

MODEL JKW-5 SUPERBUTE™

Outdoor Current Transformer

15 kV, 5 A to 1,200 A,
50/60 Hz, 110 kV BIL



Application

Designed for outdoor service; suitable for operating meters, relays, and control devices. Rated Station Class with higher burden and extra creep distance. 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: 15.69" (h) x 10.88" (w) x 12.75" (d)
- Creep Distance: 24" [609.6 mm]
- Strike Distance: 9" [229 mm]
- Insulation: HY-BUTE 60™ Butyl Rubber
- Insulation Class: 110 kV BIL, Outdoor
- Design Standard: IEEE C57.13

Reference Drawings & Accessories

Accuracy Curve(s) at 60 Hz

- Single Ratio, 5 A to 800 A - 8689241499
- Single Ratio, 1,000 A - 9932600040
- Single Ratio, 1,200 A - 968924199
- Dual Ratio (all) - 9932600058

Overcurrent

9689241577

Excitation Curve(s)

- 5:5 to 600:5 9932600046
- 800:5 9932600047
- 1,000:5 9932600041
- 1,200:5 9932600035

Accessories

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



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Unit Selection JKW-5

CURRENT RATIO	METER CLASS	RELAY CLASS	RF ¹	MECHANICAL LIMIT,	1-Sec THERMAL LIMIT,	CATALOG NUMBER
				Amps	Amps	
5:5	0.3B1.8	T200	1.5	625	425	755X050101 ²
10:5	0.3B1.8	T200	1.5	1,250	930	755X050102 ²
15:5	0.3B1.8	T200	1.5	1,875	1,470	755X050103 ²
20:5	0.3B1.8	T200	1.5	2,500	1,860	755X050104 ²
25:5	0.3B1.8	T200	1.5	3,125	2,300	755X050105 ²
30:5	0.3B1.8	T200	1.5	3,750	2,460	755X050106 ²
40:5	0.3B1.8	T200	1.5	5,000	3,720	755X050107 ²
50:5	0.3B1.8	T200	1.5	6,250	4,600	755X050108 ²
75:5	0.3B1.8	T200	1.5	9,375	6,375	755X050109 ²
100:5	0.3B1.8	T200	1.5	12,500	8,600	755X050110 ²
150:5	0.3B1.8	T200	1.5	18,750	12,750	755X050111 ²
200:5	0.3B1.8	T200	1.5	25,000	17,200	755X050112 ²
300:5	0.3B1.8	T200	1.5	37,500	25,800	755X050114 ²
400:5	0.3B1.8	T200	1.5	50,000	36,000	755X050115 ²
600:5	0.3B1.8	T200	1.5	75,000	51,600	755X050117 ²
800:5	0.3B1.8	T200	1.2	80,000	63,200	755X050118 ²
1,000:5	0.3B1.9	T100	1.0	100,000	82,000	755X050119 ²
1,200:5	0.3B1.8	T180	1.0	100,000	82,000	755X050120 ²
DUAL RATIO						
50/100:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.5	12,500/12,500	4,300/8,600	755X050124 ²
75/150:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.5	18,750/18,750	6,375/12,750	755X050125 ²
100/200:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.5	25,000/25,000	8,600/17,200	755X050126 ²
150/300:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.5	37,500/37,500	12,900/25,800	755X050127 ²
200/400:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.5	50,000/50,000	18,000/36,000	755X050128 ²
300/600:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.5	75,000/75,000	25,800/51,600	755X050129 ²
400/800:5	0.3B0.5/0.3B1.8	T100/T200	2.0/1.2	80,000/80,000	31,600/63,200	755X050130 ²
600/1200:5	0.3B0.5/0.3B1.8	T100/T200	1.5/1.0	80,000/80,000	31,600/63,200	755X050720

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

2. Measurement Canada Approval: SD-EA-0390 or AE-0430 or AE-0305 or AE-0392



Selection Guide JKW-5

PRODUCT CLASS	5 kV	8.7 kV	15 kV	25 kV	35 kV	46 kV	69 kV
Station Class	JKW-3	JKW-4	JKW-S	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	0.3B0.9, 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	0.3 B0.5, 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.		



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 of high-permeability, formed, silicon steel strip. The steel is characterized by having highly directional properties, that is, low core losses and high permeability in the direction of rolling. Full advantage is taken of this property of the steel by the shape and construction of the core. The core has a dispersed-gap construction with interleaved laminations. This type of core provides a construction that will not shift to cause any change in the transformer characteristics. After being assembled into the coils, the core is securely clamped and permanently fastened to the base plate by a heavy steel strap which encircles the core and is welded to the base.

Windings

The primary winding consists of two coils connected in series. Each coil surrounds one leg of the core. This design reduces leakage losses, thus improving the accuracy of the transformer. It also provides a higher mechanical strength than a single coil construction. The secondary winding consists of two coils connected in parallel. Each coil is located inside the corresponding primary coil and surrounds one leg of the core.

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 in a compartment molded in the side of the transformer. The compartment has a molded phenolic cover held by four brass, nickel-plated, captive thumbscrews, which engage a metal insert molded in the rubber. The thumbscrews are drilled to accommodate a seal wire. The compartment also has two openings for 1 inch conduit connection. The secondary terminals are the threaded type, each with cup washer, lock washer and nut. A manually operated, secondary short-circuiting switch is located between the secondary terminal studs.

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.

Maintenance

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

