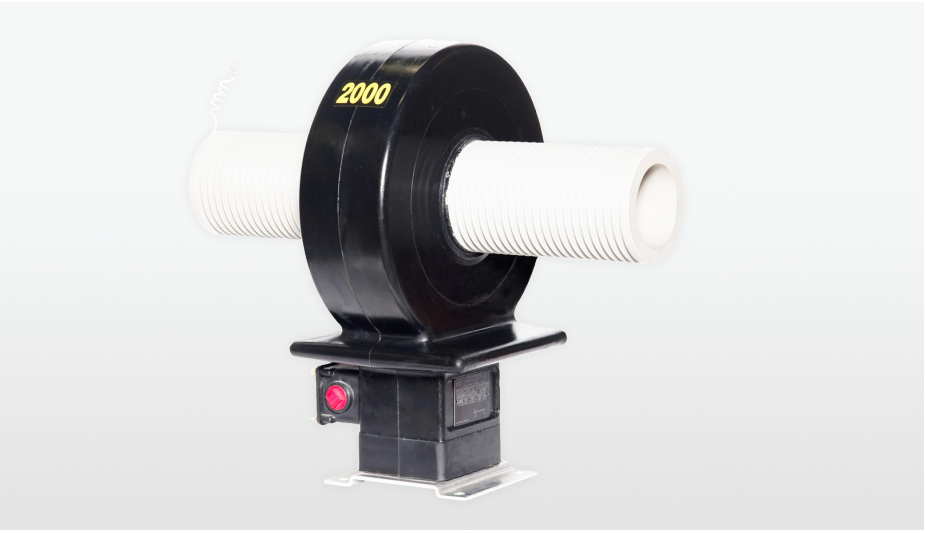
INSTRUMENT TRANSFORMERS

LG-34-879 and LGX-34-879

Outdoor station post current transformers



LG-34-879 and LGX-34-879 outdoor current transformers are designed for use on substation structures where bare tubular primary conductors or heavy braided cables are used.

Product features

- 34.5 kV, 200 kV BIL, 60 Hertz
- Outdoor, 105°C insulation system
- Single, dual or multiple taps available
- Window diameter: 4.5" (115mm)
- Electrical specifications:
  - Strike: 18" (457 mm)
  - Creep: 35.8" (910 mm)
- Approximate weight (without bar): 232 lbs. (105 kg)
- Operating temperature range: -50°C through +65°C

Application

The LG-34-879 and LGX-34-879 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.

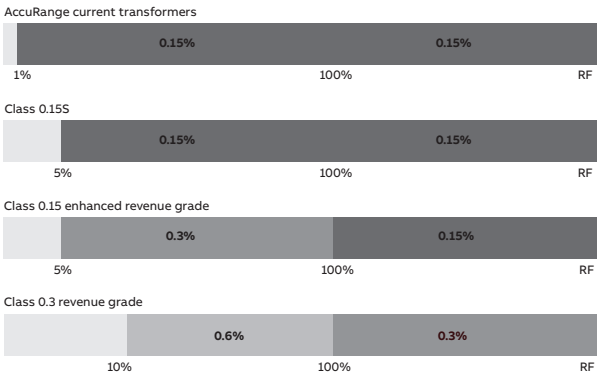
The LGX-34-879 is specifically designed for extended range high accuracy metering duty only.

Mechanical description

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-34-879 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 is tightened to compress lock washers but 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-34-879 and LGX-34-879 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
These units meet or exceed 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 available separately.

Consult factory for other special needs such as additional ratios, multiple cores with the same or mixed 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. Requirements that cannot be met in the LG-34-879 may be available in the KOTD-200 or LG-34-051 models.

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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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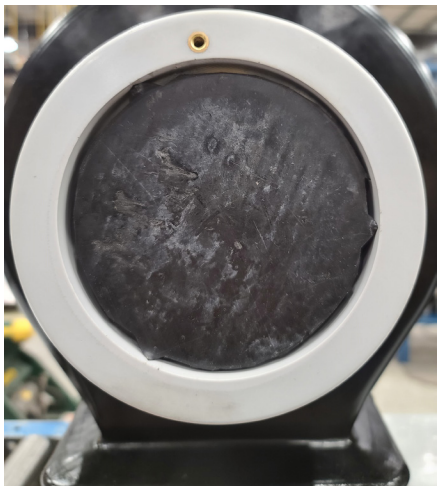

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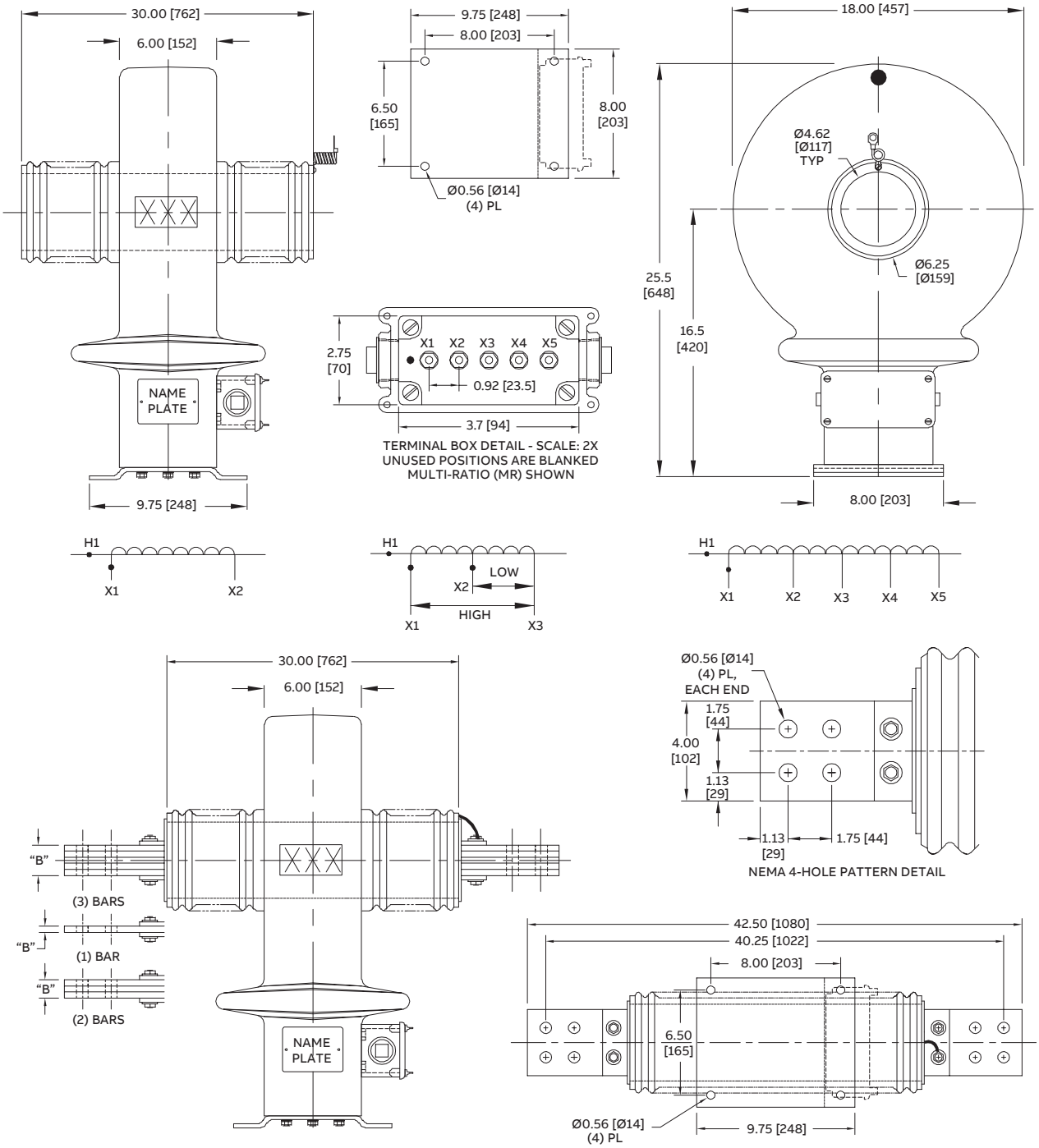
Dimensions (inches [mm])



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"	16 [7.3]
1800 A	0.38 [9.5]	(1) 3/8"	21 [9.5]
2500 A	0.75 [19]	(2) 1/4"	29 [13.2]
3500 A	1.00 [25]	(2) 3/8"	41 [18.6]
6000 A	1.63 [41]	(3) 3/8"	61 [27.7]

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

Selection guide for LG-34-879 with 5A secondary

Primary current rating	Rating factor @ 30°C	IEEE metering accuracy @ 60 Hz	IEEE relaying accuracy @ 60 Hz	Style number		
				Window-type	Bar-type	Primary bar kit (for field installation)
200	3.0	0.3B-0.2	C150	G092015S159-1	G092015S159-3	424 0175 901
300	3.0	0.3B-0.5	C200	G093015S209-1	G093015S209-3	424 0175 901
400	3.0	0.3B-0.9	C300	G094015S309-1	G094015S309-3	424 0175 901
500	3.0	0.3B-1.8	C400	G095015S409-1	G095015S409-3	424 0176 901
600	3.0	0.3B-1.8	C400	G096015S409-1	G096015S409-3	424 0176 901
800	2.0	0.3B-1.8	C600	G098015S609-1	G098015S609-3	424 0176 901
1000	2.0	0.3B-1.8	C800	G091025S809-1	G091025S809-3	424 0175 902
1200	2.0	0.3B-1.8	C800	G091225S809-1	G091225S809-3	424 0175 902
1500	2.0	0.3B-1.8	C800	G091525S809-1	G091525S809-3	424 0175 902
2000	2.0	0.3B-1.8	C800	G092025S809-1	G092025S809-3	424 0176 903
2500	2.0	0.3B-1.8	C800	G092525S809-1	G092525S809-3	424 0176 903
3000	2.0	0.3B-1.8	C800	G093025S809-1	G093025S809-3	424 0176 903
4000	1.5	0.3B-1.8	C800	G094025S809-1	G094025S809-3	424 0176 903
5000	1.5/1.2[1]	0.3B-1.8	C800	G095025S809-1	G095025S809-3	424 0176 903
6000	1.5/1.0[1]	0.3B-1.8	C800	G096025S809-1	G096025S809-3	424 0176 903
8000	1.25	0.3B-1.8	C800	G098025S809-1	-	-
10,000	1.0	0.3B-1.8	C800	G091035S809-1	-	-
Dual-ratio						
200/400	2.0/2.0	0.3B-0.2/B-0.9	C150/C300	G092015D159-1	G092015D159-3	424 0175 901
300/600	2.0/2.0	0.3B-0.5/B-1.8	C200/C400	G093015D209-1	G093015D209-3	424 0175 901
400/800	2.0/2.0	0.3B-0.9/B-1.8	C300/C600	G094015D309-1	G094015D309-3	424 0176 901
500/1000	2.0/2.0	0.3B-0.9/B-1.8	C400/C800	G095015D409-1	G095015D409-3	424 0175 902
600/1200	2.0/2.0	0.3B-1.8/B-1.8	C400/C800	G096015D409-1	G096015D409-3	424 0175 902
1000/2000	2.0/2.0	0.3B-1.8/B-1.8	C400/C800	G091025D409-1	G091025D409-3	424 0176 903
1500/3000	2.0/2.0	0.3B-1.8/B-1.8	C800/C800	G091525D809-1	G091525D809-3	424 0176 903
2000/4000	2.0/1.5	0.3B-1.8/B-1.8	C400/C800	G092025D409-1	G092025D409-3	424 0176 903
Multi-ratio						
400 MR	2.0	0.3B-0.5[2]	C300	G094015M309-1	G094015M309-3	424 0175 901
600 MR	2.0	0.3B-1.8[2]	C400	G096015M409-1	G096015M409-3	424 0175 901
1200 MR	2.0	0.3B-1.8[2]	C800	G091225M809-1	G091225M809-3	424 0175 902
2000 MR	2.0	0.3B-1.8[2]	C800	G092025M809-1	G092025M809-3	424 0176 903
3000 MR	2.0	0.3B-1.8[2]	C800	G093025M809-1	G093025M809-3	424 0176 903
4000 MR	1.5	0.3B-1.8[2]	C800	G094025M809-1	G094025M809-3	424 0176 903
5000 MR	1.5/1.2[1]	0.3B-1.8[2]	C800	G095025M809-1	G095025M809-3	424 0176 903

1 - Reduced rating factor when supplied with ABB bar kits
2 - 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-34-879 with 5A secondary

Primary current rating	Rating factor @ 30°C	IEEE metering accuracy @ 60 Hz	Metered range, A	Style number		
				Window-type	Bar-type	Primary bar kit (for field installation)
200	4.0	0.15SB-0.5/0.3SB-0.9	2 - 800	G092015X050-1NC	G092015X050-3NC	424 0175 901
300	4.0	0.15SB-0.5/0.3SB-0.9	3 - 1200	G093015X050-1NC	G093015X050-3NC	424 0175 901
400	4.0	0.15SB-0.9/0.3SB-1.8	4 - 1600	G094015X090-1NC	G094015X090-3NC	424 0176 901
500	4.0	0.15SB-1.8	5 - 2000	G095015X180-1NC	G095015X180-3NC	424 0175 901
600	4.0	0.15SB-1.8	6 - 2400	G096015X180-1NC	G096015X180-3NC	424 0175 901
800	4.0	0.15SB-1.8	8 - 3200	G098015X180-1NC	G098015X180-3NC	424 0176 902
1000	4.0	0.15SB-1.8	10 - 4000	G091025X180-1NC	G091025X180-3NC	424 0176 903
1200	4.0	0.15SB-1.8	12 - 4800	G091225X180-1NC	G091225X180-3NC	424 0176 903
1500	4.0	0.15SB-1.8	15 - 6000	G091525X180-1NC	G091525X180-3NC	424 0176 903
2000	3.0	0.15SB-1.8	20 - 6000	G092025X180-1NC	G092025X180-3NC	424 0176 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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