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

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL E-122

OTTAWA June 21, 1973.

Canadian Westinghouse Types "D4S-5", "D4A-2" and "D4B-2F" Polyphase Watthour Meters

Type D4S-5

Current Range Amperes	Voltage	Wire	Elements	Kh	Register Ratio 5-dial x 1	4-dial x 10
1.2-100	120	3	2	7.2	13 8/9 (1)	138 8/9
	240	3	2	14.4	6 17/18 (4)	69 4/9
	480	3	2	28.8	3 17/36 (4)	34 13/18

Types D4A-2 (2) and D4B-2F (3)

.12-10	120	3	2	1.2	83 1/3 (4-dial x 1)
	240	3	2	2.4	41 2/3 (4-dial x 1)

Frequency 60 Hz

Burden D4A-2 and D4B-2F

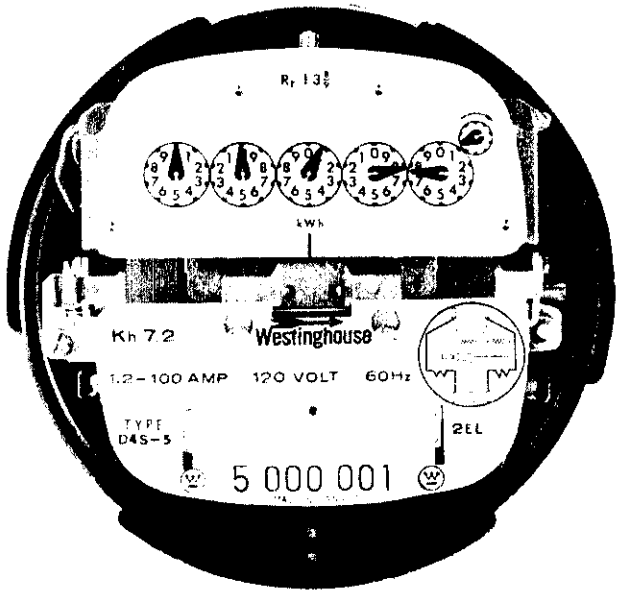
Each current coil at 5 amperes	0.4 w	1.16 va	1.08 rva
Each voltage coil at 120 volts	.95 w	6.4 va	6.3 rva

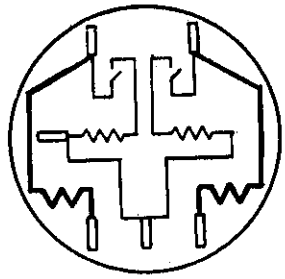
(1) may be used with a mask over highest reading dial to give a 4-dial x 1 Register

(2) bottom connected

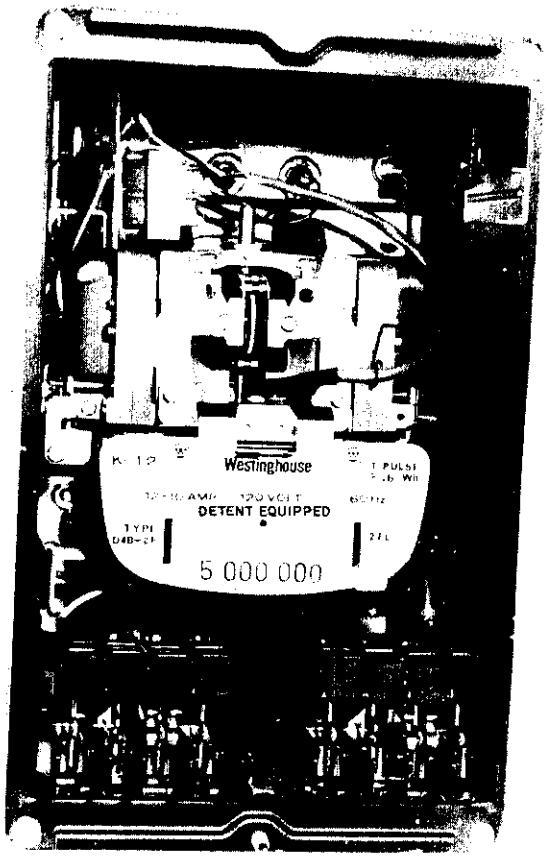
(3) switchboard mounting, transformer type

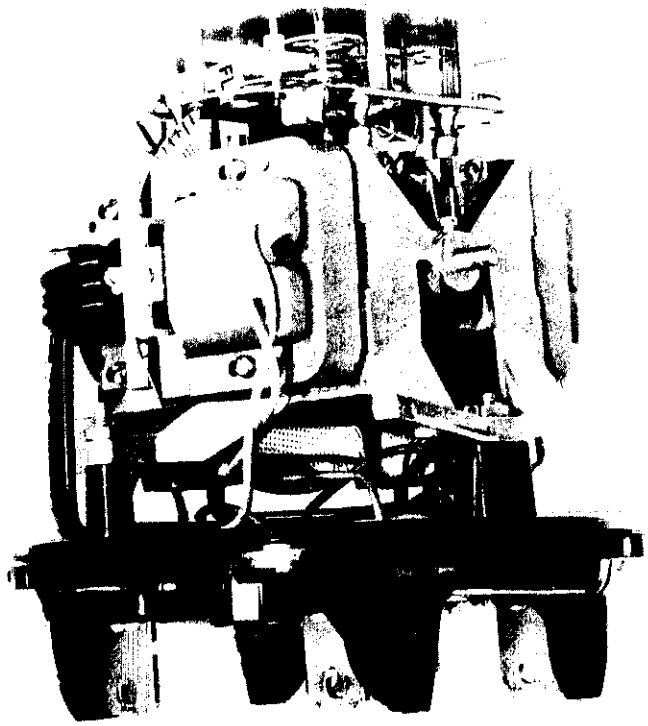
(4) approved without test dial





Revised schematic





Description

The type D4 polyphase watthour meter is developed along the lines of the D4S single phase watthour meter.

Each element uses separate current and voltage electromagnets mounted on the die cast frame by means of locating pins and screws.

The potential coils are wound on glass-filled nylon bobbins and encapsulated with epoxy.

The current coils are wound on insulating sleeves on the bottom section of the lamination stack. The coils of the 10 ampere rating are coated with class M insulation and those of the 100 ampere rating are bed fluidized with epoxy.

Each of the two elements is provided with screw-operated power factor and balance adjustments but only the left hand element has a low load adjustment. High load adjustment is a screw acting on the braking magnet and is located at the right hand side of the magnet carrier immediately behind the nameplate.

Overload compensation is a shunt assembly across the poles of the current laminations and consists of a non-magnetic spacer and steel plates of varying thickness.

The disc shaft, worm and pinion are anodized to reduce wear, the upper and lower journals are of polyimide material and the lower bearing magnet is alnico 8.

The disc is solid and has only one hole near the edge that can be used for testing.

Because of the location of the disc shaft deep within the meter, a transfer gear assembly is inserted between the worm and the register.

These meters are approved with either the type "CD-22" or the type "CDI-22" pulse initiators in which case the watthours per pulse will be marked on the nameplate.

A knockout in hole 13 in the S base can be used for the leads of the initiator pickup of the type CD-22 or for the leads to the male and female plug inside the meter.

Switchboard meters have separate KYZ terminals at the rear of the case.

NOTE 1 When verifying the type D4S-5 make a visual check to determine that none of the leads to the potential coils are likely to touch the disc.

NOTE 2 Meters equipped with a reverse running detent will have the words "DETENT EQUIPPED" on the nameplate.

Approval granted to: Canadian Westinghouse Company Ltd., Hamilton, Ontario

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

W.J.S. Fraser
Chief, Electricity & Gas Division,
Standards Branch.

Ref: G 1145-57/C3-882
GL 1145-57/C3-882 (AR)