

Makes measuring delayed fluorescence in plants and algae smooth and easy.

The C17056-01 is a photon detection unit designed to make measuring low-level light at photon counting levels smooth and easy. With this unit, photon counting measurements require no special setups and are quick and simple.

All the user does is place a sample in the sample holder and enter commands from a measurement program. This unit is ideal for measuring delayed fluorescence emitted from plants and algae.



Left: C17056-01 + Excitation light source unit A9860-01
+ Test tube holder A9861-01

Right: C17056-01 + Excitation light source unit A9860-01
+ Sample holder unit A9861-02

FEATURES

●No complicated setup required

Typically, making photon counting measurements requires complicated setups. However, this unit incorporates a photomultiplier tube (PMT), a power supply for working the PMT, a pulse shaper for detecting single photon outputs, and a pulse counter. Also, since the compatible test tube holder and sample holder (sold separately) for this unit have an excellent light-shielding structure, making it easy to start photon counting measurements without complicated setup.

●Detectable wavelengths up to 850 nm

The built-in photomultiplier tube has sensitivity extending up to 850 nm. A red filter (transmission band > 650 nm) is also mounted in front of the photocathode, making it ideal for detecting fluorescence from plants and algae.

●Excitation light source with 3 different wavelengths

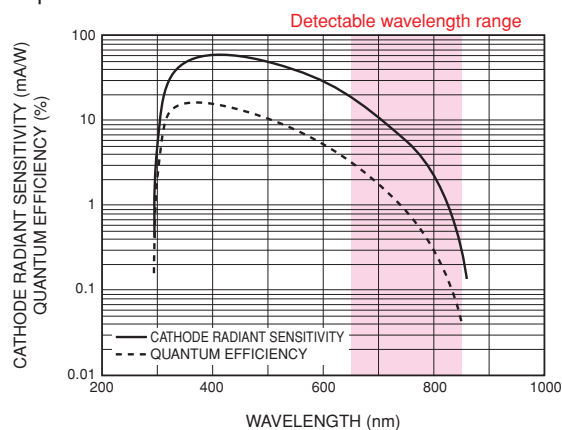
This unit includes an excitation light source that emits light at 680 nm, 700 nm and 720 nm. The wavelength can be switched and the light intensity can be adjusted programmatically.

●Samples can be measured while in test tubes or petri dishes

Two types of sample holders are available: one type holds 25 mm-diameter, 80 mm-long test tubes, and the other is a drawer type accommodating 60 mm-diameter petri dishes.

●Comes with a measurement program

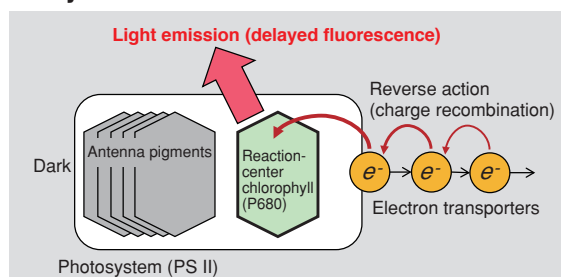
The measurement program allows for flexible measurement condition settings, supporting optimal measurements for your application.



APPLICATIONS

- Delayed fluorescence measurements
- Environmental response evaluations
- Stress response evaluations

Delayed fluorescence



After excitation light irradiation, fluorescence by charge recombination is measured in the dark. The intensity of the fluorescence reflects the amount of electrons captured by the electron carriers. It is less affected by the amount of antenna pigments and thermal processes.

PHOTON DETECTION UNIT C17056-01

SPECIFICATIONS

C17056-01-A1/-A2/-A3* *A1: For Japan, A2: For North America, A3: For Europe (Difference in AC adapter specifications)

Parameter		C17056-01 + A9860-01 + A9861-01 (test tube type)	C17056-01 + A9860-01 + A9861-02 (drawer type)	Unit
Measurement section	Detectable wavelength range	650 to 850 ①		nm
	Dark count	7000 Max.		s ⁻¹
	Effective photocathode size	22 dia.		mm
	Detection method	Photon counting method		—
	Sampling gate time	0.001 to 1 (×10 steps)		s
	Maximum count rate	3 × 10 ⁶		s ⁻¹
	Trigger mode	Software / External trigger (TTL rise edge)		—
	Shutter open/close speed	0.5 Min.		s
Excitation light source	Wavelength of excitation light	680 / 700 / 720		nm
	Excitation light intensity control	1000		levels
Sample compartment	Sample size that can be placed	Test tube 25 dia. × 80	W60 × D60 × H25	mm
	Distance to photocathode surface	41.5 ②	50.6 ③	mm
Ratings	Input voltage	+7 (supplied from accessory AC adapter)		V
	Operating ambient temperature	+5 to +40		°C
	Operating ambient humidity	Below 80 (no condensation)		% RH
Others	Protection function	ON: Shutter won't open when sample compartment is open.		—
	Weight	1.4	1.3	kg
	Support OS	Windows®10 Pro / 11 Pro		—
	Interface	USB interface		—
	Measurement program functions	Warm-up operation, sensitivity calibration, count monitor, measurement sequence setting, data save		—
	Accessories	CD-ROM (Measurement program, Manual), USB cable, trigger cable, AC adapter		—

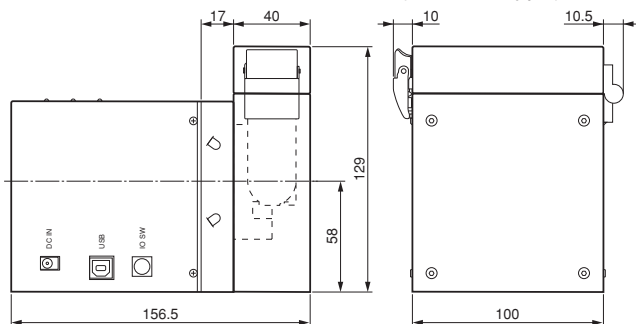
NOTE: ①When combined with filter. Spectral response range is from 300 nm to 850 nm when no filter is used.

②Distance from center of test tube to photocathode surface

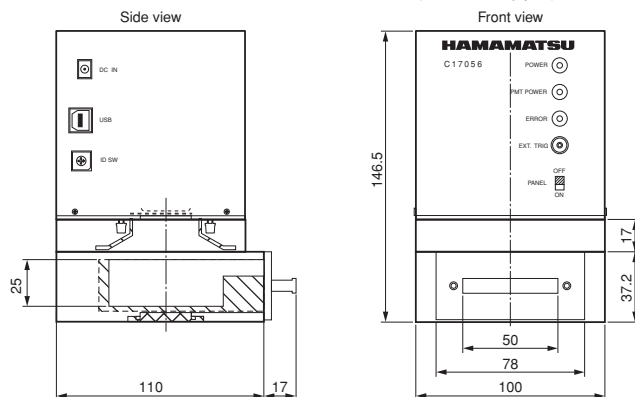
③Distance from bottom of sample holder unit to photocathode surface

Figure 1: Dimensional outlines (Unit: mm)

●C17056-01 + A9860-01 + A9861-01 (test tube type)



●C17056-01 + A9860-01 + A9861-02 (drawer type)



For measurement of samples in test tube

Product name	Type No.
Photon detection unit	C17056-01
Excitation light source unit	A9860-01
Test tube holder	A9861-01

For measurement of samples in petri dish

Product name	Type No.
Photon detection unit	C17056-01
Excitation light source unit	A9860-01
Sample holder unit	A9861-02

OPTIONS (Sold separately)

Product name	Type No.	
Pre-cleaned test tubes (10 tubes)	A17023-01	Test tubes for A9861-01 test tube holder (25 mm dia. × 80 mm), pre-cleaned

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