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

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL

E-65-1

OTTAWA July 23, 1969

SANGAMO TYPE "KYW-" COMBINATION POLYPHASE WATTHOUR METER AND THERMAL KILOWATT DEMAND METER

Apparatus

Types KYWA and KYWS

2-element Network for use on 2 wires and neutral of 3-phase 4-wire Y service

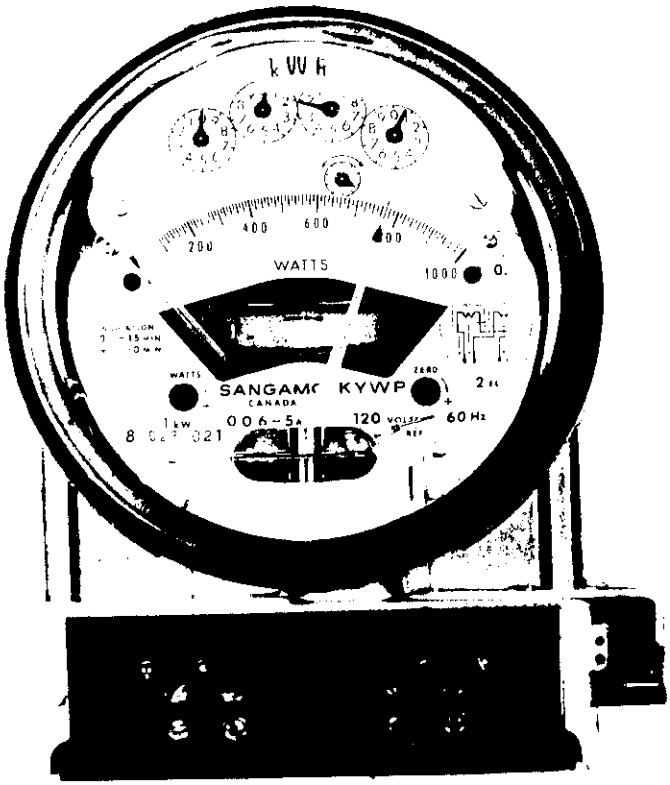
Voltages	120, 277 and 345 volts		
Current Range (amperes)	0.6-50	1.2-100	2.5-200
*Full Scale Demand (KW)	12	24	48
*Multiplier	10	20	40
*Disc Constant Kh	3.6	7.2	14.4
Register Ratio	333 1/3	333 1/3	333 1/3
Scale	1200 watts and 1.2 KW		

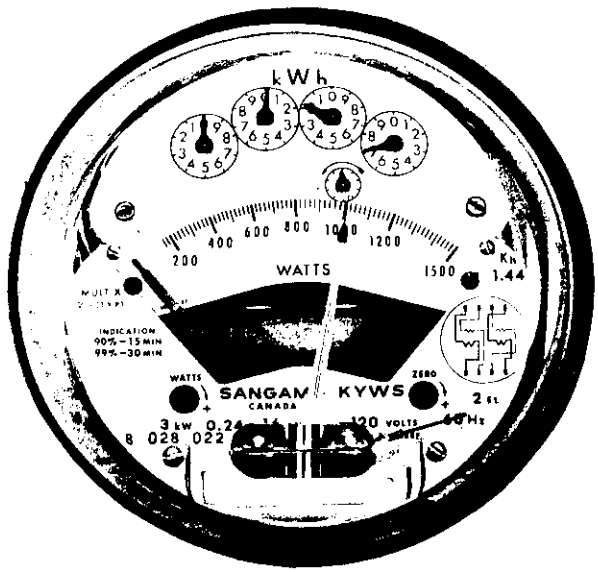
Types KYWP# and KYWS

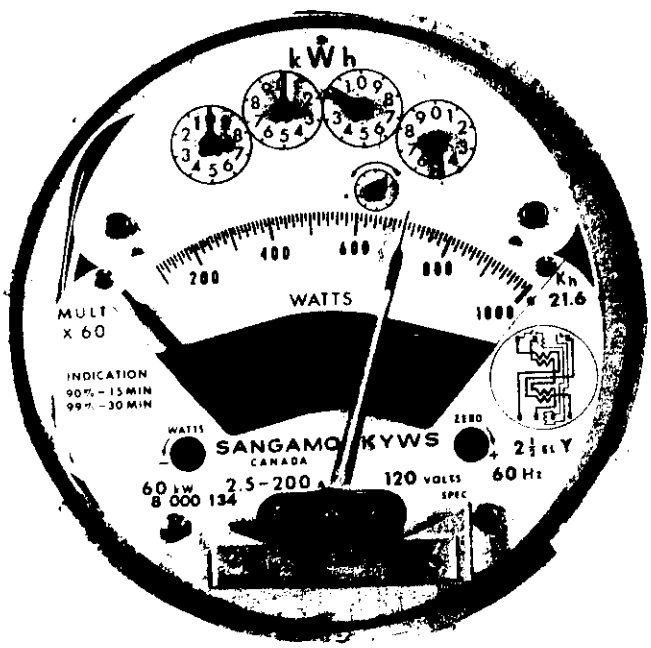
2-element for use on 3-phase 3-wire service

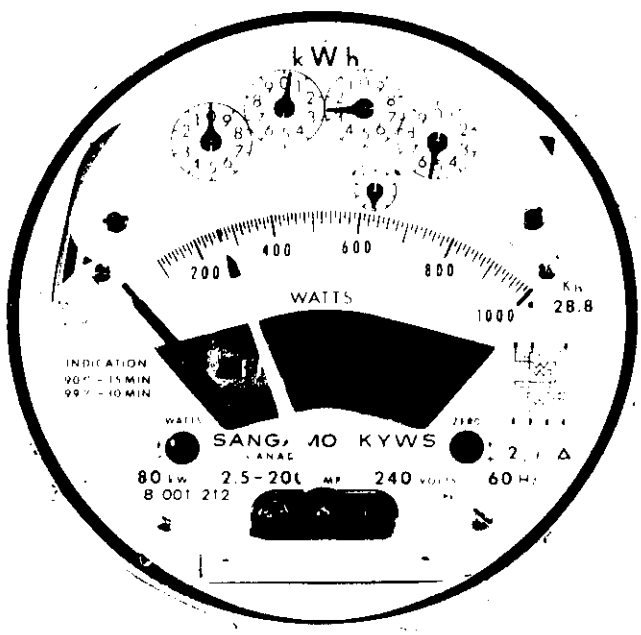
Voltages	120, 240, 277, 345, 480 and 600 volts			
Current Range (amperes)	0.3-25	0.6-50	1.2-100	2.5-200
*Full Scale Demand (KW)	5	10	20	40
*Multiplier	5	10	20	40
*Disc constant Kh	1.8	3.6	7.2	14.4
Register Ratio	333 1/3	333 1/3	333 1/3	333 1/3
Scale	1000 watts and 1.0 KW on all ratings			

SANGAMO TYPE "KYW-" COMBINATION POLYPHASE WATTHOUR METER AND THERMAL KILOWATT DEMAND METER









2½-Element Y for use on 3-phase 4-wire Y service

Voltages	120, 240, 277 and 345 volts			
Current Range (amperes)	0.3-25	0.6-50	1.2-100	2.5-200
*Full Scale Demand (KW)	9	18	36	72
*Multiplier	7.5	15	30	60
*Disc Constant Kh	2.7	5.4	10.8	21.6
Register Ratio	333 1/3	333 1/3	333 1/3	333 1/3
Scale	1200 watts and 1.2 KW on all ratings			

2½-Element Delta for use on 3-phase 4-wire delta service

Voltage	240 volts			
Current Range (amperes)	0.3-25	0.6-50	1.2-100	2.5-200
*Full Scale Demand (KW)	10	20	40	80
*Multiplier	10	20	40	80
*Disc Constant Kh	3.6	7.2	14.4	28.8
Register Ratio	333 1/3	333 1/3	333 1/3	333 1/3
Scale	1000 watts and 1.0 kw on all ratings			

Maximum current on P base meters is 100 amperes.

Types KYWP, KYWS and KYWF (transformer type)

2-Element for use on 3-phase 3-wire and Network Services

Voltages	120, 240, 277, 345, 480 and 600 volts			
Current Range (amperes)	0.06-5	0.12-8	0.12-10	0.24-16
*Full Scale Demand (KW)	1	1.5	2	3
*Multiplier	1	1	2	2
*Disc Constant (Kh)	0.36	0.72	0.72	1.44
Register Ratio	333 1/3	166 2/3	333 1/3	166 2/3
Scale	1000 watts and 1 kw on 5 and 10 ampere meters 1500 watts and 1.5 kw on 8 and 16 ampere meters			

2½-Element Y for use on 3-phase 4-wire Y service

Voltages	120, 240, 277 and 345 volts	
Current Range (amperes)		0.12-8
*Full Scale Demand (KW)		3
*Multiplier		2
*Disc Constant (Kh)		1.08
Register Ratio		222 2/9
Scale	1500 watts and 1.5 kw	

2½-Element Delta for use on 3-phase 4-wire delta service

Voltages	240 volts
Current Range (amperes)	0.12-8
*Full Scale Demand (KW)	3
*Multiplier	2
*Disc Constant (Kh)	1.44
Register Ratio	166 2/3
Scale	1500 watts and 1.5 kw

Frequency	50 hz and 60 hz (all types and ratings)		
Indication (all ratings)	90% in 15 minutes, 99% in 30 minutes		
Potential coil burden (each coil at 120 volts 60 hz)	1.6w	8.4 rva	8.6 va
Current coil burden (each coil of 8 or 10 amp. meter) at 5 amps., 60 hz			
2-element network and 3-phase 3-wire	2.0w	3.6 rva	4.1 va
2½-element Y, phase A & C	1.1w	1.8 rva	2.1 va
phase B	1.9w	3.3 rva	3.8 va
2½-element delta, phase B & C	1.1w	1.8 rva	2.1 va
phase A	2.0w	3.6 rva	4.1 va

* Full Scale Value, Multiplier and Disc Constant are given for 120 volts, Except on 2½-element delta, where voltage is 240. For other voltages multiply by the voltage ratio (for 277 volts use 2.5).
Multiplier applies to both watthour and demand readings.
All registers have test dials.

Description

This is a reissue of circular E-65 to include additional transformer type ratings. The type "KYW-" Combination Polyphase Watthour Meter and Thermal Kilowatt Demand Meter consists of the type "KY-" polyphase watthour meter receiving approval under "E-60" with the thermal demand element of the type "WY-" receiving approval under circular "E-63-1".

As in the case of the "KY-" polyphase watthour meter, the disc shaft is set well back within the meter element so that an extra shaft is required to connect the disc shaft to the take-off gear on the register. This shaft, which is the same for all ratings, has a gear on each end with teeth so proportioned that only 83 1/3 disc revolutions are required to produce one revolution of the take-off gear.

A ground lug has been added to all "P" base meters and two additional holes have been added to the nameplate to permit easier access to the light load adjustments on the watthour section. On transformer type "P" base meters the potential terminal holes have been enlarged to accommodate two #12 wires. The demand element toroidal current transformers are mounted on the current coils using heat shrinkable cross linked polyethylene tubing. The auxiliary wiring panel formerly mounted on the left side of the thermal casting is now mounted behind the register.

Approval granted to:

Sangamo Company Limited,
Leaside, Toronto 17,
Ontario.

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Chief, Standards Laboratory,
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