

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		±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
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
Supply voltage	Vs		±6	-	±15	V

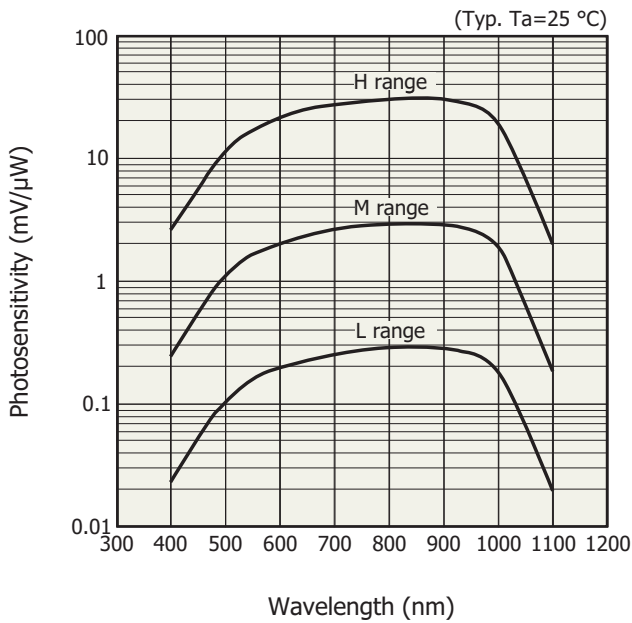
Specifications (Ta=25 °C, Vs=±15 V, ±9 V using integrated dry batteries)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Fiber diameter	-		-	φ2.0	-	mm
Numerical aperture	-		-	0.56	-	-
Photosensitivity*2	H	λ=830 nm Measured when light is input to the optical fiber end.	-	30	-	mV/μW
	M		-	3	-	
	L		-	0.3	-	
Output resistance	-		-	200	-	Ω
Output voltage amplitude	Vfs	Vs=±15 V, RL=2 kΩ	+10	-	-	V
		Vs=±9 V, RL=2 kΩ	+5	-	-	
Output noise	Vn	Dark state, all bandwidth	-	-	10	mVp-p
Frequency bandwidth*3	H	-3 dB	DC	1	-	MHz
	M		DC	3	-	
	L		DC	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.

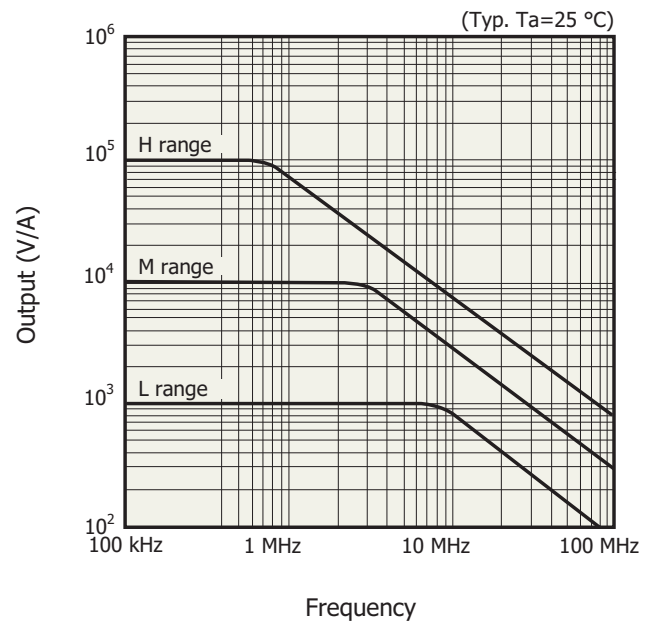
*3: Refer to frequency response.

Spectral response



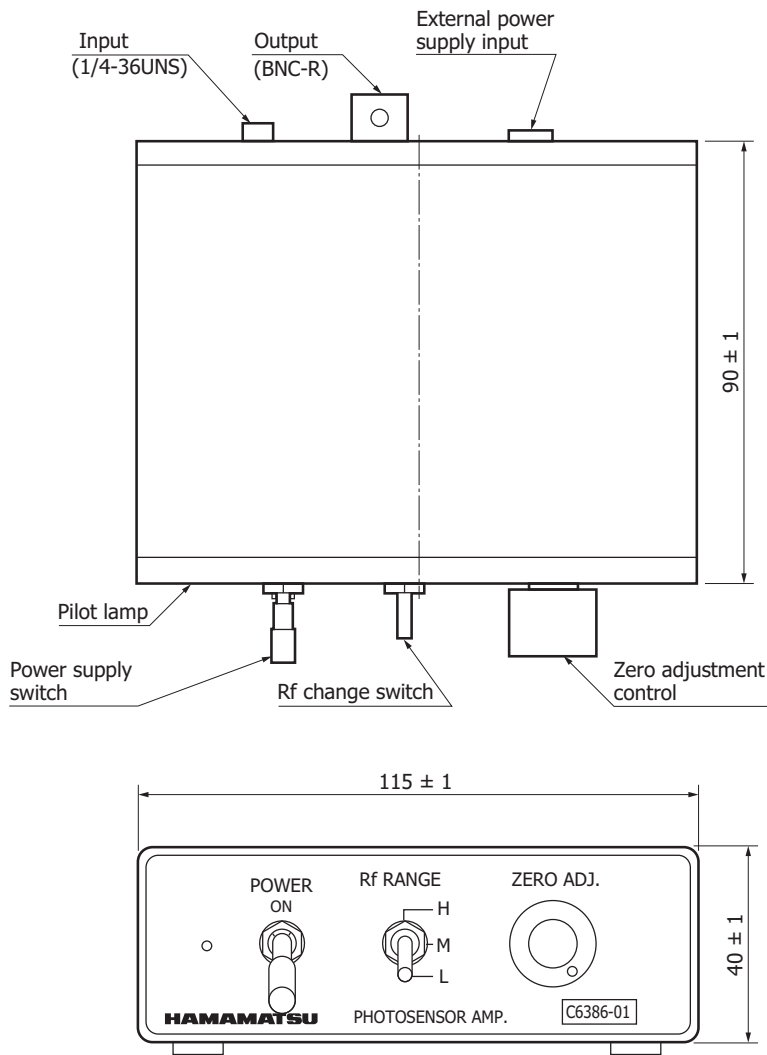
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Frequency response



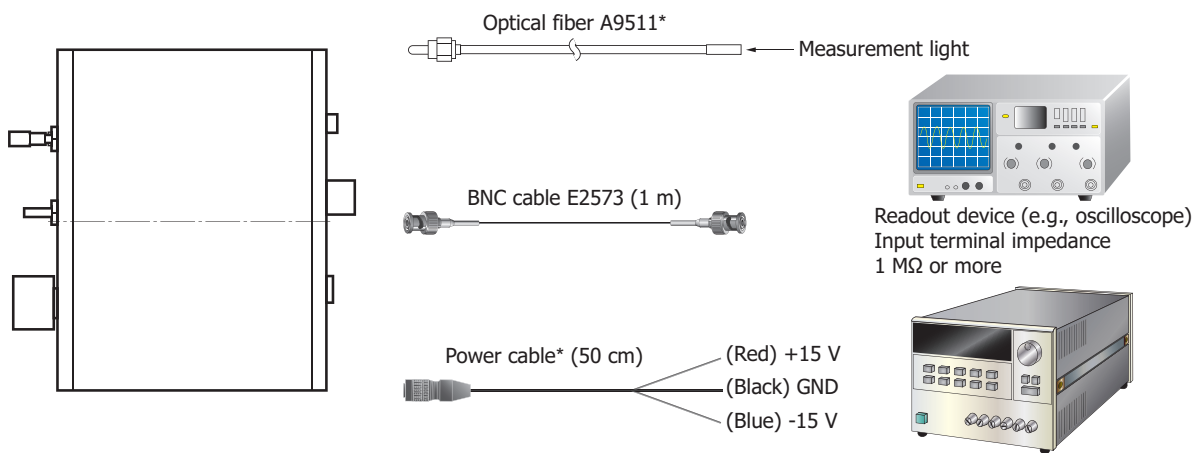
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Dimensional outline (unit: mm)



KACCA0020EC

Connection example



* Accessories

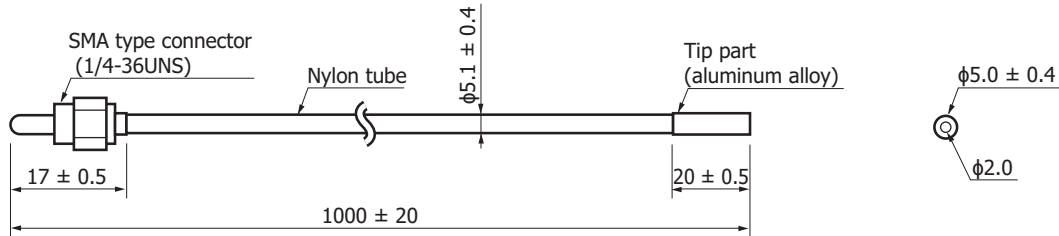
Readout device (e.g., oscilloscope)
Input terminal impedance
1 MΩ or more

Dual power supply (±6 to ±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).

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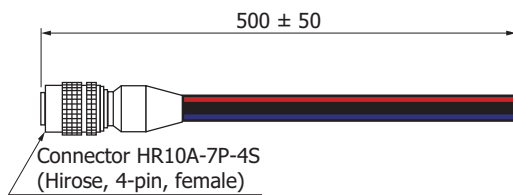
Accessories (unit: mm)

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



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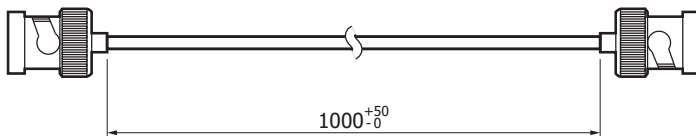
- Power cable



KACCC0823EA

Options (unit: mm)

- BNC cable E2573
- Cable: 1.5D-QEV



KACCA0334EA

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

- Precautions
- Disclaimer

Information described in this material is current as of May 2017.

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.

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