

JCK-4 SUPERBUTE™

Outdoor Current Transformer

8,700V, 5A to 800A,
50/60 Hz, 75 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: 35 lbs (unit), 43 lbs (shipping)
- Dimensions: 13.63" (h) x 9.38" (w) x 11" (d)
- Creep Distance: 14" [355.6 mm]
- Strike Distance: 8.75" [222.25 mm]
- Insulation: HY-BUTE 60TM Butyl Rubber
- Insulation Class: 75 kV BIL, Outdoor
- Design Standard: IEEE C57.13

Reference Drawings & Accessories

Accuracy Curve(s) at 60 Hz

- 5A - 9689241951
- 10A to 200A, and 400A - 9689241953
- 300A - 9689241952
- 600A and 800A - 9689241954

Accessories

- "L" Mounting Brackets - 8944634001
- Auxiliary "L" Mounting Brackets - 8944270001
- Channel Bracket - 5466227001
- Suspensions Hooks - 8944630001
- Secondary Conduit Box - 9689897001



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Unit Selection

CURRENT RATIO	METER CLASS	RF ¹	MECHANICAL LIMIT, Amps	1-SEC THERMAL LIMIT, Amps	CATALOG NUMBER
5:5	0.3B0.5	3.0	3,400	1,900	754X051001
10:5	0.3B0.5	3.0	3,400	1,900	754X051002
15:5	0.3B0.5	3.0	5,100	2,850	754X051003
20:5	0.3B0.5	3.0	6,800	3,825	754X051004
25:5	0.3B0.5	3.0	8,500	4,775	754X051005
30:5	0.3B0.5	3.0	10,200	5,725	754X051006
40:5	0.3B0.5	3.0	13,600	7,650	754X051007
50:5	0.3B0.5	3.0	17,000	9,550	754X051008
75:5	0.3B0.5	3.0	21,250	11,775	754X051009
100:5	0.3B0.5	3.0	34,000	19,125	754X051010
150:5	0.3B0.5	3.0	42,500	23,575	754X051011
200:5	0.3B0.5	3.0	56,100	38,250	754X051012
300:5	0.3B0.5	3.0	85,000	46,750	754X051013
400:5	0.3B0.5	2.5	85,000	47,600	754X051014
600:5	0.3B0.5	2.0	85,000	51,000	754X051015
800:5	0.3B0.5	1.5	85,000	51,000	754X051016

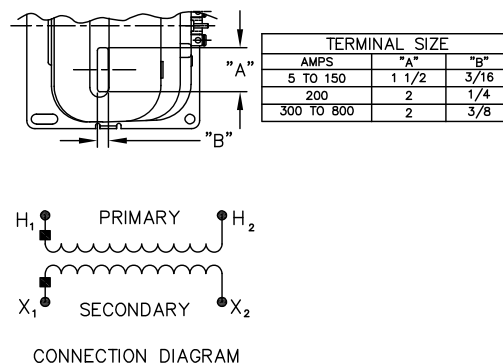
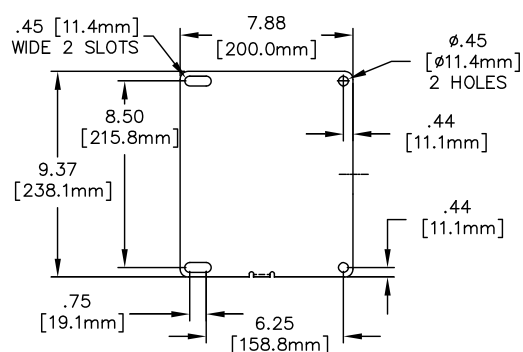
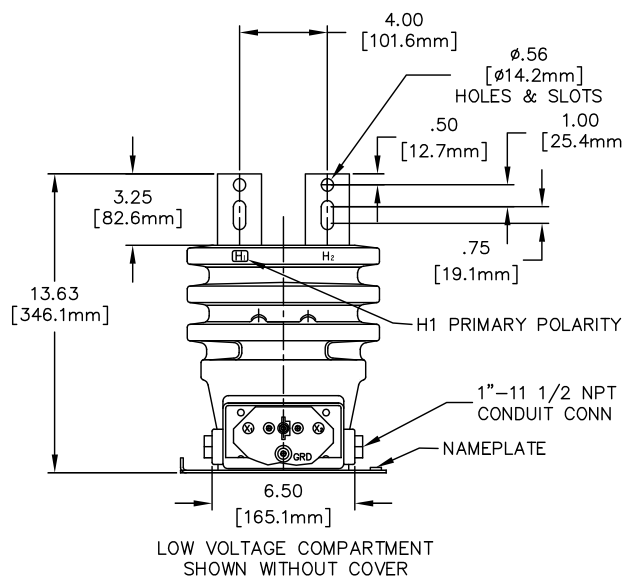
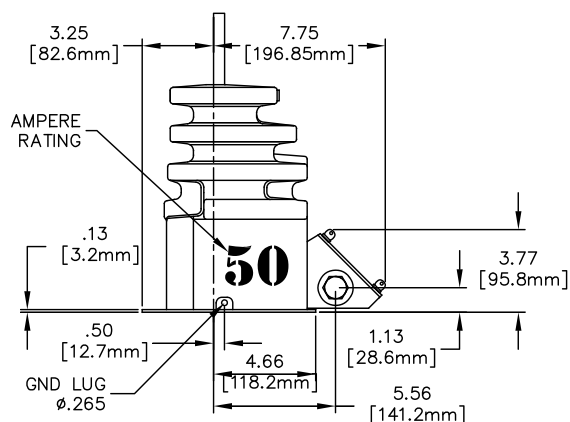
1. "RF" is defined as Continuous Thermal Rating Factor at 30 °C, ambient

Selection Guide

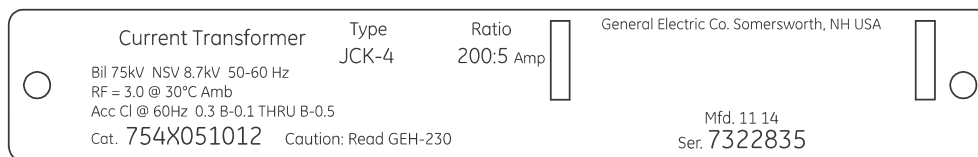
PRODUCT CLASS	5 kV	8.7 kV	15 kV	25 kV	35 kV	46 kV	69 kV
Station Class	JKW-3	JKW-4	JKW-5	JKW-150	JKW-200	JKW-250	JKW-350
BIL	60 kV BIL	75 kV BIL	110 kV BIL	150 kV BIL	200 kV BIL	250 kV BIL	350 kV BIL
Accuracy, RF	0.3B1.8, RF 1.5	0.3B1.8, RF 1.5	0.3B1.8, RF 1.5	0.3B1.8, RF 2.0/1.5	0.3B1.8, RF 2.0/1.5	0.3B1.8, RF 2.0/1.5	0.3B1.8, RF 2.0/1.5
Relay Class	T100	T100	T200	T200/T400	T200/T400	T200/T400	T200/T400
Creep Distance	12.5"	12.5"	24"	44.1"	56.6"	71.0"	86.6"
Net Weight	40 lbs	40 lbs	60 lbs	323 lbs	348 lbs	543 lbs	593 lbs
Distribution Class	JCK-3	JCK-4	JCK-5	JKW-6	JKW-7		
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



Typical Nameplate



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 round-head 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.

