

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

Type No.	Spectral response	Features
H14600-100/H14601-100	300 nm to 650 nm	Super bialkali photocathode, High sensitivity in visible range
H14600-103/H14601-103	185 nm to 650 nm	Super bialkali photocathode, for UV to visible range
H14600-200/H14601-200	300 nm to 650 nm	Ultra bialkali photocathode, High sensitivity in visible range
H14600-01/H14601-01	300 nm to 870 nm	Multialkali photocathode, for visible to near IR range
H14600-04/H14601-04	185 nm to 870 nm	Multialkali photocathode, for UV to near IR range
H14600-20/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

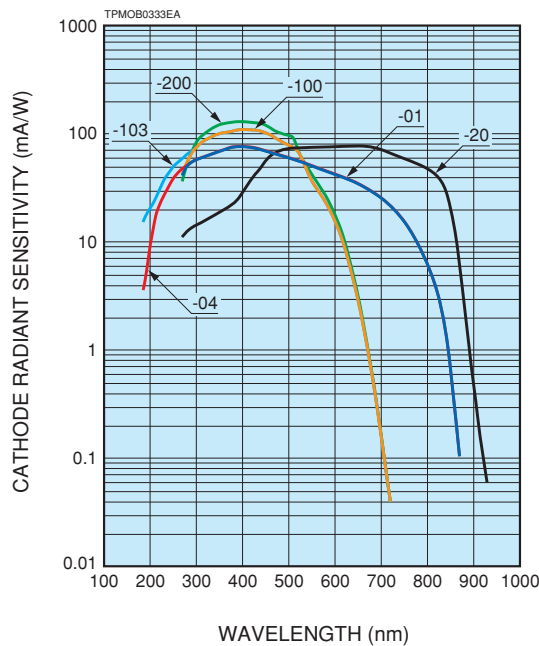
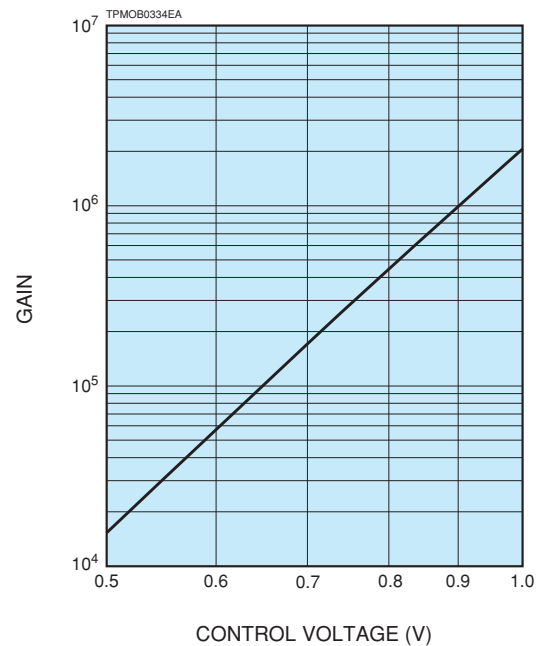
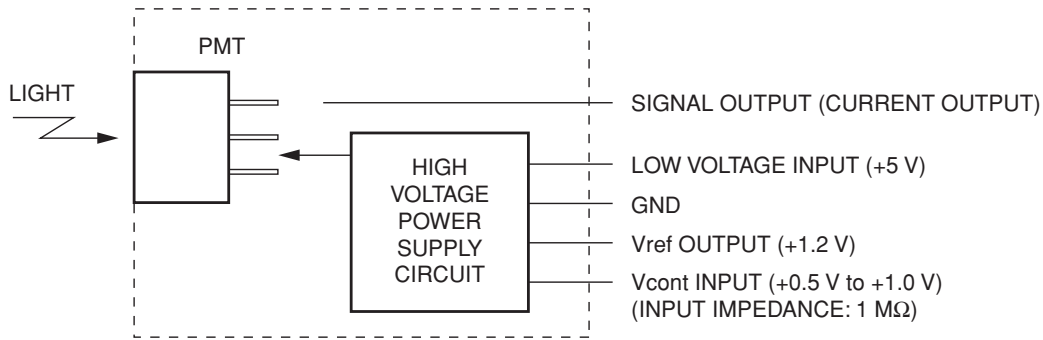


Figure 2: Typical gain



PHOTOSENSOR MODULES H14600/H14601 SERIES

Figure 3: Schematic diagram



TPMOC0287EA

SPECIFICATIONS

Parameter		H14600 / H14600				Unit	
Suffix		-100, -103	-200	-01, -04	-20	—	
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	400	630	nm	
Cathode	Luminous sensitivity	Min.	80	100	100	μA/lm	
		Typ.	105	135	200		
	Blue sensitivity index (CS 5-58)	Typ.	13.5	14.5	—	—	
	Red/White ratio	Typ.	—	—	0.25	0.45	—
Radiant sensitivity *3		Typ.	110	130	77	78	mA/W
Anode	Luminous sensitivity *2	Min.	30	40	40	140	
		Typ.	105	135	200	500	
	Radiant sensitivity *2*3	Typ.	1.1×10^5	1.3×10^5	0.8×10^5	0.8×10^5	A/W
Dark current *2*4		Typ.	0.5	0.5	1	10	nA
		Max.	5	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

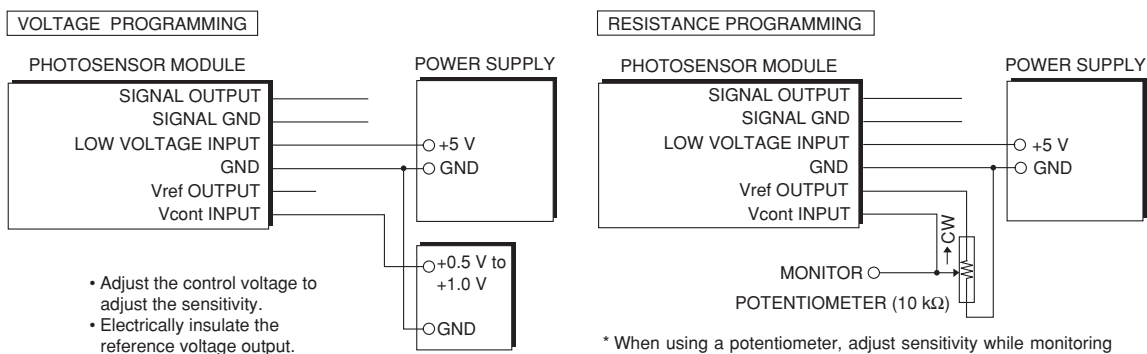
*4: After 30 min storage in darkness

*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

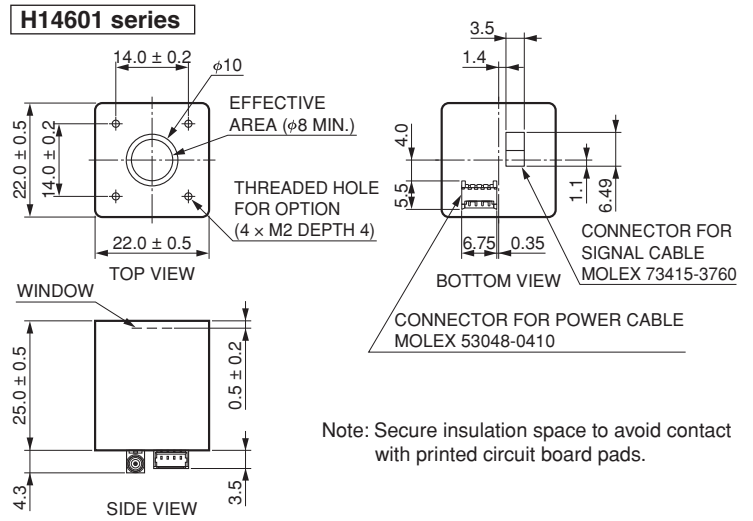
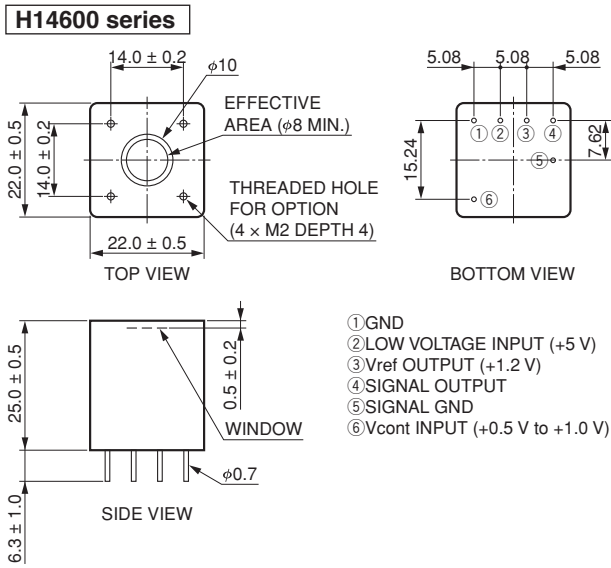
Figure 4: Sensitivity adjustment method



* When using a potentiometer, adjust sensitivity while monitoring the control voltage so it does not exceed +1.0 V.

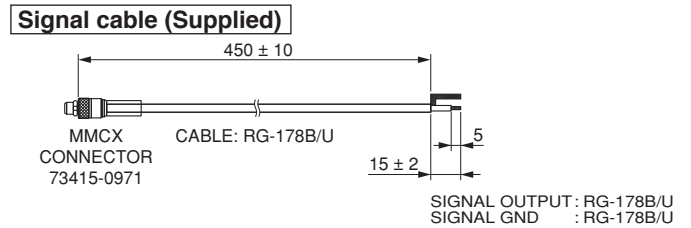
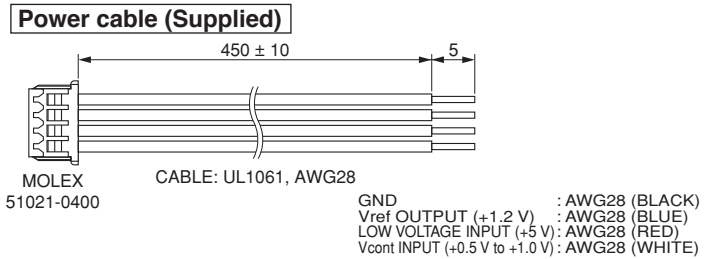
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Figure 5: Dimensional outlines (Unit: mm)



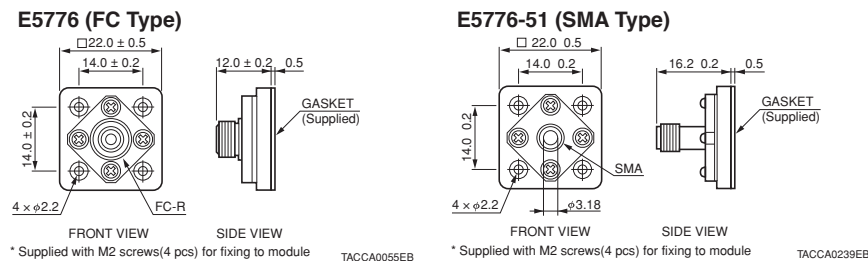
Note: Secure insulation space to avoid contact with printed circuit board pads.

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

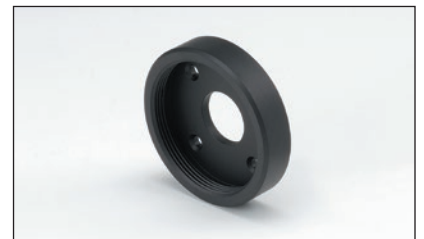
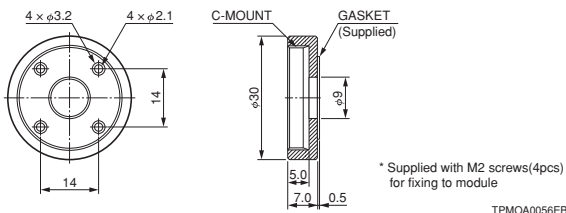


OPTION

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 ^(A) (variable voltage range)	+0.25 to +1.8	V
Input voltage	AC100 to AC240	V

NOTE: ^(A)Adjust within the recommended control voltage range for the photomultiplier tube module being used.

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