

Model JBW-5ER SUPERBUTE™

Outdoor Combined Voltage and Current Transformer
15 kV, 60 Hz, 110 kV BIL



Application

Designed for outdoor service, this combination voltage transformer (VT) and current transformer (CT) is typically used for primary metering assemblies. GE's RevenueSense™ CT design provides 0.15 accuracy from 1% of rated current through rating factor (within burden capability). This model is available in a variety of ratios and ratings as detailed in the table below.

Features

- VT Thermal Rating: 500 VA (55°C rise above 30°C)
- Weight (Shipping/Unit): 160/145 lbs
- Creepage Distance: 25.6" [650 mm]
- Strike Distance: 16.8" [427 mm]
- Insulation: HY-BUTE 60™ Butyl Rubber
- Insulation Class: 110 kV BIL, Outdoor
- VT Primary Winding Style: Lattice-Type
- CT Design: RevenueSense™
- Design Standard: IEEE C57.13

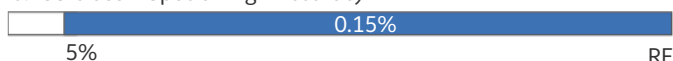
Key Benefits

- Maximize revenue metering accuracy with GE RevenueSense™ CT which exceeds IEEE standards
- Simplify CT selection and billing multipliers, improving productivity and minimizing risk of error
- Reduce inventory and part number requirements, reducing asset and operational costs

0.15 Class – High Accuracy



0.15S Class – Special High Accuracy



GE RevenueSense™



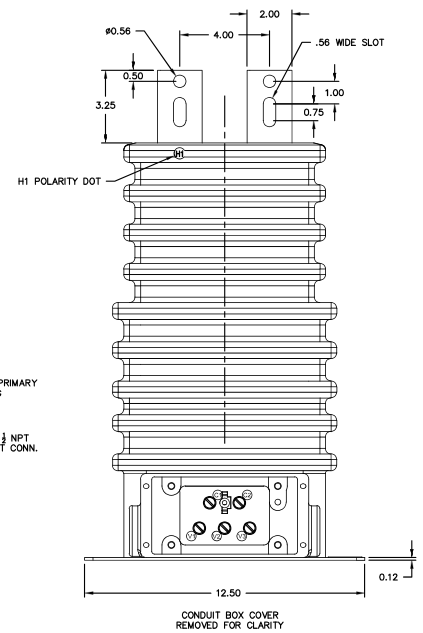
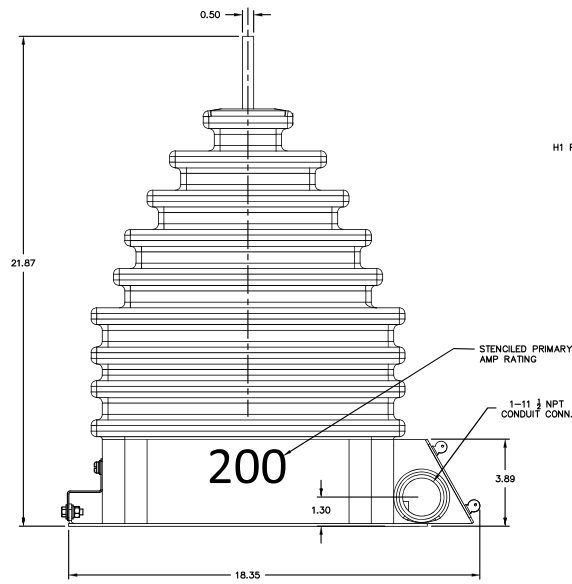
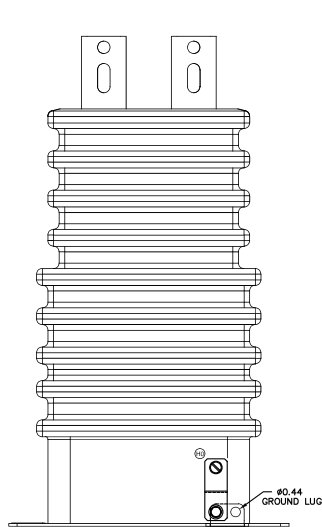
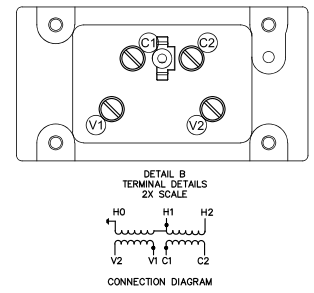
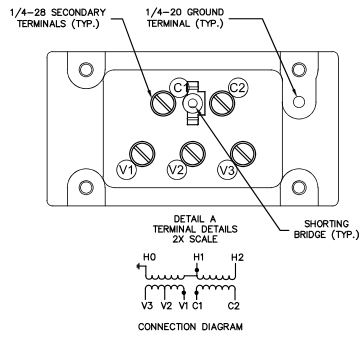
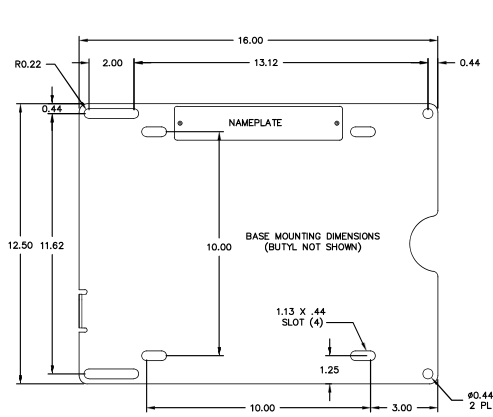
Unit Selection

Catalog Number	Current Transformer Data					Voltage Transformer Data			
	Ratio	Rating Factor (30° C)	Accuracy ¹	1-Sec Thermal Limit (amps)	Mech. Limit (amps)	Primary Voltage (V)	Ratio	Accuracy	RVF
725X048001	200:5	1.5	0.15SB1.8	16500	30000	7200	60:1	0.3Y	1.2
725X048003						7620	63.5:1		
725X048005						8400	70:1		
725X048007						7200/8400	60/70:1		
725X048002	1000:5	1.5	0.15SB1.8	91500	100000	7200	60:1	0.3Y	1.2
725X048004						7620	63.5:1		
725X048006						8400	70:1		
725X048008						7200/8400	60/70:1		
725X048009	200:5	3.0	0.15SB0.5	33000	51500	7200	60:1	0.3Y	1.2
725X048010						7620	63.5:1		
725X048011						8400	70:1		
725X048012						7200/8400	60/70:1		

⁽¹⁾ Exceeds IEEE definition for special high accuracy. Maintains 0.15% Accuracy from 1% to Rating Factor
Note: For line-to-ground connections only



Dimensions, Mounting and Wiring Diagram



Reference Drawings


Outline Drawing - 9932560

Curves

	Ratings (V)	Accuracy	Excitation
VT	7200	9932600242	9932600248
	8400	9932600243	
	7200 of 7200/8400	9932600244	9932600249
	8400 of 7200/8400	9932600245	

	Ratings (A)	Accuracy	Excitation
CT	200 RF 1.5	9932600240	9932600246
	1000 RF 1.5		
	200 RF 3.0	9932600241	9932600247

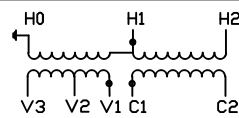
Typical Nameplate



Combination Transformer
 BIL 110 kV NSV 15 kV 60 Hz
 Type **JBW-5ER**

General Electric Co. Clearwater, FL USA

IEEE Std C57.13
Mfd. XX / XXXX



Voltage Transformer: 7200/8400:120V
RVF 1.2 CONT

CONN	H1 - H0	ACCURACY	VA@30°C	VA@55°C
V1 - V3	7200V	0.3Y	450	300
V2 - V3	8400V	0.3Y	500	350

Caution: Read GEH-230

Current Transformer: 200:5A
ACCU RETAINED TO 1% RATED

CONN	H1 - H2	ACCURACY	RF@30°C	RF@55°C
C1 - C2	200A	0.15B-1.8	1.5	1.1

Short-Time Current Ratings: I_{th} 16.5 kA, I_{mech} 16.5 kA

Cat. **725X048007**
 Ser. XXXXXXXX
 APPR#. XXXXXXXX

Construction Details

Insulation

The transformer design is constructed using GE's premium HY-BUTE 60 molded butyl rubber insulation for the transformer body. First introduced in 1955, GE's 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

CT: The core is manufactured with high-efficiency material that reduces energy losses, allowing for higher accuracy over an extended range (HAER). GE's RevenueSense™ current transformer design provides 0.15 accuracy from 1% of rated current through rating factor (within burden capability).

VT: The internal primary windings are constructed with a lattice-type primary winding originally patented by GE. The lattice-type design better distributes voltage stress across the windings, minimizes partial discharge, and maintains higher accuracy across the load range as compared to a traditional layer wound primary design. Outer electrostatic faraday shields act to further distribute steep voltage fronts across the coils. The finished primary coil is precast in epoxy resin prior to being molded in the outer HY-BUTE 60 insulation, for additional dielectric and mechanical strength. The core is made of high-quality silicon steel which is carefully selected, tested and annealed under rigidly controlled factory conditions. Enamel-insulated wire is used in both the primary and secondary coils.

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. The terminals are made of brass for excellent durability and corrosion resistance.

Testing

Test per IEEE C57.13. 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 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 integral to the baseplate and provides a hole for attaching the grounding connector. Mounting holes or slots are located at each corner of the baseplate. The transformer can be mounted with the primary terminals in any position— up, down, or horizontal.

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.

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