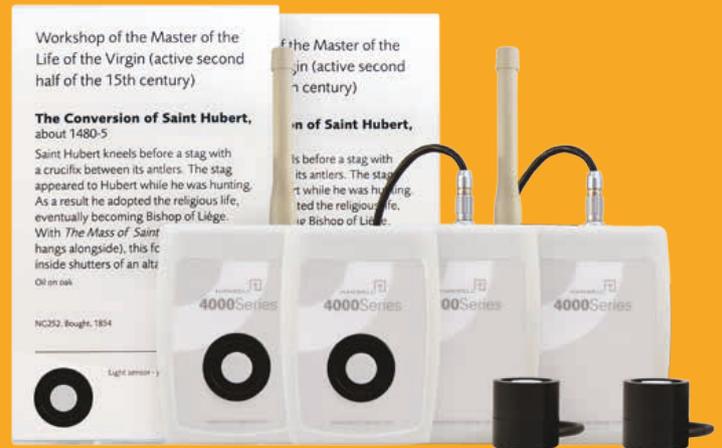


## Light & UV monitoring

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 ( $\mu\text{W}/\text{Lumen}$ ), the total amount of UV ( $\text{mW}/\text{M}^2$ ), and the amount of visible light (LUX).



## ML4000LUX/UV

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  $\mu\text{W}/\text{Lumen}$ .

| 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 ML-4000RHT 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 Marking

### 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 optimum light and UV surroundings for all artefacts
- Light and UV products can be easily integrated into an existing Hanwell system

Always ask for a long-range signal strength test.

We can prove ours to be unrivalled.



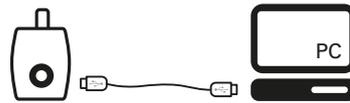
Data logger and Radio formats are available within this range and each will contain the typical functions below:

## 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+<br>W300 – HanLog 4.5+ Validated software for Heritage   |
| Accessories:       | G129 – 3.6V AA Lithium battery<br>Y055 – USB cable<br>Y119 – Wall mount bracket*<br>This product can be calibrated to your specifications, contact us for further details. |

*N.B Instrument operating range -20°C to +65°C in a non-condensing RH environment*

### Standalone data logger



## RADIO TRANSMITTER FUNCTIONS

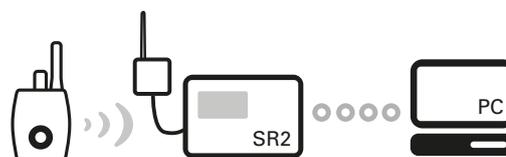
|                    |   |
|--------------------|---|
| Frequency options: | A range of frequencies are available between 433-458MHz. Country specific regulations apply.  |
| Radio power:       | 10mW  |
| Radio range:       | 3km over open ground  |
| Battery Life:      | Up to 18 months   |
| Software required: | W700 – Standard Synergy Software Package<br>W706 – Validated Synergy Software Package<br>*See Synergy datasheet for further options                               |
| Hardware required: | CR2 – Controller<br>SR2 – Smart Receiver<br>REP – Repeater  |
| Accessories:       | 88706 – 3.6V AA Lithium battery<br>Y119 – Wall mounting bracket*<br><i>This product can be calibrated to your specifications, contact us for further details.</i> |

\*for ML4701, ML4702, ML4703 or ML4704 units

*N.B Instrument operating range -20°C to +65°C in a non-condensing RH environment (operating range dependant on sensor)*

### Radio system

(requires radio receiver)



#### Disclaimer

The information contained herein is believed to be reliable. The IMC Group Ltd is not responsible for any incorrect or incomplete information on this datasheet and the information or product may be changed without notice. Customers should obtain and verify the latest relevant information before placing orders for IMC products.

Version 1

### ML4701



Data logger code: ML4701

Radio transmitter code: ML4701-434.075 (other frequencies are available)

#### 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        |

#### Specifications:

|                     |                                     |
|---------------------|-------------------------------------|
| <b>LUX Sensor:</b>  | Photometric diode detector          |
| Visible wavelength: | 400 to 700nm                        |
| Visible range:      | 10 to 5000 LUX                      |
| Colour response:    | Human eye (Match to CIE Curve = 5%) |
| Linearity:          | 1%                                  |
| Angular response:   | Cosine                              |

### ML4701 - Radio transmitter & data logger

LUX unit fitted with onboard LUX Sensor

### ML4702



Data logger code: ML4702

Radio transmitter code: ML4702-434.075 (other frequencies are available)

#### SPECIFICATIONS

#### Instrumentation Specification:

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

#### Specifications:

|                     |                                     |
|---------------------|-------------------------------------|
| <b>LUX Sensor:</b>  | Photometric diode detector          |
| Visible wavelength: | 400 to 700nm                        |
| Visible range:      | 10 to 5000 LUX                      |
| Colour response:    | Human eye (Match to CIE Curve = 5%) |
| Linearity:          | 1%                                  |
| Angular response:   | Cosine                              |

### ML4702 – Radio transmitter & data logger

LUX unit fitted with remote LUX Probe

### ML4703



#### ML4703 - Radio transmitter & data logger

LUX & UV unit fitted with onboard Sensors

Data logger code: ML4703

Radio transmitter code: ML4703-434.075 (other frequencies are available)

#### 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        |

#### Specifications:

|                      |                                     |
|----------------------|-------------------------------------|
| <b>LUX Sensor:</b>   | Photometric diode detector          |
| Visible wavelength:  | 400 to 700nm                        |
| Visible range:       | 10 to 5000 LUX                      |
| Colour response:     | Human eye (Match to CIE Curve = 5%) |
| Linearity:           | 1%                                  |
| Angular response:    | Cosine                              |
| <b>UV Sensor:</b>    | UV silicon carbide                  |
| UV Power range:      | 20 to 2000 mW/m <sup>2</sup>        |
| UV Wavelength range: | 215 to 365nm                        |
| Linearity:           | 1%                                  |
| Angular Response:    | Cosine                              |

### ML4704



#### ML4704 – Radio transmitter & data logger

LUX & UV unit fitted with remote probes

Data logger code: ML4704

Radio transmitter code: ML4704-434.075 (other frequencies are available)

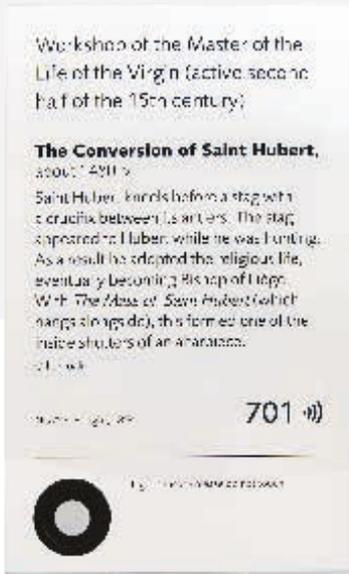
#### Instrumentation Specification:

|                  |                         |
|------------------|-------------------------|
| 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        |

#### Specifications:

|                      |                                     |
|----------------------|-------------------------------------|
| <b>LUX Sensor:</b>   | Photometric diode detector          |
| Visible wavelength:  | 400 to 700nm                        |
| Visible range:       | 10 to 5000 LUX                      |
| Colour response:     | Human eye (Match to CIE Curve = 5%) |
| Linearity:           | 1%                                  |
| Angular response:    | Cosine                              |
| <b>UV Sensor:</b>    | UV silicon carbide                  |
| UV Power range:      | 20 to 2000 mW/m <sup>2</sup>        |
| UV Wavelength range: | 215 to 365nm                        |
| Linearity:           | 1%                                  |
| Angular Response:    | Cosine                              |

### ML4705



**ML4705 - Radio transmitter**  
Flat panel LUX Transmitter

Data logger code: N/A

Radio transmitter code: ML4705-434.075 (other frequencies are available)

#### Instrumentation Specification:

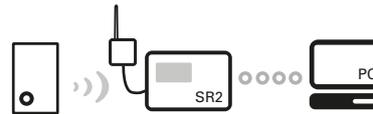
|                  |                         |
|------------------|-------------------------|
| Dimensions:      | 260 x 155 x 25mm        |
| Weight:          | 200 grams               |
| Power supply:    | 3.6V AA Lithium battery |
| Case material:   | ABS & PC                |
| Memory capacity: | 100,000 readings        |

#### Specifications:

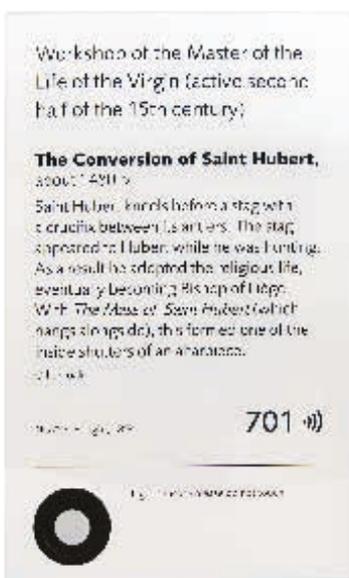
|                     |                                     |
|---------------------|-------------------------------------|
| <b>LUX Sensor:</b>  | Photometric diode detector          |
| Visible wavelength: | 400 to 700nm                        |
| Visible range:      | 10 to 5000 LUX                      |
| Colour response:    | Human eye (Match to CIE Curve = 5%) |
| Linearity:          | 1%                                  |
| Angular response:   | Cosine                              |

#### Radio system

(requires radio transmitter)



### ML4706



**ML4706 – Radio transmitter**  
Flat panel Lux & UV transmitter

Data logger code: N/A

Radio transmitter code: ML4706-434.075 (other frequencies are available)

#### Instrumentation Specification:

|                  |                         |
|------------------|-------------------------|
| Dimensions:      | 260 x 155 x 25mm        |
| Weight:          | 200 grams               |
| Power supply:    | 3.6V AA Lithium battery |
| Case material:   | ABS & PC                |
| Memory capacity: | 100,000 readings        |

#### Specifications:

|                      |                                     |
|----------------------|-------------------------------------|
| <b>LUX Sensor:</b>   | Photometric diode detector          |
| Visible wavelength:  | 400 to 700nm                        |
| Visible range:       | 10 to 5000 LUX                      |
| Colour response:     | Human eye (Match to CIE Curve = 5%) |
| Linearity:           | 1%                                  |
| Angular response:    | Cosine                              |
| <b>UV Sensor:</b>    | UV silicon carbide                  |
| UV Proportion range: | 10 to 1000 µW / Lumen               |
| UV Power range:      | 20 to 2000 mW /m2                   |
| UV Wavelength:       | 215 to 365nm                        |
| Accuracy:            | +/- 1% (calibration spectrum)       |
| Angular response:    | Cosine                              |

#### Radio system

(requires radio transmitter)

