

Photon counting unit is designed to convert single photoelectron pulses from a photomultiplier tube into 5 V digital signals by use of the built-in amplifier and discriminator circuits. Photon counting with a high S/N ratio can be performed by simply connecting a counter to the output of the photon counting unit.

The C9744 uses a high-speed electronic circuit that allows measurement with an excellent output linearity up to 10^7 s^{-1} . The C9744 also has a prescaler (division by 10) eliminating the need for a high-speed counter.



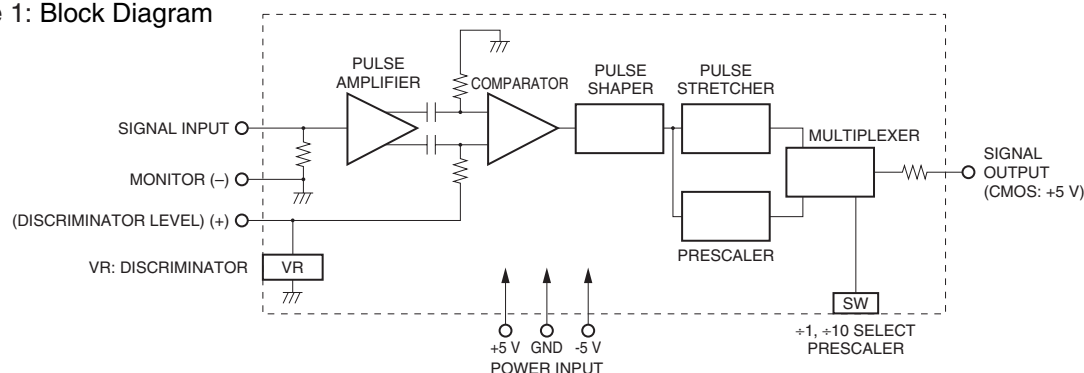
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SPECIFICATIONS

Parameter		C9744	Unit
Input Impedance		50	Ω
Discrimination Level (input conversion)		-0.4 to -16	mV
Required PMT Gain		Approx. 3×10^6	—
Prescaler		$\div 1$ $\div 10$	—
Count Linearity	$\div 1$	4×10^6	s^{-1}
	$\div 10$	1×10^7	
Pulse-pair Resolution	$\div 1$	25	ns
	$\div 10$	10	
Output Pulse		CMOS 5 V, POSITIVE LOGIC	—
Output Pulse Width	$\div 1$	10	ns
	$\div 10$	Depends on count rate	—
Supply Voltage		+5.0 V $\pm$ 0.2 V, 130 mA / -5.0 V $\pm$ 0.2 V, 50 mA	—
Connector	Input	BNC-R	—
	Output	BNC-R	—
	Power	DIN (6-pin) [®]	—
Dimensions (W $\times$ H $\times$ D)		90 $\times$ 32 $\times$ 140 (excluding rubber feet and projecting parts)	mm
Operating Ambient Temperature		0 to +50	$^{\circ}\text{C}$
Operating Ambient Humidity [®]		Below 80	%
Storage Temperature		-15 to +60	$^{\circ}\text{C}$
Storage Humidity [®]		Below 85	%
Weight		Approx. 250	g

NOTE: [®]A No condensation [®]B Supplied with a cable (1.5 m) attached to the mating plug.

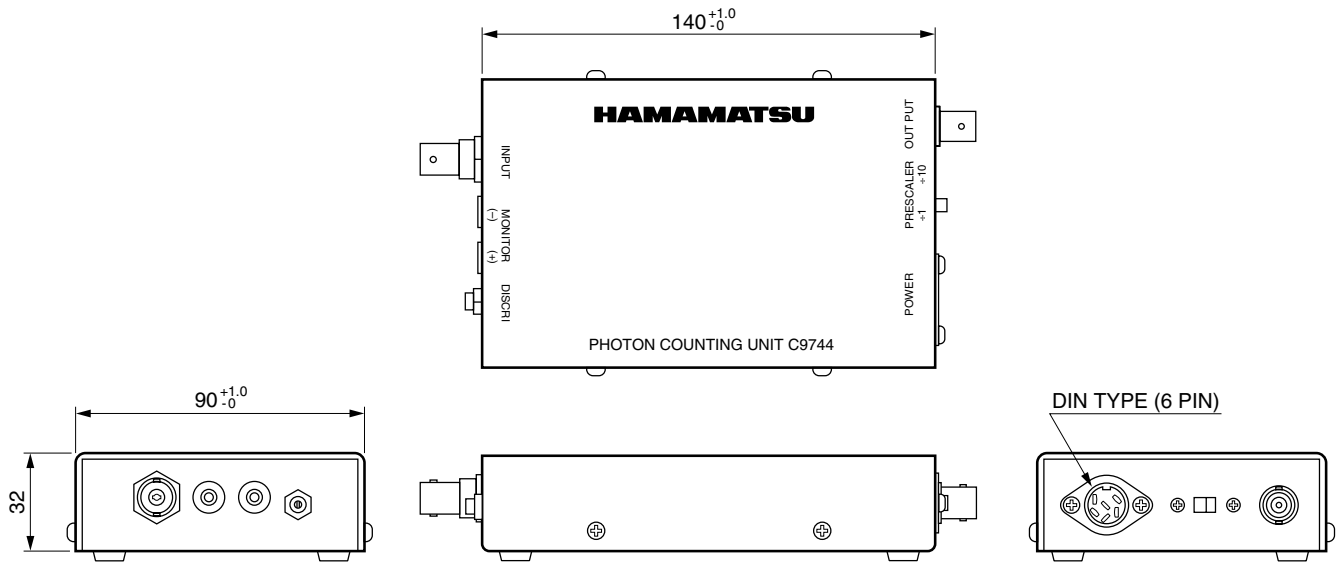
Figure 1: Block Diagram



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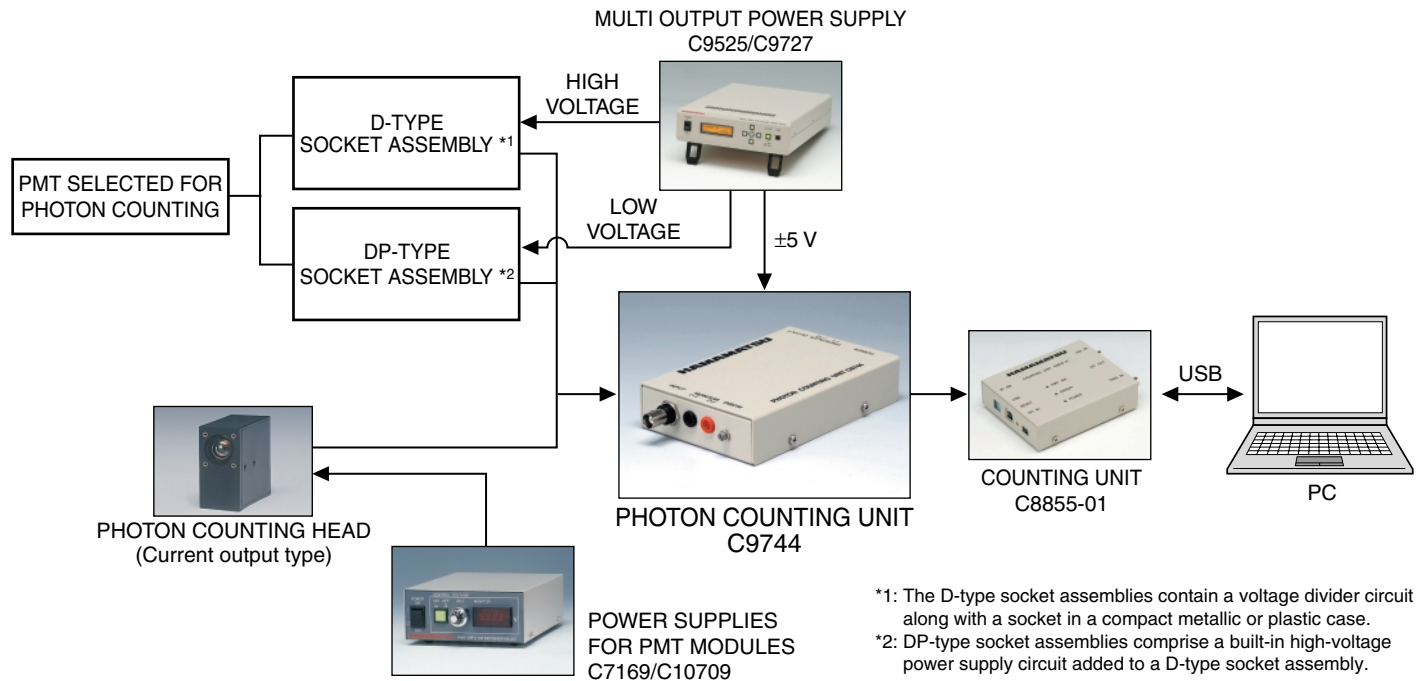
PHOTON COUNTING UNIT C9744

Figure 2: Dimensional Outline (Unit: mm)



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Figure 3: Connection Example



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