

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.

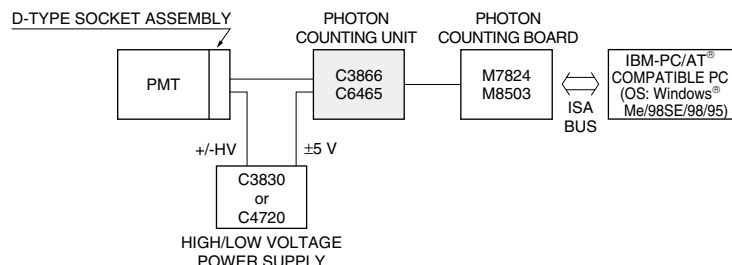
The C3866 uses a high-speed electronic circuit that allows measurement with an excellent output linearity up to 10^7 s^{-1} . The C3866 also has a prescaler (division by 10) eliminating the need for a high-speed counter.

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



TPHOC0005EA

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 Requierd 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.)	$1 \times 10^6 \text{ s}^{-1}$ (Typ.) ^(B)
	$\div 10$	$1 \times 10^7 \text{ s}^{-1}$ (Typ.)	
Pulse Pair Resolution	$\div 1$	25 ns	60 ns ^(B)
	$\div 10$	10 ns	
Output Pulse ^(C)		TTL Compatible positive logic (C-MOS 5 V)	TTL Positive logic
Output Pulse Width	$\div 1$	10 ns	30 ns ^(B)
	$\div 10$	Depending on count rate	
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	BNC
	Output	BNC	BNC
	Remote	BNC	—
	Power Supply	HIROSE SR30-10R-4S ^(D)	DIN (6 PIN) ^(E)
Operating Temperature		0 °C to +40 °C	0 °C to +40 °C
Storage Temperature		-15 °C to +60 °C	-15 °C to +60 °C
Size (W × H × D)		88 mm × 32 mm × 170 mm	60 mm × 43.2 mm × 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.

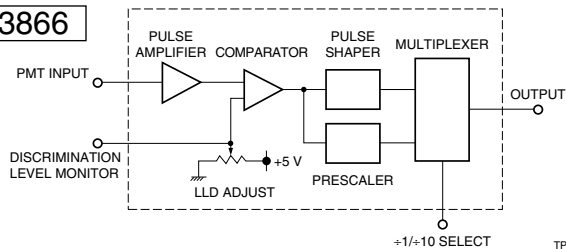
^C: Output stage C3866: ADVANCED C-MOS (National Semiconductor 74AC153), C6465: ADVANCED C-MOS (TOSHIBA TC74ACT04)

^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)

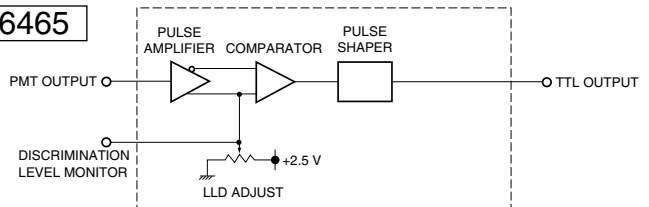
BLOCK DIAGRAM

C3866



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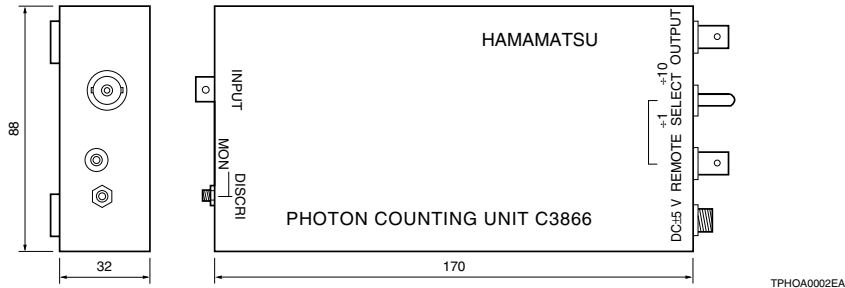
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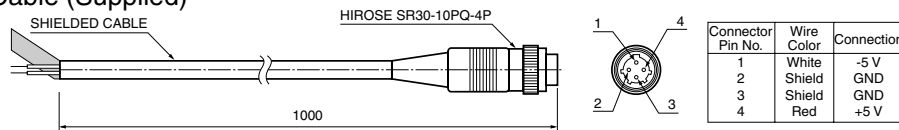
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DIMENSIONAL OUTLINE (Unit: mm)

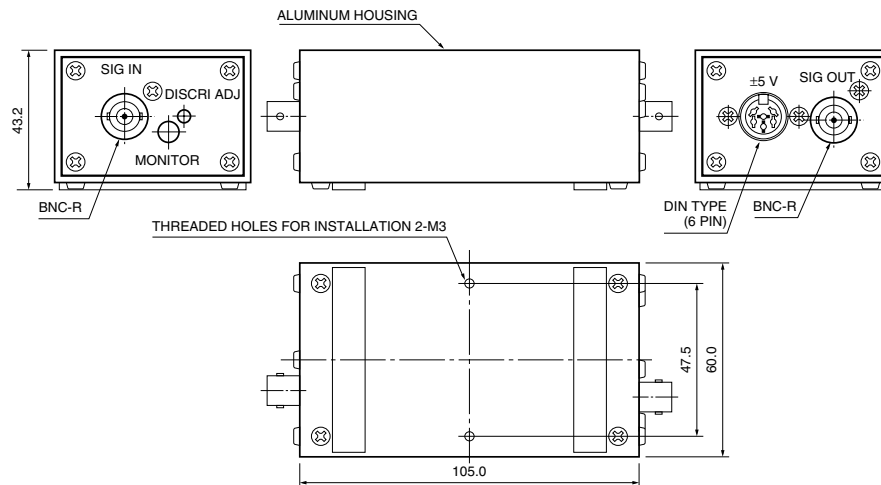
C3866



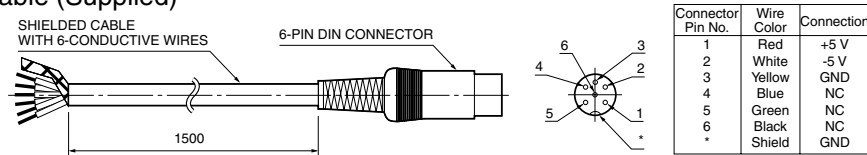
Power Supply Cable (Supplied)



C6465



Power Supply Cable (Supplied)



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