DEPARTMENT OF

TRADE AND COMMERCE
CANADA

S-EA.558

STANDARDS BRANCH

OTTAWA July 18, 1962.

TYPE APPROVAL

LANDIS & GYR SUMMATING TRIVECTOR
TYPES "CAC1/VA/CAC1" AND "CAC3/VA/CAC3"

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: Summating Trivector, types "CAC1/VA/CAC1" and "CAC3/VA/CAC3", manufactured by Landis & Gyr, Zug, Switzerland, and distributed in Canada by Landis & Gyr, Inc., 725 Decarie Blvd., Montreal 9, P. Q.

Rating of Apparatus: The same as that given for Impulse Summators, types "CAC1" and "CAC3" under Circular S-EA.556 of June 25, 1962.

Description: The Summating Trivector consists of two summators (CAC1, CAC3 - S-EA.556) mounted in a common case and connected to a third gear mechanism and register located between them. This third gear mechanism receives the output from the two summators and combines them in such a manner as to produce the vector sum. This vector sum is produced according to the formula $VA = \sqrt{wh^2 + rvah^2}$, where the quantities under the root sign are in the form of pulses originating from 'r4' contacts installed on a watthour meter and a reactive volt-amperehour meter respectively, both of which are metering the same circuit. VA is also in pulse form.

In the case of a summating trivector employing type "CAC1" summators, it is essential to the proper functioning of the device that the value of the pulses be of the same magnitude. However if the summating trivector is made up of summators of the type "CAC3" because of the internal gear ratios possible, the values of the pulses from the various feeders may be different, but in any case the KWh and KVArh impulses from the same feeder must be of the same numerical value.

The output pulses of any one section may be transmitted to a recorder such as the Printo-Maxigraph by the re-transmitting contacts "r" at the same time as they are recorded on the centre and two totalizing registers. Depending upon the section in which the transmitting contact is placed, the pulses then represent KWh, KVAh or KVArh respectively.

A wiring diagram will usually be supplied for any given installation, so it is necessary when verifying to make sure that the output pulses from the transmitting meters arrive at the correct relays, and that the values of all the pulses are correct, taking into account any multipliers that might be involved.

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Director,
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Ref: A-837

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