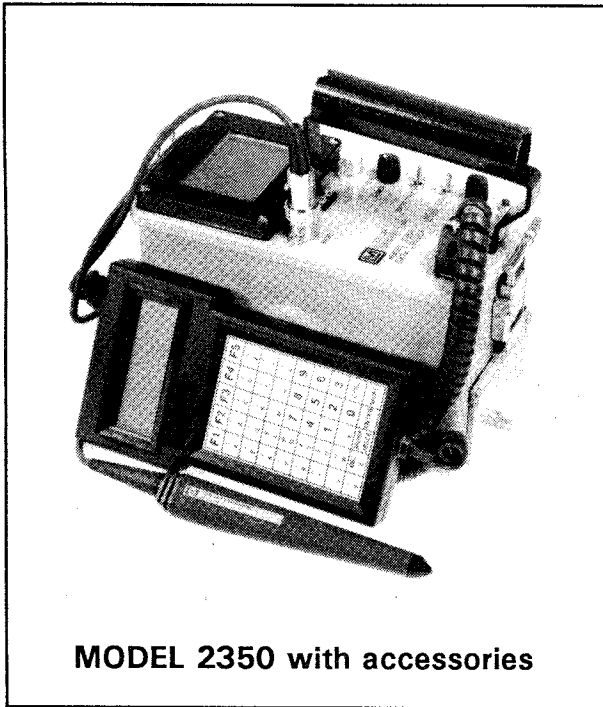


## NEW LMI MODEL 2350 DATA LOGGER

December 1990



MODEL 2350 with accessories

The Ludlum Model 2350 Data Logger is a self contained counting instrument designed for operation with scintillation, proportional, or G-M detectors. The 2350 is complete with a voltage-sensitive amplifier, single channel analyzer, detector high voltage power supply, detector overload sensing circuitry, and data logging memory all under microprocessor control. The settings can be changed through the bar code reader or the RS-232 serial I/O port. The 2350 provides 4 different types of data readout. They are 1) a digital ratemeter, 2) a 5 decade log bar graph ratemeter, 3) a timed counter 4), and an integrated dose counter and timer. These four readouts operate from the same count input. The count displays can be corrected for detector dead time. The digital ratemeter and integrated dose counter can also have a calibration constant applied to them to allow direct readout in user selected units (ie. R/hr, DPM, CPS, etc.). All readout displays can be individually turned on or off except for the bar graph display which is always displayed.

The 2350 provides a click per event audio output with a programmable divide by to increase its usefulness with sensitive detectors. There is also a 5 decade analog output available on the backplane. The data logging memory can store the readings from 250 samples and the setups for 16 different detectors. The logged reading contains the count data, detector used, location code, date, time and 2350 status. The detector setup memory contains the settings for the high voltage, threshold, window, overload current, count time, display units, detector model number, detector serial number, calibration constant, and dead time. A user identification number can be loaded into the 2350 to provide for identification of the specific user or instrument.

The bar code reader is useful for routine surveys. The location codes and counting information can be printed as bar codes which may then be permanently attached to the sites to be surveyed. When the operator is taking the survey readings, the bar codes can be scanned by the operator, which will then tell the 2350 the location and what type of reading to log. For field surveys, the bar codes can be printed on paper and the operator can then scan them while in the field and concentrate on the survey and not have to worry about the actual commands needed to make the 2350 operate. There are also hand held terminals that can be used in addition to the bar code wands.

The 2350 can also be controlled through its RS-232 interface. This is used for dumping the data logging memory and can be used to provide for computer aided setup of the 2350. An example of this would be saving a detectors response to a calibration source and connecting the 2350 to the computer and comparing the response after the field surveys to make sure the 2350 readings did not change. The memory is powered by the 2350 batteries even when the 2350 is turned off. In addition, there is a backup capacitor that keeps the memory powered for about 30 minutes when the batteries are removed to allow time to replace dead batteries.

The 2350 is powered by 4 "D" cells and will operate for 50 to 90 hours with Duracell MN1300 batteries, depending on the use of the back light, the detector used, and optional equipment powered by the 2350. The physical size is 11(4.25")W x 22(8.75")L x 15(6")H (21(8.25")H with handle). The weight is 2.3 (5lbs) including 4ea. "D" cells.

## LMI INSTRUMENT IMPROVEMENTS

December 1990

A thermistor/resistor network is now being incorporated into most of the recently manufactured portable Count Rate and Survey Meters. This new network has been added to improve overall temperature stability of the instrument's meter reading. Currently the internal electronic circuitry has temperature compensation components incorporated into the design, making the HV output, input sensitivity and calibration controls temperature stable. The only varying component is the meter movement. The thermistor/resistor network has been added in series with the meter movement to compensate for temperature fluctuations which are mainly due to the change in resistance of the meter movement with temperature.

The temperature compensation network (TCN) has been incorporated into all of the LMI Model 4's, 12 Series 7's, 12 Series 8's, 12 Series 10's and all Model 12's which possess serial numbers greater than 78628. Presently, the TCN is being installed into all current LMI Model 2's and Model 3's. Older LMI Portable Meters which possess 50  $\mu$ A meter movements do not require the TCN. The operation manual received with the new instrument will reflect the update referencing serial numbers on the Table of Contents page located in the front of the instrument manual. Refer to the schematics and component layouts to determine if your recently purchased LMI Portable Meter possesses a TCN.

Most LMI Portables which are not equipped with TCN can be easily converted. This may be done by adding the TCN to the backside of the meter housing. A circuit board resistor in series with the meter and drive circuitry must be replaced by a "short" which will compensate for the added resistance of the TCN thus enabling the calibration controls to remain in approximately the same positions (however, the instrument will require recalibration).

**LMI CALIBRATION DEPARTMENT: NEWS**

December 1990

If you have recently purchased an LMI Model 19 or 3-97, you may have noticed a small dimple stamped into the electronics housing or "can". The dimple is located just below the latch on the front side of the instrument as you are looking at the meter. This dimple denotes the appropriate location to obtain the check source reading. Thus, when the check source is placed on the dimpled area, you should get an accurate and dependable reading.

From now on, all instruments containing internally mounted scintillation detectors will possess this user convenient dimple. For LMI instruments without an internal detector, we recommend the source and holder assembly be externally mounted on the can. If your instrument does not have a source and holder assembly mounted on the side you have two options. That is, you may want to attach them yourself or we will do it for you.

If you purchase the source and holder from us, we will mount the assembly at no charge. The best time is when you first purchase the instrument or it is sent in for calibration. If we mount this assembly, we will give you the readout figure at the time of calibration. The check source which is a sealed plastic disc of Cs-137 sells for \$ 24.00 each while the source holder is priced at \$ 30.00 each. Please contact the Sales Department if you have any questions.

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