

TRADE AND COMMERCE  
CANADA

SD-EA.258

## STANDARDS DIVISION

OTTAWA, August 10, 1956.

TYPE APPROVALSANGAMO TYPES "CJA" AND "CJS" SINGLE-PHASE WATTHOUR METERS

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

Apparatus Approved: Types "CJA" and "CJS" Single-Phase Watthour Meters, manufactured by the Sangamo Company Limited, Leaside, Toronto 17, Ontario.

## Rating of Apparatus:

Normal Current Range .....	0.5-50 amperes	0.75-100 amperes
Voltage .....	115 or 120 volts	230 or 240 volts
Wire .....	2	3*
Frequency .....	60 cycles	60 cycles
K <sub>H</sub> .....	1.5	6

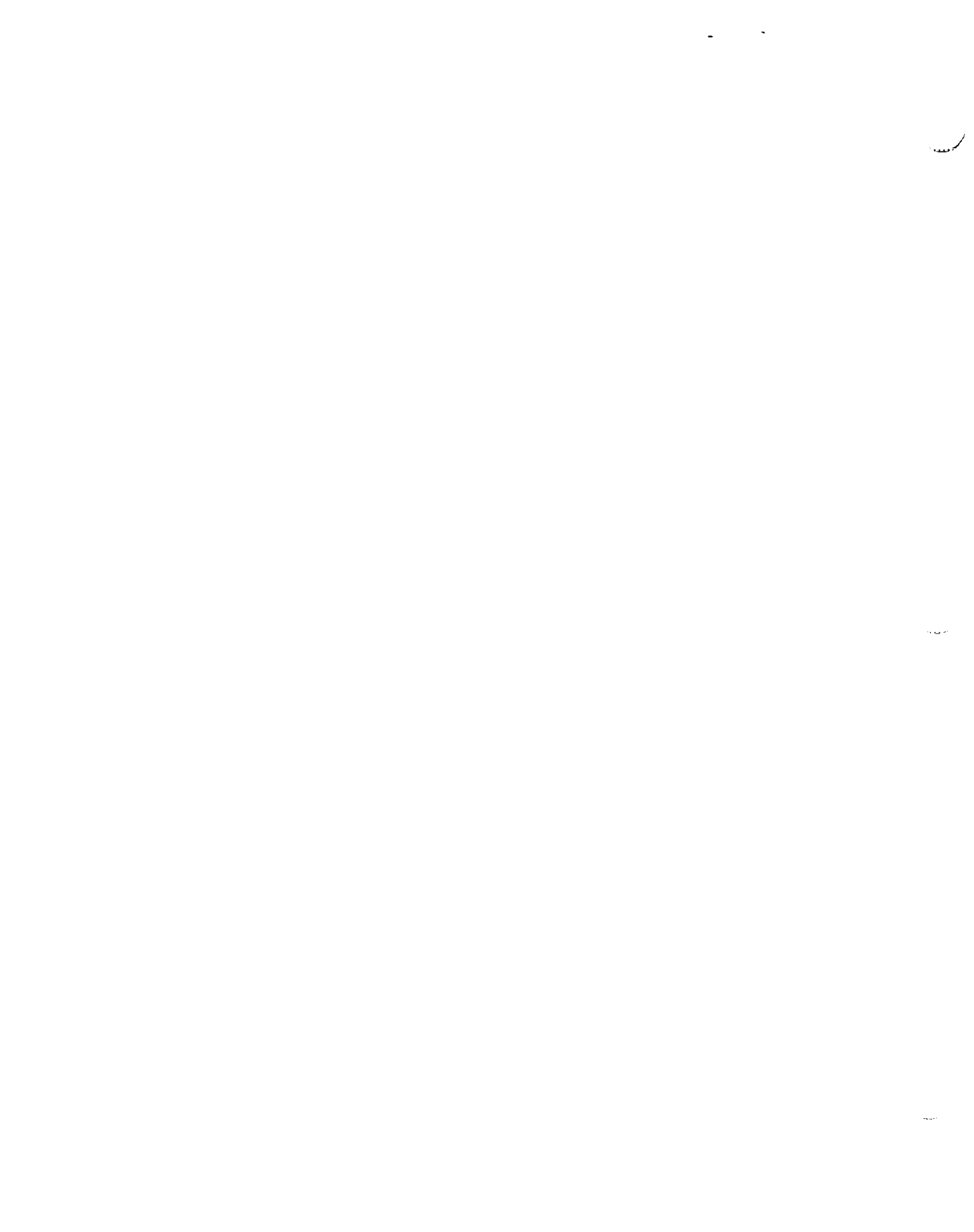
\* These meters may be connected as a temporary measure on 2-wire, 115 or 120 volt services as indicated below.

Description: The type "CJ" single-phase watthour meter is a marked departure from types previously produced by the Canadian company although it is basically the same as the type "J2" produced by the Sangamo Company in the United States. The type "CJA" uses a bottom-connected die-cast base, identical externally with the Sangamo type "CFA" meter. The type "CJS" base is a moulded material instead of metal, and has a glass cover of new design.

The 3-wire meter may be used for temporary service on 2-wire with accurate registration and it is not necessary to break the Government seal to change from 2-wire to 3-wire.

In the case of the type "CJA" meter, potential terminals are provided for separate connection if required. The holes in the block are plugged by barriers which must be drilled out to permit insertion of potential leads. For use on 2-wire services, the left-hand potential remains connected to the left-hand line terminal, and a jumper is used to connect terminals 3 and 4 placing the current coils in series. The right-hand potential connection is made to the neutral, or ground, wire by completing the hole in the block and using a separate potential lead.

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(Sangamo "CJA" and "CJS")

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On the type "CJS", two potential disconnect links are also provided. The left-hand link, front view, remains closed. The right-hand link is opened, and a potential lead with a special clip connected to the link by pressure fit. The design is such as to prevent the link reclosing accidentally. In the socket the lower left load conductor - that is, the ungrounded side - is transferred to the upper right terminal. The two lower terminals are joined by a current jumper, and grounded neutral run straight through.

Arc gaps are provided in the meters to protect the potential coils. Registers are available in four-digit cyclometer and four- and five-circle clock types. All registers are equipped with test dials.

In order to make clock- and cyclometer-type registers interchangeable, a 100-tooth take-off wheel is used in the clock type and an 80-tooth in the cyclometer. For this reason, the register ratios of the two types of registers for any one meter are in the ratio of 5 to 4. For example: RR for a clock-type register for the 0.75-100 amp., 230-volt meter is  $16\frac{2}{3}$  while that for the cyclometer register is  $20\frac{5}{6}$ .

Although many changes and improvements have been made in the details, the principles involved in the components and adjustments of the meter are essentially similar to those of previous types.

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SANGAMO TYPE "CJS" SINGLE-PHASE WATTHOUR METER

