**SPECIFICATIONS**

- **Range:** 360-970nm
- **Consumption:** ~0.05mA

**FEATURES**

- Pre-conditioned analog output
- High signal-to-noise ratio
- Shielded miniaturized cables
- Small form factor
- Raw data output
- Easy-to-use

**RESEARCH APPLICATIONS**

- Synchronization with a computer screen
- Optical marker detector
- Ambient light monitoring

**GENERAL DESCRIPTION**

Light (LUX) sensors are typically used for ambient light detection. A common need when working with biosignals is the synchronization of the recorded data with external sources (e.g. a computer screen for visual evoked potentials). If applied to the computer screen, our LUX sensor can be used to detect chromatic changes in the stimuli, hence providing a synchronization source. The LUX sensor can also be useful for optical synchronization with third-party devices (provided that the third-party device can trigger an LED), in applications where it is important to have electrical decoupling between devices.

**Fig. 1.** Miniaturized form factor for improved ease-of-use.

**Fig. 2.** Typical raw LUX data (acquired with biosignals).
**Light (LUX) Sensor Data Sheet**

**TRANSFER FUNCTION**

[0%, 100%]

\[
\text{LUX} (%) = \frac{\text{ADC}}{2^n} \times 100
\]

\(\text{LUX} (%)\) – LUX value in percentage (%)

\(\text{ADC}\) – Value sampled from the channel

\(n\) – Number of bits of the channel

**PHYSICAL CHARACTERISTICS**

> \(W \times L \times H\): 1.0x1.8x0.4cm

> \(A\): 105.0±0.5 cm

> \(S\): White, Black, Blue, Green, Red, Yellow, Gray, or Brown

**ORDERING GUIDE**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Package Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUX2</td>
<td>Light (LUX) sensor in a standard configuration</td>
</tr>
<tr>
<td>LUX2-A-S</td>
<td>Light (LUX) sensor built with custom lengths A and custom sleeve color S; for standard physical characteristics in A or S use 0.</td>
</tr>
</tbody>
</table>

Examples:

> LUX2-200-0: LUX sensor with a 200cm cable A and random sleeve color

> LUX2-0-Yellow: LUX sensor with a standard cable size A and a yellow cable sleeve

> LUX2-50-Red: Fully custom LUX sensor with a 50cm cable A and a red cable sleeve

---

1 The number of bits for each channel depends on the resolution of the Analog-to-Digital Converter (ADC); in biosignalsplux the default is 16-bit resolution (\(n = 16\)), although 12-bit (\(n = 12\)) and 8-bit (\(n = 8\)) may also be found.