



DEPARTMENT OF TRADE AND COMMERCE
STANDARDS BRANCH



OTTAWA, October 25, 1968.

NOTICE OF APPROVAL

FOR

CANADIAN WESTINGHOUSE TYPE "PS-2" PHASING TRANSFORMERS

Apparatus

	Input Voltage	120 volts
	Output Voltage	120 volts
	Input/Output Voltage Ratio	1:1
	For use on	3 phase 3 wire circuit
[1]	For use with	2 element wathour meter or wattmeter
	Accuracy rating at 60 hz	1.2W
	Frequency	60 hz
	Rated Insulation class	5 kv
	Phase sequence	1-2-3
[2]	Phase shift	90° lagging

[1] Both outputs burdened equally and simultaneously.

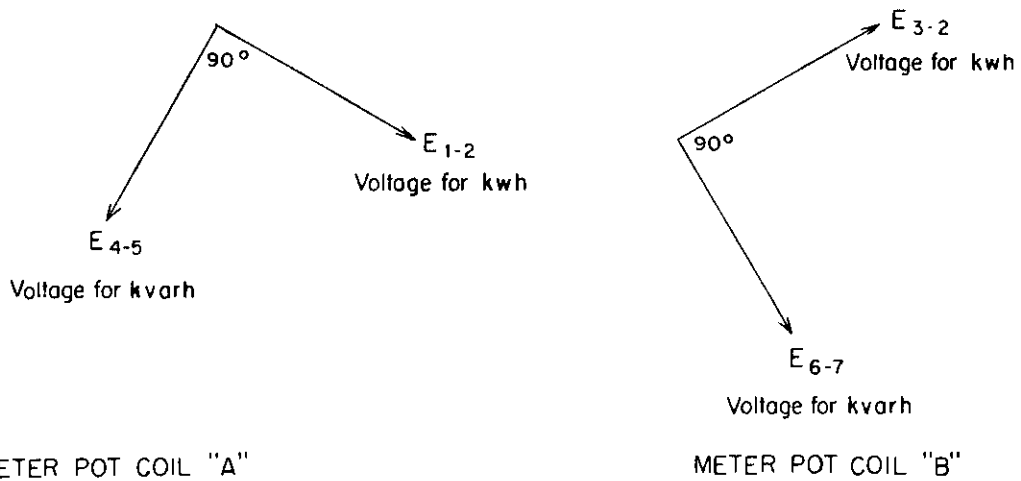
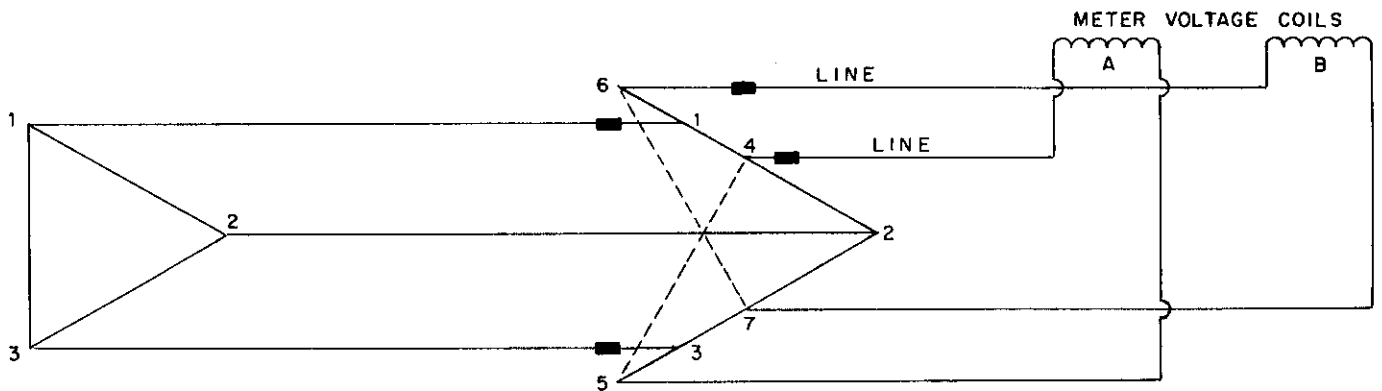
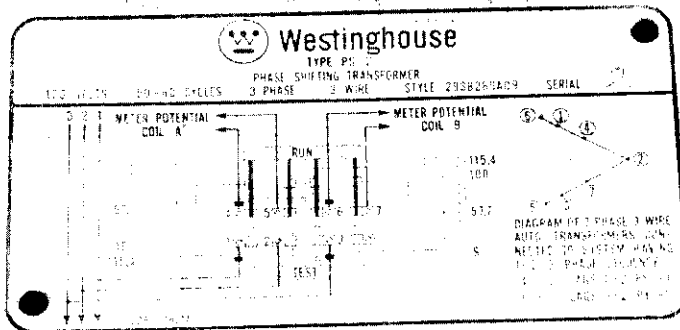
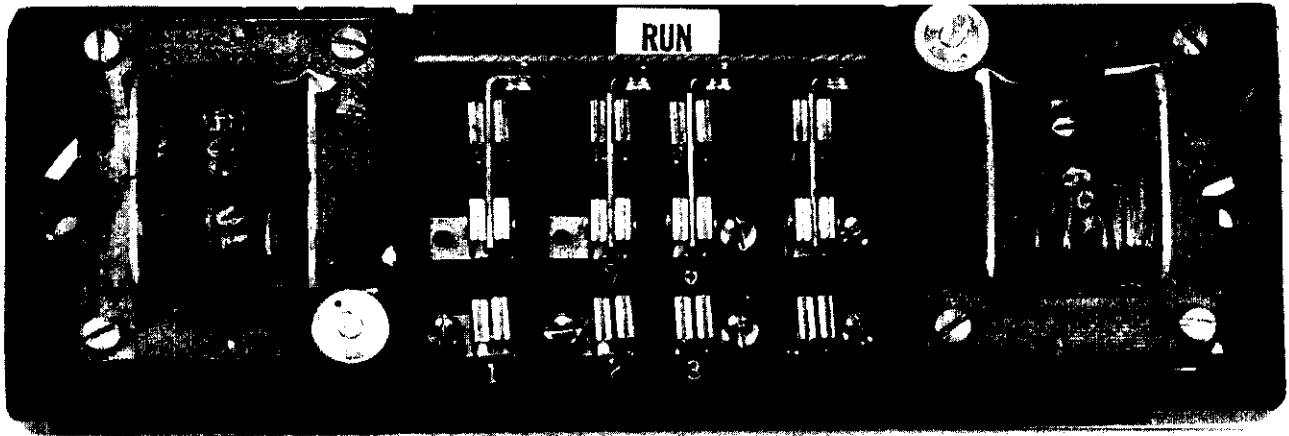
[2] The output voltages lag the corresponding input voltages by 90° only when connected to a supply having a 1-2-3 phase rotation.

Description

The type "PS-2" phasing transformers are designed specifically for the purpose of using standard wathour meters to record the varhours in a circuit.

They do this by shifting the voltage applied to the potential coils of the wathour meter by 90° lagging. If the angle of lag of the current with respect to the voltage is θ , the wathour meter reads $EI \cos \theta$ and the varhour meter reads $EI \cos (90^\circ - \theta)$ or $EI \sin \theta$, thus satisfying the requirements for varhour measurement.

CANADIAN WESTINGHOUSE TYPE "PS-2" PHASING TRANSFORMERS



METER POT COIL "A"

METER POT COIL "B"

2.

The type PS-2 phasing transformer consists of two small autotransformers in the same enclosure. These autotransformers have windings tapped according to the diagram on the cover, and they are so interconnected that by using the appropriate taps, two resultant voltages are available. These resultant voltages are of the same magnitude as the corresponding line voltages but are displaced from them by 90° in a lagging direction.

To facilitate testing the meter, a double throw multipole switch is installed between the two autotransformers. The two positions of this switch are marked "Test" for one position and "Run" for the other.

In the "Test" position, the autotransformers are taken out of the circuit and the meter potential coils are connected directly to the line so that the meter behaves normally as a watt-hour meter.

In the "Run" position, the autotransformers are placed in the circuit and the meter potential coils are connected to the taps on the windings of the autotransformers that produce resultant voltages lagging by 90° the original line voltages and equal to them in magnitude so that the meter records in varhours.

This shift in phase of the voltages produces no multiplying effect. The original multipliers of the current and voltage transformers, if used, of the circuit remain unchanged.

The position of the handle of the "Test-Run" switch is such that the cover can only be installed where the switch is in the "Run" position, and when installed, it may be sealed with sealing wires.

These phasing transformers may be connected to combination demand-energy or to watt-demand meters to record the var demand of a circuit provided that the total burden does not exceed that marked on the nameplate.

The illustration shows 50-60 cycles on the nameplate but this will be changed to "accuracy at 60 cycles".


Polarity is indicated on the wiring diagrams attached to the cover.

The style number shown on the illustration will be changed to 293B289G37.

Approval granted to:

Canadian Westinghouse Company Limited,
Hamilton,
Ontario.


J.S.T. Swanson,
Chief, Standards Laboratory,
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W.J.S. Fraser,
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