

OVERVIEW

The H14600/H14601 series are photomultiplier tube modules containing a metal package PMT and a high-voltage power supply circuit. Despite the size nearly equal to photodiodes, this PMT provides 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 series, Right: H14601 series

PRODUCT VARIATIONS

Type No.	Spectral response	Features
H14600-100/H14601-100	300 nm to 650 nm	Super bialkali photocathode, For 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, For 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

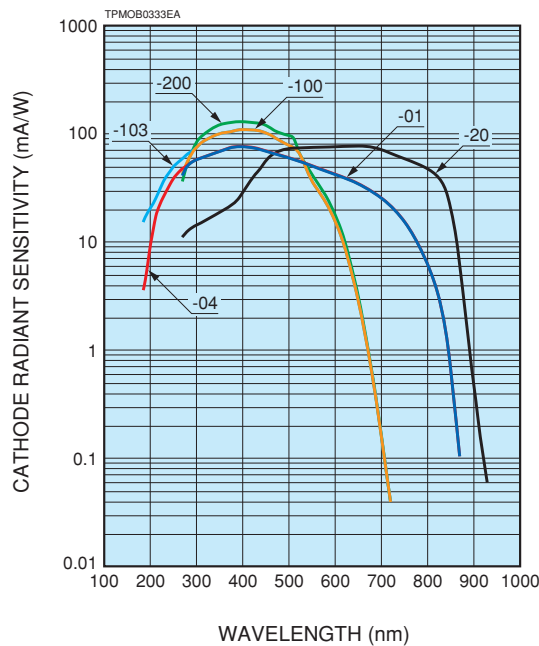
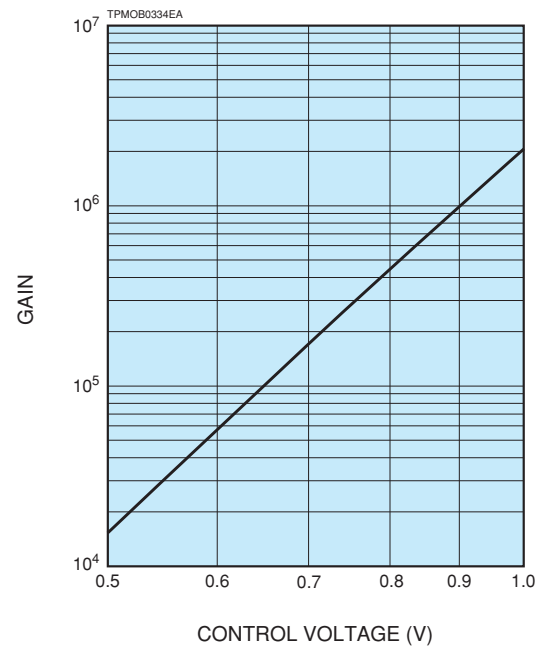


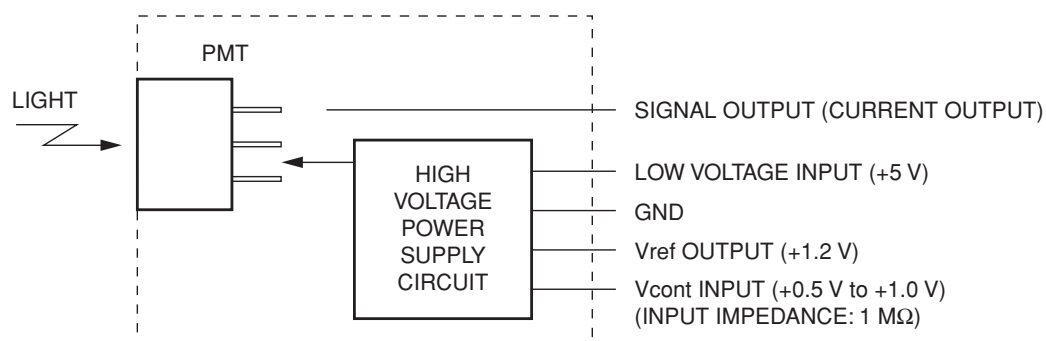
Figure 2: Typical gain



PHOTOMULTIPLIER TUBE MODULES

H14600/H14601 SERIES

Figure 3: Schematic diagram



TPMOC0287EA

SPECIFICATIONS

(at +25 °C)

Parameter		H14600 / H14601 series				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. average 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	350	μA/lm
		Typ.	105	135	200	500	
	Blue sensitivity index (Blue filter)	Typ.	13.5	15.5	—	—	—
	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	A/lm
		Typ.	105	135	200	500	
	Radiant sensitivity *2*3	Typ.	1.1×10^5	1.3×10^5	7.7×10^4	7.8×10^4	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 (H14600 series), 40 (H14601 series)				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

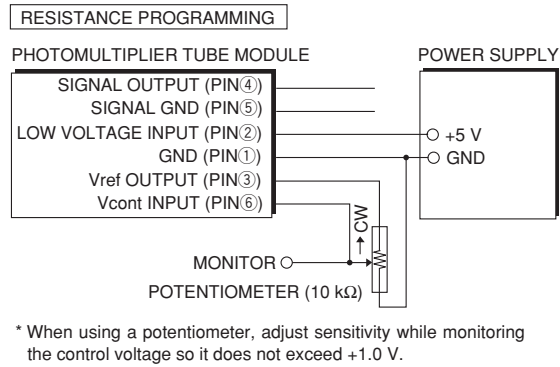
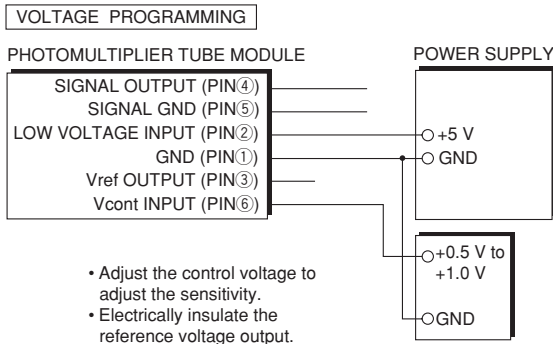
*5: Cable RG-178B/U, Cable length 450 mm, Load resistance=1 MΩ, Load capacitance=14 pF

*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

●H14600 series



●H14601 series

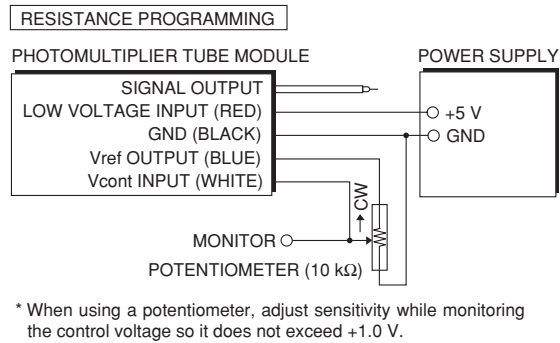
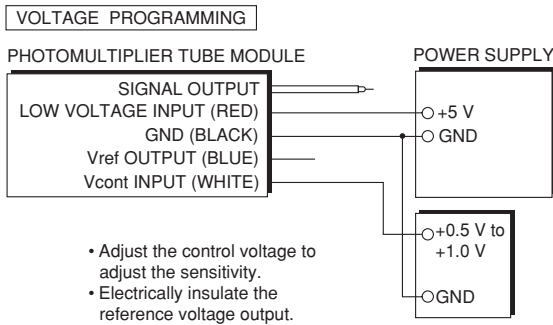
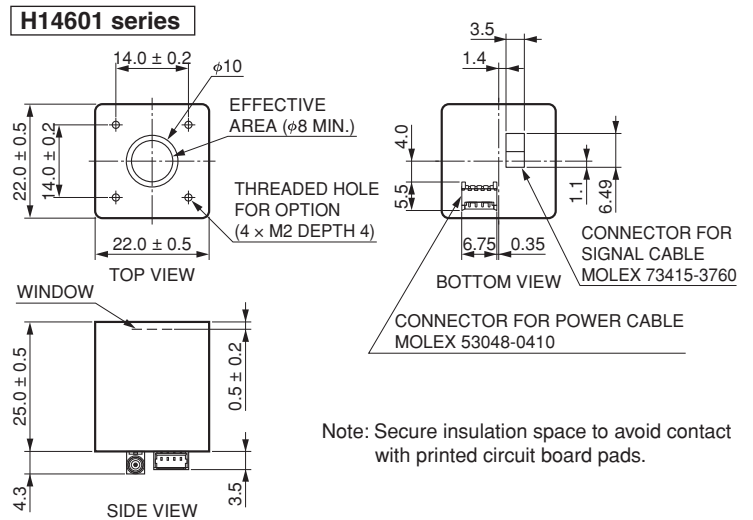
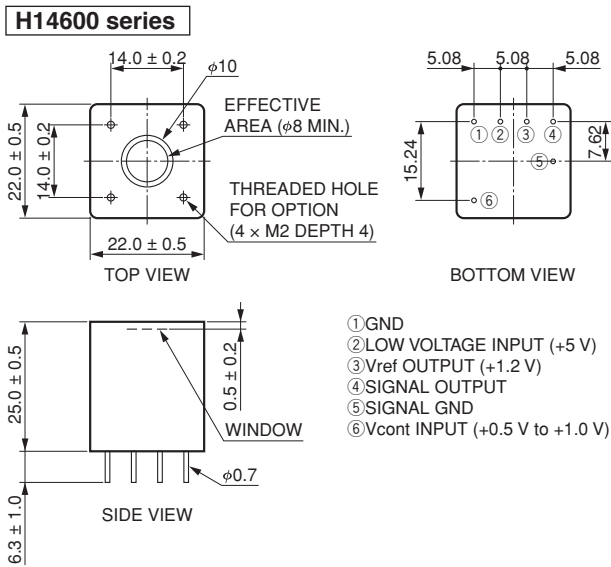
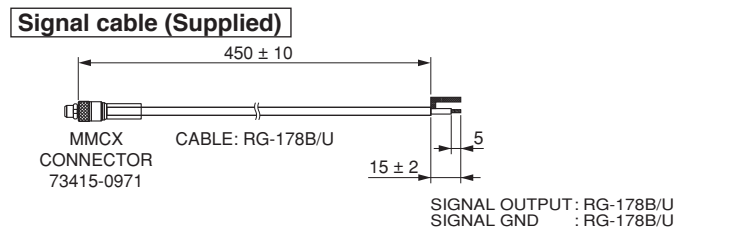
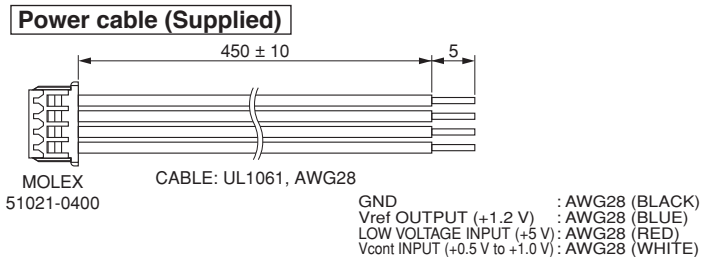


Figure 5: Dimensional outlines (Unit: mm)



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

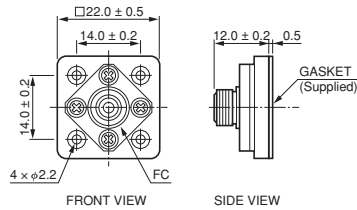


PHOTOMULTIPLIER TUBE MODULES H14600/H14601 SERIES

OPTION

OPTICAL FIBER ADAPTER E5776 / E5776-51

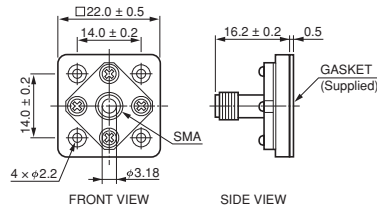
E5776 (FC Type)



* Supplied with M2 screws(4 pcs) for fixing to module

TACCA0055EB

E5776-51 (SMA Type)

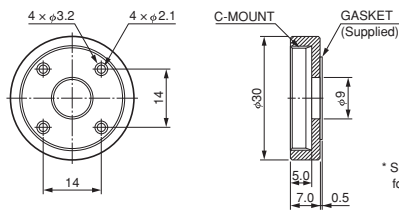


* Supplied with M2 screws(4 pcs) for fixing to module

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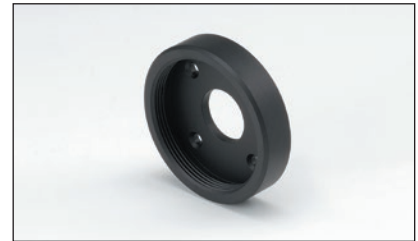


C-MOUNT ADAPTER A9865



* Supplied with M2 screws(4pcs) for fixing to module

TPMOA0056EB



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

RELATED PRODUCT

POWER SUPPLY FOR PHOTOMULTIPLIER TUBE MODULES C10709 SERIES

The C10709 series are 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.

Guide of Type No. for power code

C10709-C□

“□” Type No.

- 2: For Japan & U.S.A. (UL / PSE: AC 125 V)
- 3: For Europe (CEE: AC 250 V)
- 4: For China (GB: AC 250 V)
- 5: For United Kingdom (BS: AC 250 V)

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