SD-EA.69

CANADA

DEPARTMENT OF TRADE AND COMMERCE

STANDARDS DIVISION

OTTAWA, September 22, 1951.

NOTIFICATION OF TYPE APPROVAL

The apparatus specified and illustrated herein has been duly approved by the Standards Division under the provisions of The Electricity Inspection Act, Chapter 22, 1928, as amended, and may be admitted to verification in Canada.

Apparatus Approved: Type "D-46" Polyphase Watthour Meter, manufactured by the Canadian General Electric Company Limited, Toronto, Ontario.

Rating of Apparatus:

Nominal Amperes ..... 2.5, 5, 10, 15, 25 and 50
Maximum Amperes ..... 10, 20, 40, 60, 100 and 100
Frequency ..... 50 and 60 cycles
Circuit and Voltage:

(a) As a 2-element meter on 3-phase, 3-wire service with voltages 115, 230, 460 or 575
(b) As a 2½-element meter on 3-phase, 4-wire, 230-volt, delta-connected circuits where a 3-wire, 115/230-volt lighting circuit is taken from one phase
(c) As a 2½-element meter for use on 3-phase, 4-wire circuits at 120/208Y volts or 240/416Y volts
(d) As a 3-element meter for the same service as (c) above
(e) As a 3-element meter for the same service as (b) above, and also for totalizing a 3-phase, 3-wire circuit and a single-phase circuit.

Description: The type "D-46" is a dust-tight, light-weight, bottom-connected, multi-element meter designed for the metering of polyphase and network systems. It is available with two or three elements, six or eight current terminals and self-contained or for use with instrument transformers.

The meter has an aluminum die-cast base on which are mounted two elements. The third element, when used, is mounted on a steel frame which is fastened to the base and which locates this element on the front side of its disc which is the middle one of the three. The braking magnet is an Alnico V die-cast assembly and operates on the bottom disc. Torque variations in each element are compensated by means of two spring-mounted screws threading into the potential lamination air gaps on each side of the centre potential pole. Power factor errors are compensated by varying the resistance of a figure eight coil assembled on the current coil assembly. Light load errors are compensated by means of a copper loop which encloses the potential pole but which is clear of the main gap. The loop is moved radially through a linkage and spring-mounted mechanism which is rivetted solidly to the element. Class II compensation is a small section of inverse temperature-permeability material welded with an iron enclosing circuit around the light load loop. Overload compensation is a section of processed steel wedged between the current poles with a thin non-magnetic spacer. Voltage compensation is provided by proportioning the potential and current lamination arms to operate at selected points on their permeability curves.

Approval covers the use of either pivot and jewel or ball and jewel lower bearings. The meter may be used in conjunction with any approved register, demand register or contact device.

R. W. MacLean,
Director,
Standards Division.

E. F. Power,
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Standards Division.

Ref: A-226

CANADIAN GENERAL ELECTRIC
TYPE "D-45" POLYPHASE WATTHOUR METER