



STANDARDS DIVISION

OTTAWA, June 16, 1955.

TYPE APPROVAL

MINNEAPOLIS-HONEYWELL BRGM "ELECTRONIK" STRIP CHART RECORDER

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

Apparatus Approved: Models 153X10V, 153X11V, 153X12V, 153X60V, 153X62V, 153X64V and 153X65V Strip Chart "Electronik" Recorders, manufactured by the Minneapolis-Honeywell Regulator Co. Limited, Toronto 17, Ontario.

Rating of Apparatus:

Models Single Record Pen Type: 153X10V, 153X11V and 153X12V
Multiple Record Print Type: 153X60V, 153X62V, 153X64V and 153X65V

Standardizing Automatic

Supply 110-125 volts; 25, 50 or 60 cycles.

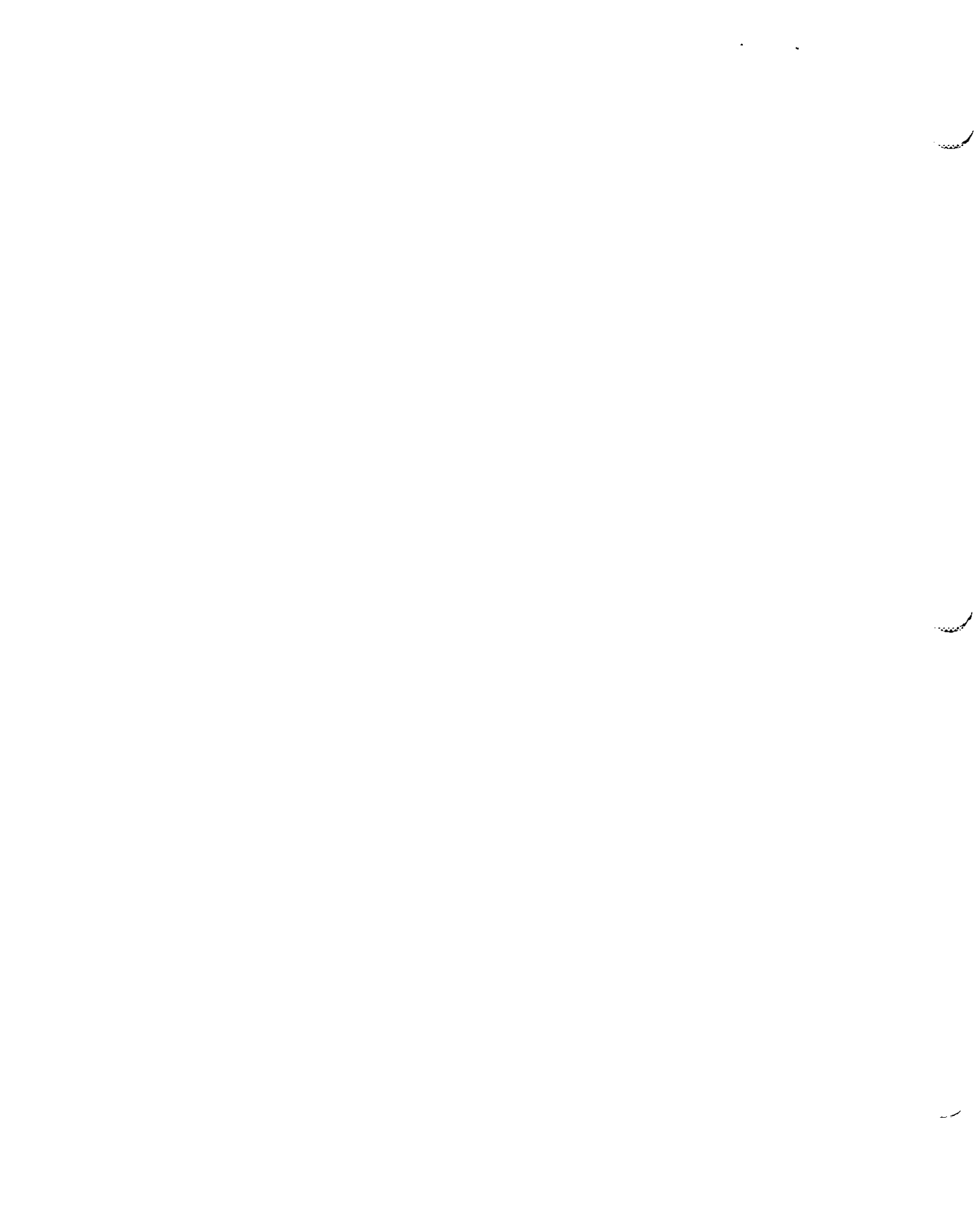
Models

| | <u>153X10V</u> | <u>153X11V</u> | <u>153X12V^a</u> |
|---|------------------------|------------------------|----------------------------|
| (Full scale 60 cy. | 24 secs. | 12 secs. | 4½ secs. |
| (travel speed: 25&50 cy. ... | 30 secs. | 15 secs. | 5½ secs. |
| Calibrated accuracy limit | ± 0.20% | ± 0.20% | ± 0.25% |
| % Scale span or mv. | ± 0.02 mv ^b | ± 0.02 mv ^b | ± 0.03 mv ^c |
| Sensitivity | 0.03% | 0.03% | 0.07% |
| % Scale span or mv. | 0.004 mv ^c | 0.005 mv ^d | 0.007 mv ^b |
| Basic chart speeds (inches per hour) .. | ½, 2, 10 | 2, 10, 40 | 6, 30, 120 ^e |

Models

| | <u>153X60V</u> | <u>153X65V</u> | <u>153X64V</u> | <u>153X62V^a</u> |
|-------------------------------|-------------------|--------------------------------|-------------------|--------------------------------|
| | <u>Fixed-Time</u> | <u>Synchro-</u> | <u>Fixed-Time</u> | <u>Synchro-</u> |
| | <u>Cycle</u> | <u-balance< u=""></u-balance<> | <u>Cycle</u> | <u-balance< u=""></u-balance<> |
| (Full scale 60 cy. | 24 secs. | 12 secs. | 12 secs. | 4½ secs. |
| (travel speed: 25&50 cy. ... | 30 secs. | 15 secs. | 15 secs. | 5½ secs. |
| (Time between 60 cy. | 30 secs. | - | 15 secs. | - |
| (point switching: 50 cy. | 36 secs. | - | 18 secs. | - |
| 25 cy. | 30 secs. | - | 18 secs. | - |
| (Printing speed 60 cy. | - | 6-14 secs. | - | 1-5 secs. |
| (min.-max.time: 25&50 cy. ... | - | 7.2-18 secs. | - | 1.2-6 secs. |

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| | <u>153X60V</u> Fixed-Time Cycle | <u>153X65V</u> Synchro- Balance | <u>153X64V</u> Fixed-Time Cycle | <u>153X62V^a</u> Synchro- Balance |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---|
| Calibrated accuracy limit | ± 0.20% | ± 0.375% | ± 0.20% | ± 0.375% |
| % Scale span or mv. | ± 0.02 mv ^b | ± 0.045 mv ^c | ± 0.02 mv ^b | ± 0.045 mv ^c |
| Sensitivity | 0.03% | 0.25% | 0.03% | 0.25% |
| % Scale span or mv. | 0.004 mv ^c | 0.017 mv ^f | 0.005 mv ^d | 0.019 mv ^e |
| Basic chart speeds (inches per hour).... | 1, 2, 10 | 2, 10, 40 | 2, 10 | 6, 30, 120 ^g |

- a - not available for 25 cycles
 b - for spans less than 10 mv.
 c - for spans less than 12 mv.
 d - for spans less than 15 mv.
 e - for spans less than 8 mv.
 f - for spans less than 7 mv.
 g - 120-inch-per-hour speed not available for 50 cycles.

Description: The "ElectroniK" Strip Chart Recorder is a high-speed, continuous-balance, null-type electronic instrument available with either potentiometer or bridge circuits. This approval covers its use in the potentiometer form only. It can be adapted for use with practically any input voltage.

The balancing system of the "ElectroniK" instrument continuously compares the unknown e.m.f. generated by the primary measuring or sensing element to an e.m.f. of known value. Whenever an imbalance occurs the system acts to counterbalance it as well as record the change. The major components of the system are the electronic "continuous balance unit", the balancing motor and the slidewire assembly.

Automatic standardization is furnished when required.

The models listed above include single pen and multiple print instruments. The multiple print type may be obtained with "Fixed-Time Cycle" between prints or "Synchro-Balance" printing where each point is printed immediately when the instrument comes into balance. The record is made on a 12-inch-wide chart, 11 inches of which are calibrated. The multiple record instruments may be obtained for 2, 3, 4, 6, 8, 10, 12, 16 or 20 records, and a variety of colours and forms of printing are available.

It should be noted that the model number is a combination of two series of numbers; the first part describes the basic type of instrument and the second part the optional variations. If the first part consists of one of the designations listed above, then it is an approved instrument; for example, 153X10V-X-20 is an approved type whereas 156R16PS-131-11 is not.

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Ref: A-359



Minneapolis-Honeywell Brown "Electronik" Strip Chart Recorder

