NOTICES OF APPROVAL E-43

E-44

WERE NOT ISSUED - NOTHING IN INDEX ANYWAY.

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

STANDARDS BRANCH - DIRECTION DES NORMES

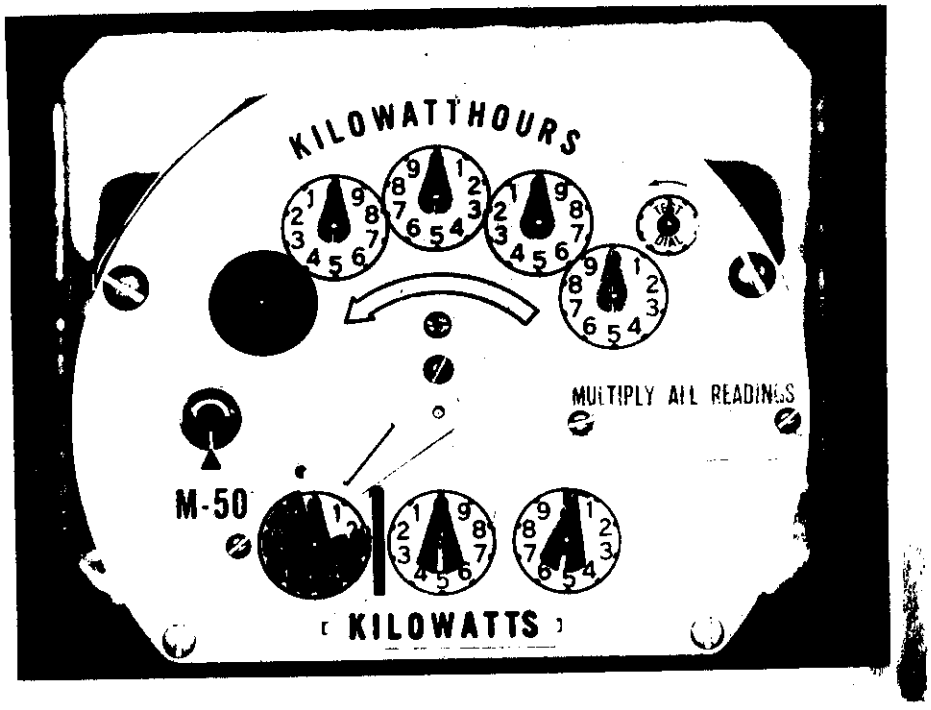
NOTICE OF APPROVAL
AVIS D'APPROBATION

E- 45

OTTAWA February 5, 1975

GENERAL ELECTRIC TYPE "M-50" INTEGRATING DEMAND REGISTER

Full Scale Demand (1)	As required, according to the rating of the watthour meter on which it is mounted, subject to the limitations of Table I.
Register Ratios	All register ratios as used on approved single phase watthour meters rated at 240 volts 200 amperes and all approved polyphase watthour meters. For some applications the so called "universal register" having a Rr of 166 2/3 may be used with the applicable multiplier Kr, calculated as follows: $Kr = \frac{\text{Rr of new register}}{\text{Rr of register being replaced}} \times \text{CT ratio} \times \text{PT ratio}$
Number of Dials	5
Test Dial	Yes
Time Interval	15 and 30 minutes
Frequency	60 Hz
Timing Motor Voltages	120, 208, 240, 345, 480 and 600 volts
Timing Motor Burden	3.4w, 4.1va (at 120 volts 60 Hz)
Scale Multipliers	The multiplier if used, applies to both the watthour and demand readings


KILOWATTHOURS
MULTIPLY ALL READINGS
M-50
KILOWATTS

(1)

TABLE I

Limits of Full Scale Values for Mechanical Integrating Combination Meters

Meter	Full Scale Value	
	Lower Limit	Upper Limit
Single-phase	0.5 x V x Im x 1	1.05 x V x Im x 1
2 el. & 2½ el. delta	0.5 x V x Im x $\sqrt{3}$	1.05 x V x IM x $\sqrt{3}$
Network	0.5 x V x Im x 2	1.05 x V x Im x 2
2½ el. & e el. Y	0.5 x V x Im x 3	1.05 x V x Im x 3

V = Rated Voltage
Im = Maximum Rated Current

Description

The M-50 register is a mechanical block-interval type, utilizing many of the design features of the M-30 sweep-hand demand register. The basic difference is that the M-50 register, through additional gearing, converts the rotation of the pointer-pusher mechanism into decimal-dial presentation.

Interval timing is accomplished by synchronous motor driven geneva gearing which drives the pointer pusher back to zero at the end of each time interval. The motor also drives a time interval gear train with an interval indicator on the face of the register.

The internal clutch is the same as the M-30 with a fibre disc suitable for ultrasonic cleaning.

Upscale pointer stability is obtained by the use of anti-backlash gearing, utilizing two spring loaded gears in mesh with the same pinion, producing a small braking effect forward of the pointer pusher mechanism.

Kilowatt demand dials with a full scale value up to 9.60 Kw have a decimal bar located between the 2nd and 3rd dials. Demand dials having a full scale value between 9.6 and 96.0 Kw have a decimal bar located between the 1st and 2nd dials, while those having a full scale value in excess of 96.0 Kw have no bar.

That portion of the highest reading dial in excess of maximum full scale value is indicated by white numerals on a black background. This overload indicating feature can also be supplied to show a lower value if for example a 240 volt, 200 ampere meter is used on a 100 ampere service.

The timing motor supply is polarized and the register is designed to permit interchanging motors of various voltage ratings. Motor shields are required when mounted on meters having magnetic suspension.

The reset arm works in conjunction with the cover reset to ensure positive resetting. A slight modification to the M-30 reset arm is required when an M-30 glass cover is used with the M-50 register.

Zero setting is effected by a small eccentric screw located immediately below the reset pointer.

The watthour section of the M-50 register is supplied with 5 dials and permission is hereby granted for the use of a mask over the highest reading dial to convert it to a 4 dial register.

When equipped with the M-50 register, meter discs are visible only from either side. To facilitate disc revolution counting, nameplates of meters fitted with these registers must be modified with extension reference pointers.

M-50 registers can be mounted on all approved Types of Canadian General Electric watthour meters of adequate rating at the factory or in the field. Conversion kits are available for older type meters.

When registers are installed at the factory, the letter "M" is added to the type designation.

Approval granted to:

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Chief, Electricity & Gas Division
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