

**CTO 550-650  
OIL-FILLED  
SUBSTATION CLASS**



**Instrument Transformer  
Equipment Corporation**

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Transformer Characteristics <i>Accuracy: 0.3@B0.1..1.8 both ratios</i>			Catalog ID <i>Last three digits indicate options</i>	
Current Rating	Mechanical Rating kA RMS	1 sec Thermal Rating kA RMS	115 kV 550 kV BIL	138 kV 650 kV BIL
25/50:5	3.75	3.5	CA05500050T000	CA06500050T000
50/100:5	7.5	6.0	CA05500100T000	CA06500100T000
75/150:5	11.5	10.0	CA05500150T000	CA06500150T000
100/200:5	15.0	12.0	CA05500200T000	CA06500200T000
150/300:5	20.0	18.0	CA05500300T000	CA06500300T000
200/400:5	25.0	25.0	CA05500400T000	CA06500400T000
300/600:5	30.0	25.0	CA05500600T000	CA06500600T000
400/800:5	60.0	50.0	CA05500800T000	CA06500800T000
500/1000:5	60.0	50.0	CA05501000T000	CA06501000T000
600/1200:5	60.0	50.0	CA05501200T000	CA06501200T000
1000/2000:5	90.0	90.0	CA05502000T000	CA06502000T000
*1500/3000:5	90.0	90.0	CA05503000T000	CA06503000T000

Note: Standard metering transformers also meet C100/C200 classification. Contact factory for higher transformer burden rating.  
\*All models are designed to meet ANSI thermal rise requirements at a rating factor of 1.5 except 1500/3000:5 is RF=1.0

**Application**

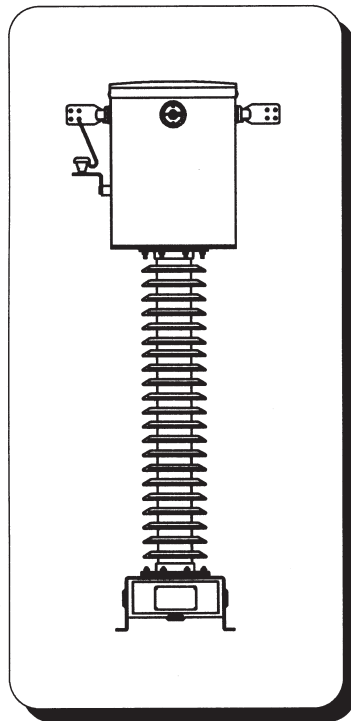
The model CTO satisfies all metering accuracy requirements for burdens through B1.8 with accuracy of 0.3% on both ratios. Higher accuracy performance may be available depending on specific application needs. Relay performance corresponds to specific current rating and system short circuit requirements. Contact the factory or your local agent if your needs are not outlined in the ordering information above.

**Fabrication**

Standard transformer tanks and bases are manufactured from mild steel, protected with a latest technology powder coated exterior finish suitable for withstanding the most rigorous environmental conditions. Stainless steel components are available for special order needs. Porcelain insulators are one-piece wet process type designed to exceed IEEE standard creep and strike distances. Cast malleable iron flanges are cemented to the insulator to provide long life mechanical strength with suitable cantilever for high wind locations.

**Magnetic circuits**

Standard transformers are supplied with one magnetic circuit, however, several independent magnetic circuits may be provided. Physical dimensioning may limit output capabilities.



**Primary terminals**

Primary terminals suitable for copper, aluminum or bus connections are either copper alloy or aluminum, tin-plated, to provide a 1.5 rating factor. Gaskets are made from Buna-N, and captivated to provide durable, leak free seals. The H1 terminal is provided with a by-pass protector to safeguard primary turn-to-turn insulation sometimes stressed by voltages developed during high frequency, high current surges.

**Secondary terminals**

Each secondary winding connection is made to a short-circuiting block conveniently mounted in the low voltage compartment in the base of the transformer. The weather proofed secondary terminal box is provided with three 1 1/2" conduit openings at center of the terminal box.

**Drying and impregnation**

In order to achieve the highest possible insulation integrity, transformers are dried out and impregnated with transformer oil under vacuum in order to minimize moisture content. Dissipation factor readings are checked on each transformer at final test to insure proper drying has been achieved.

**Accuracy**

Every metering transformer is checked for accuracy at various stages of manufacture. Comparisons are made with standards traceable to NIST to validate accuracy performance. Relay ("C" classification rating) performance is verified by excitation measurements.

**Testing**

Every transformer is tested in accordance with IEEE STD C57.13 (Latest revision). In addition ITEC tests each unit in accordance with NEMA 107. Extinction levels are required to be a minimum of 35% above operating voltage for all transformers.

**OIL-13**

**Instrument Transformer Equipment Corporation, PO Box 23088, Charlotte NC 28227-0272**

**Tel: (704) 282-4331**

**www.itec-ctvt.com**

**Fax: (704) 283-3017**

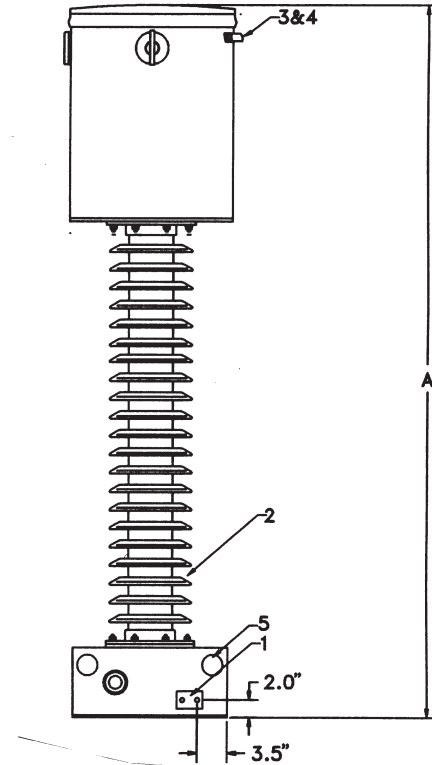
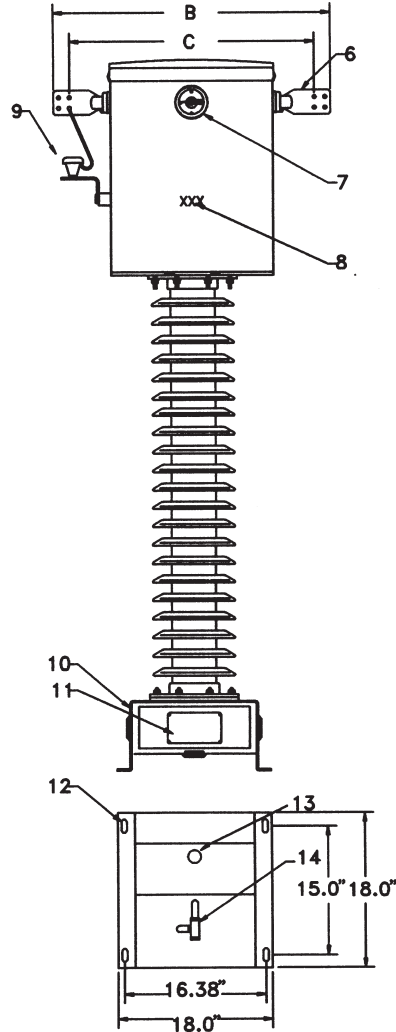
**E-mail sales@itec-ctvt.com**

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**Specifications**

BIL	550	650
A	78"	91"
B	36.25"	36.25"
C	30.5"	30.5"
Weight (lbs)	750	1,100
Oil Volume (gal)	30	40
Min. Creep	101"	158"
Min. Strike	40.5"	53"

**Description**

This information is subject to change without notice. Not responsible for typographical errors.

- |   |   |  |
|---|---|--|
| 1. 2-hole NEMA Standard ground pad.               | 6. Primary terminal 4-hole H-spade.                     | 11. Terminal box cover plate with a stainless steel nameplate. |
| 2. Porcelain insulator, glaze ANSI 70 light gray. | 7. Oil level indicator.                                 | 12. (4) 0.62" x 1.5" baseplate mounting slots.                 |
| 3. Pressure relief valve.                         | 8. Welded steel tank w/XXX denoting 2" stenciled ratio. | 13. Secondary terminal box w/ 1.5" conduit opening.            |
| 4. 3/4" NPT vacuum port.                          | 9. Bypass protector.                                    | 14. 1/2" drain valve.  |
| 5. Lifting eyes.                                  | 10. Mild steel base.                                    |  |

**OIL-14** This top heavy unit should be lifted from it's base while restrained at the top.

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