

TRADE AND COMMERCE  
CANADA

SD-EA.182

## STANDARDS DIVISION

OTTAWA..... March 23, 1955.

TYPE APPROVALLEEDS & NORTHRUP "SPEEDOMAX" TYPE G MODEL S RECORDERS

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: Type G Model S Series 60000 Strip-Chart "Speedomax" Potentiometer Recorders, manufactured by Leeds & Northrup Company, Philadelphia 44, Pa., U.S.A., and submitted by Sangamo Company Limited, Leaside, Toronto 17, Canada.

## Rating of Apparatus:

Catalogue Numbers .....	#69221 - Single-Pen Curve-Drawing D.C. Potentiometer Receiver for Power Measurement
	#69225 - same as #69221 with impulse retransmitter added
	#69227 - same as #69221 with a.c. retransmitting slide-wire added
	#69231 - same as #69221 with d.c. retransmitting slide-wire added
	#60102 SPEC. - Two-Pen Curve-Drawing Continuous-Line D.C. Potentiometer Load Recorder
	#60352 SPEC. or #69252 - Two-Point Curve-Printing, one or two colours, D.C. Potentiometer Load Recorder
Input from transducer .....	30 millivolts d.c.
Chart Speed .....	3", 6", 12" per hour
Amplifier Burden .....	52VA @ .83 power factor, 60 cycles
Chart Motor Burden .....	20VA @ .95 power factor, 60 cycles
Supply Voltage .....	115 volts, 60 cycles (or special)
Standardization .....	Automatic
Response Time .....	3.4 seconds or as specially ordered
Sensitivity Rating .....	± 0.1% full scale
Accuracy Rating .....	± 0.3% full scale
External Resistance Limit ...	6500 ohms
Standard Chart Ranges .....	0-10, 0-15, 0-20, 0-30, 0-40, 0-50, 0-60, 0-80, 0-100, 0-150, 0-200, 0-300, 0-600, 0-1200, 0-2500, 10-0-10, 30-0-30, 40-0-40, 60-0-60, 80-0-80, 120-0-120, 160-0-160, 200-0-200, 300-0-300 megawatts

Description: The Leeds & Northrup type G model S recording instruments are made in great variety for a multitude of services, but the only models with which this approval is concerned are those with a d.c. potentiometer measuring circuit and having catalogue numbers as listed above. They are intended for use with thermal converters for the measurement of active or reactive power loads. The approval covers the use of the d.c. or a.c. retransmitting slidewires or the impulse retransmitting mechanisms. The instruments operate essentially in the same manner as the Leeds & Northrup "Micromax" recorders approved under Circulars SD-EA.57 and 57a, except that the self-balancing feature is a continuous operation rather than cyclic. Any unbalance between the measured e.m.f. and the slide-wire e.m.f. is put through a vibrator or a converter and amplified in an electronic amplifier. The output of the amplifier is fed to a 2-phase balancing motor which moves in such a direction as to restore the error voltage being measured to zero.

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