

PMA 2100 Datalogging Radiometer

ELSCOLAB



- Every product is calibrated to NIST traceable standards before shipment.
- Meets UL 61010-1 Annex DVC specification.
- Data logging up to 1024 data points with time and date stamp.
- Analog output is standard for both channels.
- Dual input allow use with two detectors.

The PMA2100 light meter / photometer / UV meter / radiometer is a research grade datalogging meter that can be used with over 35 different detectors measuring UVA, UVB, UVC, Visible, and IR light. The PMA2100 uses intelligent sensor detection and data processing allowing you to add new sensors quickly to measure different kinds of light without having to use a different meter. The PMA2100 operates as a UV meter, Photometer / Light meter and Radiometer, and features graphic display, data logging, complex processing algorithms, selectable units of measure, averaging, tracking minima and maxima, dose integration, programmable alarm thresholds - all in a small hand-held device.

Choose from a range of sensors with various bandwidths which allows the meter to be used as a UV meter, light meter, photometer or full spectrum radiometer as well as a temperature and humidity meter.

By utilizing latest detector technology and object oriented approach in its design the PMA2100 will support virtually any detector that generates up to 4 analog signals. The detector setup and algorithms are encapsulated in the detector.

You can also add new detectors as you need them. If an application requires special features the PMA2100 can be easily upgraded simply by loading new software from the PC.

Safeguard your data. The data collected by the PMA2100 are stored in a non-volatile memory that retains its contents for years.

Stay in control of your measurements. There is much more to an accurate measurement than just recording its result. Along with the measured value the PMA2100 will automatically store or print other critical data including the sensor's serial number and calibration due date.

Don't change your habits. Instead tell the meter to display the results your way. The PMA2100's sensors are smart enough to remember the last configuration, including the units and values of alarm thresholds.

Data logging & Internet data link capability

The PMA2100 comes standard with an on-board data logging function but it can also download data onto a PC and be used for creating charts, graphs, archives, and exported to excel. 60 day free trial version available!

The Internet Data Link software available with the PMA2100 radiometer posts the data recorded by the meter to a web site allowing the data to be accessed anywhere in the world in real time.
60 day free trial version available!

Features

- **Variety of detectors available.** Many standard detectors are available off the shelf.
Due to its novel features the PMA2100 allows us to interface custom detectors quickly and inexpensively.
- **Ease of use.** The PMA2100 automatically configures itself for the new sensor when connected, becoming a UV meter, Photometer / Light Meter or Radiometer. No more entering programs and calibration factors. The detector setup and algorithms are encapsulated in the detector. The detector is ready to use out of the box.
- **Portability.** The PMA2100 with its powerful features easily fits into the palm of your hand.
Up to 2 detectors can be connected simultaneously via a 1ft/5ft cable enabling measurements in difficult to reach places. Rechargeable batteries allow for 30 hours of continuous operation.
- **Data Logging.** Up to 1024 data records can be stored in the internal non-volatile memory.
The storage can be triggered manually or automatically in a user-set interval (1 minute-2 hours).
Uniform record structure for all detectors simplifies data management.
- **Traceability.** Each data sample is accompanied by a set of auxiliary information such as: date, time, detector type and serial number, currently used units, user set scale factor, detector calibration due date and a set of flags indicating the state of the meter. This encourages an implementation of Good Laboratory Practices (GLP) and eases interfacing to Laboratory Information Management Systems (LIMS).
- **Noise immunity.** The signal amplification is done inside the detector encapsulated in a metal enclosure. The signal is delivered to the PMA2100 through a shielded cable offering high immunity to EMI and ESD.
- **Automatic unit conversion.** The measurement result can be displayed in one of many units customary for the particular measurement. A push of a button changes the unit selection. Custom units and conversion algorithms can be programmed to the detector on request.
Dose integration. A dose integration can be started from the keypad or remotely.
- **Computer interface.** Connection to a PC through a USB interface enables transfer of collected data. PMA Organizer, a Windows-based software facilitates data retrieval, archiving and presentation.
- **User defined alarms.** An independent alarm can be set for the instantaneous value or integrated dose for each detector. The alarm settings are stored in the detector and automatically recalled when the detector is in use.
- **Isolated Digital Input/Output.** A process can be controlled by the PMA2100 through the optically isolated digital I/O. The inputs can start or stop the dose collection while the outputs are triggered by the dose and value alarms. Controlling the dose of radiation to a subject is one possible application.
Power relay is available as an accessory.

Specifications

- **Detector Inputs:** 2 detector inputs with up to 2 analog signals each.
- **Input ranges:** $\pm 0.4\text{V}$, $\pm 4\text{V}$, auto-ranging.
Resolution 15 μV on the $\pm 0.4\text{V}$ range.
0-5Vdc output accessible through db-25 connection.
- **Dynamic range:** $>2 \cdot 10^5$.
- **Accuracy:** 0.5% FS all ranges.
- **Nonlinearity:** max 0.02% FS within each range.
- **Temperature coefficient:** max 50 ppm/ $^{\circ}\text{C}$.
- **Operating temperature:** 0 to 50 $^{\circ}\text{C}$.
- **Power source:** 4xAA NiCad or Alkaline batteries;
external 9-12V AC or DC adapter.
- **Weight:** 17 oz (480 grams).
- **Size:** 4"W x 7.6"H x 1.75"D (10x19.5x4.5 cm).

Applications

- Radiometry and laboratory measurements.
- Photometry.
- Environmental monitoring.
- Agriculture.
- Industrial hygiene and safety.
- Clinical studies & phototherapy.
- Photobiology.
- Environmental monitoring.
- Museum monitoring.
- Industrial process monitoring.
- UV-curing and printing industry.
- Sensor calibration.