



TRADE AND COMMERCE
CANADA

STANDARDS DIVISION

OTTAWA March 1, 1955.....

TYPE APPROVAL

CANADIAN GENERAL ELECTRIC DG-3 and DG-4
RECORDING POLYPHASE WATTHOUR DEMAND METERS (Strip Chart)

The apparatus specified and illustrated herein has been duly approved by the Standards Division under the provisions of the Electricity Inspection Act, Chapter 94, R.S. 1952, and may be admitted to verification in Canada.

Apparatus Approved: Types "DG-3" and "DG-4" Recording Polyphase Watthour Demand Meters, manufactured by the Canadian General Electric Company, Quebec 8, P.Q.

Rating of Apparatus:

Nominal Amperes 2.5
Voltages 115, 230, 460, 575
Frequency 25 and 60 cycles.

Description: These meters are identical to the Types DG-1 and DG-2 approved on Circular NRC.114 of November 22, 1938 except that they are designated Types DG-3 and DG-4 respectively when furnished with cases suitable for semiflush mounting on a switchboard. The cases for the meters approved herein are wider and higher to provide ample room to renew the chart record and service the meter. They are intended for use with instrument transformers. The Type DG-3 is a two element meter for 3 wire, 3 phase, and 4 wire, 2 phase circuits, whereas the Type DG-4 is a three element meter for 4 wire Y, 3 phase circuits. These meters combine in one device a polyphase watthour meter and a recording demand meter. The demand mechanism is of the "block-interval" type, recording on a strip-chart the demand over a definite time interval. A record or line is made on the chart for each interval. These lines are spaced 1/16 inch apart for all ratings. The watthour-meter disk shaft has two worms cut on it. The top one drives the standard watthour register, located in the usual place above the top magnets. The lower one, through a suitable gear train and clutch drives the recording-pen mechanism. This clutch is "slipped" when the pen is reset at the end of the time interval. The timing element is a Telechron synchronous motor. It drives and rerolls the chart, winds a resetting spring, and actuates the resetting mechanism. At the end of the time interval a cam unit, which is attached to the normally stationary end

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of the resetting spring, is released and allowed to make one complete revolution. This motion is transmitted to two cams which likewise make one complete revolution. In so doing, through suitable lever arrangements, the pen first makes a small hook, or quirk, at the end of the line and is then forced back to its zero position.

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TYPE DG-1 RECORDING WATTHOUR DEMAND METER



