



Consumer and
Corporate Affairs

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Standards

Normes

**NOTICE OF APPROVAL
AVIS D'APPROBATION**

E-168

Ottawa, October 26, 1979

ROBINTON DBR-25, BILLING DATA RECORDER

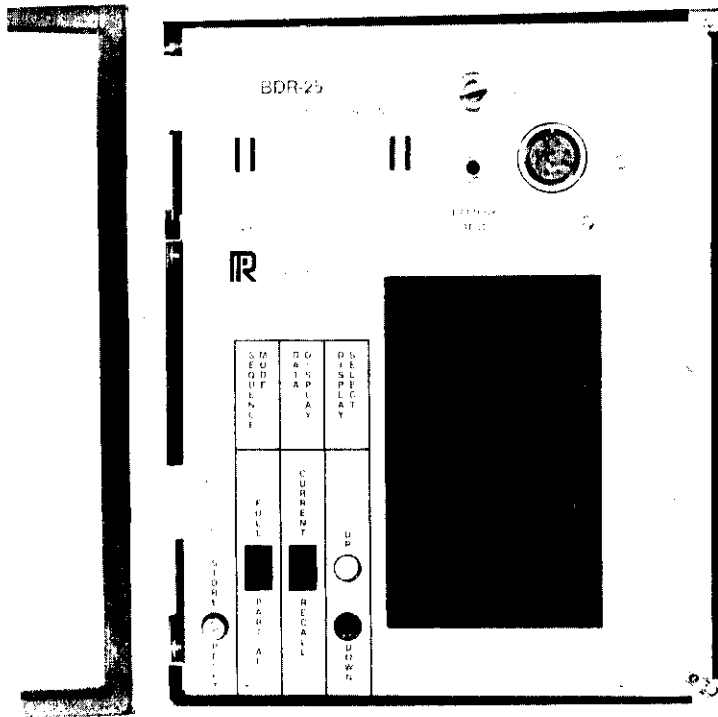
Supply Voltage	115, 240, 277 VAC 60 Hz
Pulse Data Form	K-Y-Z form "C" contact
Minimum Pulse Width	10 milliseconds
Battery Carry-over	40 days
Number of Recording Channels	1 to 8
Clock	Line Synchronized
Time (on battery carry-over)	Battery powered crystal oscillator accurate to 0.01% at 25°C.
Battery	Gelled-electrolyte lead-calcium cell Battery trickle-charged when line voltage applied
Operating Temperature Range	-20°C to +70°C
Operating Humidity Range	0% to 95%
Pulse Values	Can be programmed to accept different pulse values on all channels

Description

The BDR-25 system includes an electronic clock-calendar, a microcomputer, storage arrays for data and computed values, and illuminated readouts.

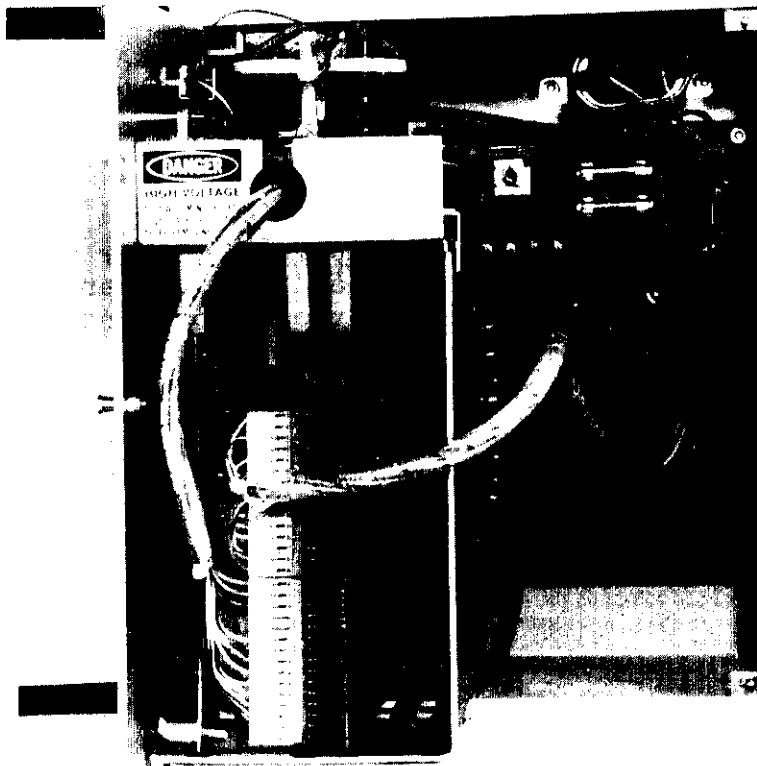
The clock-calendar is a line-powered 60Hz upcounter whose accuracy is the same as the accuracy of the line frequency. The microcomputer reads this clock-calendar at least once each minute to determine the time-of-day, day-of-week, date and year.

During line-power outages the clock-calendar is driven by a battery-powered 60 Hz crystal oscillator that is accurate to within 0.01% a month.



Front Door

Face Open



Interior Electronics

The BDR-25 can accept data from any pulse-initiating meter that has K-Y-Z form "C" contacts. One BDR-25 can monitor one to eight meters. The meters can report in different units and they can have different scale factors (metered units/pulse).

The manipulation, storage and displaying of metered information are controlled by a microcomputer software program. This program is tailored to meet each utilities needs and accommodate its rate structure. For example: In a typical electric-power application the program divides each day into three rate periods---on-peak, partial-peak and off-peak. In defining these periods the program automatically identifies Saturdays, Sundays and Holidays, compensates for leap years and adjusts for changes to and from daylight-saving time.

Pairs of meters can be established with one meter reporting kWh and the other reporting reactive energy (in kQh or kvar.h). Using data from such a pair the BDR-25 continuously computes demand in kVA.

Similarly, groups of meters can be established so that the BDR-25 continuously computes coincident demand (in kW and kVA) and total consumption (in kWh, kQh and kvar.h) for each group as well as demand and consumption for each meter alone.

Maximum demand and cumulative consumption reported by each meter (or specified group of meters) during each rate period are stored in separate registers. These registers are grouped into two distinct arrays. The current-data array holds information for the present billing interval. The old-data array holds information from the previous billing interval, which will be retained until the end of the present interval.

Reporting: The BDR-25 can report its stored information to the utility in several ways:-

- By lighted displays on the front of the BDR-25 itself.
- By transmission through a cable into a portable reader/programmer that can be carried easily by one man.
- By transmission through a remote data link, such as a telephone line or a power-line carrier.

The system also can report demand and consumption information to the utility's customer so that it can be used for load-management. This information is shown by lighted displays and can be transmitted directly to the customer's load-management system through a 2 wire data link.

Billing Intervals

The BDR-25 can be programmed to start a new billing interval automatically at a specified time on a specified day-of-week or date. In such cases the system stores and reports separately the information gathered before and after the beginning of the new interval.

The information label on the BDR-25 will indicate the meter constant (ki) for each channel, multiplier details and conversion factors used to establish kVA as well as indicate if channels are paired.

Program

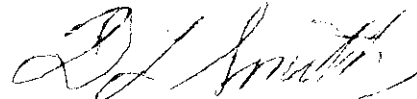
The arithmetic totalisation of kVA will not be permitted. Additional hard and fast rules relating to programming will not be laid down here in order to avoid stifling of initiative or innovation.

However, in every case, before these recorders may be used for billing purposes full details of the program must be submitted to this Branch for approval.

These recorders are manufactured by Robinton Corporation, Mountain View, California, U.S.A.

Approval granted to:

Mesurina Ltd.,
57 Hyde Park,
Beaconsfield, Que.



D.L. Smith,
Chief,
Electricity and Gas Division,
Legal Metrology Branch.

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