

FEATURES

- High quantum efficiency: GaAsP / GaAs photocathode
- Cable output
- Compact
- For photon counting (H10770PA-40 / H10770PA-50)



SPECIFICATIONS

(at +25 °C)

Parameter				H10770A-40	H10770PA-40	H10770A-50	H10770PA-50	Unit	
Input voltage				+11.5 to +15.5				V	
Max. input voltage				+18				V	
Max. input current ^①				62				mA	
Max. output signal current				2				μA	
Max. control voltage				+0.9 (Input impedance 100 kΩ)				V	
Recommended control voltage adjustment range ^②				+0.5 to +0.8 (Input impedance 100 kΩ)				V	
Effective area				φ5				mm	
Photocathode material				GaAsP		GaAs		—	
Spectral response				300 to 740		380 to 900		nm	
Peak quantum efficiency wavelength				520		630		nm	
Cathode	Quantum efficiency	at peak quantum efficiency wavelength	Min.	40		14		%	
			Typ.	45		19			
	Radiant sensitivity	at 800 nm	Min.	—		11		mA/W	
			Typ.	—		15			
	at peak quantum efficiency wavelength	Min.	168		70				
	at 800 nm	Typ.	189		95				
Anode	Radiant sensitivity ^①	at peak quantum efficiency wavelength	Min.	1.0 × 10 ⁵	1.7 × 10 ⁵	4.2 × 10 ⁴	7.0 × 10 ⁴	A/W	
			Typ.	1.9 × 10 ⁵	3.8 × 10 ⁵	9.5 × 10 ⁴	1.9 × 10 ⁵		
	at 800 nm	Min.	—		4.3 × 10 ⁴		7.1 × 10 ⁴		
		Typ.	—		9.7 × 10 ⁴		1.9 × 10 ⁵		
	Dark current ^{③④}		Typ.	3		4			nA
			Max.	10		12			
	Dark count ^{③④}		Typ.	—		6000		s ⁻¹	
			Max.	—		18 000			
	Gain ^③		Min.	6.0 × 10 ⁵	1.0 × 10 ⁶	6.0 × 10 ⁵	1.0 × 10 ⁶	—	
			Typ.	1.0 × 10 ⁶	2.0 × 10 ⁶	1.0 × 10 ⁶	2.0 × 10 ⁶		
Rise time ^③			Typ.	1.0				ns	
Ripple noise ^{③⑤} (peak to peak)			Max.	0.6				mV	
Settling time ^⑥			Max.	0.2				s	
Operating ambient temperature ^⑦				+5 to +35				°C	
Storage temperature ^⑦				-20 to +50				°C	
Weight				Approx. 100				g	

NOTE: ^①At +15 V input voltage and +0.8 V control voltage in darkness, just after protection circuit works.

^②Under protection circuit is active, Vcont outputs +15 V and high voltage turn off. (Output impedance 33 kΩ) Status of protection operation can be checked by monitoring Vcont voltage. ^③Control voltage=+0.8 V ^④After 30 minutes storage in darkness

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

^⑥The 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 ^⑦No condensation

To prevent damage by excessive light, the H10770A-40/-50, H10770PA-40/-50 has a protection circuit that automatically turns off high voltage if the output current exceeds the preset current limit (approximately 50 μA). This protection circuit works whenever the preset current limit is exceeded, even for a very short moment.

PHOTOSENSOR MODULE H10770 SERIES

Figure 1: Spectral response

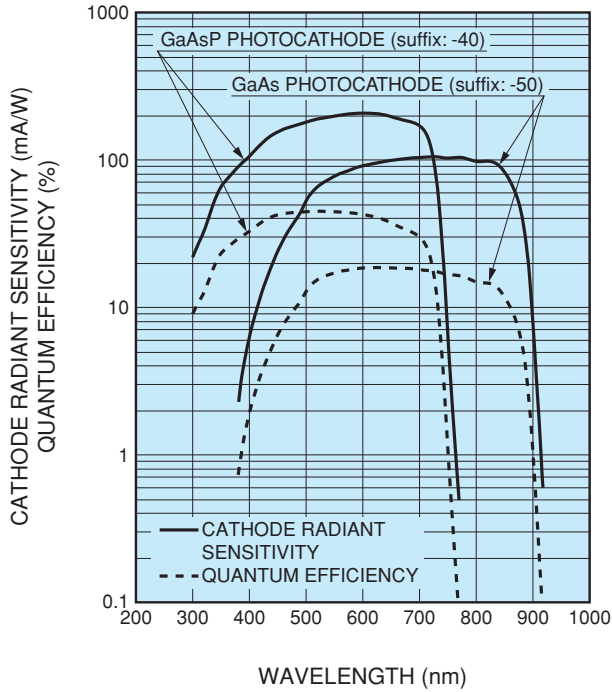


Figure 2: Gain

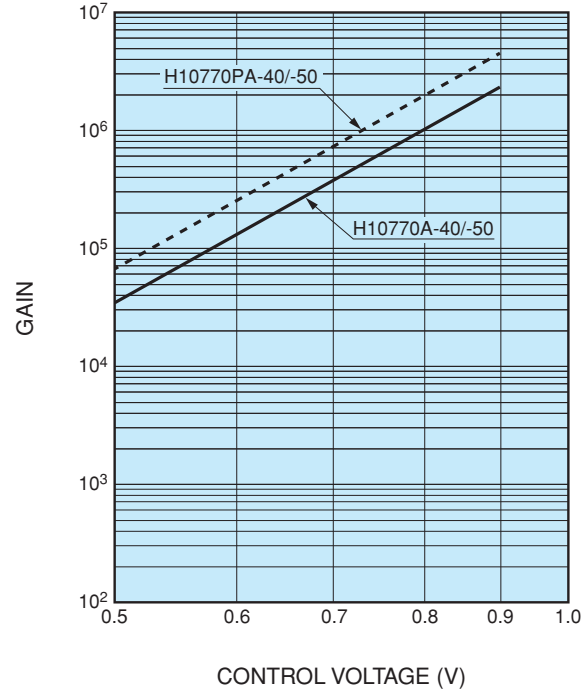


Figure 3: Sensitivity adjustment method

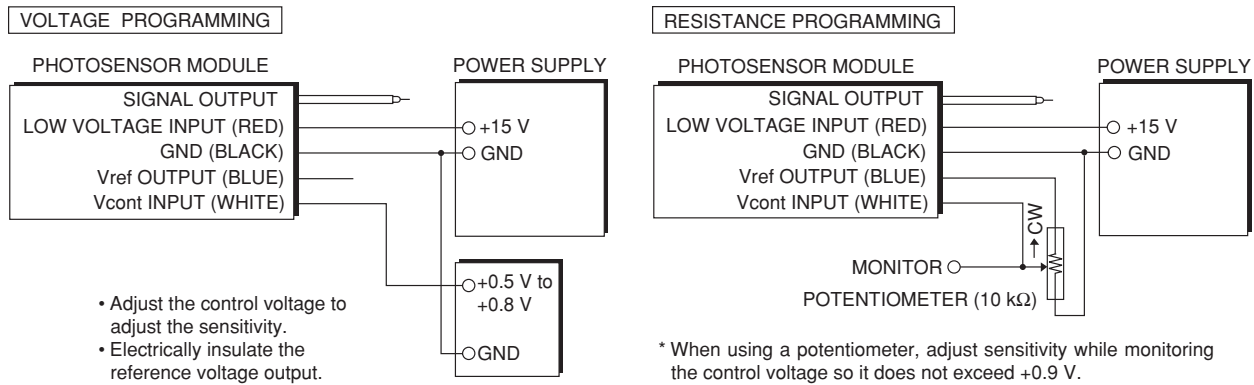
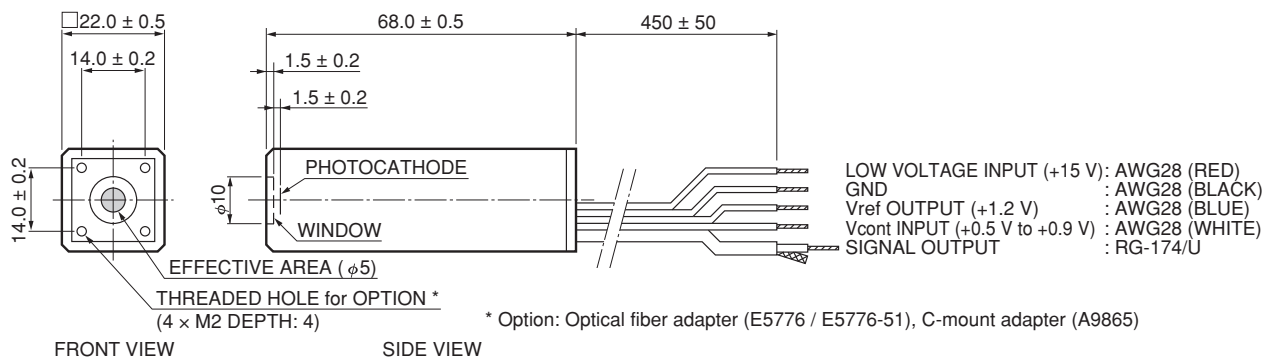


Figure 4: Dimensional outline (Unit: mm)



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