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

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL

E - 111

OTTAWA April 7, 1972

FERRANTI-PACKARD TYPES "B5A" AND "B5S" SINGLE PHASE WATTHOUR METERS

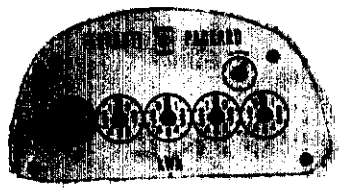
Current Range	2-200 amperes (2-100 amperes)⑤
Voltage	240 volts
Wire	3
Frequency	60 Hz
Disc Constant Kh	7.2
Registers ⑥	
5-dial x 1	Register ratio 13 8/9②
	Gear train $\frac{\text{driven}}{\text{driver}}$ $\frac{100}{1}$① x $\frac{40}{6}$ x $\frac{28}{56}$ x $\frac{25}{60}$ x $\frac{120}{12}$④③
4-dial x 10	Register ratio 138 8/9
	Gear train $\frac{\text{driven}}{\text{driver}}$ $\frac{100}{1}$②① x $\frac{40}{6}$ x $\frac{50}{24}$ x $\frac{130}{13}$④③

① Disc shaft-single start worm.
② Take-off gear.
③ Gear on test dial shaft.
④ Gear on first reading dial shaft.
⑤ Marked on removable partial nameplate.
⑥ The 5-dial register is available with a circular mask on the 5th dial which is to be removed and replaced by a pointer when the meter rating is changed to 2-200 amperes. All registers have test dials.

DESCRIPTION

The type "B5-" watthour meter has a shallower glass cover than the type "B4-" it supersedes.

The grid is an aluminum alloy die casting with a single pair of Alnico V damping magnets which are cast in the grid and equipped with a nickel alloy temperature compensator.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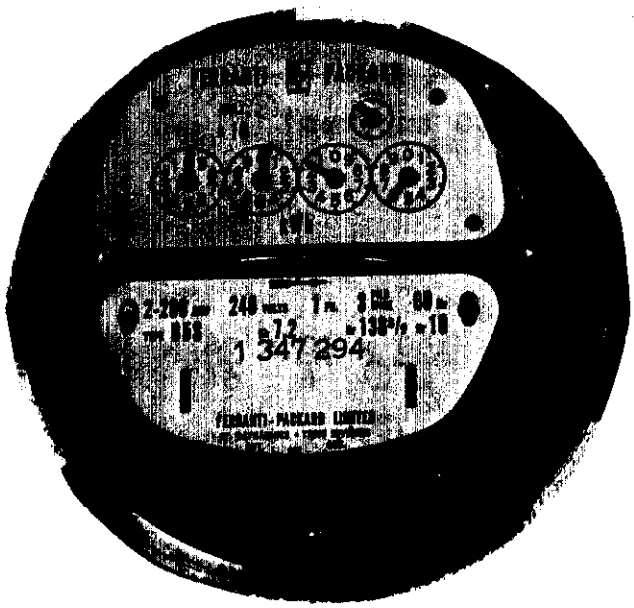
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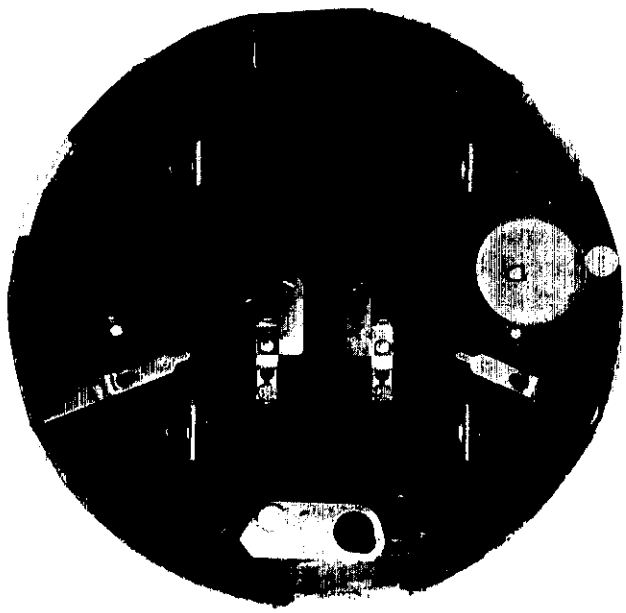
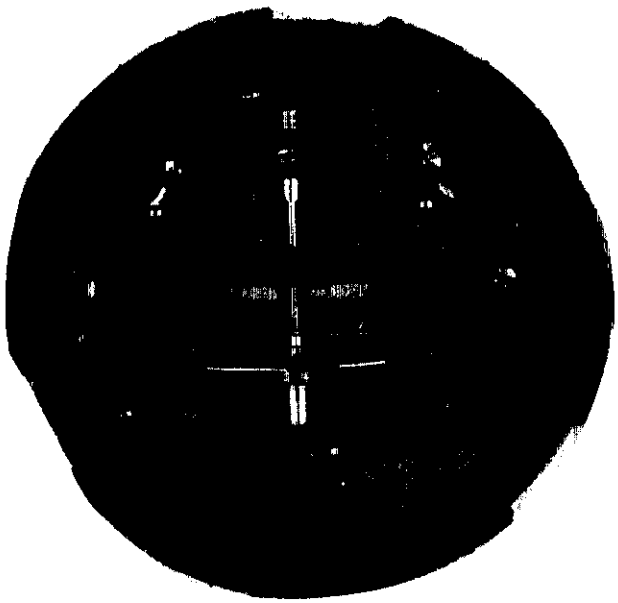
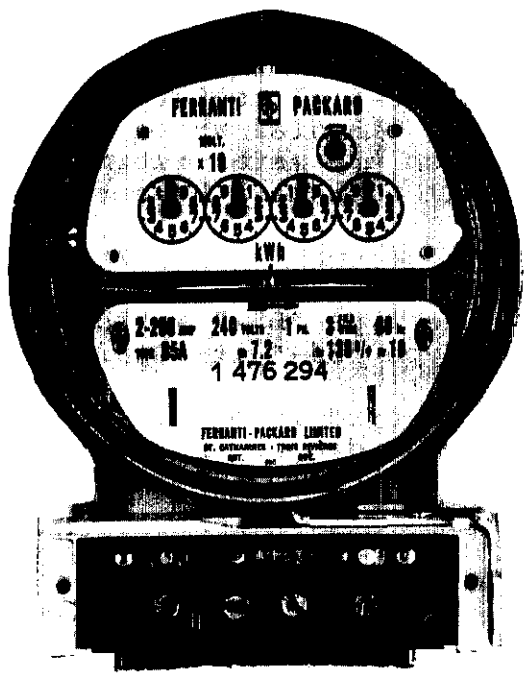
FERRANTI-PACKARD LIMITED



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FERRANTI-PACKARD LIMITED

The current circuit uses single turn current coils and the voltage coils are wound on a nylon spool and are encapsulated in a nylon moulding compound.

The core structure is rivetted to the grid to provide permanent location and stability.

The full load adjustor consists of a spring-loaded micrometer screw with the screw itself serving as an adjustable magnetic shunt. This adjustment is on the left hand side of the meter.

The light load adjustor consist of a "U" shaped magnetic plate that can be moved laterally in relation to the disc by means of a micrometer screw at the right hand side of the meter.

The lag plate consists of a loop of copper which is permanently adjusted at the factory. Temperature compensation is a small lag loop linking the flux on the voltage return path.

On the B5S meter, the ends of the copper rod used to make the current coils are forged to form the terminal blades, eliminating the brazed joint of earlier meters.

The B5A current coils are identical to those used on the B4A.

The disc is somewhat smaller in diameter and thicker than that used on the B4.

As with the B4, mechanical end stops are used top and bottom to limit the travel of the disc in a vertical direction. However, a sapphire end stone is no longer used for the bottom end stop and the separate screw adjustment for the bottom end stop has been eliminated. Instead, the lower guide pin is permanently cast into the lower magnet assembly, and the strength of the suspension magnets is adjusted to provide the correct end stop clearance.

The bottom suspension magnet housing and the upper guide bearing are held in the grid by means of setscrews.

The shape of the "S" base plate has been altered to accommodate the new design of electromagnet and the surge relief gaps have been moved from the interior of the meter to the outside of the base plate.

The registers used on the B5- meters are similar in appearance to those used on the B4,but on account of certain minor modifications they are not interchangeable.

The registers used on the type "B5-" can be distinguished from those used on the type "B4-" by examining the take-off shaft.

In the case of the "B4-" the worm shaft is of 1/8" aluminum and a six start worm is cut in the shaft.

In the case of the "B5-" the worm shaft is of smaller diameter stainless steel with a six start worm pressed on.

Approval granted to:

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