



DEPARTMENT OF TRADE AND COMMERCE
STANDARDS BRANCH

E-28

OTTAWA February 22, 1966.

NOTICE OF APPROVAL

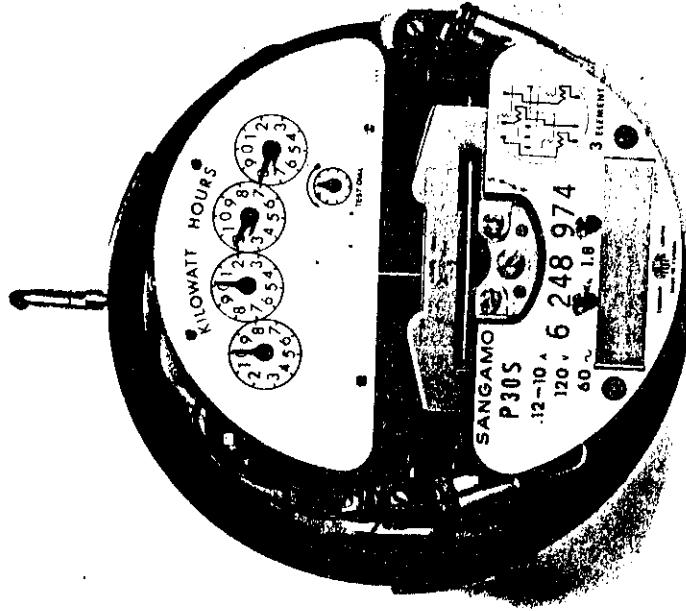
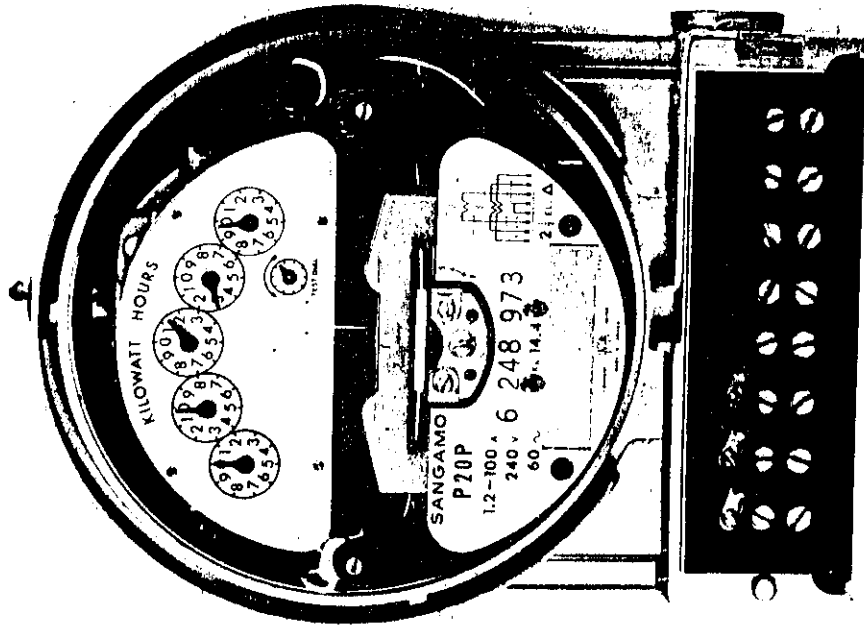
FOR

SANGAMO TYPE "P20" 2-AND 2½-ELEMENT
AND TYPE "P30" 3-ELEMENT POLYPHASE WATTHOUR METERS

Apparatus

Elements	Current Range (amperes)	Volts	Kh	Register Ratio (Rr)		
				4 dials x 1	4 dials x 10	5 dials x 1
2	.12-10	120	1.2	166-2/3	—	—
		*240	2.4	83-1/3	—	—
		345	3.6	55-5/9	555-5/9	55-5/9
		480	4.8	41-2/3	—	—
		600	6.0	33-1/3	—	—
	1.2-100	120	7.2	27-7/9	277-7/9	27-7/9
		*240	14.4	—	138-8/9	13-8/9
		345	21.6	—	92-16/27	9-7/9
		480	28.8	—	69-4/9	6-17/18
		600	36.0	—	55-5/9	5-5/9
	2.5-200	120	14.4	—	138-8/9	13-8/9
		*240	28.8	—	69-4/9	6-17/18
		345	43.2	—	46-8/27	4-17/27
		480	57.6	—	34-13/18	3-17/36
		600	72.0	—	27-7/9	2-7/9
2½ wye	.12-10	120	1.8	111-1/9	—	—
		240	3.6	55-5/9	—	—
		345	5.4	37-1/27	370-10/27	37-1/27
	1.2-100	120	10.8	—	185-5/27	18-14/27
		240	21.6	—	92-16/27	9-7/27
		345	32.4	—	61-59/81	6-14/81
	2.5-200	120	21.6	—	92-16/27	9-7/27
		240	43.2	—	46-8/27	4-17/27
		345	64.8	—	30-70/81	3-7/81

SANGAMO TYPE "P20" 2-AND 2 1/2-ELEMENT
AND TYPE "P30" 3-ELEMENT POLYPHASE WATTHOUR METERS



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Elements	Current Range (amperes)	Volts	Kh	Register Ratio (Rr)		
				4 dials x 1	4 dials x 10	5 dials x 1
2½ delta	.12-10	240	2.4	83-1/3	—	—
	1.2-100	240	14.4	—	138-8/9	13-8/9
	2.5-200	240	28.8	—	69-4/9	6-17/18
3	.12-10	120	1.8	111-1/9	—	—

Frequency 50 and 60 cycles

- * 2-element 240-volt 60-cycle meters are approved for use on 277 volts without recalibration. 50 cycle meters may not be so used.
 All registers will have test dials.
 All ratings are approved with "S" base mounting.
 All except 200 ampere rated meters are available with "P" die-cast base with large terminal block, having a maximum of 8 current and 6 potential terminals.
 All 2-element, 1.2-100 ampere and 2.5-200 ampere meters, are available with "A" base mounting.
 The suffix "A", "S" or "P" following the Type "P20" and "P30" indicates the type of base in the conventional manner.

This approval is a consolidation of Circulars S-EA.574 and S-EA.581, and includes 345 volt ratings.

Description

The types "P20" and "P30" meters are of the single disc type used for energy measurement on all the usual polyphase services. In the 2- and 2½-element construction the two electromagnet assemblies are placed diametrically opposite, one at each side of the meter, and the disc is of solid aluminum. In 3-element meters the third electromagnet is placed at the back of the meter at 90 degrees to the other two, and the disc is laminated.

Each element consists of separate current and voltage coil assemblies, which are secured to the grid with screws. Voltage coils are enclosed in an acetate shell, providing an insulation level of 10,000 volts r.m.s. High capacity current coils are open windings insulated with epoxy resin applied by a fluidized process. Current coils of the transformer type are wound of round wire with a fibreglass coating impregnated with a hard varnish. The rotor lower bearing is of the magnetic flotation type as used in the type "CJ3" meter. The lower stationary magnet is longer than that of the "CJ3" because of the greater rotor weight. The guide pins and graphite guide bearings are the same as the "CJ3".

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Description (Con'd)

Each element has its individual low load, inductive load and element balance adjustments, all screw-driver operated. For full load there is only the one adjustment on the magnet.

Meter speed is controlled by a pair of Almico damping magnets clamped in a die-cast housing, which fits into a slot in the grid which fits against a stop so that it can be removed and replaced without disturbing the calibration.

The socket type base is made of sheet aluminum to which the sealing gasket is attached, and the glass cover rim is made of stainless steel. The sealing pan on the type "P30S" meters is at the bottom of the base and the glass cover must be installed so that the holes through which the sealing wire passes are also at the bottom. This position gives greater clearance between the sealing wires and the current-carrying parts.

The use of a detent to prevent reversed disc rotation is approved for all ratings. Every meter so equipped will carry the words "Detent Equipped" in red on the bottom edge of the utility badge.

Approval granted to

The Sangamo Company Limited,
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