

Photosensor amplifier C6386

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

Recommended operating range

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

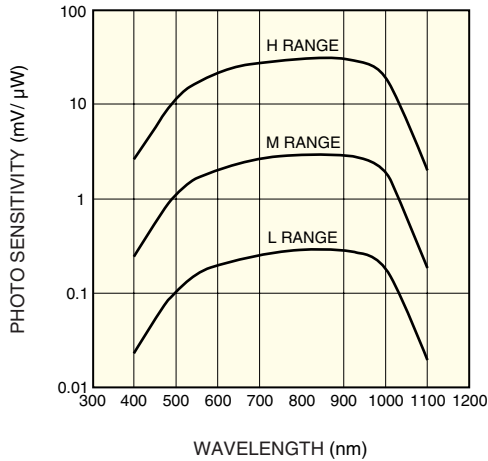
Specifications (Ta=25 °C, Vs= ± 15 V, ± 9 V using integrated dry batteries)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Photo sensitivity opening diameter	-		-	$\phi 2.0$	-	mm
Numerical aperture	-		-	0.56	-	-
Photo sensitivity *1	H	$\lambda=830$ nm Measured when light is input to the optical fiber end.	-	30	-	mV/ μ W
	M		-	3	-	
	L		-	0.3	-	
Output resistance	-		-	200	-	Ω
Output voltage amplitude	VFs	Vs= ± 15 V, RL=2 k Ω	+10	-	-	V
		Vs= ± 9 V, RL=2 k Ω	+5	-	-	
Output noise	Vn	Dark state, all bandwidth	-	-	10	mVp-p
Frequency bandwidth *2	H	-3 dB	DC	-	1	MHz
	M		DC	-	3	
	L		DC	-	10	
Battery lifetime	-	With dry batteries dark state, RL > 10 k Ω	-	90	-	hr
Weight	-	Including batteries	-	460	-	g

*1: Refer to spectral response

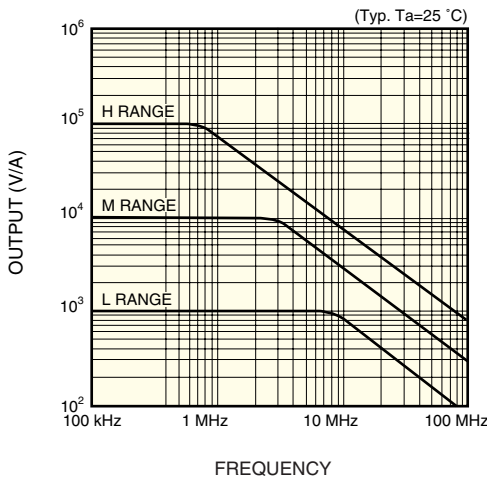
*2: Refer to frequency response

Spectral response



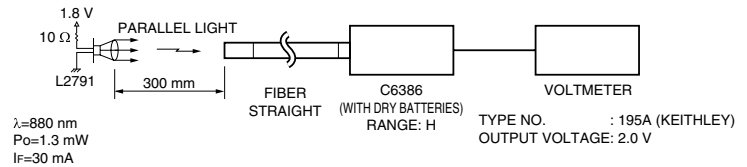
KACCB0041EB

Frequency response



KACCB0042EB

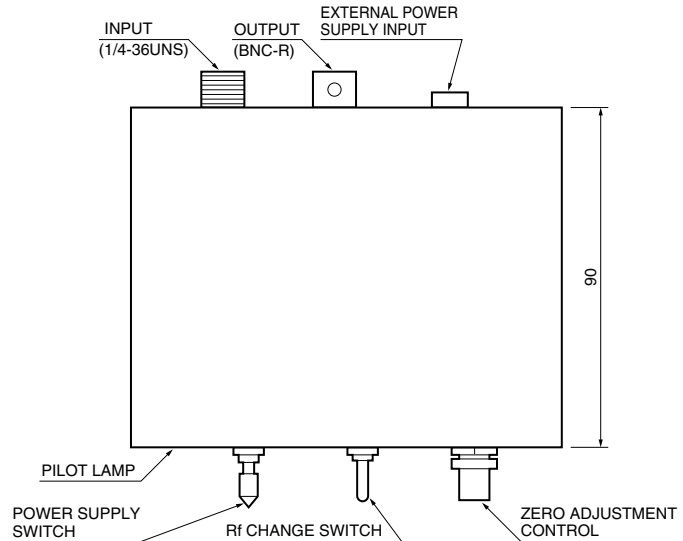
Operation example



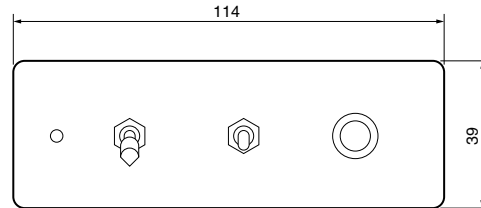
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Dimensional outlines (unit: mm)

<UPPER SURFACE>

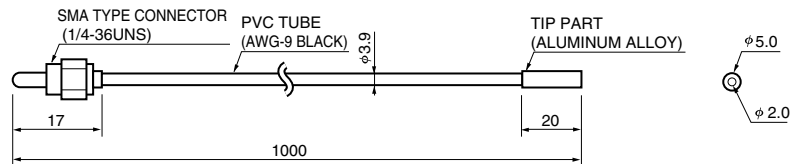


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KACCA0020EA

<OPTICAL FIBER>



KACCA0057EA

Accessories: Optical fiber (with SMA type connector)

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

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

HAMAMATSU

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