

PMT H10721P-110



Specifications

(at +25 °C)

Parameter			H10720 / H10721 Series				Unit
Suffix			-110	-210	-01	-20	—
Input Voltage			+4.5 to +5.5				V
Max. Input Voltage			+5.5				V
Max. Input Current *1			2.7				mA
Max. Output Signal Current *2			100				μA
Max. Control Voltage			+1.1 (Input Impedance 1 MΩ)				V
Recommended Control Voltage Adjustment Range			+0.5 to +1.1 (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 (CS 5-58)	Typ.	13.5	15.5	—	—	—
	Red / White Ratio	Typ.	—	—	0.2	0.45	—
Anode	Radiant Sensitivity *3	Typ.	110	130	77	78	mA/W
		Min.	80	100	100	350	
	Luminous Sensitivity *2	Typ.	210	270	400	1000	A/lm
		Typ.	2.2 × 10 ⁶	2.6 × 10 ⁵	1.5 × 10 ⁵	1.5 × 10 ⁵	
	Radiant Sensitivity *2 *3	Typ.	1	1	1	10	nA
		Max.	10	10	10	100	
	Dark Current *2 *4	Typ.	50	—			s ⁻¹
		Max.	100	—			
Rise Time *2			0.57				ns
Ripple Noise *2 *5 (peak to peak)		Max.	0.3				mV
Settling Time *6		Max.	10				s
Operating Ambient Temperature *7			+5 to +50				°C
Storage Temperature *7			-20 to +50				°C
Weight		Typ.	45 (H10720 Series), 80 (H10721 Series)				g

*1: At +5 V input voltage, +1.0 V control voltage, and output current equal to dark current

*2: Control voltage = +1.0 V

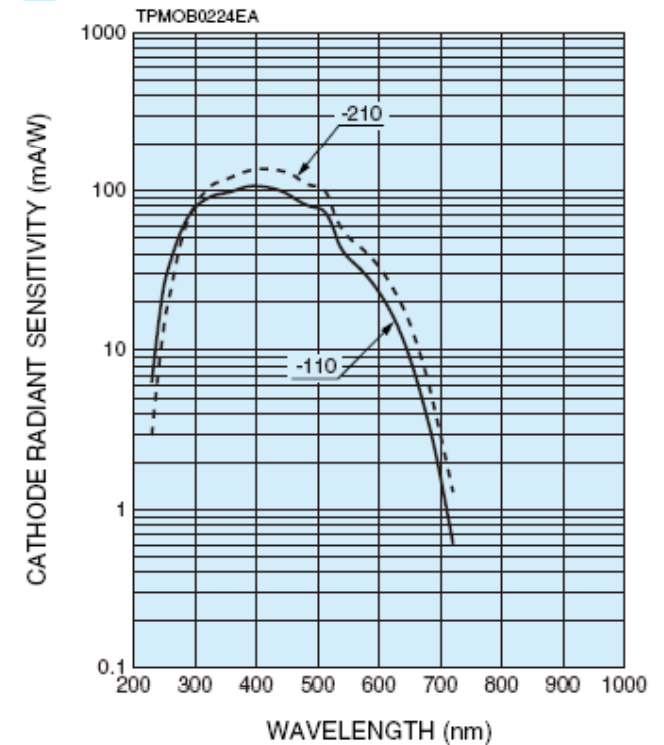
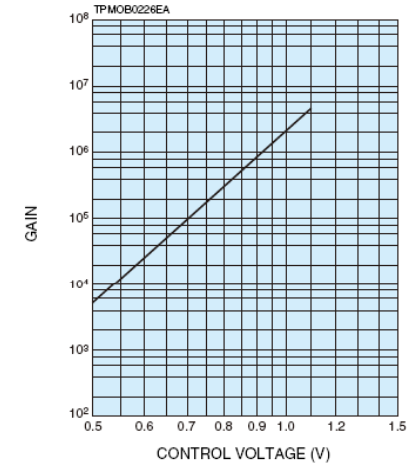
*3: Measured at the peak sensitivity wavelength

*4: After 30 minutes storage in darkness, output of dark current.

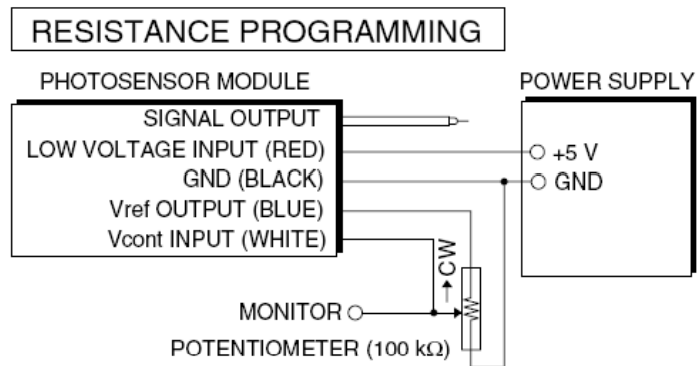
*5: Cable RG-174/U, Cable length 450 mm, Load resistance = 1 MΩ, Load capacitance = 22 pF

*6: The time required for the output to reach a stable level following a change in the control voltage from +1.0 V to +0.5 V.

*7: No condensation



The electronic box designed for PMT H10721P-110

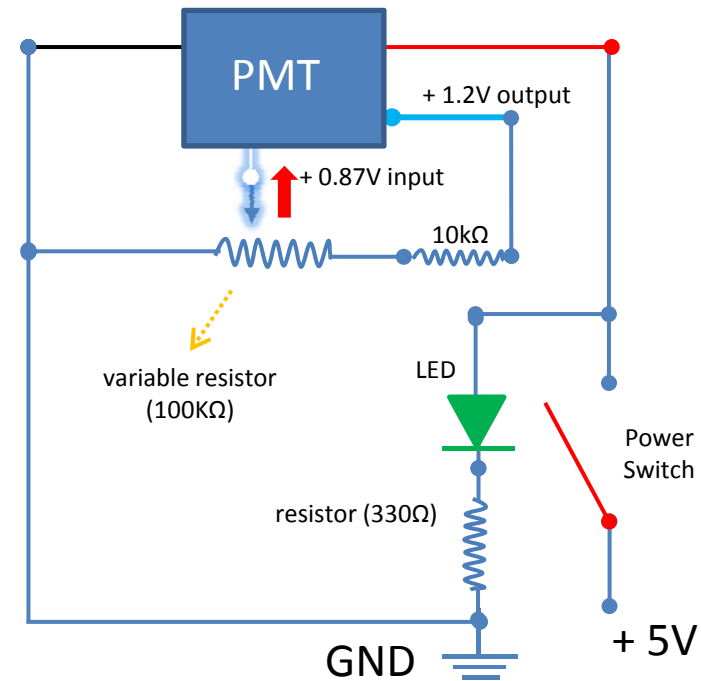


* When using a potentiometer to adjust sensitivity, monitor the control voltage so it does not exceed +1.1 V.



Switch adapter
Input: 100-240V, 0.25A, 50~60Hz
Output: 5V, 1A

Electric circuit setup of adjustment box



PMT H10682-210 & PMT H10682-01



Figure 5: Count Rate Linearity Correction

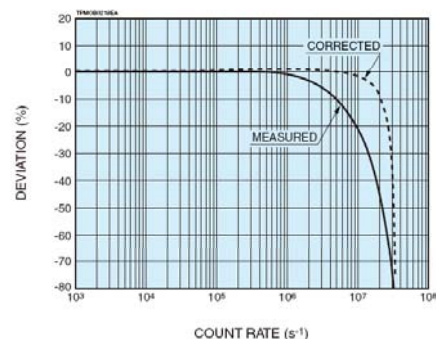
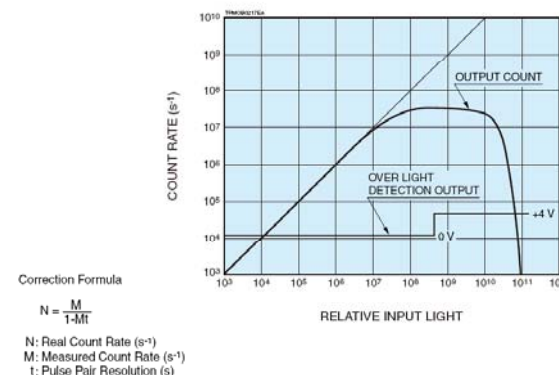


Figure 4: Count Rate Linearity and Over Light Detection Output



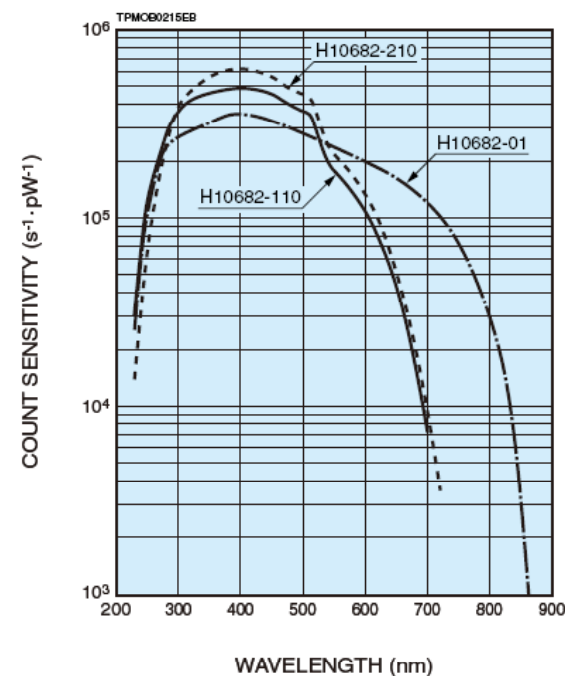
SPECIFICATIONS

(at 25 °C)

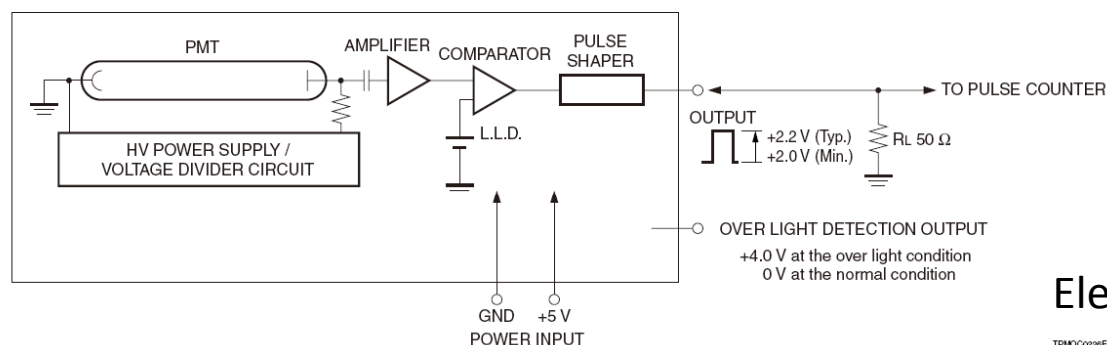
Parameter			H10682-110	H10682-210	H10682-01	Unit
Input Voltage			+4.75 to +5.25			V
Input Voltage		Max.	+6			V
Input Current		Max.	40			mA
Effective Area			φ8			mm
Peak Sensitivity Wavelength			400			nm
Count Sensitivity	300 nm	Typ.	3.7×10^5	3.9×10^5	2.7×10^5	$\text{s}^{-1} \cdot \text{pW}^{-1}$
	400 nm		4.9×10^5	6.1×10^5	3.6×10^5	
	500 nm		3.7×10^5	4.6×10^5	2.8×10^5	
	600 nm		1.1×10^5	1.3×10^5	2.0×10^5	
	700 nm		7.7×10^3	9.1×10^3	1.2×10^5	
	800 nm		—	—	3.0×10^4	
Count Linearity *1			5.0 × 10 ⁶			s ⁻¹
Dark Count *2		Typ.	50	50	600	s ⁻¹
		Max.	100	100	1000	
Pulse-pair Resolution			20			ns
Output Pulse Width			10			ns
Output Pulse Height	50 Ω Load	Min.	+2			V
		Typ.	+2.2			
	Un-terminated	Min.	+4			
		Typ.	+4.4			
Signal Output Logic			Positive logic			—
Recommended Load Resistance			50			Ω
Over Light	High Level	Min.	+3.5			V
Detection Output *3	Low Level	Max.	+0.5			
Operating Ambient Temperature *4			+5 to +40			°C
Storage Temperature *4			-20 to +50			°C
Weight			47			g

NOTE: *1: Random pulse, at 10 % count loss
*2: After 30 minutes storage in darkness
*3: Load resistance 10 kΩ
*4: No condensation

Figure 1: Typical Spectral Response



The electronic box design for PMT H10682-210 & H10682-01



Electric circuit setup of adjustment box

TPMOC0228EA

