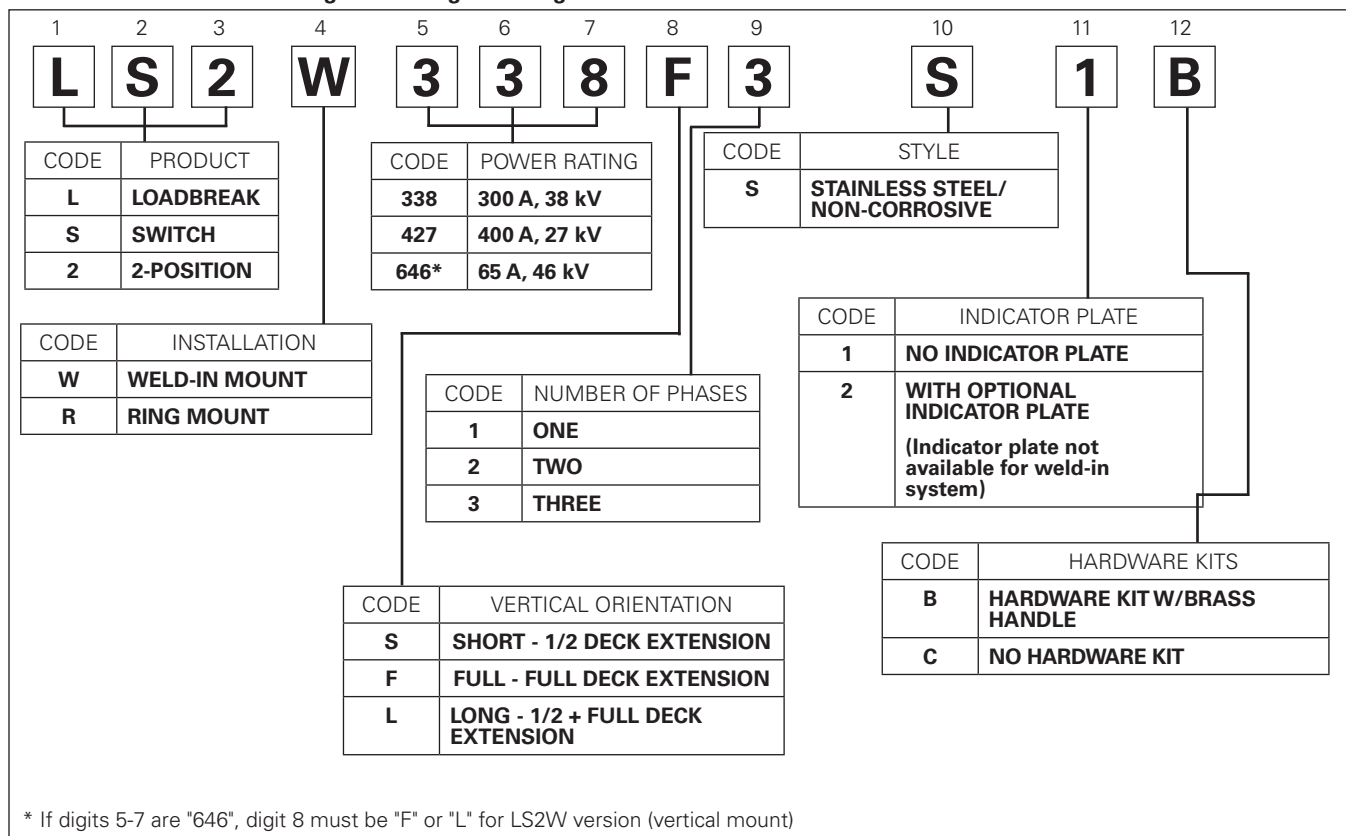
**Figure 5. Index plate (optional).**

**Note:** For different orientations see drawing 4201192N.

### Ordering information—vertical mount

To order the two-position cover mount (vertical) mounted loadbreak switch, specify catalog numbers as listed in Table 5.

**Table 5. Loadbreak Switch Significant Digit Catalog Numbers**



**Notes:** Catalog Number Example shown in Table 6 represents a standard, Weld-In system, 300 A, 38 kV, Vertical, 3-phase, standard plated steel external parts, w/o indicator plate, with brass handle hardware kit, 6:00/9:00 positions. (Other handle position options available upon request for 9:00/12:00, 12:00/3:00, and 3:00/6:00 positions. Consult your Eaton representative for details.)

**Table 6. Accessory Parts**

Description	Catalog Number	Drawing
Weld-In Bracket	2238061C01M	–
Standard (Brass) Handle	2200726B05	4201184N
Padlockable (Brass) Handle	2239000B15	4201093N
Indicator Plate (6:00/9:00)	2238709C01	4201192N

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