

C6386-01



## Light-to-voltage conversion amplifier with optical fiber

### Features

#### → Easy handling

Built-in photodiode allows easy detection of light just by connecting to a voltmeter.

#### → Optical fiber light input

Measures light at a narrow detection point. Separating the amplifier from the detection point allows measurement in unusual environments and achieves low noise.

#### → Three sensitivity ranges

Range	Conversion impedance (V/A)	Cutoff frequency (MHz)
H	$10^5$	1
M	$10^4$	3
L	$10^3$	10

#### → High-speed response

### Applications

#### → Optical power meters

#### → Laser monitors

#### → Precision photometry

#### → Various light detection (sparks inside equipment, etc.)

### Absolute maximum ratings (Ta=25 °C unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Supply voltage	Vs max		±18	V
Operating temperature	Topr	No dew condensation*1	0 to +40	°C
Optical fiber usage temperature	-	No dew condensation*1	0 to +60	°C
Incident light level	Pin max		10	mW
Minimum bending radius for optical fiber	-		R15	mm

\*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

### Recommended operating range

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating supply voltage	Vs		±6	-	±15	V

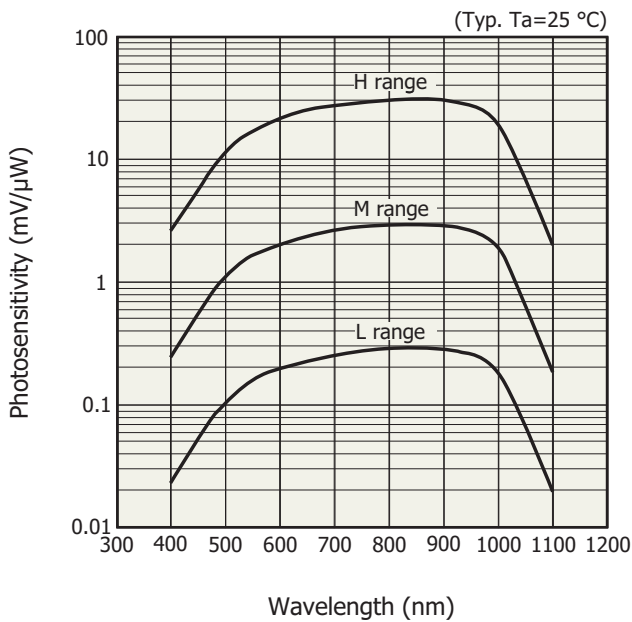
**Specifications (Ta=25 °C, Vs=±15 V, ±9 V using integrated dry batteries)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Photosensitive area opening diameter	-		-	φ2.0	-	mm	
Numerical aperture	-		-	0.56	-	-	
Photosensitivity*2	S	λ=830 nm Measured when light is input to the optical fiber end.	H	-	30	-	mV/μW
			M	-	3	-	
			L	-	0.3	-	
Output resistance	Ro		-	200	-	Ω	
Maximum output amplitude voltage	Vfs	Vs=±15 V, RL=2 kΩ	+10	-	-	V	
		Vs=±9 V, RL=2 kΩ	+5	-	-		
Output noise voltage	Vn	Dark state, all bandwidth	-	-	10	mVp-p	
Cutoff frequency*3	fc	-3 dB	H	Lower	-	DC	MHz
				Upper	-	1	
			M	Lower	-	DC	
				Upper	-	3	
			L	Lower	-	DC	
				Upper	-	10	
Battery lifetime	-	With dry batteries dark state, RL > 10 kΩ	-	90	-	hr	
Current consumption	Is	Dark state	-	-	±7	mA	
Weight	-	Including batteries	-	460	-	g	

\*2: Refer to spectral response.

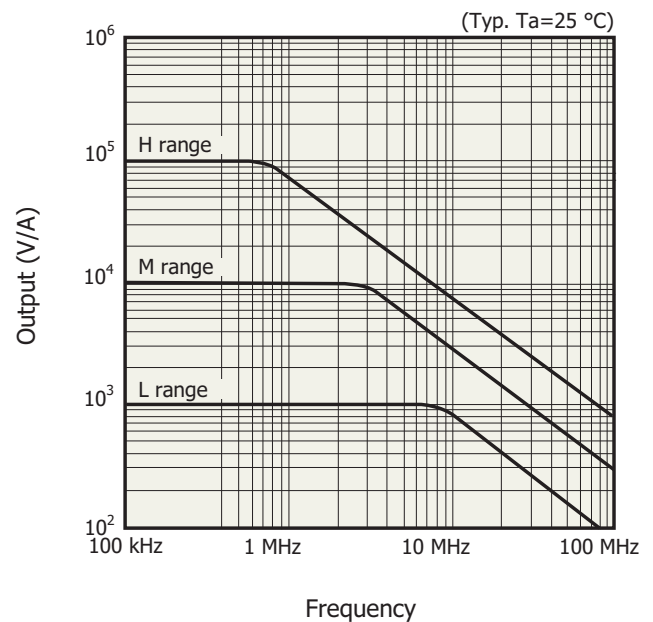
\*3: Refer to frequency response.

**Spectral response**



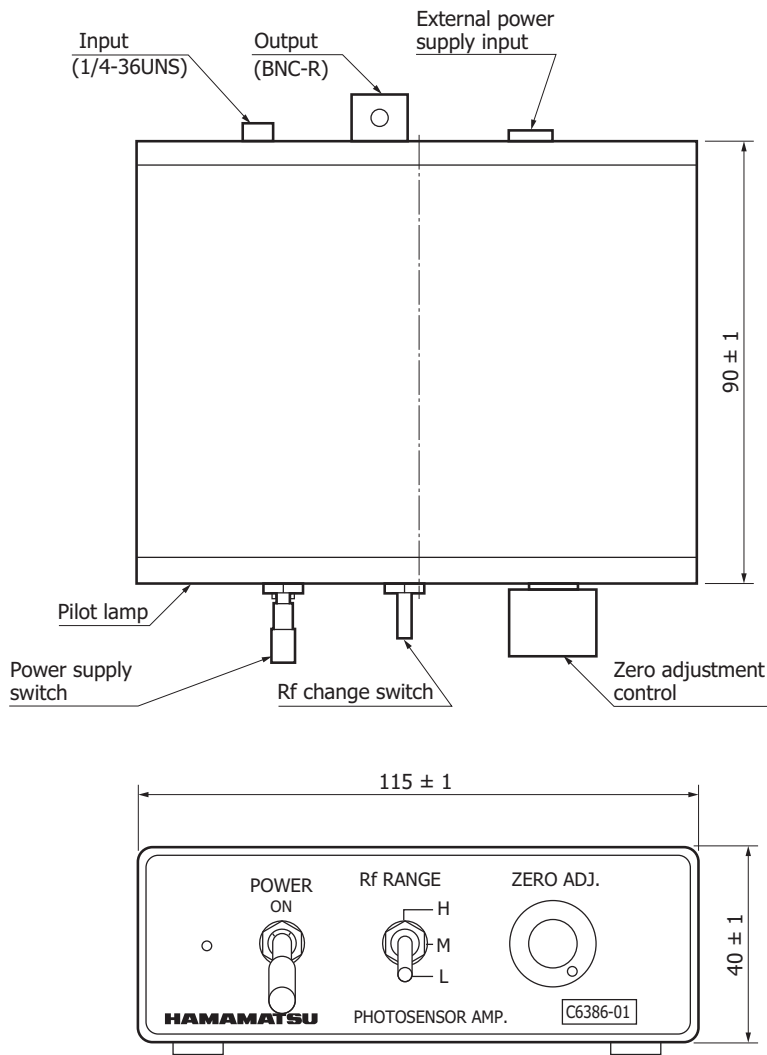
KACC80041EC

**Frequency response**



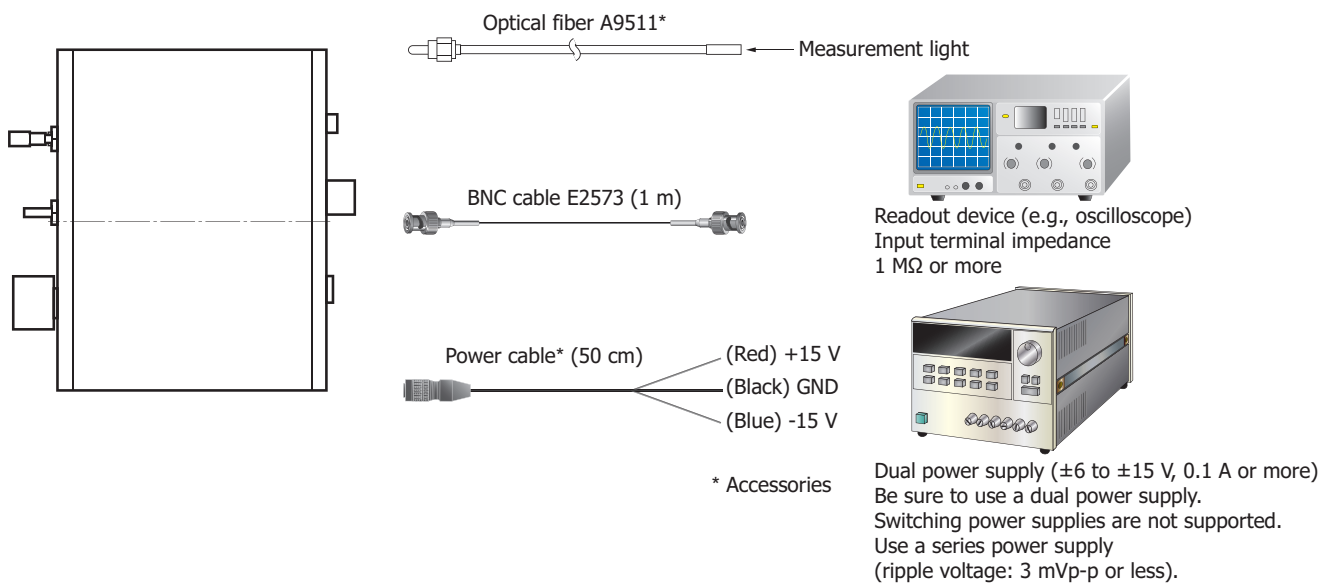
KACC80042EB

**Dimensional outline (unit: mm)**



KACCA0020EC

**Connection example**



\* Accessories

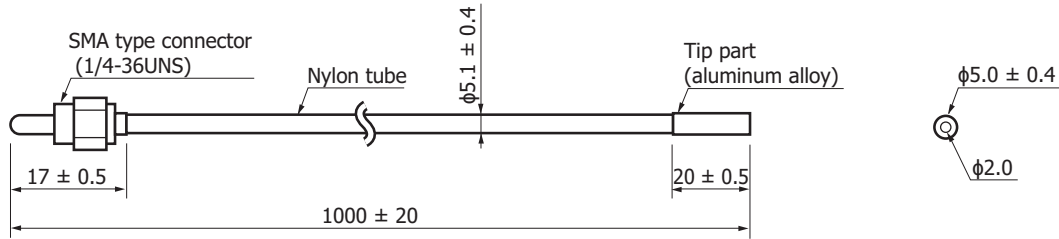
Readout device (e.g., oscilloscope)  
Input terminal impedance  
1 MΩ or more

Dual power supply ( $\pm 6$  to  $\pm 15$  V, 0.1 A or more)  
Be sure to use a dual power supply.  
Switching power supplies are not supported.  
Use a series power supply  
(ripple voltage: 3 mVp-p or less).

KACCC0882EB

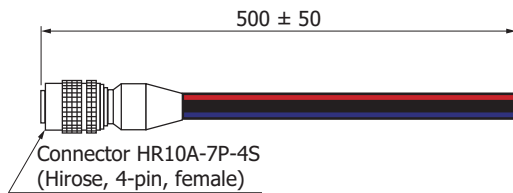
**Accessories (unit: mm)**

- Instruction manual
- Dry battery (built into the unit)
- Optical fiber A9511 (provided also as a replacement accessory)



KACCA0141EB

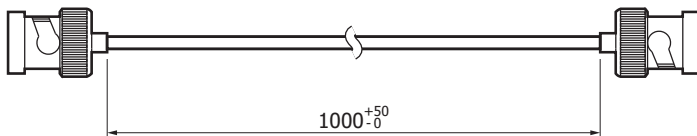
- Power cable



KACCC0823EA

**Options (unit: mm)**

- BNC cable E2573
- Cable: 1.5D-QEV



KACCA0334EA

**Related information**

[www.hamamatsu.com/sp/ssd/doc\\_en.html](http://www.hamamatsu.com/sp/ssd/doc_en.html)

- Precautions
- Disclaimer

Information described in this material is current as of August 2019.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use. Copying or reprinting the contents described in this material in whole or in part is prohibited without our prior permission.