Department of consumer and corporate affairs / Ministère de la consommation et des corporations

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL

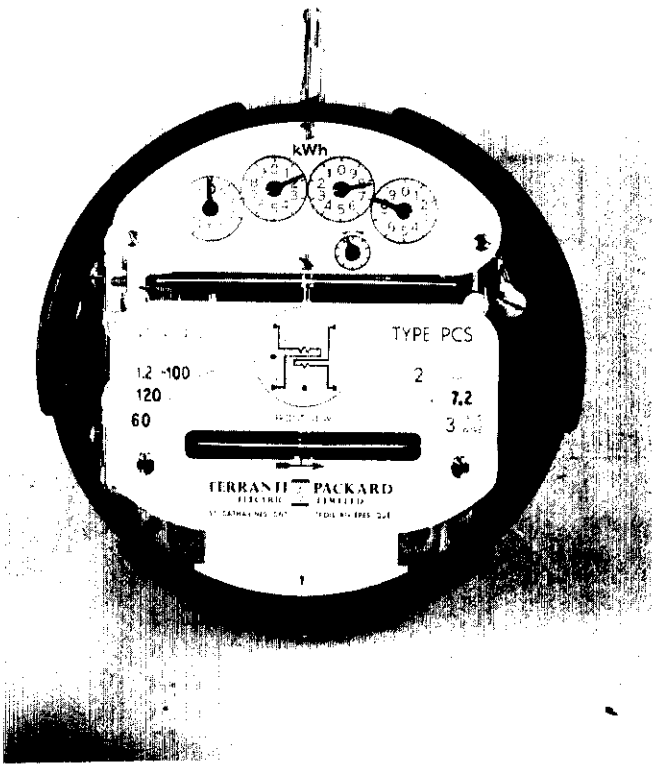
E-54-1

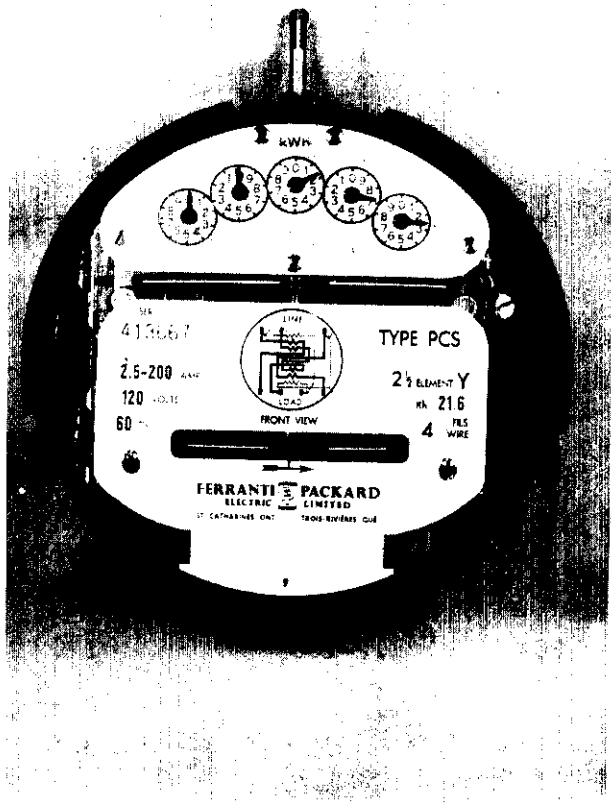
OTTAWA April 19, 1971.

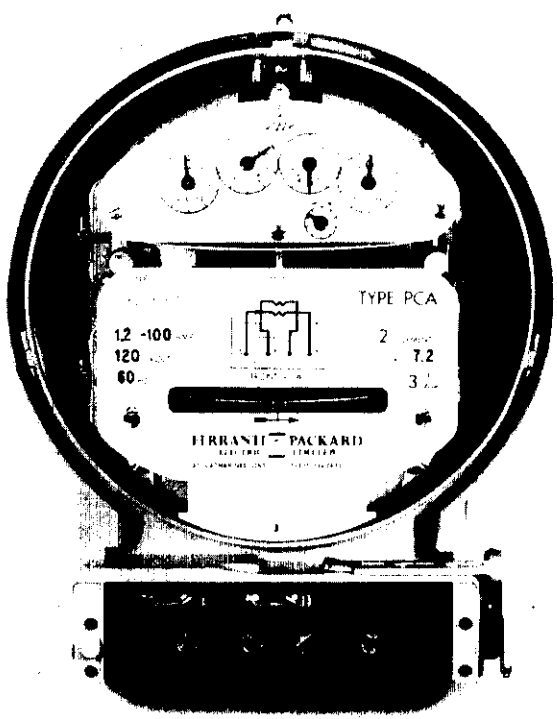
FERRANTI-PACKARD TYPES "PCA", "PCS", "PCD" AND "PC"
POLYPHASE WATTHOUR METERS

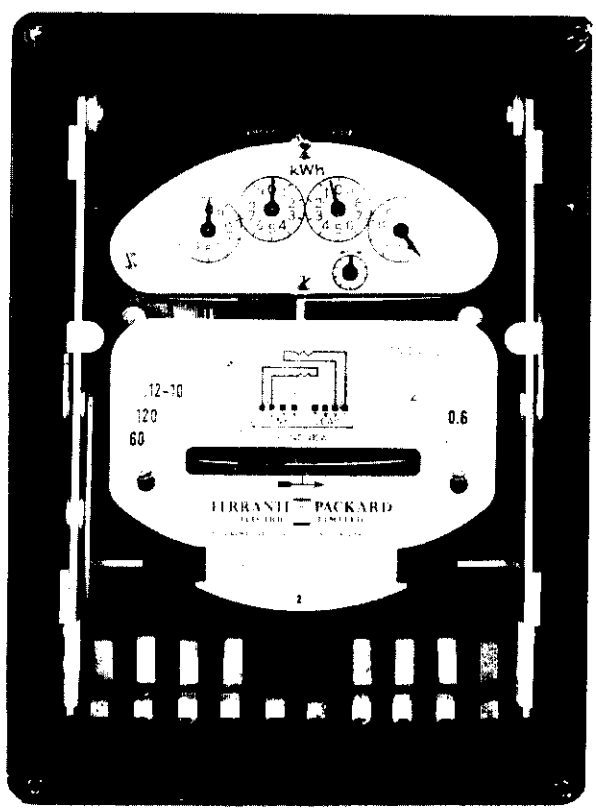
Type	Current Range	Volts	Elements	Kh	Rr	Register
	self-contained for network service					
PCA	①1.2-100	120	2	7.2	13-8/9	4-dial x 1
					13-8/9	5-dial x 1
					138-8/9	4-dial x 10
		345	2	21.6	46-8/27	4-dial x 10
	self-contained for 3-phase 3-wire					
PC	①1.2-100	120	2	7.2	13-8/9	4-dial x 1
					13-8/9	5-dial x 1
					138-8/9	4-dial x 10
		240	2	14.4	64-4/9	4-dial x 10
		345	2	21.6	46-8/27	4-dial x 10
		480	2	28.8	34-13/18	4-dial x 10
		600	2	36.0	27-7/9	4-dial x 10
	self-contained for 3-phase 4-wire Y					
PC	①1.2-100	120	2½Y	10.8	92-16/27	4-dial x 10
		345	2½Y	32.4	30-70/81	4-dial x 10
	transformer type for 3-phase 3-wire, or 3-phase 4-wire Y using delta-connected current transformers					
PC & PCS	.12-10	120	2	0.6	166-2/3	4 dial x 1
	.25-20	120	2	1.2	83-1/3	4 dial x 1
	.12-10	240	2	1.2	83-1/3	4 dial x 1
	.25-20	240	2	2.4	41-2/3	4 dial x 1
	.12-10	345	2	1.8	55-5/9	4 dial x 1
	.25-20	345	2	3.6	27-7/9	4 dial x 1
	.12-10	480	2	2.4	41-2/3	4 dial x 1
	.25-20	480	2	4.8	20-5/6	4 dial x 1
	.12-10	600	2	3.0	33-1/3	4 dial x 1
	.25-20	600	2	6.0	16-2/3	4 dial x 1

FERRANTI-PACKARD TYPES "PCA", "PCS", "PCD" AND "PC" POLYPHASE WATTHOUR METERS









transformer type for 3-phase 4-wire Y

PC	.12-10	120	2½Y	0.9	111-1/9	4 dial x 1
	.25-20	120	2½Y	1.8	55-5/9	4 dial x 1
	.12-10	240	2½Y	1.8	55-5/9	4 dial x 1
	.25-20	240	2½Y	3.6	27-7/9	4 dial x 1
PCD	.12-10	120	2½Y	0.9	111-1/9	4 dial x 1
	.25-20	120	2½Y	1.8	55-5/9	4 dial x 1
	.12-10	240	2½Y	1.8	55-5/9	4 dial x 1
	.25-20	240	2½Y	3.6	27-7/9	4 dial x 1

self-contained for 3-phase 3-wire

PCS	(1) 1.2-100	120	2	7.2	13-8/9	4 dial x 1
					13-8/9	5 dial x 1
					138-8/9	4 dial x 10
		240	2	14.4	69-4/9	4 dial x 10
		480	2	28.8	34-13/18	4 dial x 10
		600	2	36.0	27-7/9	4 dial x 10
	2.5-200	120	2	14.4	69-4/9	4 dial x 10
		240	2	28.8	34-13/18	4 dial x 10
		480	2	57.6	17-13/36	4 dial x 10
		600	2	72.0	13-8/9	4 dial x 10

self-contained for 3-phase 4-wire Y

PCS	(1) 1.2-100	120	2½Y	10.8	92-16/27	4 dial x 10
		345	2½Y	32.4	30-70/81	4 dial x 10
	2.5-200	120	2½Y	21.6	46-8/27	4 dial x 10
		345	2½Y	64.8	15-35/81	4 dial x 10

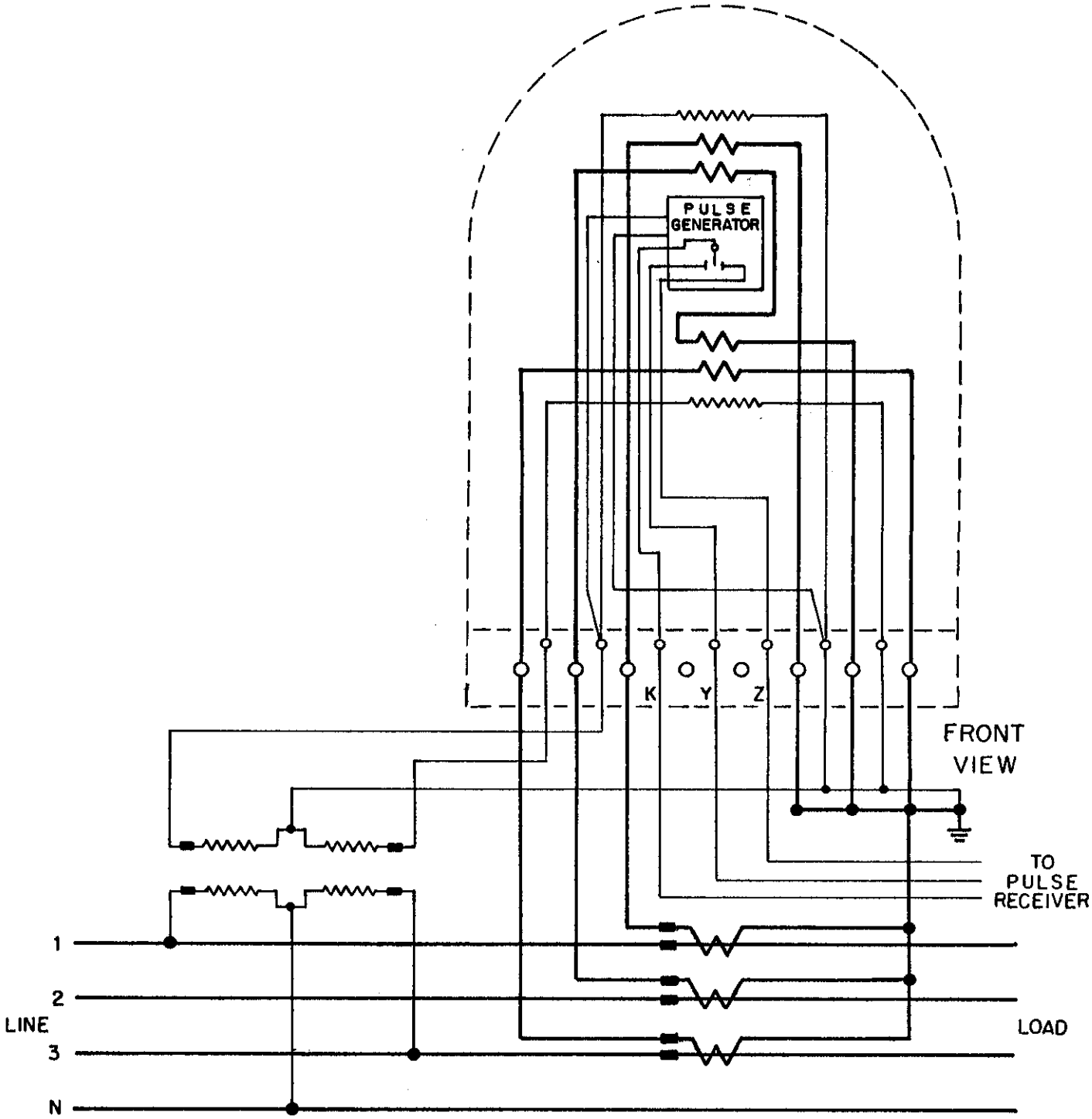
transformer type for 3-phase 3-wire

PCD	.12-10	120	2	0.6	166-2/3	4 dial x 1
	.25-20	120	2	1.2	83-1/3	4 dial x 1
	.12-10	240	2	1.2	83-1/3	4 dial x 1
	.25-20	240	2	2.4	41-2/3	4 dial x 1
	.12-10	345	2	1.8	55-5/9	4 dial x 1
	.25-20	345	2	3.6	27-7/9	4 dial x 1
	.12-10	480	2	2.4	41-2/3	4 dial x 1
	.25-20	480	2	4.8	20-5/6	4 dial x 1
	.12-10	600	2	3.0	33-1/3	4 dial x 1
	.25-20	600	2	6.0	16-2/3	4 dial x 1

Frequency 60 Hz all ratings

(1) Some meters may have their nameplates marked with a current range 1.25-100 amperes.

5 dial x 1 registers may be used on those ratings that are listed above with a 4 dial x 10 register, in which case the register ratio will be one tenth the value given.



CONNECTION DIAGRAM

Type PC 2 1/2 Element Y Transformer Type Polyphase Watthour Meter with pulse generator

All 4 dial registers and all 5 dial registers with register ratios greater than 6-17/18 will have test dials.

This approval also covers meters of any of the above types and ratings when equipped with the Duncan type "PG-5RT" Impulse Generator. (E-68). The schematic diagram on page 4 shows the connections when this generator is installed on a 2½ element Y transformer type meter.

Description

The "PC" line of polyphase watthour meters bear a family resemblance to the "PB" types which they supersede. The types "PCA", "PC" and "PCD" will be in the same cases as the corresponding "PB" types presently approved. The type "PCS" will be on a new plastic base plate.

They are of two element vertical construction with a disc for each element and are fitted with magnetic bearings. The potential coils are moulded in polyethylene plastic and the current coils are insulated with butyl rubber.

Full load calibration is provided by two pairs of "C" shaped magnets, one on each disc at the left hand side of the meter frame. The lag adjustment is by means of a soldered pigtail from coils wound on the current electromagnets. There is only one low load adjustment, which is a movable brass plate on the upper electromagnet. There is only one balance adjustment and this acts on the lower electromagnet.

Care should be taken when connecting the potential leads when verifying; it is necessary that the diagrams on the nameplates be followed exactly. In some cases, one end of the potential coil is connected to the link and in other cases it is connected to the screw.

This is a re-issue of circular E-54 to cover 2½ element Y transformer type meters.

Approval granted to:

Ferranti-Packard Limited,
St. Catharines, Ontario.

J.S.T. Swanson, P. Eng.,
Chief, Standards Laboratory,
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