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

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL E-92-1

OTTAWA August 17, 1971.

SANGAMO TYPES "KWA", "KWS" and "KWF" SINGLE PHASE COMBINATION WATTHOUR AND THERMAL DEMAND METERS

Current Ranges (amperes)	0.12-8	0.25-20	0.5-50	1-80	1-100	2-200
Voltages	120 and 240 volts all ratings					
Wire	2 and 3 wire all ratings					
Full Scale Kilowatts*	1.5	4.8	12	15	24	48
Scale Marking	1500	1200	1200	1500	1200	1200
Multiplier*	1	4	10	10	20	40
Disc Constant (kh)*	0.36	0.72	1.8	3.6	3.6	7.2
Register Ratio Rr	277-7/9	555-5/9	555-5/9	277-7/9	555-5/9	555-5/9
Register	4 dial clock type with test dial all ratings					
Frequency	50 hz and 60 hz all ratings					
Indication 90%	15 minutes all ratings					
Indication 99%	30 minutes all ratings					
Burden Data	transformer type 0.12-8 ampere rating					
Voltage Coil (at rated voltage)						
60 hz	2.2w, 8.1rva, 8.4va					
50 hz	2.5w, 10.1rva, 10.4va					
Current Coil (at 5 amperes)						
60 hz	2 wire, 3.5w, 5.0rva, 6.1va					
	3 wire, 1.5w, 1.9rva, 2.4va (each coil)					
50 hz	2 wire, 3.5w, 4.4rva, 5.6va					
	3 wire, 1.5w, 1.7rva, 1.9va (each coil)					

* Full scale kilowatts, multiplier and disc constant are for 240 volt rating. For 120 volt rating, they must be multiplied by $\frac{1}{2}$.
The multiplier applies to both watthour and demand readings.
The 0.12-8 ampere rating is a transformer type meter, all other ratings are self-contained.
All ratings are available in "S" base socket mounting or bottom connected "A" base mounting. The 0.12-8 ampere rating is also available in semi-flush "F" base for panel mounting.

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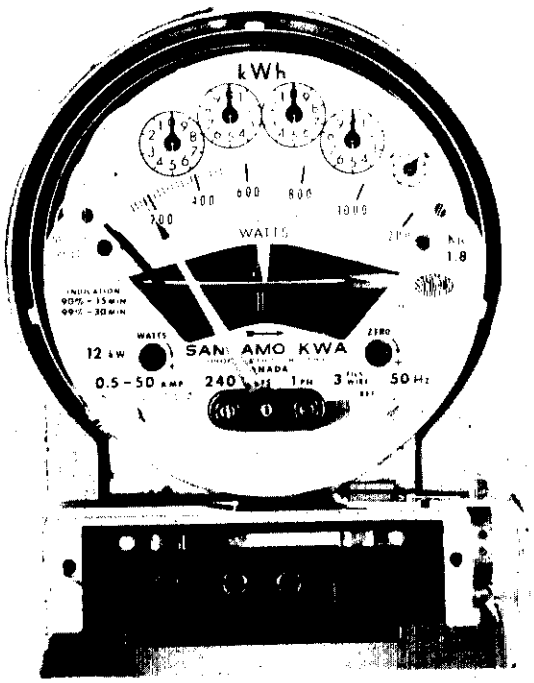

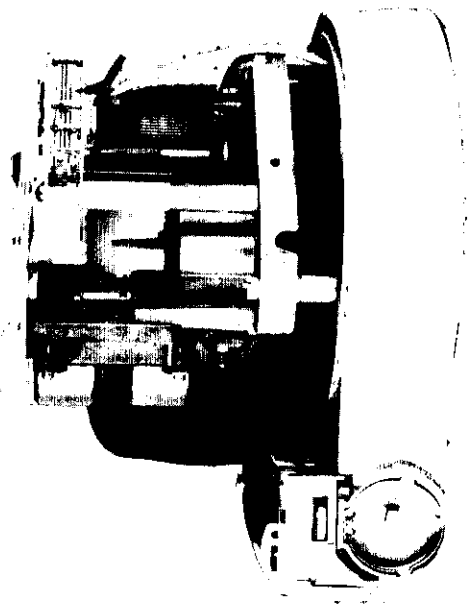

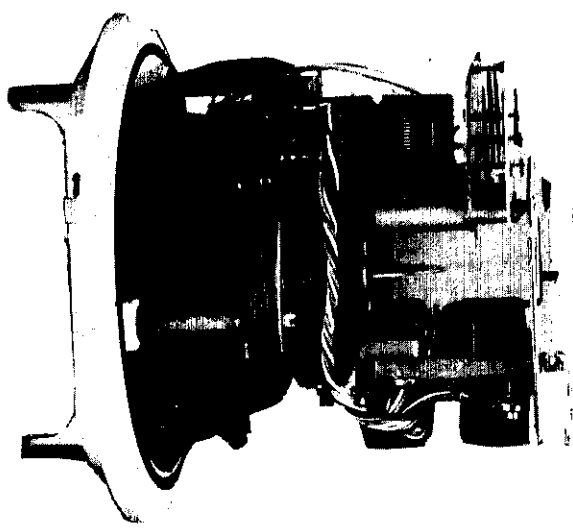

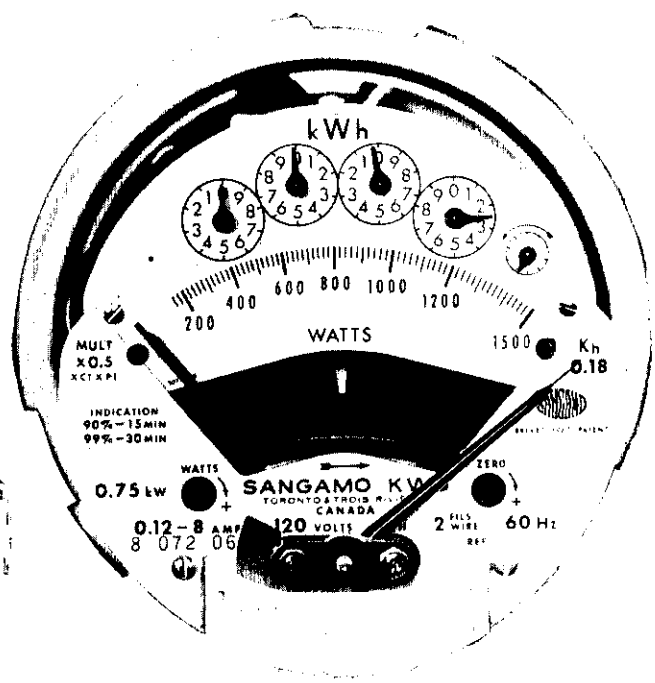

Description

The type KW- meter is a combination of the type K watthour element and the type W thermal demand element in a single phase meter.

The K watthour element is the same as that used in the type KY polyphase watthour meter that first received approval under E-60 and as the watthour section of polyphase combination meters covered by E-65-1, E-66-1 and E-71.

The watthour element as mounted in the single phase combination meter is almost identical with its assembly in the polyphase KY meter except for the omission of the balance adjustment screws on the potential element.

The disc assembly uses the same upper and lower bearing as the KY meter but uses only a single barium ferrite supporting magnet.

The light load adjustment shaft carries a knurled wheel that projects through the frame, permitting this adjustment to be made from the front of the meter.

The brake magnets are the same bar type as used in the CJ3 meter. They are wrapped in aluminum and pressed in the frame in the same manner.

The type W thermal element used in this single phase KW meter is the same as the type W element in the polyphase line that received approval under E-63-1, E-64-1, E-65-1 and E-66-1.

The demand potential transformer is the same as are the toroidal current transformers.

The only difference between the single phase KW and the polyphase KW thermal element is the way the heaters are connected. In the single phase KW meter the two sets of 4 heaters are connected in series and fed by the two parallel current transformers and a single potential coil and in the polyphase 2 element KYW meter the eight heaters are split, four of them connected to each element.

The single phase KW element uses the same temperature compensators and the same full load and zero springs and adjustments as the polyphase KW element.

The single phase "KW-" meter supersedes the present"TJ-" single phase meter.

The circular retaining ring that holds the socket base filter in place has had a bar added across the centre of the ring. This cross bar supports the fine mesh screen and the filter against being pushed into the meter.

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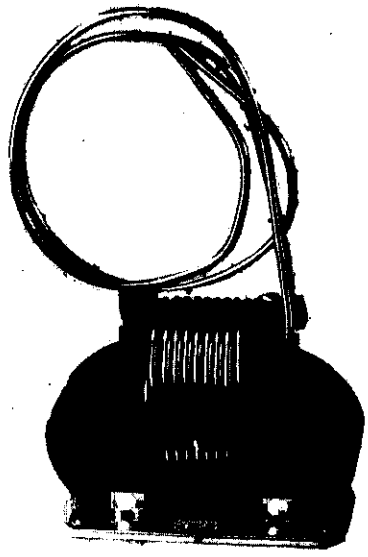

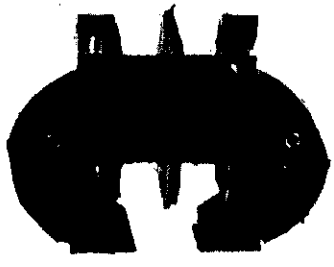

This approval covers this modification to the CJ3S and TJS socket base single phase meters.

The light load adjustment screw shaft is now made of aluminum.

The current coil of the 8 ampere rating is now wound on a bobbin on the yoke as illustrated on page 4 of this circular.

NOTE 1. This method of winding the current electromagnet is also approved for the complete "K" line of watthour meters of 10 ampere rating or less, i.e. KYA, KYP, KYS (E-60); KYWA, KYWS, KYWP, KYWF (E-65-1); KYLA, KYLS, KYLP, KYLF (E-66-1); and KYWLP, KYWLS (E-71).

NOTE 2. "S" bases are provided with two test links set in a horizontal position. The links are connected to the voltage coil and the studs are connected to the blades.

NOTE 3. The lower right illustration on page 2 shows the black anodized pointer which will replace the aluminum black-tipped pointers previously used on thermal demand meters.

Approval granted to:

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