

MODEL JKW-7 SUPERBUTE™

Outdoor Current Transformer

34.5 kV, 5 A to 800 A,
50/60 Hz, 200 kV BIL



Application

Designed for outdoor service; suitable for revenue metering. Rated Distribution class with a compact design for maximizing efficiency in solid-state revenue metering applications. Available in a variety of ratio as outlined in the unit selection table below, with additional designs available upon request.

Features

- Weight: 60 lbs (unit), 75 lbs (shipping)
- Dimensions: 19.88" (h) x 10.88" (w) x 9.51" (d)
- Creep Distance: 27.62" [701.5 mm]
- Strike Distance: 16.53" [420 mm]
- Insulation: HY-BUTE 60™ Butyl Rubber
- Insulation Class: 200 kV BIL, Outdoor
- Design Standard: IEEE C57.13

Reference Drawings & Accessories

Accuracy Curve(s) at 60 Hz

- Single-Ratio
 - 10 A to 200 A, and 400 A - 9689241906
 - 300 A - 9689241907
 - 600 A and 800 A - 9689241908
- Dual-Ratio
 - 10/20 A to 150/300 A and 300/600 A Models,
Low Ratio - 9932600014
High Ratio - 9932600015
 - 200/400 A and 400/800 A Models,
Low Ratio - 9932600016
High Ratio - 9932600017

Excitation Curve(s)

- 10 A to 200:5 9932600105
- 400:5 9932600207
- 600:5 9932600106

Accessories

- "L" Mounting Brackets 8944634002
- Channel Bracket 5466227001
- Suspension Hooks 8944630001
- Secondary Conduit Box 9689897001



461 Boston Street, Unit E6, Topsfield, MA 01983
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Unit Selection

JKW-7

CURRENT RATIO	METER CLASS	RF ¹	MECHANICAL LIMIT, Amps	1-Sec THERMAL LIMIT, Amps	CATALOG NUMBER
5:5	0.3B0.2	3.0	4,000	2,250	757X050030
10:5	0.3B0.5	3.0	4,000	2,250	757X050001 ³
15:5	0.3B0.5	3.0	6,000	3,375	757X050002 ³
20:5	0.3B0.5	3.0	8,000	4,500	757X050003 ³
25:5	0.3B0.5	3.0	10,000	5,625	757X050004 ³
30:5	0.3B0.5	3.0	12,000	6,750	757X050005 ³
40:5	0.3B0.5	3.0	16,000	9,000	757X050006 ³
50:5	0.3B0.5	3.0	20,000	11,250	757X050007 ³
75:5	0.3B0.5	3.0	24,975	13,875	757X050008 ³
100:5	0.3B0.5	3.0	40,000	22,500	757X050009 ³
150:5	0.3B0.5	3.0	49,950	27,750	757X050010 ³
200:5	0.3B0.5	3.0	66,600	45,000	757X050011 ³
300:5	0.3B0.5	3.0	100,000	55,500	757X050012 ³
400:5	0.3B0.5	2.5	100,000	56,000	757X050013 ³
600:5	0.3B0.5	2.0	100,000	60,000	757X050014 ³
800:5	0.3B0.5	1.5	100,000	60,000	757X050015 ³
1000:5	0.3B1.8	1.25	100,000	60,000	757X050016
Dual Ratio					
10/20:5	0.3B0.2/0.3B0.5	3.0/2.0	4,780	2,250/2,760	757X050018 ⁴
15/30:5	0.3B0.2/0.3B0.5	3.0/2.0	7,980	3,375/4,500	757X050019 ⁴
20/40:5	0.3B0.2/0.3B0.5	3.0/2.0	10,320	4,500/5,600	757X050020 ⁴
25/50:5	0.3B0.2/0.3B0.5	3.0/2.0	12,150	5,625/6,750	757X050021 ⁴
50/100:5	0.3B0.2/0.3B0.5	3.0/2.0	24,900	11,250/15,000	757X050022 ⁴
75/150:5	0.3B0.2/0.3B0.5	3.0/2.0	39,900	16,875/21,000	757X050023 ⁴
100/200:5	0.3B0.2/0.3B0.5	3.0/2.0	49,800	22,500/25,000	757X050024 ⁴
150/300:5	0.3B0.2/0.3B0.5	3.0/2.0	66,600	33,750/40,500	757X050025 ⁴
200/400:5	0.3B0.2/0.3B0.9	3.0/2.0	66,400	40,000/40,000	757X050026 ⁴
300/600:5	0.3B0.2/0.3B0.5	3.0/2.0	99,600	63,000/63,000	757X050027 ⁴
400/800:5	0.3B0.2/0.3B0.9	2.0/1.5	100,000	64,000/64,000	757X050028 ⁴

1. "RF" is defined as Continuous Thermal Rating Factor at 30 °C, ambient

2. With burden of B-0.1 or greater

3. Measurement Canada Approval: AE-0540 or AE-1060

4. Measurement Canada Approval: AE-2455

Selection Guide JKW-7

PRODUCT CLASS	5 kV	8.7 kV	15 kV	25 kV	35 kV	46 kV	69 kV
Station Class	JKW3	JKW4	JKW5	JKW150	JKW200	JKW250	JKW350



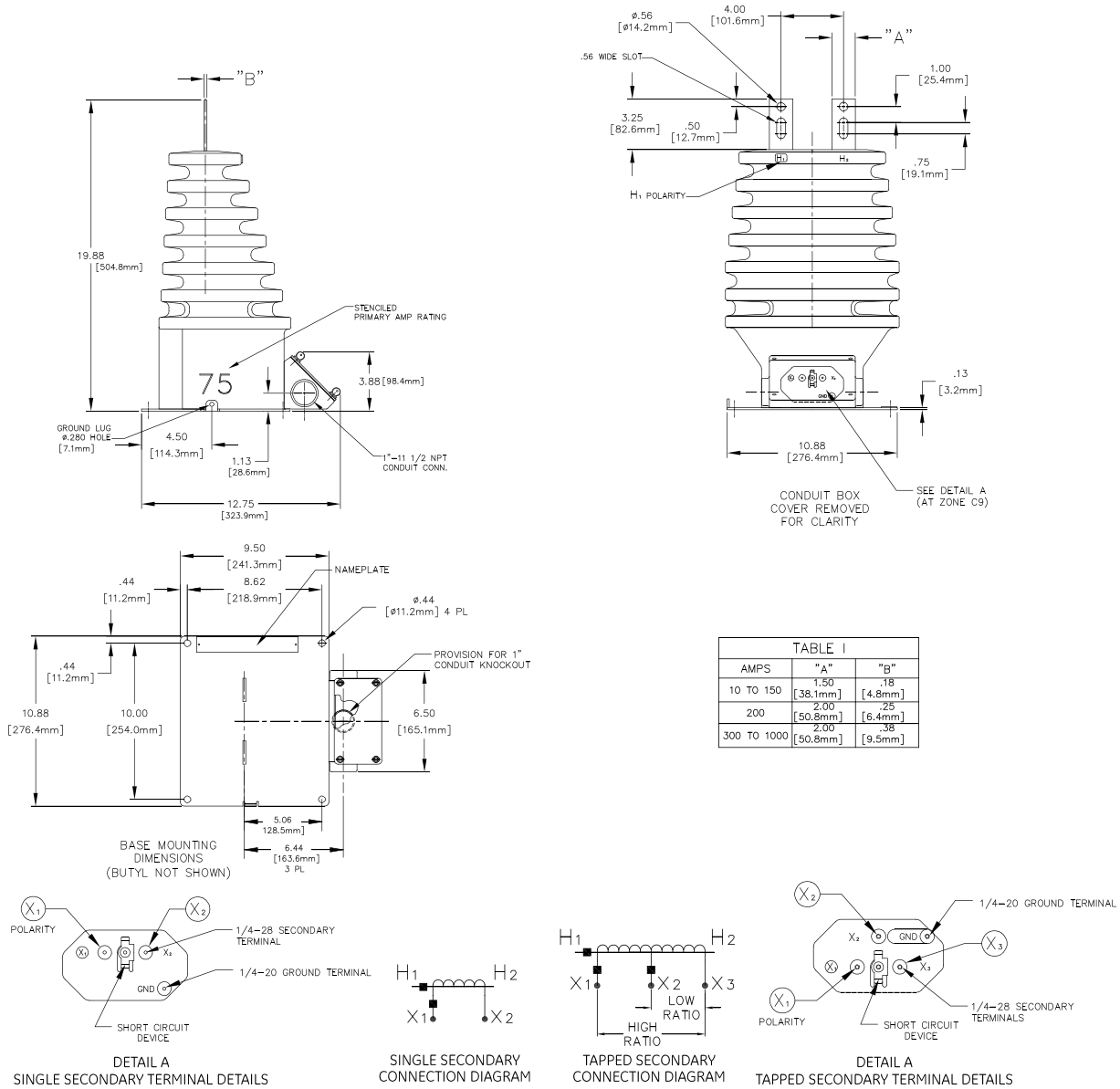
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DISTRIBUTION CLASS	JCK3	JCK4	JCK5	JKW6	JKW7
BIL	60 kV BIL	75 kV BIL	110 kV BIL	150 kV BIL	200 kV BIL
Accuracy, RF	0.3B0.5, RF 3.0	0.3B0.5, RF 3.0	0.3B0.5, RF 3.0	0.3B0.9, RF 3.0	0.3B0.5, RF 3.0
Relay Class	---	---	---	T100 or T200	---
Creep Distance	15.5"	15.5"	15.5"	24"	27.6"
Net Weight	35 lbs	35 lbs	35 lbs	80 lbs	72 lbs

Dimensions, Mounting & Wiring Diagram



Construction Details

Insulation

The transformer design is constructed using premium HY-BUTE 60 molded butyl rubber insulation for the transformer body. First introduced in 1955, unique formulation is non-arc tracking and resistant to heat, chemicals, ozone and ultraviolet. This tough, resilient insulating material has proven to be superior in handling mechanical, electrical and environmental extremes, when compared against other insulation designs such as porcelain, urethane or epoxy.

Core & Coil

The core is made from high-quality, grainoriented, low-loss, high permeability silicon steel which is carefully selected and tested under rigidly controlled factory conditions. The core is wound in the direction of the grain to take advantage of the high permeability.

Windings

The primary winding consists of strip wound copper in a circular pattern for the lower ratings, and a single-turn configuration for the higher ratings. This type of construction provides good accuracy, along with the highest fault current withstand characteristics. The secondary winding is made of enamel-insulated copper wire, evenly distributed around the core. This construction reduces leakage flux and provides the best possible accuracy.

Primary Terminals

The primary terminals are flat copper bars, each with one bolt hole and a slot, which facilitates connections to various size cable lugs. The terminal surfaces are tin-plated to reduce contact resistance, and to allow connection to either copper or aluminum conductors.

Secondary Terminals & Conduit Box

The secondary terminals are clamp-type, with a 0.275-inch diameter hole, simplifying the connection of large or multiple secondary wires. The terminals are located on the front of the transformer on the flat butyl surface adjacent to the baseplate. The terminals are made of bronze for excellent durability and corrosion resistance. An internal secondary terminal block secures the secondary terminals, as well as a stud in between the two terminals, which is used as a short-circuit device pivot. The short-circuit device is simple, easy to operate, and is made of sturdy bronze parts to give the highest reliability. It features a large contact area, with the short-circuit device and a slot in the terminal having parallel faces to make an extremely good electrical contact. The contact with the terminal is direct, thus eliminating additional joints or connections.

Testing

Rigorous test requirements go beyond ANSI/IEEE routine requirements in order to ensure long term reliability. Test reports are saved electronically and can be e-mailed in various formats upon request.

Ground Terminal

A ground terminal is provided in the secondary compartment for making an optional connection to one of the secondary terminals. The 1/4-20 roundhead ground terminal is welded in the baseplate bracket, and is furnished with a nut, cup washer, flat washer, and lock washer.

Polarity

The primary and secondary polarity markers are molded in the insulation. They are thus permanent and integral parts of the transformer and cannot readily be obliterated. The polarity is subtractive.

Baseplate and Mounting

The base is made of stainless-steel. A stainless-steel grounding lug is welded to the baseplate and provides a hole for attaching the grounding connector. Mounting holes or slots are located in each corner of the baseplate. Mounting hardware is supplied with the transformer. The transformer can be mounted with the primary terminals in any position—up, down, or horizontal. It can be bolted directly to a crossarm attached by “U” bolts or suspension hooks, or mounted on double crossarms, using channel brackets. Refer to the Accessories Listing on the transformer data sheet for Catalog Numbers.

Nameplate

The nameplate is made of stainless-steel and located on the base of the transformer. Information is per IEEE designation, laser-engraved for easy-to-read form. Custom barcoding available upon request.

Rating Identification

The primary current rating is identified by large orange digits located on two sides of the transformer. This provides permanent identification that is clearly visible from a distance, and is resistant to fading and abrasion.

Maintenance

These transformers require no maintenance other than an occasional cleaning if installed in an area where air contamination is severe.

