



TOKYO DEVICES

IWS660-CS

General Purpose USB Illuminance Sensor

Revision 1.0



The IWS660 is a USB illuminance sensor. It can easily capture ambient light in lux units and import it directly into a PC. With bus-powered operation, it requires no additional power supply. Its lightweight, compact package with a flange makes installation easy. Additionally, the control commands compatible with Windows and Linux enable seamless integration with custom applications and facilitate data logging.

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1. Specifications

<i>Item</i>	<i>Value</i>	<i>Unit</i>	<i>Description</i>
Power Voltage	5 ± 10%	V	Power supplied via USB bus.
Current Consumption	12	mA	Typ.
Measurement Range Min	10	lx	
Measurement Range Max	100,000	lx	
Resolution (※)	900	ticks	Logarithmic variation over 900 steps between 10 and 100,000 lx
Communication Standard			USB 1.1 / HID Profile
Supported OS			Windows 7 and later (32/64-bit supported) Linux
Dimensions	70 x 50 x 17	mm	
Weight	30	g	
Connector			USB Type Mini-B
Operating Temp. Range	-10~50	°C	No condensation

1. Connection

Connect the USB connector on the side of the IWS660 to a USB port on the PC. Power will automatically turn on.

2. Control Commands

For Windows:

Download the control command "TD-USB." Visit the Tokyo Devices website, search for the product using the keyword "IWS660," and download it from <https://en.tokyodevices.com/>

If an error occurs during command startup stating "vcruntime140.dll is missing," search for "Visual Studio 2015 Redistributable Package" online and download/install the required libraries from Microsoft's website.

For Linux:

Obtain the source code from the GitHub repository at <https://github.com/tokyodevices/td-usb> and compile it. (Technical support for compilation on Linux is not provided.)

2.1. Reading Values

Legend:

```
> td-usb iws660[:serial number] read [--loop=(wait time)] [--format=json]
```

This command retrieves the latest values from the device. The terms "td-usb," "iws660," and "read" are fixed strings. If multiple IWS660 devices are connected to the computer, you can specify a particular unit by adding a colon and the

serial number after "iws660." If no serial number is specified, the first device detected by the computer will be targeted.

The `--loop` option allows for continuous measurement. The wait time defines the interval between measurements in milliseconds. The `--format=json` option outputs results in JSON format.

Example Execution:

```
> td-usb iws660 read --loop=500
100.2
100.2
100.2
118.4
118.4
...
```

In this example, values are read every 500 milliseconds from the first connected IWS660 device. The initial reading is 100.2 lux, and by the fourth measurement (after 2000 milliseconds), 118.4 lux is output.

You can use standard output redirection or piping with the TD-USB command to save the results to a file or use them as input for another process, providing versatile usage options.

2.2. Device Enumeration

Legend:

```
> td-usb iws660 list
```

This command outputs serial numbers of IWS660 device connected to the computer.

```
> td-usb iws660 list
1234567890,1843781739,3948479817
```

This example shows that three IWS660 devices are connected.

For other options available in the TD-USB command, please refer to the "Tokyo Devices TD-USB Command Developer Guide" for detailed usage instructions: <https://tokyodevices.github.io/td-usb-docs/>

3. Product Customization Services

Tokyo Devices offers customization of circuit board exteriors, functionalities, and performance based on customer needs. For more details, please check the "Customization" on the Tokyo Devices website.

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