USB Photomultiplier

M009

Realize the measurement of ultra weak light by the USB cable connected to PC

Overview

Directly connected to the PC the weak light measurement with a USB cable
Photomultiplier control signal at the USB, and transfer the measurement data through USB port.

Appearance

Topics

- It will measure the weak light through USB port to the PC
- Optical sensor module consists of a photomultiplier and a signal processing circuit.
- Set the sensitivity and measurement conditions by the control signal to the detector.
- Outputs the detection data to the PC

Application

- Weak optical measurement of fluorescence and emission absorption and so on.
- Application to the detection portion of the optical measureing device

Specification

Details	Content
Wavelength range	230nm～700nm
Detector type Size(mm)	Photomultiplier Acceptance surface Φ8.0
PMT Control voltage	0.5 ～ 1.0 [V]
PMT Output current	10 [uA] maximum
Signal amplifier	Current-to-voltage conversion
Sampling time	100ms
Gain	4,000 ～ 5,000,000
Analog-to-digital resolution	24bit
Optical coupling	SMA Optical fiber(Removable)
Driving power	USB bus power
Output Display	Detection light intensity (Current value)
Data transfer	Save in the PC via the USB
Dimension	30 W×30 H ×96 D [mm]
Weight	135 g
Operating temperature	+15～+35 ℃
Operating humidity	30%～80% (no condensation)

Characteristic
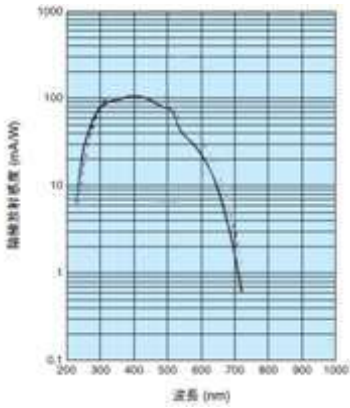
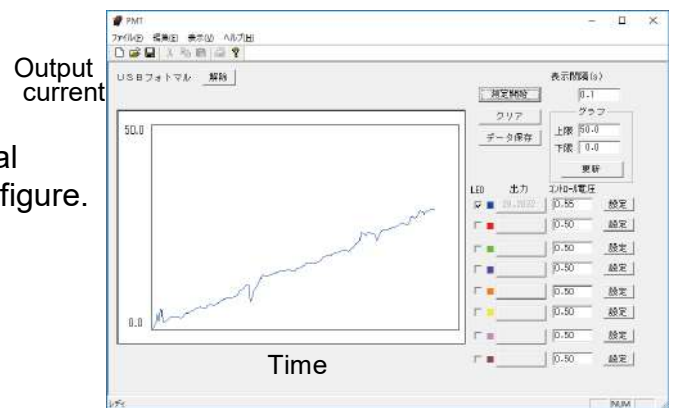Typical spectral sensitivity
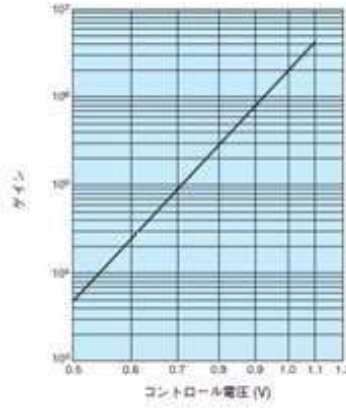
Typical characteristics of control voltage and gain
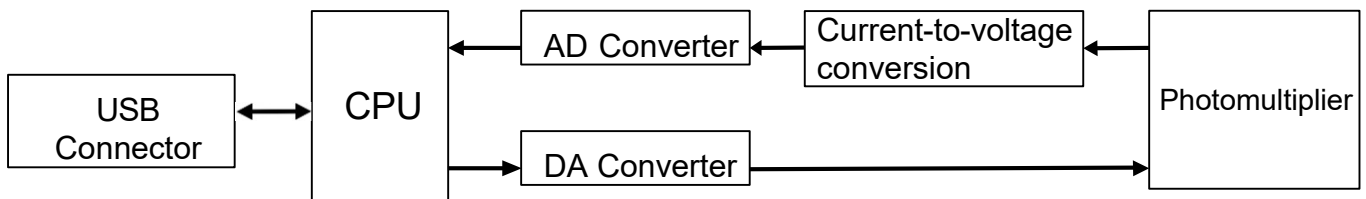
Connection to a PC

Software

· To set control voltage and the measurement interval
· Example of data display is shown on the right side figure.
· Maximum concurrent eight possible measurement. The results show graphs
· Measurement results will be format of CSV output.

Output current

Time

Data on the screen

Block Diagram

USB Connector ↔ CPU

AD Converter ← Current-to-voltage conversion ← Photomultiplier

DA Converter →

Dimensions

8   78   30

30

SMA Fiber Connector

LED   USB connector (mini B)