⇄ **Data**logger

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HANWELL
MONITORING & CONTROL

Univeral Light Meter

Product Code	ULM
Series	Light Meter

Typical Applications
° Discreet logging in showcases
° Monitoring in galleries
° Monitoring in archives
° Monitoring in museums
° Monitoring in libraries
° Monitoring in storage rooms
° Travelling exhibitions
° Ageing tests

Instrument
Dimensions:	170 x 85 x 35 mm
Weight:	400 grams
Power Supply:	Disposable pp3 9 volt battery
Case Materials:	Black ABS
Angular Response:	Cosine
Record Capacity:	1984 records
Memory:	8k EEPROM

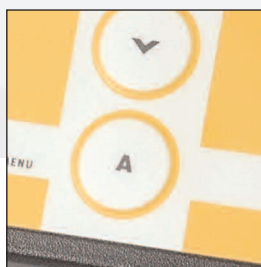### Sensor Lux
Dimensions:	33 mm diameter x 22 mm deep
Type:	Photometric diode detector
Visible Wavelength:	400 to 700 nM
Visible Power:	10 to 20000 lux
Colour Response:	Human eye
Lux Accuracy:	+/- 1%

Sensor UV
Dimensions:	33 mm diameter x 22 mm deep
Type:	UV enhanced silicon photodiode
UV Proportion:	Greater than 10 µW/Lumen
UV Power:	0 to 8000 mW/m2
UV Wavelength:	250 to 400 nM
UV Accuracy:	+/- 1% (calibration spectrum)

Communications & Software
PC Interface:	Serial cable
PC Software:	ULM
Minimum O/S:	Windows 2000
	Windows XP
	Windows NT

The Universal Light Meter is a hand-held instrument designed to measure Lux and UV and display the readings (including calculated cumulative exposures where applicable) in an easily understood format. Temperature and humidity measurement is available as an optional extra. The ULM can also be used as a stand-alone Lux and UV datalogger, with 8k of on-board memory. Fully featured PC software is included with the package. Easy access to all functions is given by an on screen-menu.

The ULM has internal auto-scaling across the ranges 10 to 20,000 Lux and 10 to 1,000 µW/Lumen. In the normal mode of operation it displays light levels on its alpha-numeric LCD screen as Lux, µW /Lumen and mW/m2. Lux is detected by a photometric diode and UV by a UV-enhanced silicon photodiode fitted with a hard UV filter material which provides a response over the range 250 to 400nm. The sensors are mounted adjacent to each other, with cosine-correction of both Lux and UV.

Logged data can be downloaded and stored on a PC using fully featured Windows based software using the RS232 serial communications lead.

The software allows the user to create a chart displaying the measurements taken. The software can also rapidly generate reports displaying the

maximum, minimum and cumulative Lux and UV levels over a time period. Data from up to three other Hanwell sensor units can be overlaid to allow quick comparison. The software is compatible with other Hanwell monitoring systems, allowing data from different Hanwell products to be compared. Data can also be exported in an ASCII format to other Windows programs such as Excel.

LCD display

Lux/UV sensor