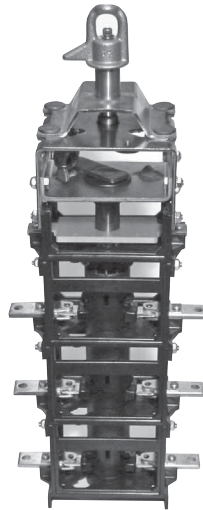
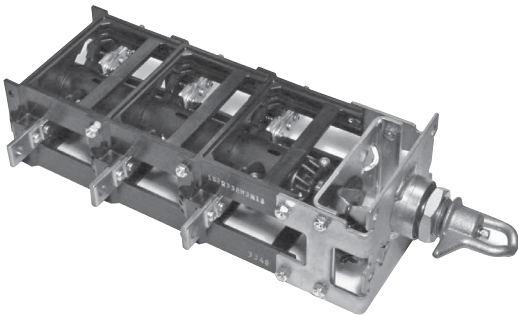


Two-position sidewall (horizontal) and cover (vertical) mounted loadbreak switches



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

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Table 1. Ratings and Characteristics

Description	Units	Ratings			
Rated Voltage					
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
Fault Withstand Current (Momentary)					
10 cycle symmetric rms	kA	12	12	12	12
10 cycle asymmetric rms	kA	19.2	19.2	19.2	19.2
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
Fault Close and Latch					
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		
Impulse Withstand Voltage (1.2/50 μs)					
To ground and between phases	kV	200	200	200	200
Across open contacts	kV	235	235	235	235
Power Frequency Withstand (1 minute)					
To ground and between phases	kV	70	70	70	70
Across open contacts	kV	95	95	95	95
DC Withstand (15 minutes)					
To ground, between phases and across	kV	103	103	103	103
Contacts					
Corona (Extinction)	kV	26	26	26	26
Mechanical Life (Minimum Operations)		2,000	2,000	2,000	2,000

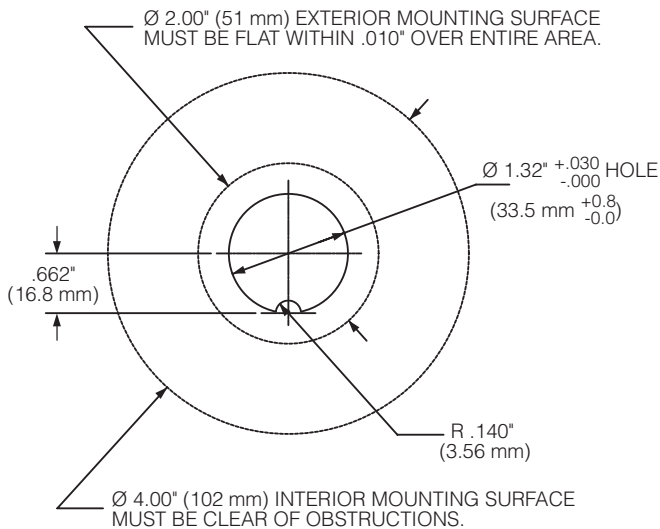


Figure 1. Hole placement (Ring mount system).

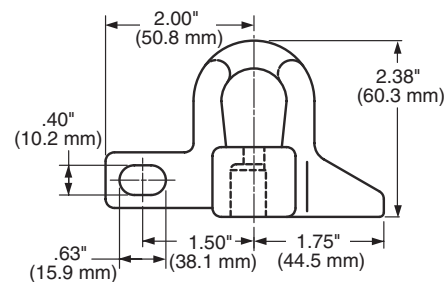


Figure 2. Padlockable handle.

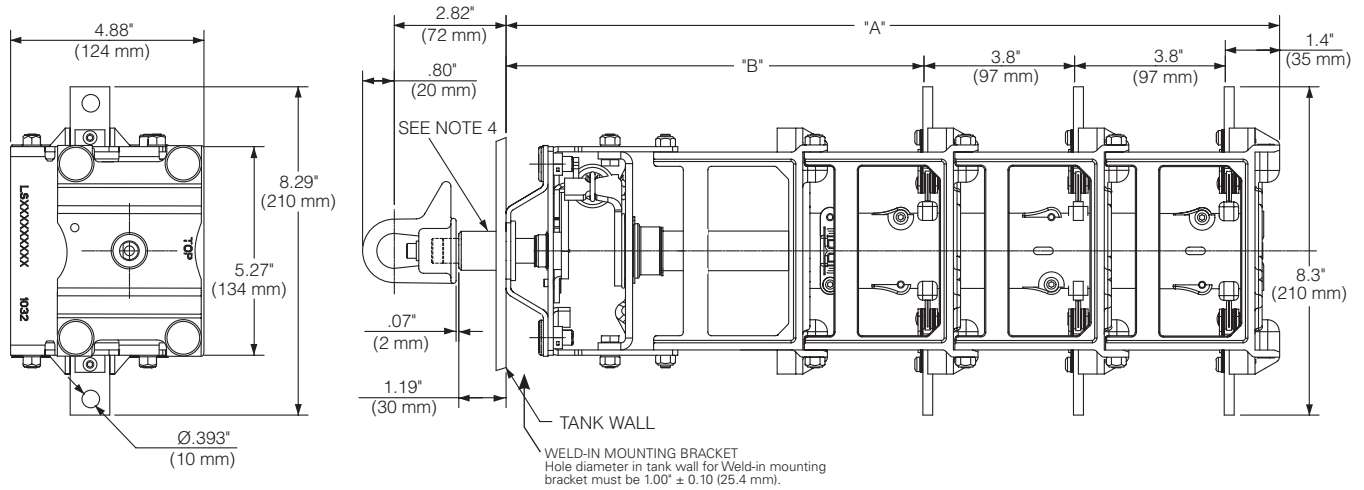


Figure 3. Line illustration with dimensions of loadbreak switch with "WELD-IN SYSTEM" for horizontal or vertical mounting. (Shown with "Full" deck extension.)

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)	

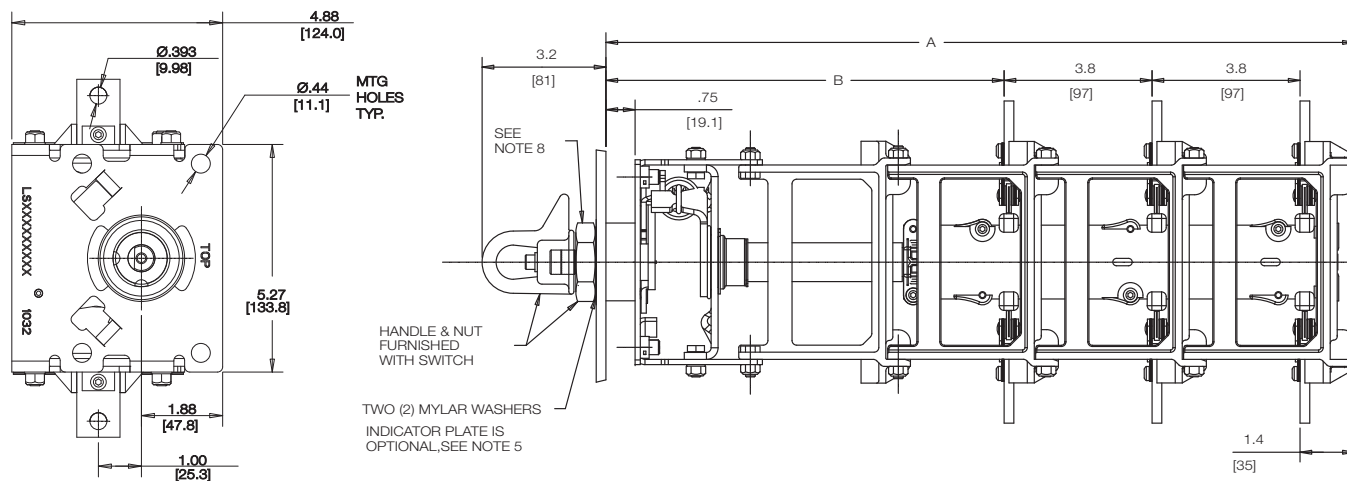


Figure 4. Line illustration with dimensions of loadbreak switch with "Ring Mount system" for horizontal or vertical mounting.

- 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																																																				
L	S	2	R	3	3	8	H	3	N	1	A																																																				
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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.)

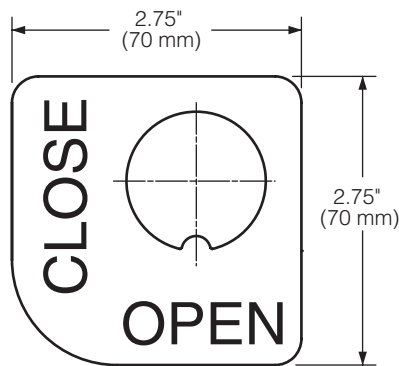


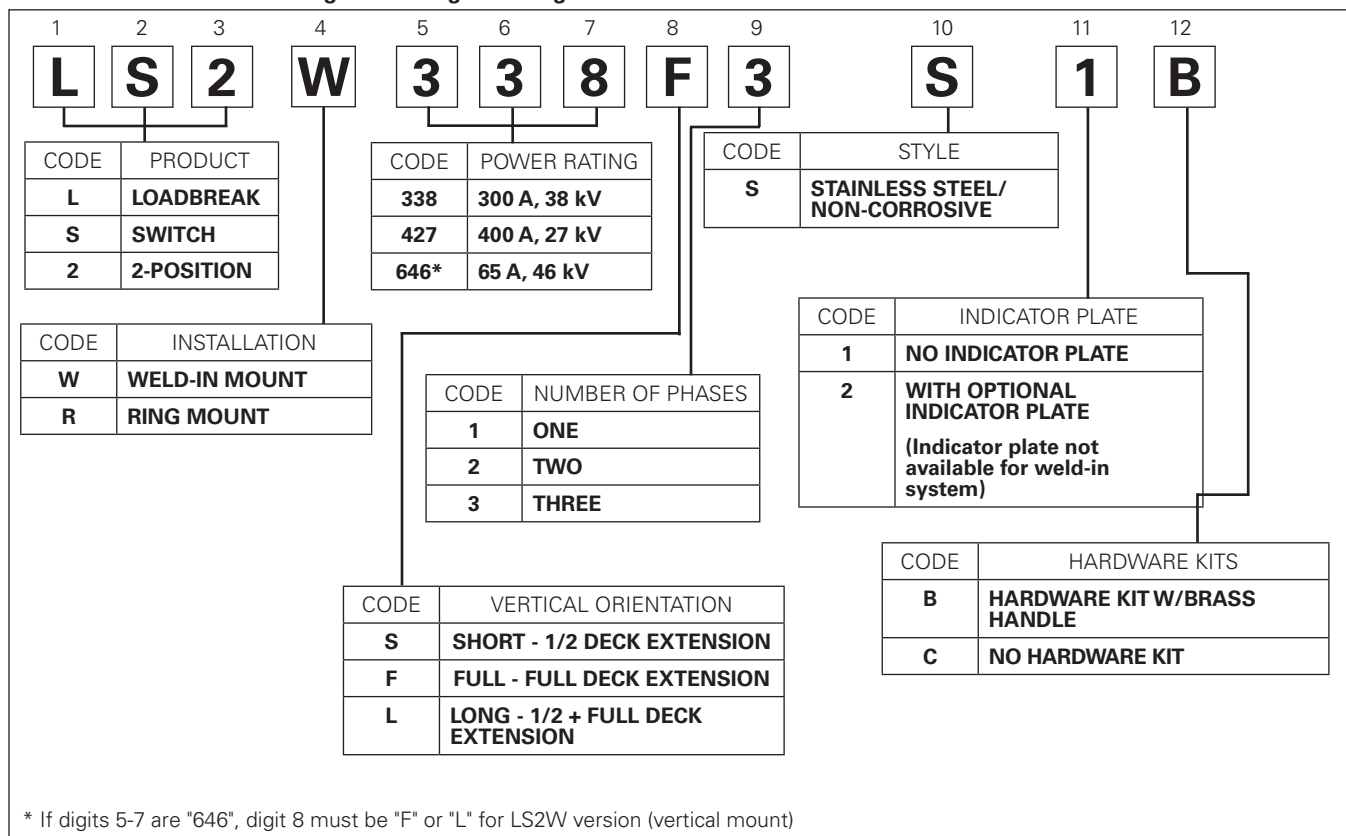
Figure 5. Index plate (optional).

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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