DEPARTMENT OF

TRADE AND COMMERCE
CANADA

SD-EA.133

STANDARDS DIVISION

OTTAWA, December 11, 1953.

TYPE APPROVAL

SANGAMO TYPES "NBS" AND "NBAP" POLYPHASE WATTHOUR METERS

The apparatus specified herein has been duly approved by the Standards Division under the provisions of The Electricity Inspection Act, Chapter 22, 1928, as amended, and may be admitted to verification in Canada.

Apparatus Approved: Types "NBS" and "NBAP" 2-Element Polyphase Watthour Meters, manufactured by the Sangamo Company Limited, Leaside, Toronto 17, Canada.

Rating of Apparatus:

Nominal Amperes	25
Maximum Amperes	75
Voltages	115, 230, 460, 575
Wire	3
Elements	2
Frequency	60 cycles.

Description: Types "NBS" and "NBAP" meters will have elements almost identical with those used in Sangamo types "NA" and "NS" approved under SD-EA.30 of May 27, 1950. These meters will therefore supersede the types "NA" and "NS" meters in the approved capacity.

The main points of difference between these types and their predecessors are:-

(1) The basic constant for a 5-ampere 115-volt 2-element meter is 1.2, instead of 2/3.
(2) The maximum amperes for the approved capacity have been increased from two to three times rated current.
(3) The permanent magnet mounting has been made non-adjustable, and a double-micrometer adjustment provided.
(4) The grid carrying the moving element is a die-casting instead of a sand-casting.
(5) A new 6-terminal block, fitting the single-phase 'A' terminal chamber, supersedes the large 'P' block for two-element meters.

The service-type meter is mounted in a die-cast base identical, in outline, with the type "EDA" but having a new terminal block with provision for a maximum of 6 current, and 4 potential, terminals. As this block fits the same terminal chamber as the single-phase 'A' block, but accommodates terminals as required for polyphase use, it is being designated 'AP'. Unused openings are plugged with porcelain inserts. The cover is slightly shallower than those used on type "NA" meters.

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The socket-type meter employs the same standard socket plate and cover as now used for type "NS" meters.

For specification purposes, a uniform system of type designations has been adopted, comprising the general type letters; the number of elements; the type of terminals; the service, where it is specific; and special combinations, where applicable. The listing for the meter in 2-element form is as follows:-

Self-contained, service type, 6 current terminals NB-2-AP
For use with inst. trans., 4 current, 4 potential terminals NB-2-APT
Self-contained, for 5-terminal socket NB-2-S
Transformer-type, for 8-terminal socket NB-2-ST

Nameplates will be stamped "NBS" or "NBAP"

In construction, the "NBS" and "NBAP" meters are almost identical with the types "NS" and "NA". The grid has been changed to a die-casting of the same general form and with the same functions. The magnet mounting is different so the magnet assembly, also having a die-cast housing, is mounted in a fixed position by means of two screws.

Except for the full-load adjustment, the adjustments are the same as in the types "NA" and "NS" meters. Since the permanent magnet assembly is not movable, two adjustable screw plugs, one on each magnet, are used to shunt the permanent magnet flux for full-load adjustment.

Registers are of the worm take-off construction similar to those used on type "S-3" meters. They carry a new series of register ratios and may be of the clock-type only under this approval.

Note: An illustration of the meter will be shown on a subsequent Approval Circular which is expected to cover additional ratings.

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