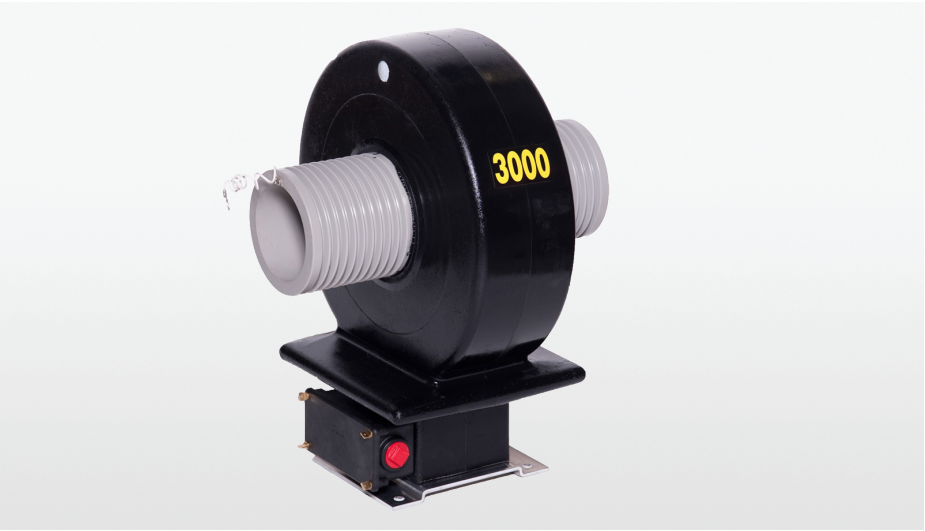
INSTRUMENT TRANSFORMERS

LG-15-879

Outdoor station post current transformer



The LG-15-879 outdoor current transformer is designed for use on substation structures where bare tubular primary conductors or heavy braided cables are used.

Product features

- 15 kV class, 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: 12.5" (318 mm)
  - Creep: 18.1" (460 mm)
- Approximate weight (without bar):
  - Single core: 210 lbs. (96 kg)
  - Dual core: 270 lbs. (123 kg)
- Operating temperature range: -50°C through +65°C

Application

The LG-15-879 outdoor current transformer is 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.

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.

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-15-879 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 weathertight 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 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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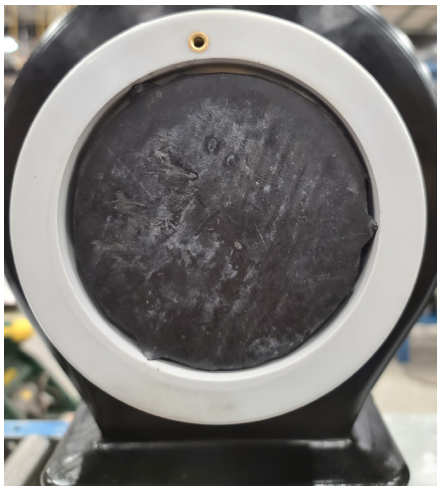

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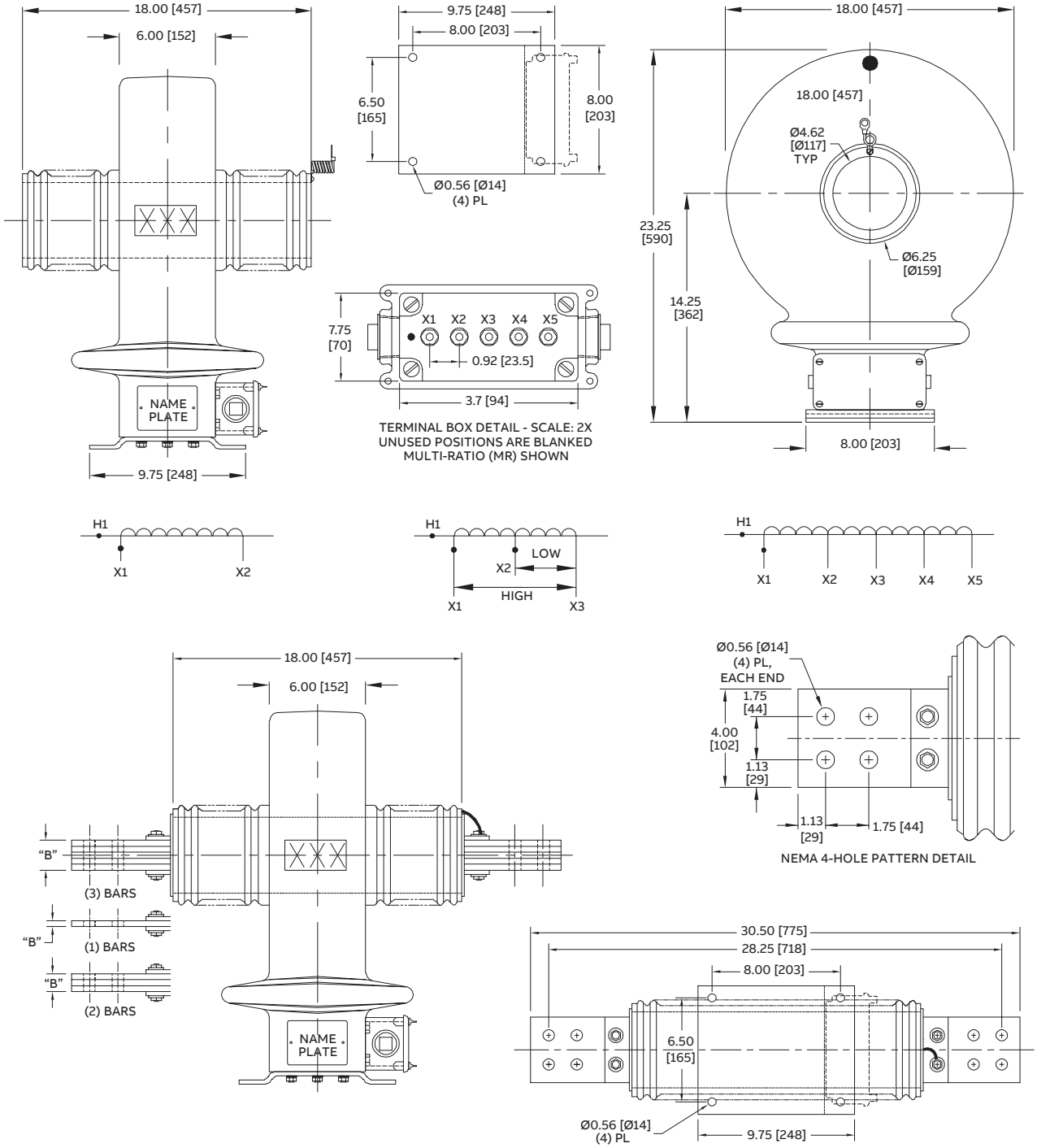
Dimensions (inches [mm])



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-15-879 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	D092015S159-1	D092015S159-3	424 0126 901
300	3.0	0.3B-0.5	C200	D093015S209-1	D093015S209-3	424 0126 901
400	3.0	0.3B-0.9	C300	D094015S309-1	D094015S309-3	424 0126 901
500	3.0	0.3B-1.8	C400	D095015S409-1	D095015S409-3	424 0127 901
600	3.0	0.3B-1.8	C400	D096015S409-1	D096015S409-3	424 0127 901
800	2.0	0.3B-1.8	C600	D098015S609-1	D098015S609-3	424 0127 901
1000	2.0	0.3B-1.8	C800	D091025S809-1	D091025S809-3	424 0126 902
1200	2.0	0.3B-1.8	C800	D091225S809-1	D091225S809-3	424 0126 902
1500	2.0	0.3B-1.8	C800	D091525S809-1	D091525S809-3	424 0127 902
2000	2.0	0.3B-1.8	C800	D092025S809-1	D092025S809-3	424 0127 903
2500	2.0	0.3B-1.8	C800	D092525S809-1	D092525S809-3	424 0127 903
3000	2.0	0.3B-1.8	C800	D093025S809-1	D093025S809-3	424 0127 903
4000	1.5	0.3B-1.8	C800	D094025S809-1	D094025S809-3	424 0127 903
5000	1.5/1.2[1]	0.3B-1.8	C800	D095025S809-1	D095025S809-3	424 0127 903
6000	1.5/1.0[1]	0.3B-1.8	C800	D096025S809-1	D096025S809-3	424 0127 903
8000	1.25	0.3B-1.8	C800	D098025S809-1	-	-
10000	1.0	0.3B-1.8	C800	D091035S809-1	-	-
Dual-ratio						
200/400	2.0/2.0	0.3B-0.2/B-0.9	C150/C300	D092015D159-1	D092015D159-3	424 0126 901
300/600	2.0/2.0	0.3B-0.5/B-1.8	C200/C400	D093015D209-1	D093015D209-3	424 0126 901
400/800	2.0/2.0	0.3B-0.9/B-1.8	C300/C600	D094015D309-1	D094015D309-3	424 0127 901
500/1000	2.0/2.0	0.3B-0.9/B-1.8	C400/C800	D095015D409-1	D095015D409-3	424 0126 902
600/1200	2.0/2.0	0.3B-1.8/B-1.8	C400/C800	D096015D409-1	D096015D409-3	424 0126 902
1000/2000	2.0/2.0	0.3B-1.8/B-1.8	C400/C800	D091025D409-1	D091025D409-3	424 0127 903
1500/3000	2.0/2.0	0.3B-1.8/B-1.8	C800	D091525D809-1	D091525D809-3	424 0127 903
2000/4000	2.0/1.5	0.3B-1.8/B-1.8	C400	D092025D409-1	D092025D409-3	424 0127 903
Multi-ratio						
400 MR	2.0	0.3B-0.5[2]	C300	D094015M309-1	D094015M309-3	424 0126 901
600 MR	2.0	0.3B-1.8[2]	C400	D096015M409-1	D096015M409-3	424 0126 901
1200 MR	2.0	0.3B-1.8[2]	C800	D091225M809-1	D091225M809-3	424 0126 902
2000 MR	2.0	0.3B-1.8[2]	C800	D092025M809-1	D092025M809-3	424 0127 903
3000 MR	2.0	0.3B-1.8[2]	C800	D093025M809-1	D093025M809-3	424 0127 903
4000 MR	1.5	0.3B-1.8[2]	C800	D094025M809-1	D094025M809-3	424 0127 903
5000 MR	1.5/1.2[1]	0.3B-1.8[2]	C800	D095025M809-1	D095025M809-3	424 0127 903

1 - Reduced rating factor when supplied with ABB primary 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.

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1VAP701201-DB AUGUST 2023 REV J