**Westinghouse Electric Corporation**
Transformer Components Division
Five Parkway Center, Greentree Rd.
Pittsburgh, PA 15220



August 18, 1982
New Information
Mailed to: E, D, C/2048/DB

50, 100 KVA
350, 550, 650, 750, 900 BIL
69 Thru 230 KV
Outdoor, 60 Hertz

# Type PVT Power Voltage Transformers

**Application**
The PVT is a modified voltage transformer, with the metering rated tertiary winding replaced with a power source winding. It offers a convenient means of serving small power requirements direct from a transmission line.

The most common usage is for auxiliary power in a substation, for operation of fans, breaker compressors and station lighting. The PVT makes it economically feasible to transform power directly from transmission lines, instead of using power transformer tertiary windings or building extensions from nearby distribution circuits.

Since one metering winding is supplied along with the power winding, the PVT can also be used for metering and relaying. However, the metering winding will not maintain its accuracy if the power winding is supplying load at the same time.

**Design Features**
The PVT combines the reliability of the APT "solid-insulation" coil design with an auxiliary power winding. It makes possible the supply of small power requirements, such as in a substation, directly from transmission voltages on a practical and economic basis. At the same time, it offers flexibility in usage, since the highly accurate metering winding can be used for metering and relaying purposes.

Standard APT parts, such as the bushings, oil gauge and terminal block, are used wherever possible. A large junction box is furnished, with a three inch conduit knockout for the power circuit, and a 1½ inch knockout for the metering circuit. The metering winding secondary terminals are $^{5}/_{16}$-18 threaded studs; the power secondary terminals are four-hole spade type.

The complete unit, including porcelains, is standard #70 gray in color.

### Ratings

**Metering Winding:**
ANSI 0.3 class accuracy at standard burdens W, X, M, Y, Z, ZZ*
Thermal rating, 7000 VA

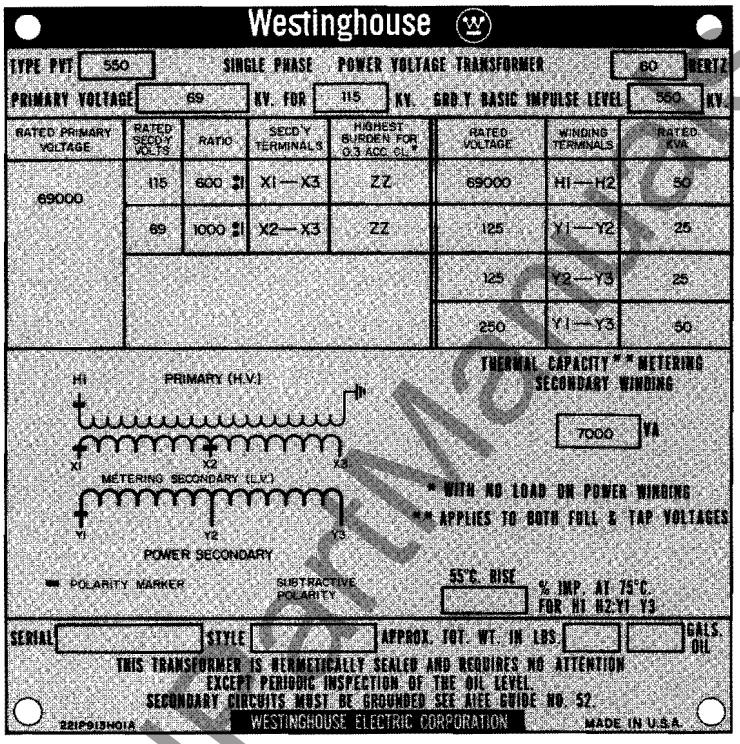
**Power Winding:**
50 or 100 kVA at 250/125 volts, single phase, three wire**

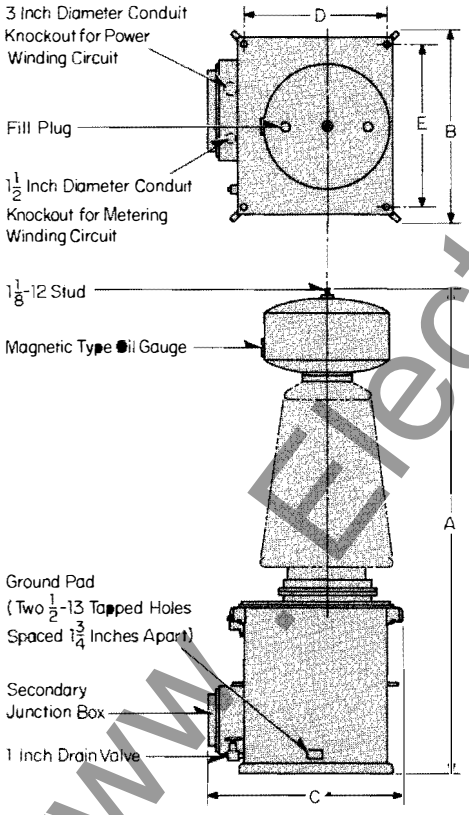
**Overvoltage:**
One minute operation under emergency conditions as prescribed by ANSI C57.13 Standards.
69, 115, 138, 161 KV – 173%
230 KV – 140%

**Temperature Rise:**
55°C at 30°C ambient

* With no load on the power winding
** With no load on the metering winding

### Typical Nameplate




### Selector Guide

| Circuit Voltage | BIL | LV Metering Winding | | Power Winding |
|---|---|---|---|---|
| | | Volts | Ratios | |
| 69000 | 350 | 67.08/115 | 600/350:1 | 50 kVA or 100 kVA at 250/125 volts. |
| 115000 | 550 | 69/115 | 1000/600:1 | |
| 138000 | 650 | 67.08/115 | 1200/700:1 | |
| 161000 | 750 | 65.71/115 | 1400/800:1 | |
| 230000 | 900 | 69/115 | 2000/1200:1 | |

The general order writeup should describe the PVT completely, using the above information for reference. Check Westinghouse for availability of modified designs, such as, two metering windings, other power winding voltages and specific mechanical requirements.

### Dimensions and Weights

| Winding | BIL | Approx. Dimensions (Inches) | | | | | Approx. Wt. (lbs.) | | Approx. Gal. Oil |
|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | Net | Ship. | |
| 50 kVA | 350 | 103 | 43 | 52 | 31¾ | 38 | 3850 | 4050 | 180 |
| 50 kVA | 550 | 110 | 44 | 48 | 35¾ | 37½ | 4000 | 4200 | 185 |
| 50 kVA | 650 | 118 | 44 | 48 | 35¾ | 37½ | 4085 | 4300 | 190 |
| 50 kVA | 750 | 149 | 70 | 68 | 48 | 66 | 9000 | 9300 | 500 |
| 50 kVA | 900 | 161 | 70 | 68 | 48 | 66 | 9300 | 9600 | 510 |
| 100 kVA | 350 | 103 | 43 | 52 | 31¾ | 38 | 3850 | 4050 | 180 |
| 100 kVA | 550 | 109 | 45 | 56 | 35¾ | 40½ | 4500 | 4700 | 200 |
| 100 kVA | 650 | 120 | 45 | 57 | 35¾ | 40½ | 4600 | 4800 | 210 |
| 100 kVA | 750 | 149 | 70 | 68 | 48 | 66 | 9200 | 9500 | 500 |
| 100 kVA | 900 | 161 | 70 | 68 | 48 | 66 | 9500 | 9800 | 510 |

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