

INSTRUMENT TRANSFORMERS

LG-15-585 and LGX-15-585

Outdoor station post current transformers



The LG-15-585 and LGX-15-585 outdoor current transformers are designed for use on substation structures where bare tubular primary conductors or heavy braided cables are used.

Product features

- 15 kV, 110 kV BIL, 60 Hertz
- Outdoor class, 105°C insulation system
- Single, dual, or multiple taps available
- Window opening: 4.5" (115 mm)
- Electrical specifications:
 - Strike: 12.0" (305 mm)
 - Creep: 18.1" (460 mm)
- Approximate weight (without bar): 125 lbs. (57 kg)
- Operating temperature range: -50°C through +65°C

Application

The LG-15-585 and LGX-15-585 outdoor current transformers are designed for use on substation structures where bare tubular primary conductors or heavy braided cables are used. When provided with a factory installed primary bar assembly, it provides a pad terminal with a 4-hole NEMA bolt pattern on each end. For applications with an uninsulated bus (bar, tube, or cable), connect the pigtail lead to the bus to equalize the voltage in the window area for corona prevention. If a fully insulated bus (one that has an outer ground sheathing) is used, an equalizing potential connection is not required.

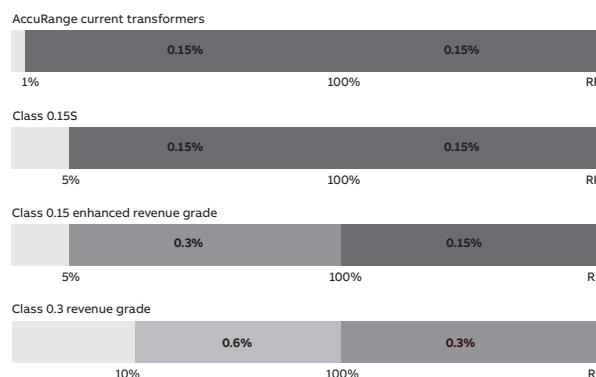
The LGX-15-585 is specifically designed for extended range high accuracy metering duty only.

Construction features

The primary insulator is a cycloaliphatic epoxy (CEP) molded sleeve with a conductive inner lining to prevent corona. The CEP primary tube and the secondary winding are encapsulated in a polyurethane resin for outdoor use. An anodized aluminum nameplate is laser etched and adhered to 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-15-585 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 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 rating factor), and provided with standard NEMA 4-hole pads. Primary bars can also be sized for the rated current or lower – consult factory if desired. The LG-15-585 and LGX-15-585 should not be used to support external bus work, but can support up to 200 pounds (91 kg) on the primary bar for connections. Primary bar kits may be purchased separately and installed in the field.

Mounting

The aluminum baseplate is 0.25" thick (6.4 mm) plain finish aluminum with 0.56" (14 mm) holes, suitable for mounting in the upright or underhung positions. It may also be mounted cantilever with the bus running vertically. In the case of cantilever mounting with bus running horizontally, there is a special baseplate ordering option that must be specified at the time of purchase. This is done by adding "-H" to the end of the style number.

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

Test reports are available and can be e-mailed upon request.

Standards

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

Options

Animal guards are available to place around conductors and prevent entry of foreign objects or animals into the HV tube (ordered separately, the part number for a set of two animal guards for an LG with 4.5" window tube is 123-0098-901). The photos below show the guards separate and inside the window tube. For installation, cut out the center (thinner material) in the geometry and size needed for the conductor. Then slide the conductor through the guards and window tube. After the conductor is anchored in place, press the guard into the tube to seal around the primary conductor.

Optional primary bar kits for field installation are available separately.

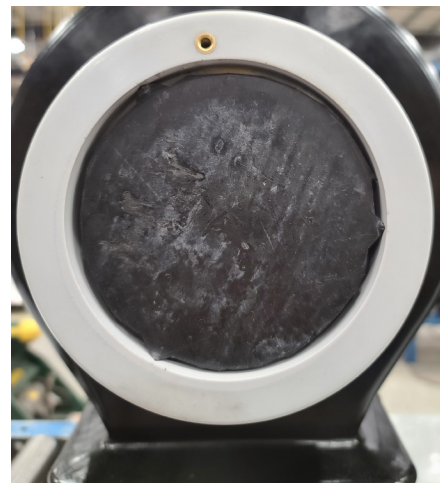
Consult factory for other special needs such as additional ratios, bars sized for lower current, bars rotated from horizontal to vertical position, extended bar lengths, bars with 6-hole pads instead of standard 4-hole, bars with thicker filler pads, etc.

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01 Optional LG animal guard prior to installation.

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02 Animal guard pressed in the window tube of the LG. To install, cut out the center of the guard for the primary conductor pass-through.

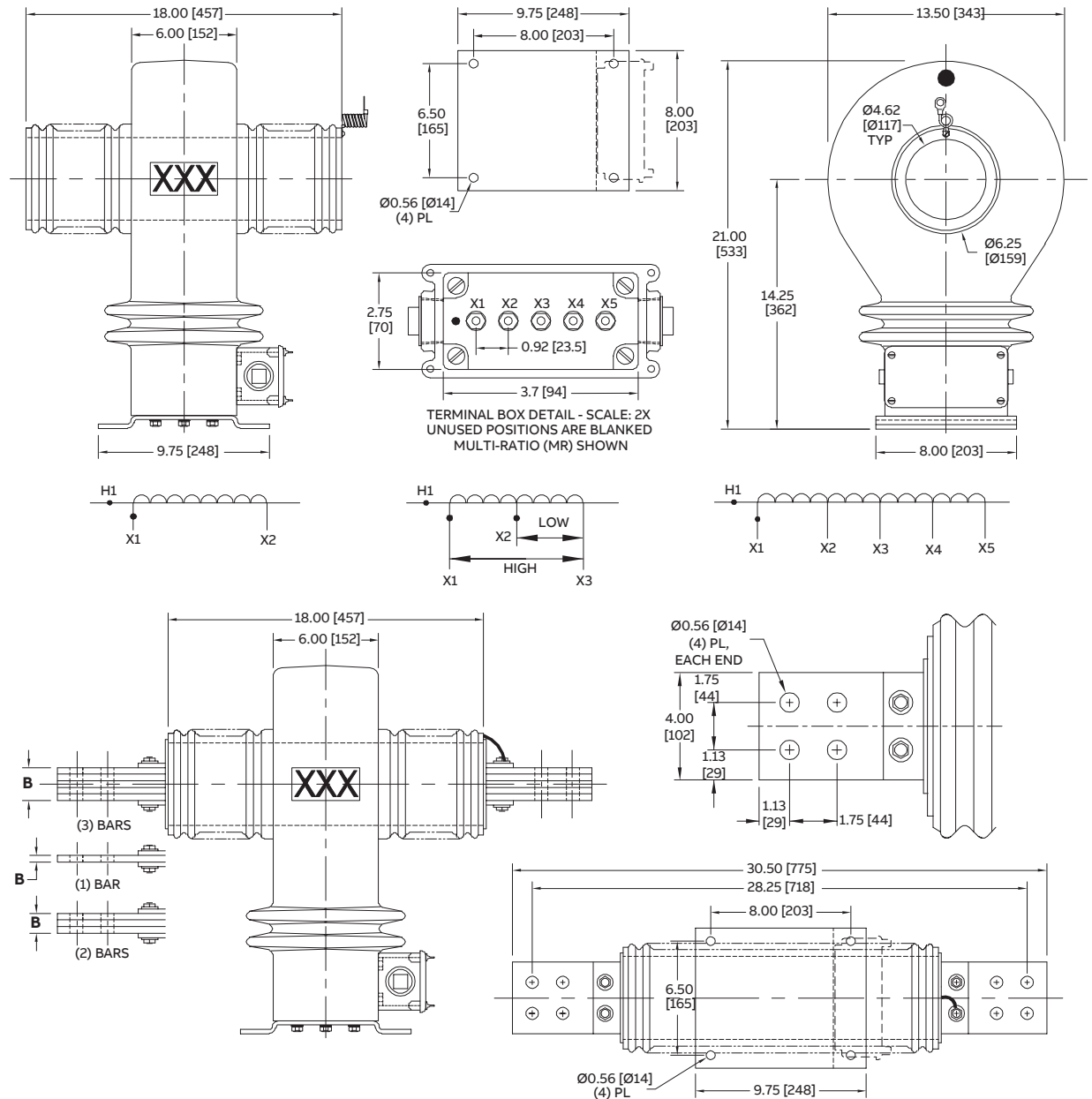


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Dimensions (inches [mm])



Primary bar information

Max. amps 75°C rise	Stack thickness dim. "B"	(No. bars) bar thickness	Bar assembly weight (lbs. [kg])
1200 A	0.25 [6.4]	(1) 1/4"	15 [6.8]
1800 A	0.38 [9.5]	(1) 3/8"	18 [8.2]
2500 A	0.75 [19]	(2) 1/4"	28 [12.7]
3500 A	1.00 [25]	(2) 3/8"	35 [15.9]
6000 A	1.63 [41]	(3) 3/8"	50 [22.7]

Primary bars are selected based on the maximum amps of the primary rated current times the rating factor.

Selection guide for LG-15-585 with 5A secondary

Primary current rating	Rating factor @ 30°C	IEEE metering accuracy	IEEE relaying accuracy	Style number		Primary bar kit (for field installation)
				Window-type	Bar-type	
100	3.0	-	C30	D030100S1	D030100S3	424 0126 901
200	3.0	0.3B-0.2	C50	D030200S1 ¹	D030200S3 ¹	424 0126 901
300	3.0	0.3B-0.5	C100	D030300S1 ¹	D030300S3 ¹	424 0126 901
400	3.0	0.3B-0.9	C100	D030400S1 ¹	D030400S3 ¹	424 0126 901
500	3.0	0.3B-0.9	C150	D030500S1 ¹	D030500S3 ¹	424 0127 901
600	3.0	0.3B-1.8	C200	D030600S1 ¹	D030600S3 ¹	424 0127 901
800	2.0	0.3B-1.8	C300	D030800S1 ¹	D030800S3 ¹	424 0126 902
1000	2.0	0.3B-1.8	C350	D031000S1 ¹	D031000S3 ¹	424 0126 902
1200	2.0	0.3B-1.8	C400	D031200S1 ¹	D031200S3 ¹	424 0126 902
1500	2.0	0.3B-1.8	C400	D031500S1 ¹	D031500S3 ¹	424 0127 902
2000	2.0	0.3B-1.8	C600	D032000S1 ¹	D032000S3 ¹	424 0127 903
2500	2.0	0.3B-1.8	C600	D032500S1 ¹	D032500S3 ¹	424 0127 903
3000	2.0	0.3B-1.8	C400	D033000S1-511	D033000S3-511	424 0127 903
3000	2.0	0.3B-1.8	C800	D033000S1 ¹	D033000S3 ¹	424 0127 903
3500	1.5	0.3B-1.8	C800	D033500S1 ¹	D033500S3 ¹	424 0127 903
4000	1.5	0.3B-1.8	C400	D034000S1-511	D034000S3-511	424 0127 903
4000	1.5	0.3B-1.8	C800	D034000S1 ¹	D034000S3 ¹	424 0127 903
5000	1.5 / 1.2 ²	0.3B-1.8	C400	D035000S1-511	D035000S3-511	424 0127 903
5000	1.5 / 1.2 ²	0.3B-1.8	C800	D035000S1 ¹	D035000S3 ¹	424 0127 903
6000	1.0	0.3B-1.8	C400	D036000S1-511	D036000S3-511	424 0127 903
6000	1.0	0.3B-1.8	C800	D036000S1	D036000S3	424 0127 903
Dual-ratio						
200/400	3.0/3.0	0.3B-0.2/B-0.9	C50/C100	D030200D1 ¹	D030200D3 ¹	424 0126 901
300/600	3.0/3.0	0.3B-0.5/B-1.8	C100/C200	D030300D1 ¹	D030300D3 ¹	424 0126 902
400/800	3.0/2.0	0.3B-0.9/B-1.8	C150/C300	D030400D1 ¹	D030400D3 ¹	424 0126 902
500/1000	3.0/2.0	0.3B-0.9/B-1.8	C100/C200	D030500D1 ¹	D030500D3 ¹	424 0126 902
600/1200	3.0/2.0	0.3B-1.8/B-1.8	C200/C400	D030600D1 ¹	D030600D3 ¹	424 0126 902
750/1500	2.0/2.0	0.3B-1.8/B-1.8	C200/C400	D030750D1	D030750D3	424 0127 902
800/1600	2.0/2.0	0.3B-1.8/B-1.8	C200/C400	D030800D1	D030800D3	424 0127 902
1000/2000	2.0/2.0	0.3B-1.8/B-1.8	C300/C600	D031000D1 ¹	D031000D3 ¹	424 0127 903
1500/3000	2.0/2.0	0.3B-1.8/B-1.8	C400/C800	D031500D1 ¹	D031500D3 ¹	424 0127 903
2000/4000	2.0/1.5	0.3B-1.8/B-1.8	C400/C800	D032000D1 ¹	D032000D3 ¹	424 0127 903
Multi-ratio						
400 MR	2.0	0.3B-0.5 ³	C100	D030400M1	D030400M3	424 0126 901
600 MR	2.0	0.3B-1.8 ³	C200	D030600M1	D030600M3	424 0126 901
1200 MR	2.0	0.3B-1.8 ³	C400	D031200M1	D031200M3	424 0126 902
2000 MR	2.0	0.3B-1.8 ³	C600	D032000M1	D032000M3	424 0127 903
3000 MR	2.0	0.3B-1.8 ³	C800	D033000M1	D033000M3	424 0127 903
4000 MR	1.5	0.3B-1.8 ³	C800	D034000M1	D034000M3	424 0127 903

1 - Approved for revenue metering by Measurement Canada, file AE-0703

2 - Reduced rating factor when used with ABB primary bar kits

3 - Metering class accuracy applies to full winding ratio only

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 for LGX-15-585 with 5A secondary

Primary current rating	Rating factor @ 30°C	IEEE metering accuracy	Metered range, A	Style number		Primary bar kit (for field installation)
				Window-type	Bar-type	
200	4.0	0.15SB-0.2/0.3SB-0.5	2-800	D030200X1NC	D030200X3NC	424 0126 901
300	4.0	0.15SB-0.5/0.3SB-0.9	3-1200	D030300X1NC	D030300X3NC	424 0126 901
400	4.0	0.15SB-0.9/0.3SB-1.8	4-1600	D030400X1NC	D030400X3NC	424 0127 901
500	4.0	0.15SB-0.9/0.3SB-1.8	5-2000	D030500X1NC	D030500X3NC	424 0126 902
600	4.0	0.15SB-1.8	6-2400	D030600X1NC	D030600X3NC	424 0126 902
800	4.0	0.15SB-1.8	8-3200	D030800X1NC	D030800X3NC	424 0127 902
1000	4.0	0.15SB-1.8	10-4000	D031000X1NC	D031000X3NC	424 0127 903
1200	4.0	0.15SB-1.8	12-4800	D031200X1NC	D031200X3NC	424 0127 903
1500	3.0	0.15SB-1.8	15-4500	D031500X1NC	D031500X3NC	424 0127 903
2000	3.0	0.15SB-1.8	20-6000	D032000X1NC	D032000X3NC	424 0127 903

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.

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