

TRADE AND COMMERCE  
CANADA

SD-EA.189

## STANDARDS DIVISION

OTTAWA, April 28, 1955

TYPE APPROVALCANADIAN GENERAL ELECTRIC TYPES "I-55A" AND "I-55S" WATTHOUR METERS

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 "I-55A" and "I-55S" Single-Phase Watthour Meters, manufactured by the Canadian General Electric Company Limited, Quebec 8, P. Q.

## Rating of Apparatus:

Normal Range .....	0.75 - 100 amperes
Voltage .....	230
Wire .....	3
Frequency .....	60 cycles
$K_h$ .....	3.6

Description: The type "I-55" watthour meter operates on established principles but has a number of unusual features of design incorporated in it. The disc is magnetically suspended by means of two high-coercive-force magnets, concentrically mounted and magnetized axially with opposite polarities. One of the magnets is attached to the upper end of the disc shaft, the other is located in the adjacent mounting. Bearing pressures are thus limited to those produced by side thrust. The side thrust is also reduced by means of the design of the retarding system which places one alnico 5 braking magnet on each side of the rotor disc. The two magnets are held in a one-piece aluminum-alloy cast frame. The potential coils are wound on nylon spools and are insulated and secured in position by moulding in butyl rubber. The current coils are similarly encased in butyl. This approval covers the use of both the clock-type and cyclometer-type registers. The registers are unusual in that the register face and nameplate are combined in a one-piece aluminum plate. Large dials and figures are used for easy reading. It should be noted that the register must incorporate a test dial despite the 100-ampere maximum rating. Because of the combined register and nameplate, the serial number must be marked on the meter frame as well as on the nameplate. Full-load adjustment is provided by a magnetic shunt in the throat of one of the braking magnets and this is manipulated by a vernier-type screw to give a total range of adjustment of approximately 4%. One half turn of the screw represents about 0.1% change in meter registration. The light-load and lag adjustments are separate. The light-load adjustment is of the micrometer type, one full turn making a change of 1% in calibration at approximately 1.5% of maximum load. The lag adjustment is permanently fixed at the factory. A relief air-gap for the protection of the insulation is provided between the current coil leads and the ground pins.

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Ref: A-436



CANADIAN GENERAL ELECTRIC TYPE "I-55A" SINGLE-PHASE WATTHOUR METER



