

APPLICATION NOTES:

1. Delta Connected Supply Systems

When applying voltage transformers to ungrounded delta connected supply systems, the transformer must not be connected in wye with the wye-point connected to neutral ground, or ungrounded. The advent of zero sequence currents caused by a ground fault in the system will cause damage, and eventual destruction of the transformer if the fault is not removed quickly.

2. Ferroresonance.

Most voltage transformers are lightly loaded, particularly when associated with watt-hour metering and relaying schemes. If the voltage transformer has one primary lead grounded, and during an abnormal condition creating a large overvoltage, the transformer may saturate, and its impedance may cause a resonance with the system capacitance. This resonance, or oscillation, may be sustained and could destroy the voltage transformer. If, however, the secondaries are connected in delta, with a broken corner, and a suitable power resistor is connected across the broken corner, then ferroresonance can be damped. Our recommendation for the resistive value is shown on the catalog sheet where it applies. The power rating is determined by the user.

3. Secondary Circuit Check

Immediately prior to connecting the burden and leads to the transformer, a check of the impedance of that circuit should be made. This will avoid a possible short-circuit connection to the transformer. If a short-circuit is applied to the transformer, it can be withstood for one second. Note: Only secondary circuit fuses can adequately protect the transformer from such a short circuit.

4. Primary Fuse Rating

Values shown are suggested for normal installations, in order to protect the system from a voltage transformer failure. Higher ratings at users option, may be used to avoid unusual clearing due to conditions resulting from magnetizing in-rush.

ROUTINE FACTORY TESTS

VOLTAGE CLASS	NO. OF BUSHINGS	CONNECTION	LV 1 MIN 60Hz	H2 1 MIN 60Hz	HV 1 MIN 60Hz	INDUCED 18 SEC, 400Hz
5kV	1	L-GND N	2.5kV	10kV	NA	15kV OR 19kV
	2	L-L	2.5kV	NA	15kV OR 19kV	DOUBLE VOLTAGE
8.7kV	1	L-GND N	2.5kV	10kV	NA	26kV
	2	L-L	2.5kV	NA	26kV	DOUBLE VOLTAGE
15kV	1	L-GND N	2.5kV	10kV	NA	34kV
	2	L-L	2.5kV	NA	34kV OR 36kV	DOUBLE VOLTAGE
25kV	1	L-GND N	2.5kV	10kV	NA	50kV
	2	L-L	2.5kV	NA	50kV	DOUBLE VOLTAGE
34.5kV	1	L-GND N	2.5kV	10kV	NA	70kV
	2	L-L	2.5kV	NA	70kV OR 80kV	DOUBLE VOLTAGE

Routine Factory Tests include: Polarity, accuracy, and partial discharge per CANADIAN STANDARDS (CAN3-C13-M83) (Partial discharge tests can also be carried out to IEC requirements on request)

ANSI BURDEN DATA

BURDEN	VA	POWER FACTOR	ANGLE
W	12.5	0.10	84.3°
X	25	0.70	45.6°
M	35	0.20	78.5°
Y	75	0.85	31.8°
Z	200	0.85	31.8°
ZZ	400	0.85	31.8°