DEPARTMENT OF

TRADE AND COMMERCE
CANADA

S-EA.555

STANDARDS BRANCH

OTTAWA June 21, 1962.

TYPE APPROVAL

SANGAMO TYPE "4L3" COMBINATION POLYPHASE
2-ELEMENT AND 2½-ELEMENT Y WATTHOUR METERS
AND THERMAL KVA DEMAND METERS

The apparatus specified and illustrated herein has been duly approved by the Standards Branch under the provisions of the Electricity Inspection Act, Chap.94, R.S. 1952, and may be admitted to verification in Canada.

Apparatus Approved: Type "4L3" Combination Polyphase 2-Element and 2½-Element Y Watthour Meters and Thermal KVA Demand Meters, manufactured by the Sangamo Company Limited, Leaside, Toronto 17, Ontario.

Rating of Apparatus: 3-Phase 3-Wire (2-Element)

Voltages	115, 120,	230, 240,	460, 480,	575, 600	volts
Current Ranges, amperes	0.12-7.5	0.25-15	0.5-37.5	1.2-75	2.5-150
#Full Scale VA polyphase	1500	1500	1500	1500	1500
*#Multiplier	1	2	5	10	20
#Disc Constant (Kh), each disc	1/6	1/3	1	1-2/3	3-1/3
Register Ratio (Rr), overall	6000	6000	5000	6000	6000
°Demand Test Constant, single phase.	3/4 - all ratings				
Test Period	32 minutes - all ratings				
Frequency	60 cycles - all ratings				

#Full scale VA, multiplier, and disc constant are given for 115 or 120 volts. For other voltages multiply by the voltage ratio.

*Applies to both watthour and demand elements.

°When testing on single phase, the test load must be reduced by a factor of 3/4 to obtain the equivalent polyphase reading; e.g., the test load for a reading of 1.0 KVA will be .75 KVA, that is, .375 KVA applied to both elements in series. All tests must be made with potential applied to both voltage coils.

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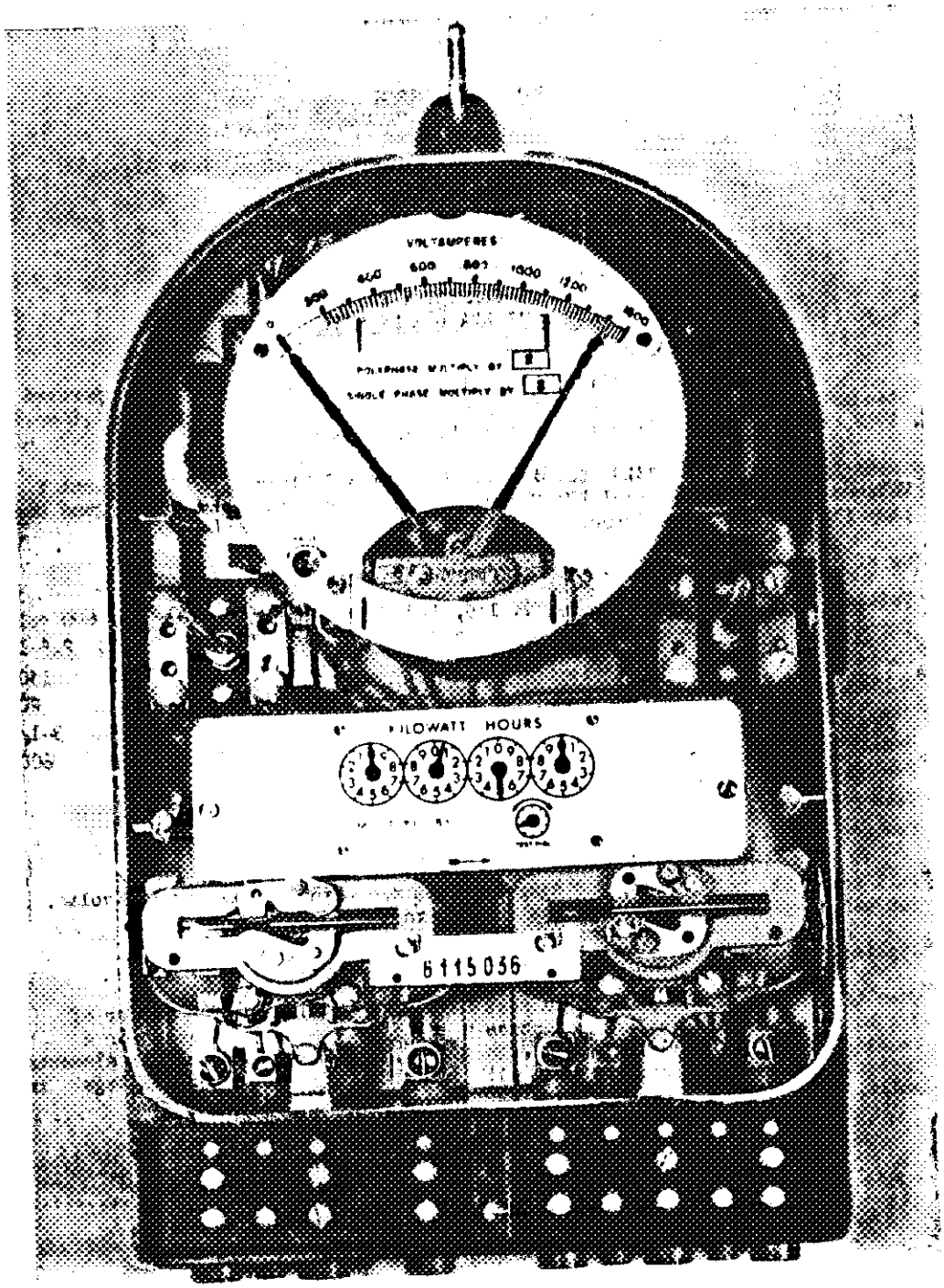
SANGAMO TYPE "4L3" COMBINATION POLYPHASE WATTHOUR METER
AND THERMAL KVA DEMAND METER



Rating of Apparatus (cont.'d): 3-Phase 4-Wire (2½-Element Y)

Voltages	120/208 and 240/416			
Current Ranges, amperes	0.12-8.5	0.25-20	0.5-40	1.2-85
#Full Scale VA polyphase	1500	1500	1500	1500
*#Multiplier	2	5	10	20
#Disc Constant (Kh), each disc	1/2	1	2.5	5
Register Ratio (Rr), overall	4000	5000	4000	4000
°Demand Test Constant, single phase.	1 - all ratings			
Test Period	32 minutes - all ratings			
Frequency	60 cycles - all ratings			

#Full scale VA, multiplier, and disc constant are given for 120/208 volts. For 240/416 volts multiply all these by 2.

*Applies to both watthour and demand elements.

°All tests must be made with potential applied to both voltage coils.

The register for all ratings may be the differential, clock-type, 4-dial plus test dial, as approved under Circular S-EA.493 of January 23, 1961, and metal plate with serial number mounted between adjacent tapped holes in the magnet housings; or alternatively two separate clock-type registers may be used.

Description: This circular covers the single rating approved under Circular S-EA.497 of February 17, 1961 together with additional ratings. The descriptive information in the aforementioned circular applies equally to all the ratings of the 2-element design.

The 2½-element Y is different in that the watthour section has the conventional split coil in the current circuit, but the demand section has three identical current coils, each giving the same pointer deflection for the same load.

The single-phase test constant is 1, so that the test load for a pointer indication of 1.0 KVA (neglecting the multiplier) will be 1.0 KVA or .333 KVA on each of the current coils in series. As in the case of the 2-element design, all tests must be made with potential applied to both voltage coils.

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