



## Combination Current Voltage Transformer

### Application

All CVTO combination transformers shown in this section are suitable for revenue metering or protective relaying applications on high voltage systems rated 230 kV, 138,000 volts at 900 BIL primary with current ratings from 10 to 3000 amperes.

### Fabrication

Domes and tanks are fabricated from mild steel and protected with the latest technology, powder coated external finish. ANSI 70 light gray is the standard finish color. Stainless steel domes and bases are available for high corrosion applications.

One piece, wet-process porcelain insulators are used to provide high mechanical strength with suitable cantilever for high wind and seismic locations. ANSI 70 light gray is the standard color.

Primary terminals are NEMA standard 4-hole pads, suitable for copper or aluminum connectors. The H1 terminal is provided with a by-pass protector to safeguard primary turn-to-turn insulation in cases of voltage stresses induced by high frequency, high current surges.

Separate weatherproof, hinged cover, terminal boxes with three (3) 1-1/2" conduit hubs are supplied for the CT and VT secondary terminations. A shorting terminal block is provided in the CT element box

All CVTO's are equipped with a 5kV HO bushing, NEMA 2-hole ground pad, magnetic oil level gauge, 3/4" drain valve, 3/4" oil fill plug and pressure relief valve.

### Accuracy and Thermal Rise

Current Transformer elements are available at 0.3 accuracy class at burdens of B0.1 to B1.8 for revenue metering applications. In addition, 0.15 and 0.15s high accuracy class designs are available.

CVTO-900 voltage elements are designed to provide 0.3% accuracy class when loaded with IEEE burdens of W, X, Y, Z and ZZ. Optional high accuracy 0.15% class is available at W, X, Y and Z Burdens.

Extended range elements and custom designs are available for wind and solar applications. Contact the factory with your specific requirements.



### Magnetic Circuits

CVTO's are available in single ratio, dual ratio by secondary tap, dual ratio by series-parallel primary connection, or multi-ratio winding configurations as well as multiple core designs to fit specific requirements.

### Mounting

All CVTO transformers are designed for outdoor, vertical platform mounting and must not be tilted more than 15 degrees from vertical during installation or shipment.

### Seismic Rating

The CVTO-900 has been qualified through Dynamic Analysis to withstand High Level per IEEE 693-2005.

### Testing

Every transformer is tested in accordance with IEEE Standard C57.13 (latest revision).

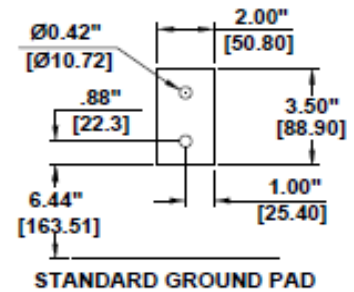
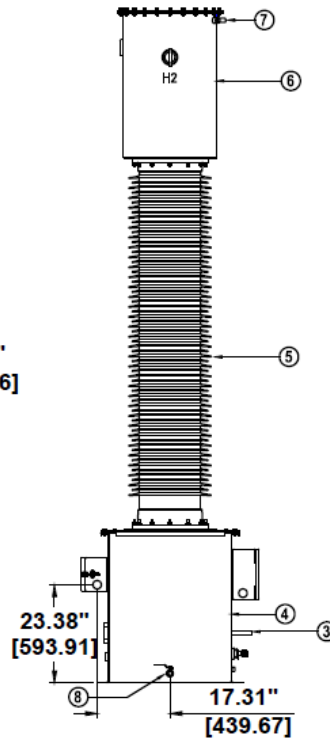
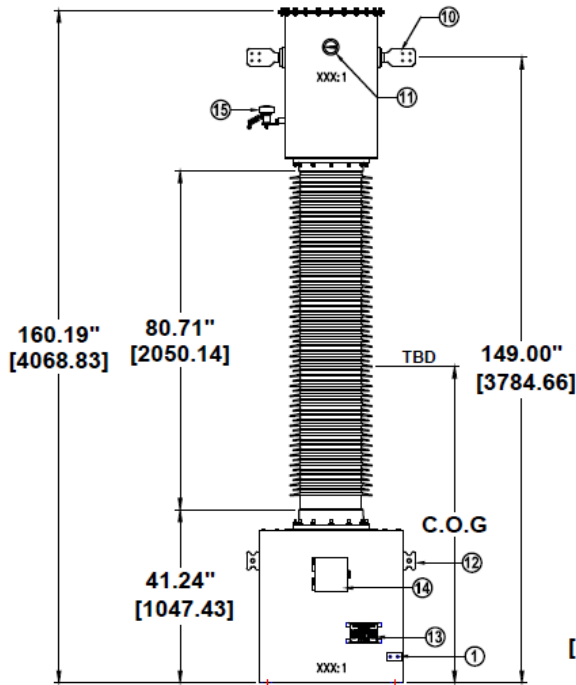
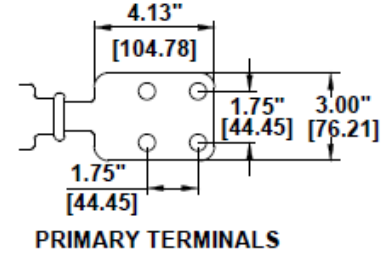
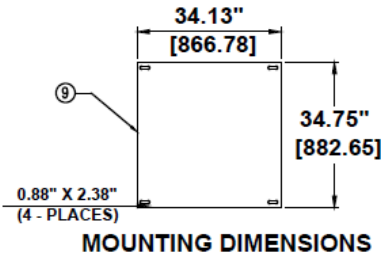
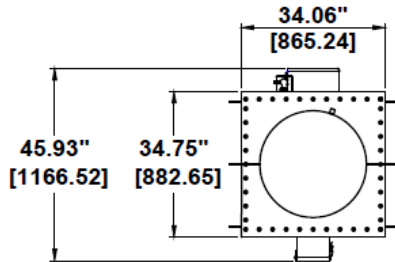
## Instrument Transformer Equipment Corporation

**Product Data**  
 CVTO-900  
 Combo Current  
 Voltage Transformer  
 230 kV Class  
 900 kV BIL



## Combination Current Voltage Transformer

### Dimensions and Details



#### CVTO-900

900 kV BIL  
 Creep Min: 147inches  
 Strike Min: 84 inches  
 Weight: 2800 lbs.

#### Notes:

1. NEMA 2- hole Ground Pad
2. Removable Ground Strap
3. HO Neutral Bushing and Cover Guard
4. Mild Steel Tank
5. Porcelain Insulator, ANSI 70 Lt. Gray
6. Expansion Chamber
7. 3/4" NPT Vacuum/Fill Port/PRV
8. 1/2" Drain Valve
9. Base Plate with (4) 0.62" x 1.50" Mounting Slots
10. Primary Terminals 4 hole NEMA Pad
11. Oil Level Indicator
12. Lifting Eyes
13. Terminal Box Cover and Nameplate
14. Secondary Terminal Box with (3) 1.5" conduit hubs.
15. By Pass Protector

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 ITEC is not responsible for typographical errors.

### Instrument Transformer Equipment Corporation

PO Box 129  
 Monroe, NC 28110-0129  
[www.itec-ctvt.com](http://www.itec-ctvt.com)

Tel: (704)-282-4331  
 Fax: (704) 283-3017  
 Email: [sales@itec-ctvt.com](mailto:sales@itec-ctvt.com)



## Combination Current Voltage Transformer

**Voltage Transformer Ratings - 900 BIL 230 kV 138000 V, 1200/2000:1& 1200/2000:1, 115/69& 115/69 and 3000 VA**  
**Current Transformer Characteristics with accuracy of 0.3 B1.8**

Dual Ratio "C"	Catalog Number	Single Ratio "S"	Catalog Number	Rating Factor at 30° C	Mech. Current Rating kA RMS	1 Sec Thermal Rating kA RMS	Accuracy and Burden Rating
25/50:5	MG209000050C000	50:5	MG209000050S000	1.5	3.75	3.5	0.3 B1.8
50/100:5	MG209000100C000	100:5	MG209000100S000	1.5	7.5	6.0	0.3 B1.8
75/150:5	MG209000150C000	150:5	MG209000150S000	1.5	11.5	10.0	0.3 B1.8
100/200:5	MG209000200C000	200:5	MG209000200S000	1.5	15.0	12.0	0.3 B1.8
150/300:5	MG209000300C000	300:5	MG209000300S000	1.5	20.0	18.0	0.3 B1.8
200/400:5	MG209000400C000	400:5	MG209000400S000	1.5	25.0	25.0	0.3 B1.8
300/600:5	MG209000600C000	600:5	MG209000600S000	1.5	30.0	25.0	0.3 B1.8
400/800:5	MG209000800C000	800:5	MG209000800S000	1.5	60.0	50.0	0.3 B1.8
500/1000:5	MG209001000C000	1000:5	MG209001000S000	1.5	60.0	50.0	0.3 B1.8
600/1200:5	MG209001200C000	1200:5	MG209001200S000	1.5	60.0	50.0	0.3 B1.8
750/1500:5	MG209001500C000	1500:5	MG209001500S000	1.5	90.0	90.0	0.3 B1.8
800/1600:5	MG209001600C000	1600:5	MG209001600S000	1.5	90.0	90.0	0.3 B1.8
1000/2000:5	MG209002000C000	2000:5	MG209002000S000	1.5	90.0	90.0	0.3 B1.8
1500/3000:5	MG209003000C000	3000:5	MG209003000S000	1.0	90.0	90.0	0.3 B1.8

**Voltage Transformer Ratings - 900 BIL 230 kV 138000 V, 1200/2000:1& 1200/2000:1, 115/69& 115/69 and 3000 VA**  
**Current Transformer Characteristics with accuracy of 0.15 B1.8**

Dual Ratio "P"	Catalog Number	Single Ratio "S"	Catalog Number	Rating Factor at 30° C	Mech. Current Rating kA RMS	1 Sec Thermal Rating kA RMS	Accuracy and Burden Rating
75 X 150:5	MH209000150P000	150:5	MH209000150S000	1.5	11.5	10.0	0.15 B1.8
100 X 200:5	MH209000200P000	200:5	MH209000200S000	1.5	15.0	12.0	0.15 B1.8
150 X 300:5	MH209000300P000	300:5	MH209000300S000	1.5	20.0	18.0	0.15 B1.8
200 X 400:5	MH209000400P000	400:5	MH209000400S000	1.5	25.0	25.0	0.15 B1.8
300 X 600:5	MH209000600P000	600:5	MH209000600S000	1.5	30.0	25.0	0.15 B1.8
400 X 800:5	MH209000800P000	800:5	MH209000800S000	1.5	60.0	50.0	0.15 B1.8
500 X 1000:5	MH209001000P000	1000:5	MH209001000S000	1.5	60.0	50.0	0.15 B1.8
600 X 1200:5	MH209001200P000	1200:5	MH209001200S000	1.5	60.0	50.0	0.15 B1.8
750 X 1500:5	MH209001500P000	1500:5	MH209001500S000	1.5	90.0	90.0	0.15 B1.8
800 X 1600:5	MH209001600P000	1600:5	MH209001600S000	1.5	90.0	90.0	0.15 B1.8
1000 X 2000:5	MH209002000P000	2000:5	MH209002000S000	1.5	90.0	90.0	0.15 B1.8
1500 X 3000:5	MH209003000P000	3000:5	MH209003000S000	1.0	90.0	90.0	0.15 B1.8

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Other ratings and options may be available  
Please contact the factory with your requirements.

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