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

STANDARDS BRANCH - DIRECTION DES NORMES

# NOTICE OF APPROVAL

E-88-1

OTTAWA December 16, 1971.

CANADIAN GENERAL ELECTRIC TYPES "I-70A" and "I-70S"
DUAL RATED SINGLE PHASE WATTHOUR METERS

| | |
|---|---|
| Current Ranges | 1.0-100①, 2.0-200 amperes |
| Voltage | 240 volts |
| Frequency | 60Hz |
| Wire | 3 |
| Disc Constant kh | 7.2 watthours per rev. |
| Register Ratios | 138 8/9 4 dial x 10 clock and cyclometer② |
| | 13 8/9 4/5 dial x 1 clock③ |
| | 13 8/9 5 dial x 1 clock and cyclometer④ |

① Marked on small removable 1.0-100 tab.

② Cyclometer register 4-dial x 10 with test dial may be used on both 1.0-100 and 2.0-200 ampere ratings.

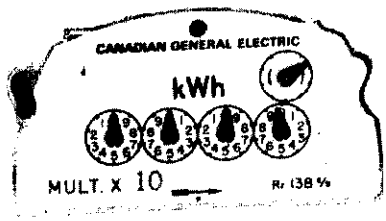
③ Used as a 4-dial only when the meter is rated at 1.0-100 amperes. If the rating is changed to 2.0-200 amperes, the circular mask on the 5th dial must be replaced by a pointer to provide a 5-dial x 1 register.

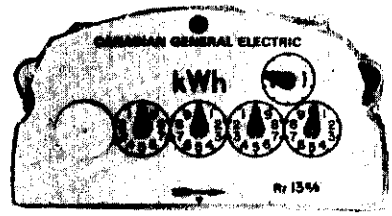
④ A cyclometer register 5-dial x 1 without test dial may be used on the 2.0-200 ampere rating only.
All clock registers have test dials.

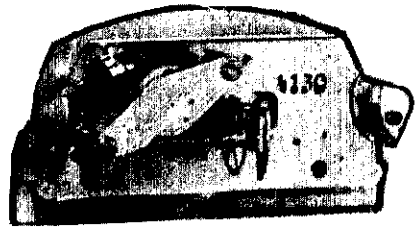
## Description

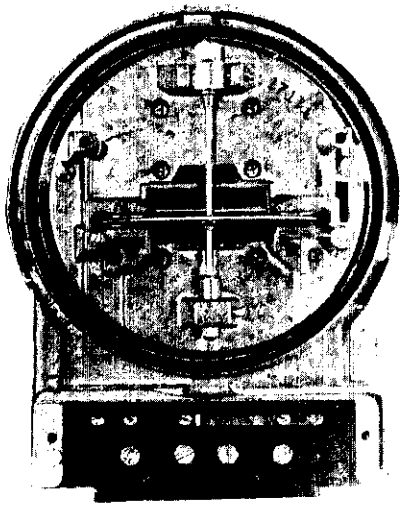
The types I-70A and I-70S watthour meters have a lower profile than the I-60 meters they supersede. This is accomplished by a redesign of the electromagnet and the grid, a reduction in the height of the mounting pillars and a shallower glass cover.

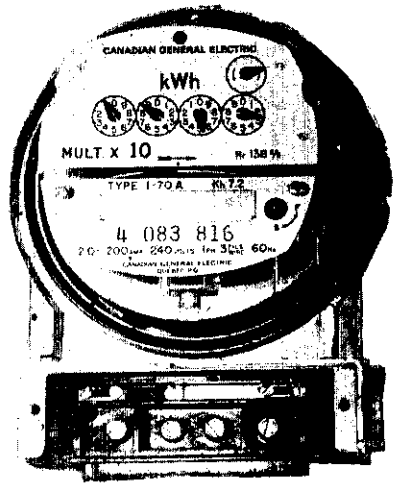
There are two permanent braking magnets, one on each side of the disc and the high-load adjustment is a screw acting on a shunt across the right-hand magnet.

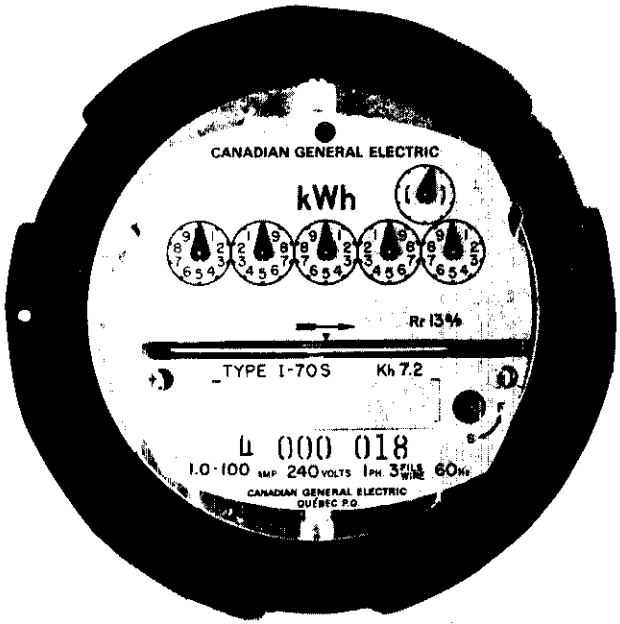

CANADIAN GENERAL ELECTRIC
kWh
MULT. X 10
Rr 138⅓

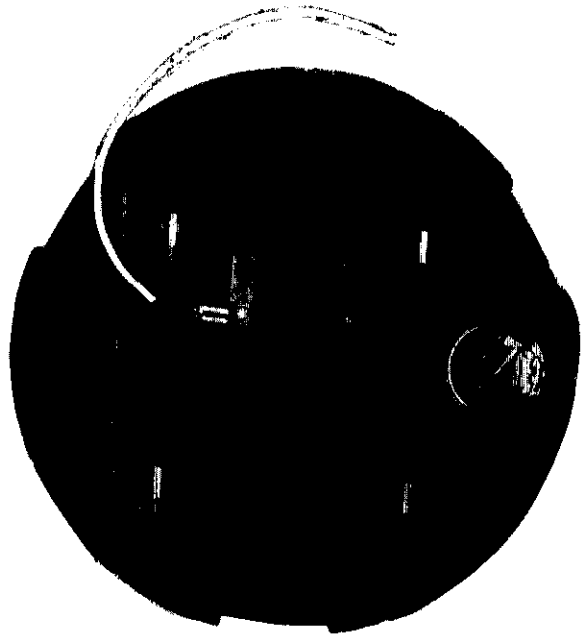

CANADIAN GENERAL ELECTRIC
kWh
Rr 13⅓






CANADIAN GENERAL ELECTRIC
kWh
MULT X 10
Rr 138⅓
TYPE I-70A
Kh 7.2
4 083 816


CANADIAN GENERAL ELECTRIC
kWh
Rr 13⅓
TYPE I-70S
Kh 7.2
4 000 018
1.0-100 AMP 240 VOLTS 1PH 3 WIRE 60 CYCLES
CANADIAN GENERAL ELECTRIC
QUÉBEC P.Q.



Low load adjustment is a knurled wheel accessible through a slot at the right-hand side of the grid.

The power factor is factory preset.

The disc is smaller in diameter and slightly thicker than that of the I-60 and is provided with two anti-creep holes that can be used for timing. It is magnetically suspended and has low friction guide bushings.

The register ratio bracket has been changed from a staked construction to a post and plate assembly.

This register may be used on I-60 meters and is hereby approved for such use.

The I-70S base has three small bosses on which the glass cover turns and rests. This permits control of the cover assembly torque and of optimum cover gasket compression.

The blades of the I-70S are gasketted and a filter in the lower part of the base permits the meter to breathe.

The I-70A meter has no filter.

Both types I-70A and I-70S are provided with two test links that are connected to the voltage coil. On the S base, screws pass through clearance holes in these links which when screwed down, the links are connected to their respective blades.

Each link on the S base is provided with a small tab as shown in the illustration intended to receive connectors on the voltage leads. Alligator clips may also be used but they should be covered with insulating sleeves.

Where verifying S base meters, care should be taken to ensure that the screws are backed out enough to provide adequate clearance, otherwise a voltage to current short may result, and after verification it is important that these screws be tightened securely.

When dial testing registers having a register ratio of 13 8/9, it is recommended that the test be started with the test dial pointer on the way up.

These registers have a significant amount of backlash and in many cases very low friction which the weight of the test dial pointer may be able to overcome.

For this reason, vertical positions of the test dial pointer should be avoided when dial testing as it is difficult to determine if the backlash has been taken up.

When dial testing new meters as part of statistical sampling it is recommended that 3 revolutions of the test dial be taken. At 100 amperes, this will take about 7½ minutes.

Approval granted to:

Canadian General Electric Company Ltd.
1130 Boulevard Charest,
Quebec 8, Que.

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

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

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