

Photosensor amplifier

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)	Cut-off 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

Parameter	Symbol	Condition	Value	Unit
Supply voltage	Vs		±18	V
Current consumption	Is	Dark state	±7	mA
Output short-circuit time	-		Continuous	-
Operating temperature	Topr	No condensation	0 to +40	°C
Optical fiber usage temperature	-	No condensation	0 to +60	°C
Minimum bending radius for optical fiber	-		R15	mm

■ 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)

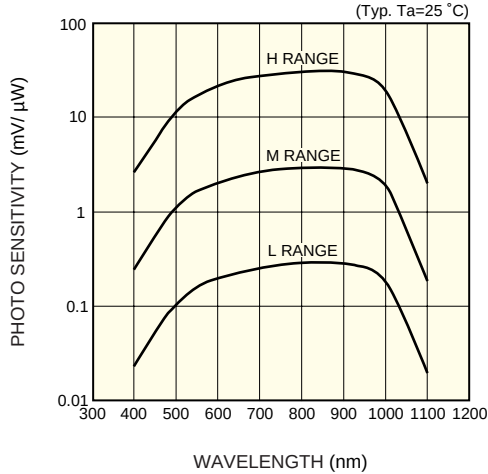
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Photo sensitivity opening diameter	-		-	φ2.0	-	mm
Numerical aperture	-		-	0.56	-	-
Photo sensitivity *1	H	λ=830 nm Measured when light is input to the optical fiber end.	-	30	-	mV/μW
	M		-	3	-	
	L		-	0.3	-	
Output resistance	-		-	200	-	Ω
Output voltage amplitude	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 *2	H	f	DC	1	-	MHz
	M		DC	3	-	
	L		DC	10	-	
Battery lifetime	-	With dry batteries dark state, RL > 10 kΩ	-	90	-	hr
Weight	-	Including batteries	-	460	-	g

*1: Refer to spectral response

*2: Refer to frequency response

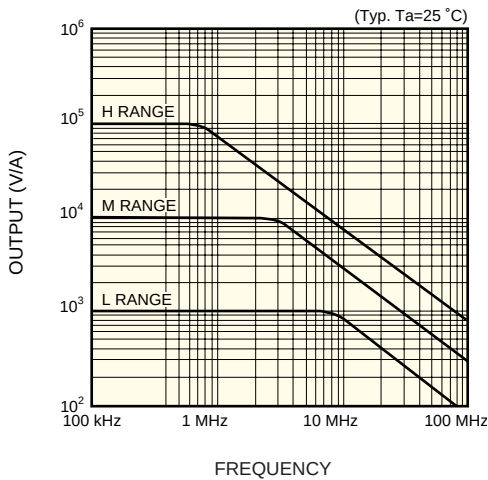
SOLID STATE DIVISION

Spectral response



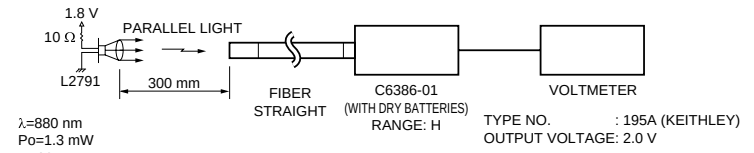
KACCB0041EC

Frequency response



KACCB0042EB

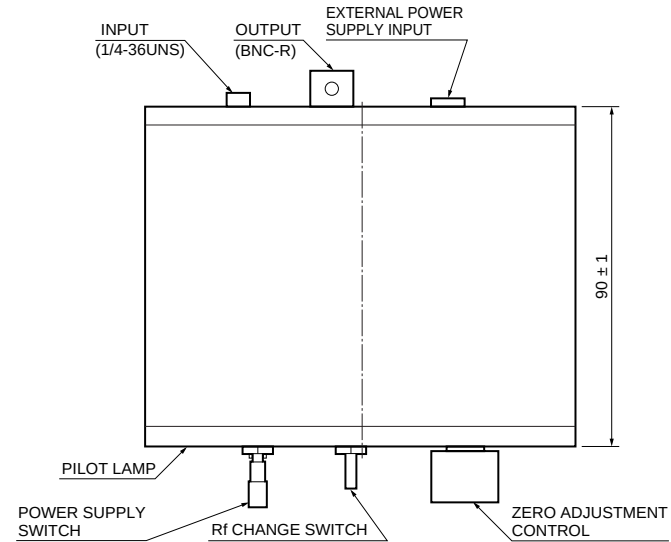
Operation example



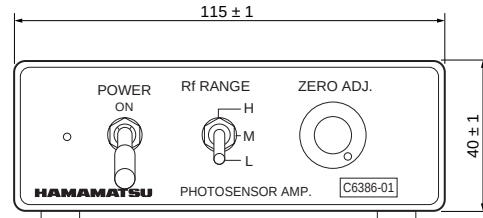
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Dimensional outlines (unit: mm)

<UPPER SURFACE>

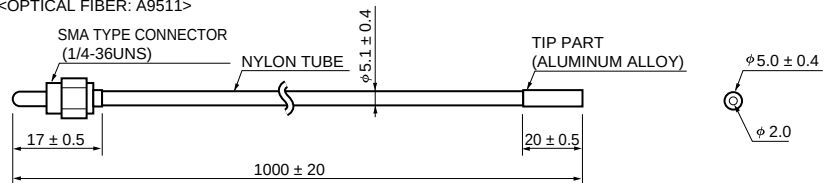


<FRONT>



KACCA0020EC

<OPTICAL FIBER: A9511>



KACCA0057EB

Accessories: Dedicated optical fiber: A9511 (Also sold separately)

Plug for external power supply input HR10-7P-4S (HIROSE)

Lead: AWG#24 (length: approx. 500 mm) color: red (+Vs), blue (-Vs), black (GND)

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Type numbers of products listed in the specification sheets or supplied as samples may have a suffix "(X)" which means tentative specifications or a suffix "(Z)" which means developmental specifications. ©2010 Hamamatsu Photonics K.K.

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