

INSTRUMENT TRANSFORMERS

LG-15-683 and LGX-15-683

Outdoor station post current transformer



Product features

- 15 kV, 110 kV BIL, 60 Hertz
- Outdoor class, 105°C insulation system
- Single, dual, or multiple taps available
- Window opening: 4.6" (118 mm)
- Electrical specifications:
 - Strike (to mounting leg): 7.5" (190 mm)
 - Creep: 17.75" (450 mm)
- Approximate weight (without bar): 125 lbs. (57 kg)
- Operating temperature range: -50°C through +65°C

Construction features

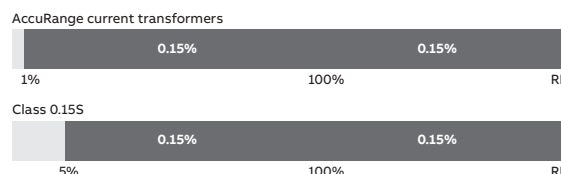
The primary insulator, a cycloaliphatic epoxy molded sleeve with a conductive inner lining to prevent corona, and the secondary winding are encapsulated in a polyurethane resin suitable for outdoor use. An anodized aluminum nameplate is laser etched and adhered onto the body of the unit, adjacent to the secondary junction box. Bright decals indicating the primary rated current are affixed to each side.

High accuracy and extended range

The LGX-15-683 is part of ABB's AccuRange® current transformer family and delivers high accuracy and stable performance over a wide load swing, making it a great fit for variable load applications. Accuracy is guaranteed to be +/- 0.15% from 1% of nominal

The LG-15-683 and LGX-15-683 outdoor current transformers are designed for use on substation structures where bare tubular primary conductors or heavy braided cables are used.

current through rating factor. ABB's extended range units deliver savings through improved accuracy metering and reduced inventory.



Terminals

The secondary terminals are 1/4"-20 UNC silicon bronze studs with associated hardware suitable for solid or stranded copper wire up to No. 8 AWG, or ring tongue terminals sized for 1/4" or M7/M8 stud. Hardware should be tightened to compress lock washers, but is not to exceed 50 in-lbF (5.6 N-m).

Primary bars are electro-tin plated, sized for the maximum rated continuous current (primary current x RF), and provided with standard NEMA 4-hole pads. The LG-15-683 and LGX-15-683 should not be used to support external bus work, but can handle up to 200 pounds (91 kg) on the primary bar for connections. Primary bar kits may be purchased separately and installed in the field.

The four mounting legs are 0.188" (4.76 mm) thick aluminum angles with 0.56" (14 mm) open slots, suitable for mounting in any orientation (upright, underhung, or cantilever). Legs may be removed and rotated to change position of secondary junction box.

Secondary terminals are housed inside an injection molded thermoplastic junction box supplied with two (2) 1"-11.5 NPT hubs. Blank plugs are provided and must be replaced with proper fittings to maintain weather tight protection. A removable cover is attached with four (4) sealing-type thumb screws.

Test reports are stored electronically by serial number and can be e-mailed upon request.

This unit meets or exceeds all requirements of IEEE C57.13-2016 and can be tested to other standards as requested.

Semi-conductive guards are available to place around small conductors and prevent entry of foreign objects into the HV sleeve (ordered separately, 123-0098-901 for set of two). Consult the factory for other special needs.

Technical drawings of the 424 series terminal box, showing front, side, and detail views, along with a table of primary bar specifications.

Front View (Left): Shows the terminal box with a name plate. Dimensions include 22.00 [559] for the top width, 5.48 [139] for the name plate width, 13 [330] for the side width, 11 [280] for the bottom width, 8.25 [210] for the base width, and 11.1 [282] for the base width. A detail shows a 0.57 [Ø14] open slot (4) PL.

Front View (Right): Shows the terminal box with a name plate. Dimensions include 34.50 [876] for the top width, 32.25 [819] for the name plate width, 22.00 [559] for the top width, 5.48 [139] for the name plate width, and 11.1 [282] for the base width.

Side View (Left): Shows the terminal box with a name plate. Dimensions include 20.1 [510] for the height, 17.0 [432] for the height, 10.5 [268] for the height, and 11.1 [282] for the base width.

Side View (Right): Shows the terminal box with a name plate. Dimensions include 16.25 [413] for the top width, 17.0 [432] for the height, 10.5 [268] for the height, and 11.1 [282] for the base width.

Terminal Box Detail (Scale: 2X): Shows the terminal box with a name plate. Dimensions include 2.75 [70] for the height, 0.92 [23.5] for the terminal spacing, and 3.7 [94] for the terminal width. The detail shows unused positions are blanked and multi-ratio (MR) shown.

Primary Bar Details: Shows the primary bar with dimensions 0.56 [Ø14] (4) places each end, 1.75 [44] for the bar width, 4.00 [102] for the bar height, 1.13 [29] for the bar spacing, and 1.75 [44] for the bar width.

TABLE 1 - PRIMARY BARS

MAX. AMPS 75°C RISE	STACK THK DIM. "B"	(No. BARS) BAR SIZE	PRIMARY BAR PART NUMBER
1200 A	0.25 [6.4]	(1) 1/4"	424 0130 901
1800 A	0.38 [9.5]	(1) 3/8"	424 0131 901
2500 A	0.75 [19]	(2) 1/4"	424 0130 902
3500 A	1.00 [25]	(2) 3/8"	424 0131 902
6000 A	1.63 [41]	(3) 3/8"	424 0131 903

Wiring Diagrams: Shows three wiring configurations. The first shows a single bar with terminals H1, X1, and X2. The second shows a single bar with terminals H1, X1, X2, and X3, with X2 labeled LOW and X3 labeled HIGH. The third shows a single bar with terminals H1, X1, and X2.

Selection guide for LG-15-683 with 5A secondary					
Primary Current rating	IEEE metering accuracy	IEEE relay accuracy	Rating factor @ 30°C	Style with 4.6" window	Style with primary bar
200	0.3 B0.2	C50	3.0	D100200S1	D100200S3
300	0.3 B0.2	C100	3.0	D100300S1	D100300S3
400	0.3 B0.9	C100	3.0	D100400S1	D100400S3
500	0.3 B1.8	C150	3.0	D100500S1	D100500S3
600	0.3 B1.8	C200	3.0	D100600S1	D100600S3
800	0.3 B1.8	C250	2.0	D100800S1	D100800S3
1000	0.3 B1.8	C300	2.0	D101000S1	D101000S3
1200	0.3 B1.8	C400	2.0	D101200S1	D101200S3
1500	0.3 B1.8	C400	2.0	D101500S1	D101500S3
2000	0.3 B1.8	C400	2.0	D102000S1	D102000S3
2500	0.3 B1.8	C400	2.0	D102500S1	D102500S3
3000	0.3 B1.8	C800	1.5	D103000S1	D103000S3
4000	0.3 B1.8	C800	1.5	D104000S1	D104000S3
5000	0.3 B1.8	C800	1.2	D105000S1	D105000S3
6000	0.3 B1.8	C800	1.0	D106000S1	D106000S3
200/400	0.3 B0.2/B0.9	C50/C100	3.0/3.0	D100200D1	D100200D3
300/600	0.3 B0.2/B1.8	C100/C200	3.0/3.0	D100300D1	D100300D3
400/800	0.3 B0.9/B1.8	C100/C200	3.0/2.0	D100400D1	D100400D3
500/1000	0.3 B0.9/B1.8	C150/C300	3.0/2.0	D100500D1	D100500D3
600/1200	0.3 B1.8/B1.8	C200/C400	3.0/2.0	D100600D1	D100600D3
1000/2000	0.3 B1.8/B1.8	C200/C400	2.0/2.0	D101000D1	D101000D3
1500/3000	0.3 B1.8/B1.8	C400/C800	2.0/1.5	D101500D1	D101500D3
2000/4000	0.3 B1.8/B1.8	C400/C800	2.0/1.5	D102000D1	D102000D3
600 MR	0.3 B1.8	C200	2.0	D100600M1	D100600M3
1200 MR	0.3 B1.8	C400	2.0	D101200M1	D101200M3
2000 MR	0.3 B1.8	C400	2.0	D102000M1	D102000M3
3000 MR	0.3 B1.8	C800	1.5	D103000M1	D103000M3
4000 MR	0.3 B1.8	C800	1.5	D104000M1	D104000M3
5000 MR	0.3 B1.8	C800	1.2	D105000M1	D105000M3

Thermal rating (I_{th}): 85 times nominal for 1 second. Mechanical rating (I_{mech}): 220 times nominal first peak.
Additional styles available upon request. Contact your ABB sales representative or call +1-252-827-3212 for more information.

Selection guide LGX-15-683 with 5A secondary				
Primary amps	IEEE metering accuracy class	Rating factor @ 30°C	Style with 4.6" window	Style with primary bar
200	0.15S B0.2 / 0.3S B0.5	4.0	D100200X1NC	D100200X3NC
300	0.15S B0.5 / 0.3S B0.9	4.0	D100300X1NC	D100300X3NC
400	0.15S B0.9 / 0.3S B1.8	4.0	D100400X1NC	D100400X3NC
500	0.15S B0.9 / 0.3S B1.8	4.0	D100500X1NC	D100500X3NC
600	0.15S B1.8	4.0	D100600X1NC	D100600X3NC
800	0.15S B1.8	4.0	D100800X1NC	D100800X3NC
1000	0.15S B1.8	4.0	D101000X1NC	D101000X3NC
1200	0.15S B1.8	4.0	D101200X1NC	D101200X3NC
1500	0.15S B1.8	4.0	D101500X1NC	D101500X3NC
2000	0.15S B1.8	3.0	D102000X1NC	D102000X3NC

Thermal rating (I_{th}): 150 times nominal for 1 second. Mechanical rating (I_{mech}): 400 times nominal first peak.
Additional styles available upon request. Contact your ABB sales representative or call +1-252-827-3212 for more information.