

# 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		$\pm 18$	V
Current consumption	Is	Dark state	$\pm 7$	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		$\pm 6$	-	$\pm 15$	V

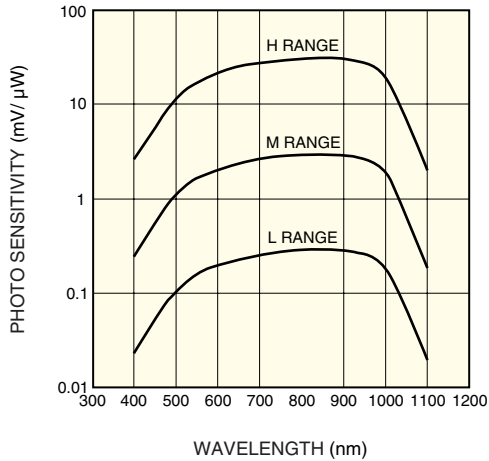
## Specifications (Ta=25 °C, Vs= $\pm 15$ V, $\pm 9$ V using integrated dry batteries)

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/ $\mu$ W	
	M		-	3	-		
	L		-	0.3	-		
Output resistance	-		-	200	-	$\Omega$	
Output voltage amplitude	VFs	Vs= $\pm 15$ V, RL=2 k $\Omega$	+10	-	-	V	
		Vs= $\pm 9$ V, RL=2 k $\Omega$	+5	-	-		
Output noise	Vn	Dark state, all bandwidth	-	-	10	mVp-p	
Frequency bandwidth *2	H	f	-3 dB	DC	-	1	MHz
	M			DC	-	3	
	L			DC	-	10	
Battery lifetime	-	With dry batteries dark state, RL > 10 k $\Omega$	-	90	-	hr	
Weight	-	Including batteries	-	460	-	g	

\*1: Refer to spectral response

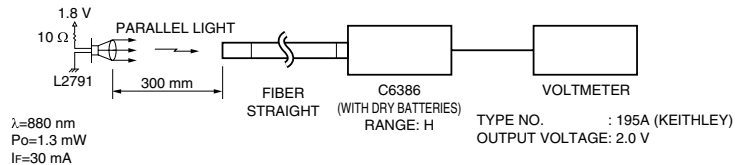
\*2: Refer to frequency response

■ Spectral response



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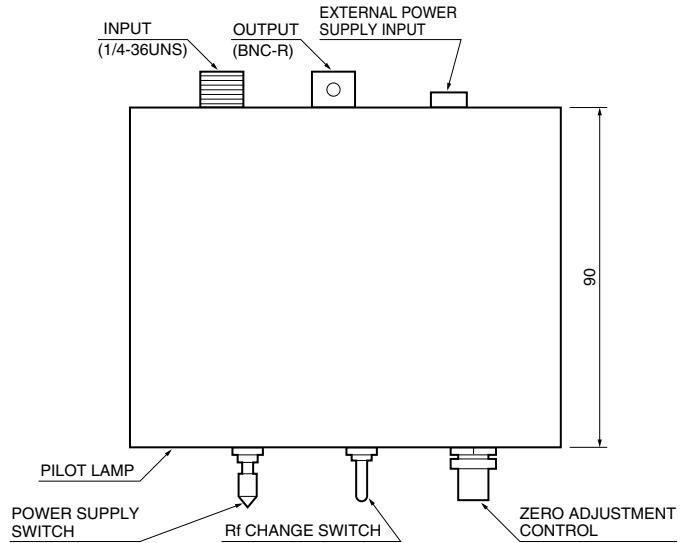
■ Operation example



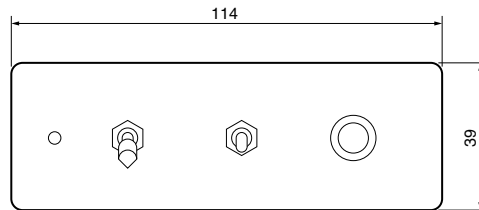
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■ Dimensional outlines (unit: mm)

<UPPER SURFACE>

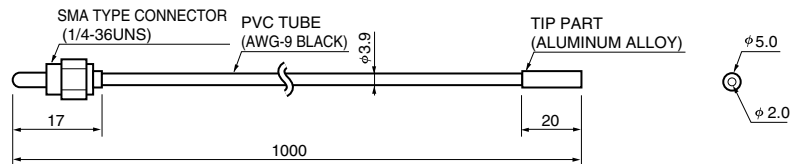


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<OPTICAL FIBER>



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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)

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