

Photon counting units are 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.

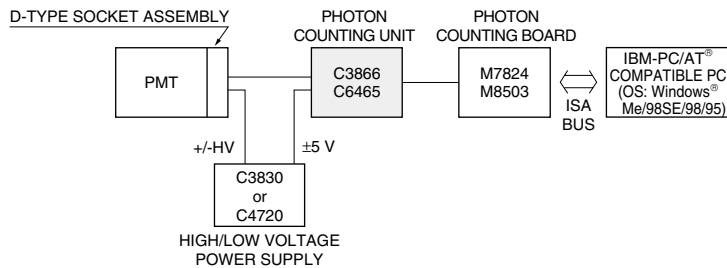
The C3866 uses a high-speed electronic circuit that allows measurement with an excellent output linearity up to  $10^7 \text{ s}^{-1}$ . The C3866 also has a prescaler (division by 10) eliminating the need for a high-speed counter.

The C6465 provides an output linearity up to  $10^6 \text{ s}^{-1}$  and an output pulse width of 30 ns, making it suitable for use with a general-purpose counter.



Left: C3866, Right: C6465

## COMBINATION EXAMPLE



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## SPECIFICATIONS

Parameter		C3866	C6465
Input Impedance		50 $\Omega$	50 $\Omega$
Discrimination Level (Converted Into Input)		-0.5 mV to -16 mV	-2.2 mV to -31 mV
Gain Required in PMT (Recommendation)		$3 \times 10^6$	$5 \times 10^6$
Prescaler		+1, +10 <sup>(A)</sup>	— <sup>(B)</sup>
Maximum Count Rate (Random Pulse: -10 % deviation)	+1	$4 \times 10^6 \text{ s}^{-1}$ (Typ.)	$1 \times 10^6 \text{ s}^{-1}$ (Typ.) <sup>(B)</sup>
	+10	$1 \times 10^7 \text{ s}^{-1}$ (Typ.)	
Pulse Pair Resolution	+1	25 ns	60 ns <sup>(B)</sup>
	+10	10 ns	
Output Pulse <sup>(C)</sup>		TTL Compatible positive logic (C-MOS 5 V)	TTL Positive logic
Output Pulse Width	+1	10 ns	30 ns <sup>(B)</sup>
	+10	Depending on count rate	
Supply Voltage		+5.2 V $\pm$ 0.2 V, 150 mA	+5 V $\pm$ 0.2 V, 60 mA
		-5.2 V $\pm$ 0.2 V, 300 mA	-5 V $\pm$ 0.2 V, 120 mA
Connectors	Input	BNC	BNC
	Output	BNC	BNC
	Remote	BNC	—
	Power Supply	HIROSE SR30-10R-4S <sup>(D)</sup>	DIN (6 PIN) <sup>(E)</sup>
Operating Temperature		0 $^{\circ}$ C to +40 $^{\circ}$ C	0 $^{\circ}$ C to +40 $^{\circ}$ C
Storage Temperature		-15 $^{\circ}$ C to +60 $^{\circ}$ C	-15 $^{\circ}$ C to +60 $^{\circ}$ C
Size (W $\times$ H $\times$ D)		88 mm $\times$ 32 mm $\times$ 170 mm	60 mm $\times$ 43.2 mm $\times$ 105 mm
Weight		Approx. 320 g	Approx. 250 g

**NOTE:** (A): Selectable by the switch or remote control.

(B): C6465 does not have a prescaler.

(C): Output stage C3866: ADVANCED C-MOS (National Semiconductor 74AC153), C6465: ADVANCED C-MOS (TOSHIBA TC74ACT04)

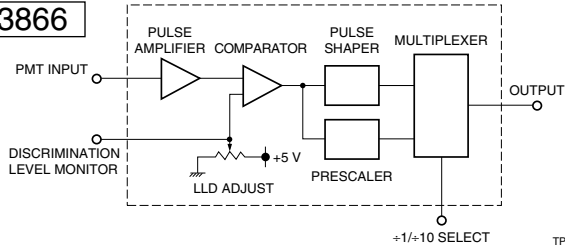
(D): Fitting plug (HIROSE SR30-10PQ-4P) with cable is supplied with C3866 (1 m)

(E): Fitting plug with cable is supplied with C6465 (1.5 m)

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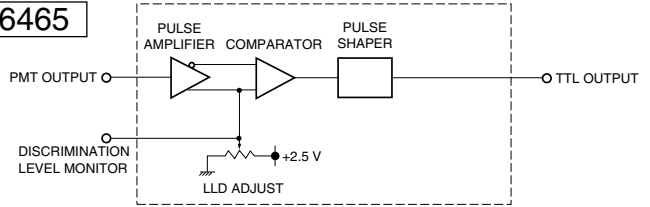
# BLOCK DIAGRAM

C3866



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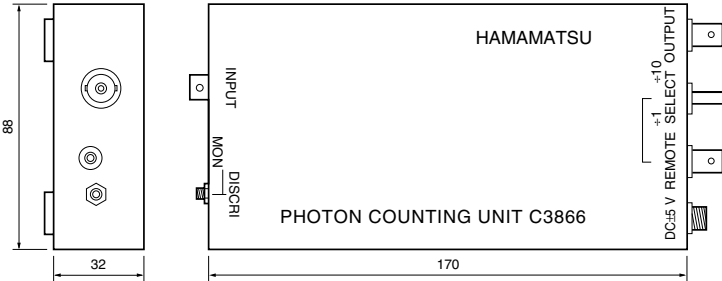
C6465



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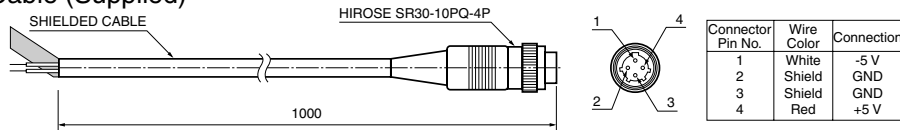
# DIMENSIONAL OUTLINE (Unit: mm)

C3866



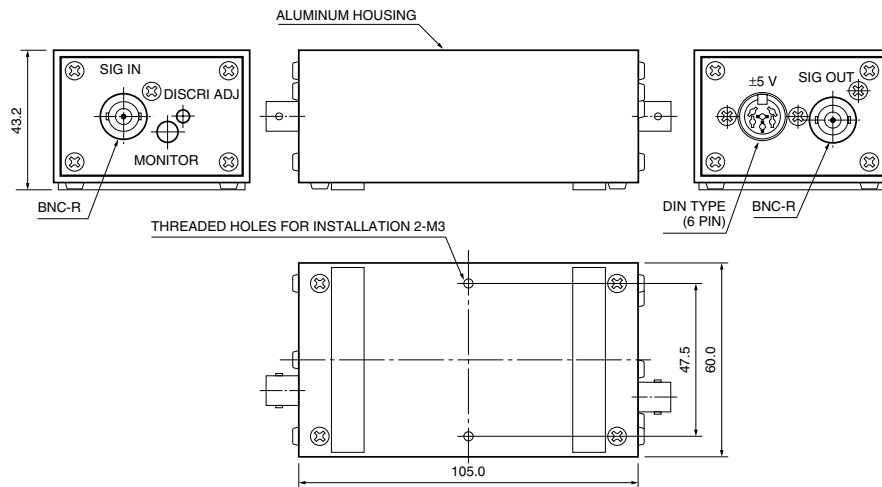
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## Power Supply Cable (Supplied)



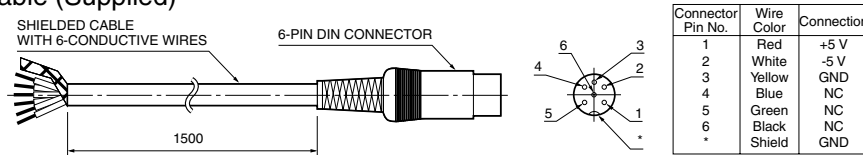
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C6465



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## Power Supply Cable (Supplied)



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