

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.

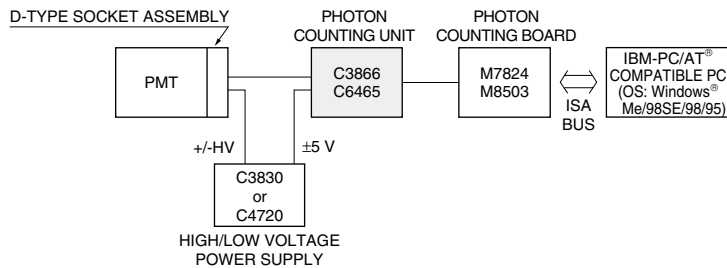
The C3866 uses a high-speed electronic circuit that allows measurement with an excellent output linearity up to 10^7 s^{-1} . The C3866 also has a prescaler (division by 10) eliminating the need for a high-speed counter.

The C6465 provides an output linearity up to 10^6 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 Ω	50 Ω
Discrimination Level (Converted Into Input)	-0.5 mV to -16 mV	-2.2 mV to -31 mV
Gain Required in PMT (Recommendation)	3×10^6	5×10^6
Prescaler	$\div 1, \div 10^A$	— ^B
Maximum Count Rate (Random Pulse: -10 % deviation)	$\div 1$: $4 \times 10^6 \text{ s}^{-1}$ (Typ.) $\div 10$: $1 \times 10^7 \text{ s}^{-1}$ (Typ.)	$1 \times 10^6 \text{ s}^{-1}$ (Typ.) ^B
Pulse Pair Resolution	$\div 1$: 25 ns $\div 10$: 10 ns	60 ns ^B
Output Pulse ^C	TTL Compatible positive logic (C-MOS 5 V)	TTL Positive logic
Output Pulse Width	$\div 1$: 10 ns $\div 10$: Depending on count rate	30 ns ^B
Supply Voltage	+5.2 V \pm 0.2 V, 150 mA -5.2 V \pm 0.2 V, 300 mA	+5 V \pm 0.2 V, 60 mA -5 V \pm 0.2 V, 120 mA
Connectors	Input	BNC
	Output	BNC
	Remote	BNC
	Power Supply	HIROSE SR30-10R-4S ^D
Operating Temperature	0 $^\circ\text{C}$ to +40 $^\circ\text{C}$	0 $^\circ\text{C}$ to +40 $^\circ\text{C}$
Storage Temperature	-15 $^\circ\text{C}$ to +60 $^\circ\text{C}$	-15 $^\circ\text{C}$ to +60 $^\circ\text{C}$
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.

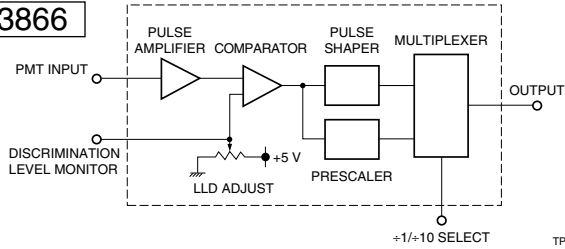
(C): Output stage C3866: ADVANCED C-MOS (National Semiconductor 74AC153), C6465: ADVANCED C-MOS (TOSHIBA TC74ACT04)

(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)

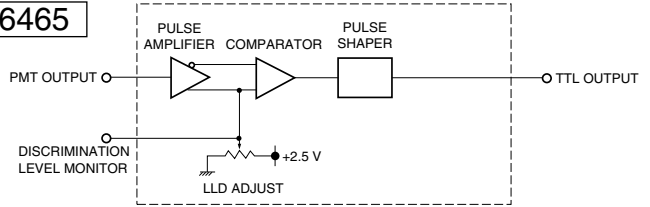
BLOCK DIAGRAM

C3866



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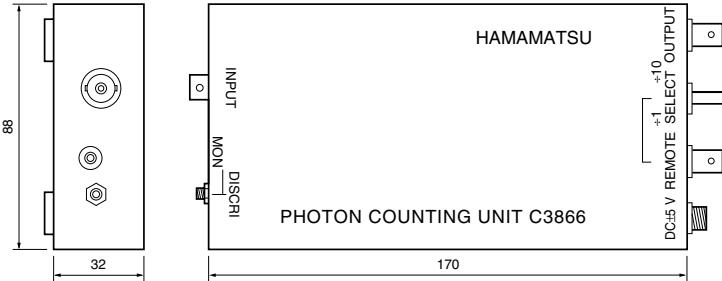
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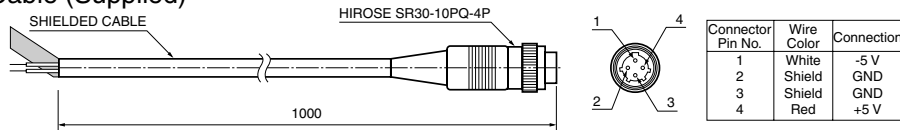
DIMENSIONAL OUTLINE (Unit: mm)

C3866



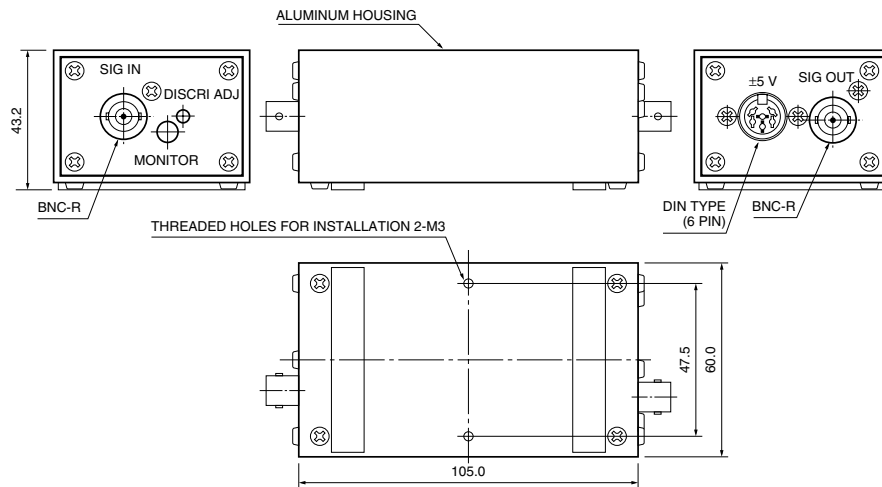
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Power Supply Cable (Supplied)



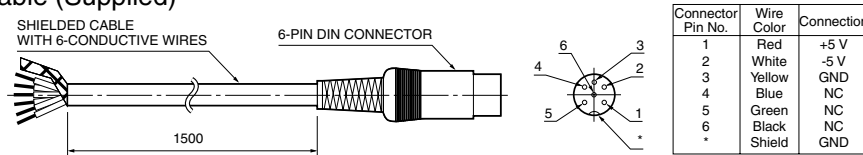
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C6465



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Power Supply Cable (Supplied)



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