DEPARTMENT OF

TRADE AND COMMERCE
CANADA

S-EA.422

STANDARDS BRANCH

OTTAWA, October 27, 1959.

TYPE APPROVAL

LANDIS & GYR TYPE "RD/Rmw" MAXIGRAPH REMOTE RECORDER

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

Apparatus Approved: Type "RD/Rmw" Maxigraph Remote Recorder, manufactured by Landis & Gyr, Zug, Switzerland, and distributed in Canada by Landis & Gyr, Inc., 1010 Grou, Montreal 9, P. Q.

Rating of Apparatus:

Electric Supply	Up to 575 volts, 60 cycles
Maximum Impulse Rate	40 per minute
Maximum Pulse Count	400 per interval with 10-minute time interval 550 per interval with 15-, 20-, 30- and 60-minute time interval
Maximum Duration of Pulse	0.2 seconds
Minimum Duration of Pulse	0.065 seconds
Minimum Interval between Pulses	1.5 seconds
Chart Speed	6 mm per hour.

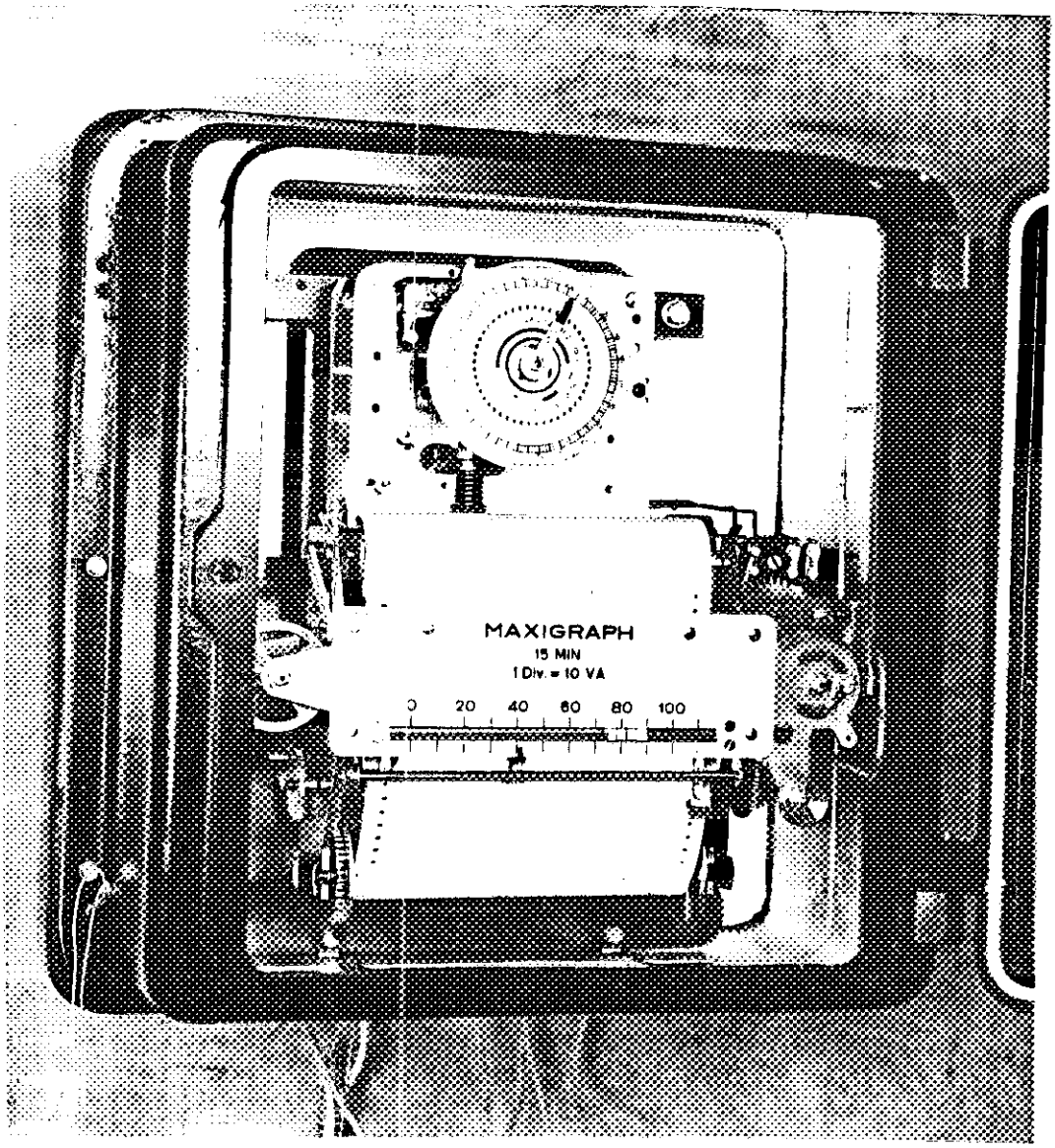
Description: The Maxigraph remote recorder type "RD/Rmw" is designed to operate in conjunction with a watthour meter which has been fitted with type "r4" contacts or some other suitable approved transmitting device. The watthour meter measures the energy consumed; the Maxigraph registers the maximum demand, records the average load or demand for each successive time interval, and gives a graph of the load-time curve.

The Maxigraph recorder consists essentially of the following elements: the clockwork for driving the paper chart and releasing the recording mechanism;
the recording mechanism for carrying out the actual recording operation;
the marking device for drawing the ordinates.

The clockwork has many features in common with those of the type "WA1" time switch previously approved and these include a temperature-compensated 13-jewel escapement, a 24-hour clock dial to operate various optional attachments and an electrically-wound spring reserve having a capacity of 72 hours.

...../2
(The

LANDIS & GYR MAXIGRAPH REMOTE RECORDER



The recording mechanism counts the pulses from the contact device located in the watthour meter and the count or KW equivalent, at any time within an integrating period, is registered by the position of a moving pointer against a graduated scale. In addition a maximum demand indicator is pushed along by the moving pointer remaining at the highest point reached until reset by hand. The type of pulse transmitted to the Maxigraph must satisfy certain specific requirements in order to obtain satisfactory performance of the recorder. These requirements are listed under "Rating". Landis & Gyr type "r4" contacts meet the requirements.

The marking device comes into operation at the end of the integrating interval, at which time the driver that moves the indicator up scale drops down onto the chart and an internal spring returns it to the zero position making a mark on the chart as it does this. The mark is produced by the action of a silver replaceable wheel upon a silver-sensitive chart. The repeated return of the marking wheel each interval produces a series of parallel lines on the chart, the length of which are determined by the number of pulses received during the time interval, i.e., the number of KW of load averaged over the period.

The scale of the Maxigraph is divided into 11 major divisions (each large division being divided into ten smaller divisions) and the value of each, in terms of the primary quantity being measured, is printed on the scale. The major divisions correspond to lines on the chart which is not further sub-divided. A steel scale matching the instrument scale is provided for the purpose of obtaining accurate readings from the chart. Some precautions should be exercised in the use of this scale so as not to introduce errors. In the first place the reference point on the chart for making a measurement should be the line representing the tenth major division. In the second place it should be verified that the load which gives a reading exactly on the tenth major division of the scale will produce a mark exactly on the tenth line of the chart.

This approval covers use of the instrument indoors where the ambient temperature is not below 40°F.

The basic type designation of the remote recording Maxigraph is "RD/Rmw". The use of the following additional suffixes is also approved:- "m", "d", "u", "t", "s", "y", "f1" and "f2". The meaning of these suffixes is described in previous Landis & Gyr approval-of-type circulars.

Landis & Gyr also make a Maxigraph which incorporates the transmitting watthour meter in the same case and which has a mechanical connection between meter and recorder. This arrangement is NOT covered by this circular. The remote recorder approved herein is also referred to as the Tele-Maxigraph.

The Maxigraph is approved for use unsealed.

Note: Short-circuit conditions in the transmission line will produce continuous up-scale travel of the indicator.

E. F. Power,
Assistant Director (E&G),
Standards Branch.

R. W. MacLean,
Director,
Standards Branch.

Ref: A-714A