CANADA

DEPARTMENT OF TRADE AND COMMERCE

STANDARDS DIVISION

SD-EA.57

OTTAWA, March 29, 1951.

NOTIFICATION OF TYPE APPROVAL

The apparatus specified and illustrated 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: 'Micromax' Receiving Indicating Recorders, Models 49221, 49227, and 49231, manufactured by Leeds & Northrup Company, Philadelphia 44, Pa., U.S.A., and submitted by Sangamo Company Limited, Leaside, Canada.

Rating of Apparatus:

Types - Model 49221 'Micromax', strip chart, D.C. potentiometer receiver only
Model 49227 - same as Model 49221 with an A.C. transmitter added
Model 49231 - same as Model 49221 with a D.C. transmitter added

Record - Continuous line

Current Standardizing - Automatic

Motor - Synchronous, 115-volt, 60, 50, or 25 cycles

Application: These recorders, in types and ratings indicated above, are given general approval but are particularly intended for use with thermal converters (see Approval Circulars SD-EA.38 and SD-EA.51)

Description: Metering with thermal converters requires, in addition to one or more converters, an instrument for producing a visible indication proportional to the small direct current voltage produced by the converter. The Leeds & Northrup 'Micromax' Recorder performs this function. It is essentially a D.C. potentiometer of the automatic self-balancing type. The slide-wire of the potentiometer, made of standard resistance wire, is mounted on the periphery of a rotatable disc. The position of the slide-wire disc is dictated by the deflection of the galvanometer in response to the unbalance in the e.m.f. circuit. The direction of movement depends on the direction of unbalance. The movement of the slide-wire disc restores balance in the e.m.f. circuit and brings the galvanometer to zero position. This operation takes place twenty-five times per minute. Generally current is supplied to the slide-wire by a 1.5-volt dry cell (No.6 size). Standardization of the slide-wire current is made necessary by the gradual drop in the voltage of the dry cell. This is done by comparing the voltage of a standard cell, which is incorporated in the device, with the voltage across a fixed portion of the slide-wire circuit. Any unbalance causes the galvanometer to rotate a rheostat to restore the current to the correct value. The whole operation is performed automatically at intervals of about forty-five minutes. The position of the slide-wire is indicated by a pointer on a scale and by the pen on a roll chart, and this indication will show in the appropriate units the value of the input millivolts. When the recorder is used with thermal converters, the indication will give the watts of a circuit or the totalized watts of a number of circuits.

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Ref: A-196

LEEDS & NORTHRUP "MICROMAX" RECEIVING INDICATING RECORDER