HANWELL

ML4000LUX/UV

DATA SHEET

ML4000LUX/UV

The ML4000LUX/UV series of data loggers and radio transmitters enable users to measure light (LUX) and ultraviolet (UV). The ML4000 series of light and UV data loggers and radio transmitters are a range of advanced technology allowing monitoring of a site, with historical analysis of data.

Measurements can be taken of the proportion of UV present (µW/Lumen), the total amount of UV (mW/M2), and the amount of visible light (LUX).

LUX is measured in the range 10 to 5000 LUX. This is sufficient for environments where a LUX level of over 600 is not normally desired, but higher ranges can be supplied upon request. The UV range is 20 to 2000 µW/Lumen.

Locations	LUX requirements*
Sensitive materials such as prints, drawings, watercolours, dyed fabrics, manuscripts, and botanical specimens	50-100
Oil paintings, some photographs, ivory, wood and lacquer objects	150
Metal, stone, glass, ceramic and enamel objects	Generally are thought to be unaffected by strong light, but heat from lights can be affected. See our ML4000RHT series datasheet.

*These are a guideline only, users are asked to determine their own LUX recommendations as heritage pieces vary in state depending on their age and condition.

Product Features

- Data logging and radio transmitter formats
- Memory capacity 100,000 readings
- High performance technology with accurate connecting sensors
- Low power radio for long distance transmission (Over 3km over open ground)
- User accessible battery and USB socket
- Slots in back of unit for wall brackets
- Complies with RoHS, EU and WEEE directives
- Carries CE Mark

Benefits

- Reduce damage caused by natural and artificial light and UV on objects
- Minimise the destructive effects of UV on organic materials
- Save time and money previously used to restore objects affected by light and UV damage
- Create the optimium light and UV surroundings for all artefacts
- Light and UV products can be easily integrated into an existing Hanwell system

Format

Data Logger	✓
Radio Transmitter	✓
GPRS	✗

CE RoHS

Data Logger Functions

Memory: 256k EEPROM.
Logging intervals: Programmable from 10 seconds to 24 hours.
Record Capacity: 100,000 records
PC Interface: USB communications
Battery Life: Up to 3 years
Software required: W200 – HanLog 4.5+
W300 – HanLog 4.5+ Validated software for Heritage
Accessories: G129 – 3.6V AA Lithium battery
Y055 – USB cable
Y119 – Wall mount bracket*
This product can be calibrated to your specifications, contact us for further details.

N.B Instrument operating range -20°C to +60°C in a non-condensing RH environment

Radio Transmitter Functions

Frequency Options: A range of frequencies are available between 433-458MHz. Country specific regulations apply.
Radio Power: 10mW
Radio Range: 3km over open ground
Battery Life: Up to 18 months
Software required: W400 – RadioLog 8.4+
W119 – RadioLog 8.4+ Validated software for Heritage
Hardware required: CR2 – Controller
SR2 – Smart Receiver
REP – Repeater
Accessories: 88706 – 3.6V AA Lithium battery
Y119 – Wall mount bracket*
This product can be calibrated to your specifications, contact us for further details.

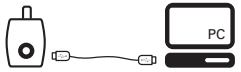
N.B Instrument operating range -20°C to +60°C in a non-condensing RH environment

*for ML4701, ML4702, ML4703 or ML4704 units

In Building monitoring

The ML4000LUX/UV data loggers and radio transmitters have been specifically designed for discreet monitoring indoors and can record data at user defined intervals for immediate notification and alarm or for historical monitoring purposes.

Standalone data logger



Radio system

(requires radio receiver)

Parameters

Light

Light & UV

The diagram below shows a typical radio system layout.

Technical Specifications

Description	LUX unit fitted with onboard LUX Sensor	LUX unit fitted with remote LUX Probe	LUX & UV unit fitted with onboard Sensors	LUX & UV unit fitted with remote probes
Data Logger Code	ML4701	ML4702	ML4703	ML4704
Radio Transmitter Code	ML4701-434.075 (other frequencies available)	ML4702-434.075 (other frequencies available)	ML4703-434.075 (other frequencies available)	ML4704-434.075 (other frequencies available)
LUX Sensor	Photometric diode detector	Photometric diode detector	Photometric diode detector	Photometric diode detector
Visible Wavelength	400 to 700nM	400 to 700nM	400 to 700nM	400 to 700nM
Visible Range	10 to 5000 LUX	10 to 5000 LUX	10 to 5000 LUX	10 to 5000 LUX
Colour Response	Human eye (Match to CIE Curve = 5%)	Human eye (Match to CIE Curve = 5%)	Human eye (Match to CIE Curve = 5%)	Human eye (Match to CIE Curve = 5%)
Linearity	1%	1%	1%	1%
Angular Response	Cosine	Cosine	Cosine	Cosine
UV Sensor			UV silicon carbide	UV silicon carbide
UV Power range			20 to 2000 mW/m2	20 to 2000 mW/m2
UV Wavelength Range			250 to 400nm	250 to 400nm
Linearity			1%	1%
Angular Response			Cosine	Cosine

Instrumentation Specification

Dimensions: 110 x 80x 35mm
Weight: 200 grams
Power Supply: 3.6V AA Lithium battery
Case Material: ABS & PC
Memory Capacity: 100,000 readings

In Building monitoring

The flat panel radio transmitter has been specifically designed for discreet monitoring (with a panel insert for gallery painting/sculpture descriptions). The transmitter is used indoors and can record data at user defined intervals for immediate notification and alarm or for historical monitoring purposes.

Radio system

(requires radio transmitter)

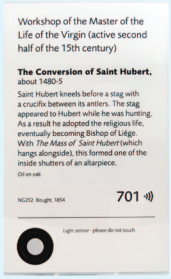
Parameters

- Light
- Light & UV

The diagram below shows a typical radio system layout.

Technical Specifications

Description	Flat panel LUX Transmitter	Flat panel LUX & UV Transmitter
Data Logger Code	N/A	N/A
Radio Transmitter Code	ML4705-434.075 (other frequencies available)	ML4706-434.075 (other frequencies available)
LUX Sensor	Photometric diode detector	Photometric diode detector
Visible Wavelength	400 to 700nM	400 to 700nM
Visible Range	10 to 5000 LUX	10 to 5000 LUX
Colour Response	Human eye (Match to CIE Curve = 5%)	Human eye (Match to CIE Curve = 5%)
Linearity	1%	1%
Angular Response	Cosine	Cosine
UV Sensor		UV silicon carbide
UV Proportion range		10 to 1000 µW / Lumen
UV Power range		0 to 2000 mW /m2
UV Wavelength Range		250 to 400 nM
Accuracy		+/- 1% (calibration spectrum)
Angular Response		Cosine



Instrumentation Specification

Dimensions: 110 x 80 x 35mm
Weight: 200 grams
Power Supply: 3.6V AA Lithium battery
Case Material: ABS & PC
Memory Capacity: 100,000 readings

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Intelligent monitoring and control solutions:

In Buildings | In Transit | Outdoor/Remote

Contact Us for more information about how to apply our products to your application.

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