Side-on PMT

Photosensor Modules H7732 Series

The H7732 series photosensor modules consist of a 28-mm (1-1/8") diameter side-on photomultiplier tube and a high-voltage power supply. These side-on photomultiplier tubes have long been used for spectroscopic applications and provide high gain and high sensitivity. Five types of photomultiplier tubes are provided as standard lineups to meet various needs for spectral response range. Connectors are used for power input and signal output. By selecting cables in convenient length, the H7732 can be easily installed inside equipment or removed from equipment.

The H7732 is a general-purpose type and the H7732-01 is a low-noise type. The H7732-10 is sensitive over a wide range from UV to near infrared and has particularly high sensitivity in wavelengths above 600 nm. The H7732P-01 and H7732P-11 are selected as low dark count types ideal for photon counting and low-light-level measurement.

Product Variations

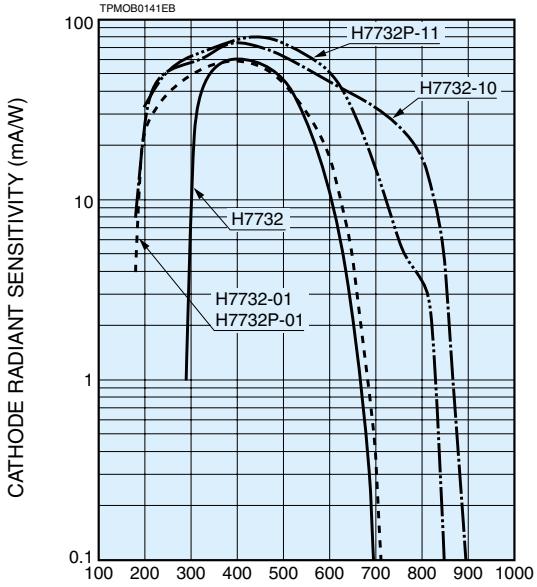
Type No.	Spectral Response	Features
H7732	300 nm to 650 nm	For general applications in visible range
H7732-01	185 nm to 680 nm	Low noise in UV to visible range
H7732-10	185 nm to 900 nm	High sensitivity in UV to near IR range. Uses photomultiplier tube with meshless grid for excellent uniformity.
H7732P-01	185 nm to 680 nm	For photon counting
H7732P-11	185 nm to 850 nm	

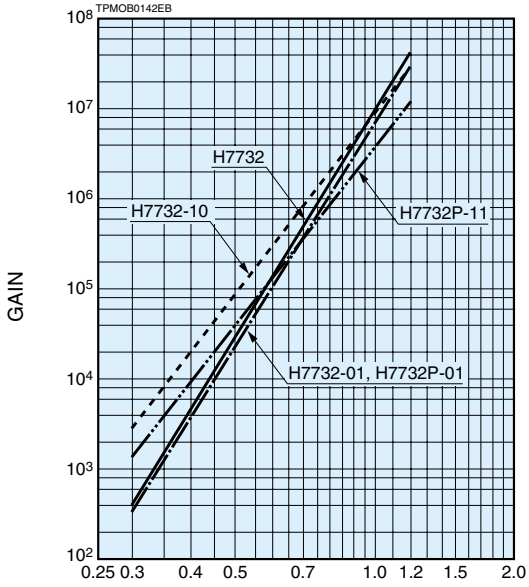
Specifications

Parameter			H7732	H7732-01	H7732-10	H7732P-01	H7732P-11	Unit
Input Voltage			+11.5 to +15.5					V
Max. Input Voltage			+18					V
Max. Input Current			40					mA
Max. Output Signal Current			100					μA
Max. Control Voltage			+1.2 (Input impedance 100 kΩ)					V
Recommended Control Voltage Adjustment Range			+0.3 to +1.1					V
Effective Area			4 × 20					mm
Sensitivity Adjustment Range			1: 10^4					—
Peak Sensitivity Wavelength			400				430	nm
Cathode	Luminous Sensitivity	Min.	30	40	140	40	140	μA/lm
		Typ.	60	60	250	60	200	
	Blue Sensitivity Index (CS 5-58)		7.1	6.4	—	6.4	—	—
	Red/White Ratio		—	—	0.3	—	0.15	—
	Radiant Sensitivity *1		60	60	74	60	80	mA/W
Anode	Luminous Sensitivity *2	Min.	50	200	400	200	300	A/lm
		Typ.	600	400	2500	400	700	
	Radiant Sensitivity *1 *2		6.0×10^5	4.0×10^5	7.4×10^5	4×10^5	2.8×10^5	A/W
	Dark Current *2 *3	Typ.	5	0.1	3	0.1	0.2	nA
		Max.	50	2	50	0.5	1	
	Dark Count *3	Typ.	—	—	—	30	80	s^{-1}
		Max.	—	—	—	80	200	
Rise Time *2			2.2					ns
Ripple Noise *2 *4 (peak to peak)		Max.	0.5					mV
Settling Time *5			0.2					s
Operating Ambient Temperature			+5 to +45					°C
Storage Temperature			-20 to +50					°C
Weight			220					g

*1: Measured at the peak sensitivity wavelength *2: Control voltage = +1.0 V *3: After 30 minute storage in darkness
*4: Cable RG-174/U, Cable length 450 mm, load resistance = 1 MΩ, load capacitance = 22 pF
*5: 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.

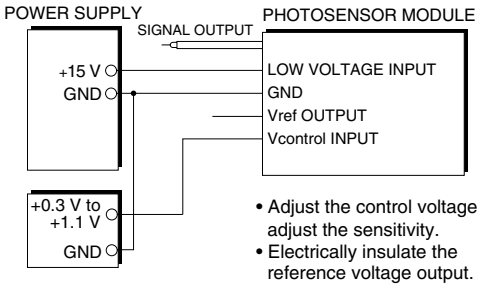
Characteristics (Cathode radiant sensitivity, Gain)





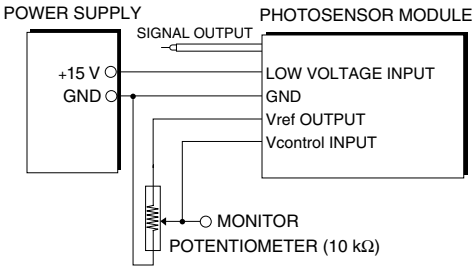
Sensitivity Adjustment Method

Voltage Programming



- Adjust the control voltage to adjust the sensitivity.
- Electrically insulate the reference voltage output.

Resistance Programming



When using a potentiometer to adjust sensitivity, monitor the control voltage.

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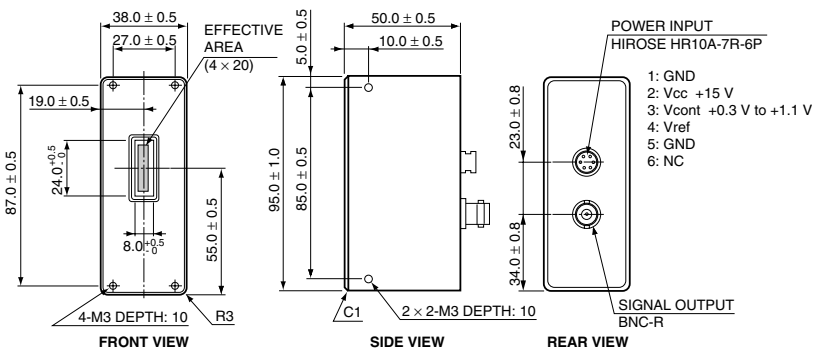
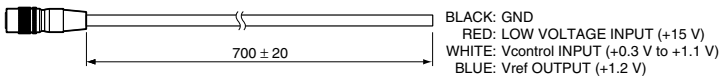
Dimensional Outlines (Unit: mm)



Power cable with connector (HIROSE HR10A-7P-6S) is supplied with the H7732 series



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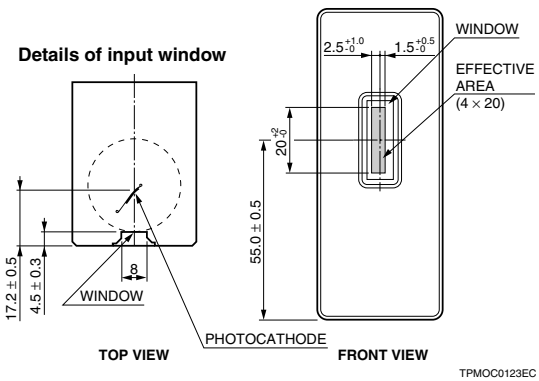

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