

OVERVIEW

The H14600/H14601 series are photosensor modules containing a metal package PMT and a high-voltage power supply circuit. Despite the size nearly equal to photodiodes, this PMT delivers high gain, wide dynamic range, and high-speed response.

The H14600 series are pin output type, while the H14601 series are flexible cable output type.



Left: H14600, Right: H14601

PRODUCT VARIATIONS

● Pin output type (On-board type)

Type No.	Spectral response	Features
H14600-100	300 nm to 650 nm	Super bialkali photocathode, High sensitivity in visible range
H14600-01	300 nm to 870 nm	Multialkali photocathode, for visible to near IR range
H14600-20	300 nm to 920 nm	Extended red multialkali photocathode with enhanced sensitivity

● Cable output type

Type No.	Spectral response	Features
H14601-100	300 nm to 650 nm	Super bialkali photocathode, High sensitivity in visible range
H14601-01	300 nm to 870 nm	Multialkali photocathode, for visible to near IR range
H14601-20	300 nm to 920 nm	Extended red multialkali photocathode with enhanced sensitivity

This product can't be used at vacuum environment or reduced pressure environment.

Figure 1: Typical spectral response

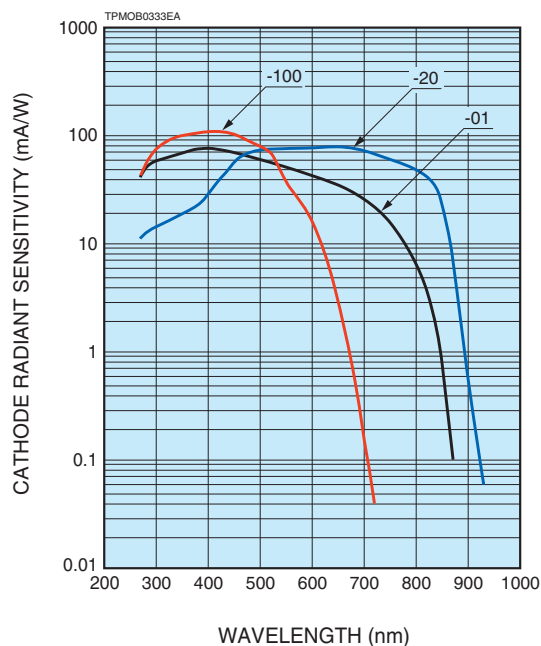
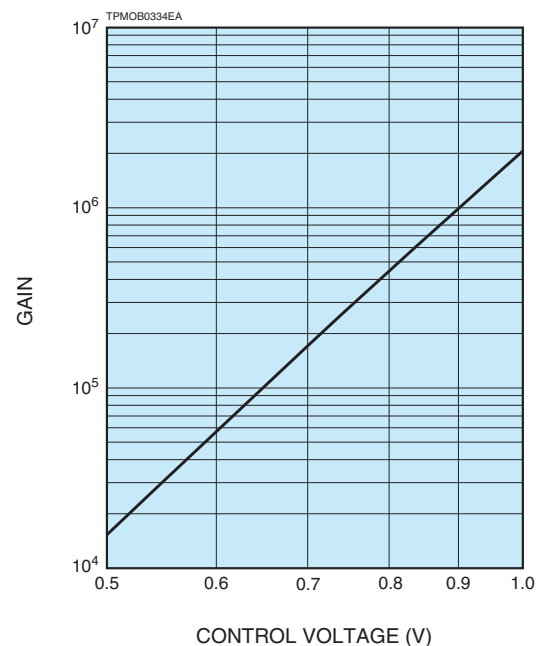
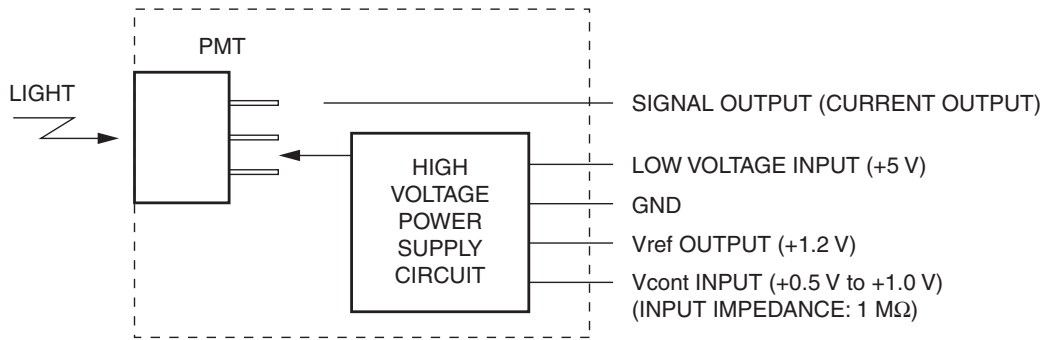


Figure 2: Typical gain



PHOTOSENSOR MODULES H14600/H14601 SERIES

Figure 3: Schematic diagram



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SPECIFICATIONS

Parameter		H14600-100 H14601-100	H14600-01 H14601-01	H14600-20 H14601-20	Unit	
Input voltage		+4.5 to +5.5			V	
Max. input voltage		+5.5			V	
Max. input current *1		3.5			mA	
Max. output signal current *2		100			μA	
Max. control voltage		+1.0 (Input impedance 1 MΩ)			V	
Recommended control voltage adjustment range		+0.5 to +1.0 (Input impedance 1 MΩ)			V	
Effective area		φ8			mm	
Peak sensitivity wavelength		400	400	630	nm	
Cathode	Luminous sensitivity	Min.	80	350	μA/lm	
		Typ.	105	500		
	Blue sensitivity index (CS 5-58)	Typ.	13.5	—	—	
	Red/White ratio	Typ.	—	0.25	0.45	—
Radiant sensitivity *3		Typ.	110	78	mA/W	
Anode	Luminous sensitivity *2	Min.	30	140	A/lm	
		Typ.	105	500		
	Radiant sensitivity *2*3	Typ.	1.1×10^5	0.8×10^5	0.8×10^5	A/W
	Dark current *2*4	Typ.	0.5	1	10	nA
Max.		5	10	100		
Rise time *2		Typ.	0.6		ns	
Ripple noise *2*5 (peak to peak)		Max.	0.2		mV	
Settling time *6		Max.	10		s	
Operating ambient temperature *7		+5 to +50			°C	
Storage temperature *7		-20 to +50			°C	
Weight		32			g	

*1: Input voltage=+5.0 V, Control voltage=+0.9 V, Output current= Dark current

*2: Control voltage=+0.9 V

*3: Measured at the peak sensitivity wavelength

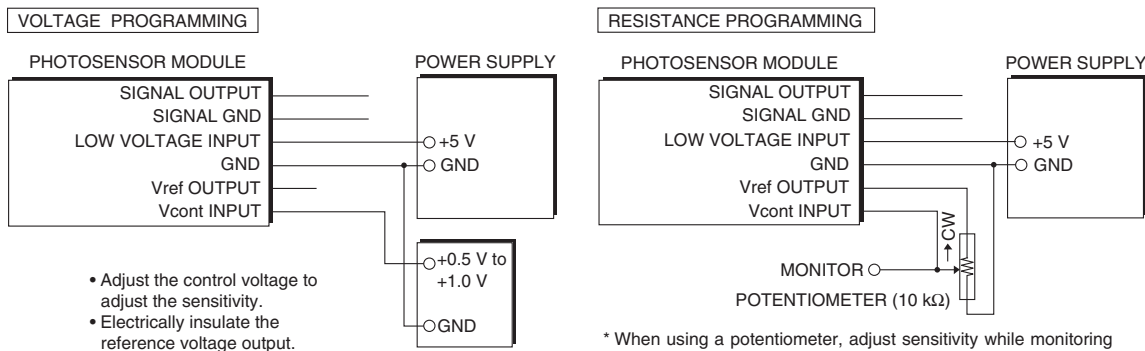
*4: After 30 minutes storage in darkness

*5: Cable RG-174/U, Cable length 450 mm, Load resistance=1 MΩ, Load capacitance=22 pF

*6: The time required for the output to reach a stable level following a change in the control voltage from +0.9 V to +0.5 V

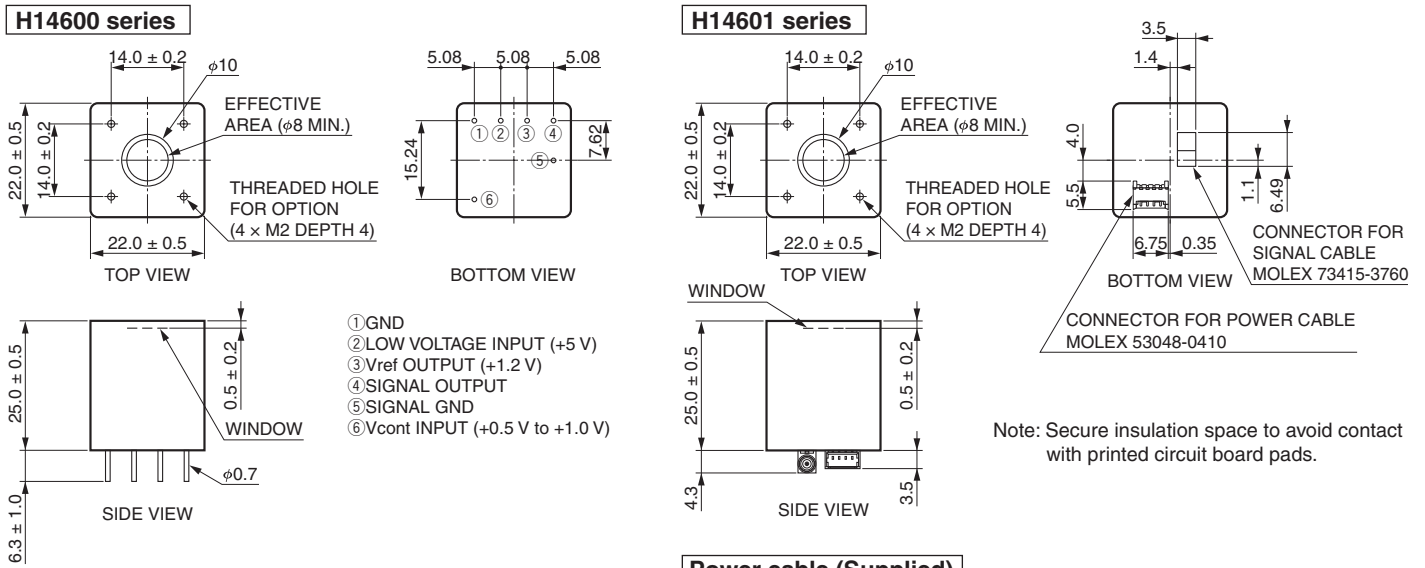
*7: No condensation

Figure 4: Sensitivity adjustment method

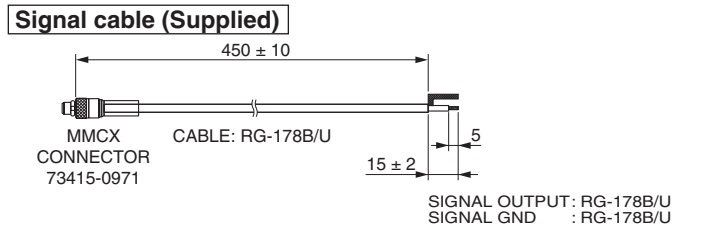
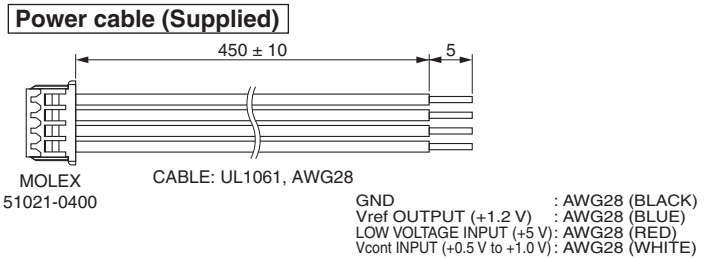


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Figure 5: Dimensional outlines (Unit: mm)

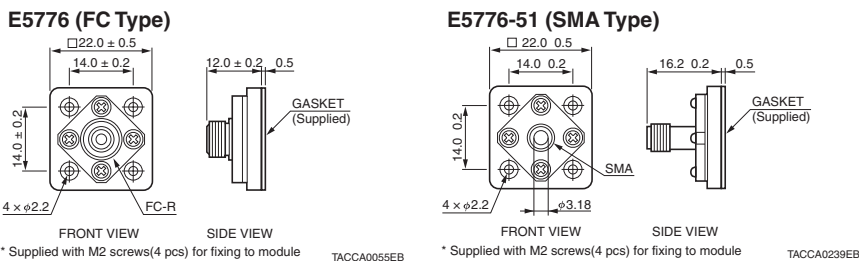


Note: Optical blocks are available for these photosensor modules to make compact optical systems without light leakage.

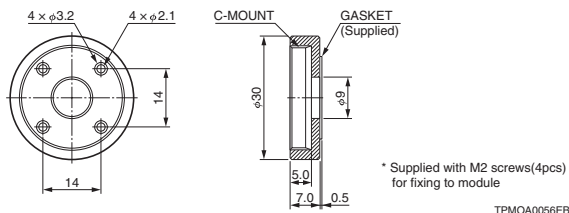


OPTION

OPTICAL FIBER ADAPTER E5776 / E5776-51



C-MOUNT ADAPTER A9865



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PHOTOSENSOR MODULES H14600/H14601 SERIES

RELATED PRODUCT

POWER SUPPLY FOR PHOTOMULTIPLIER TUBE MODULES C10709

The C10709 is the power supply for photomultiplier tube modules which has 5 V input voltage.

This unit can provide both the driving voltage and the control voltage. This feature enables users to operate the modules easily.



Parameter	Description / Value	Unit
Output voltage	±5	V
Output current	Max. 2.0 (+5 V), 0.2 (-5 V)	A
Control voltage [Ⓐ] (variable voltage range)	+0.25 to +1.8	V
Input voltage	AC100 to AC240	V

NOTE: [Ⓐ]Adjust within the recommended control voltage range for the photomultiplier tube module being used.

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