

The C13182-01 is a photon counting unit designed for high-speed light detection. A high-speed photon counter can be configured by combining this unit with a high-speed amplifier. This unit uses the double-counter method that has two counter circuits to allow measurements with no dead time.

FEATURES

- Ideal for photon counting using a high-speed photodetector such as a Hybrid Photo-Detector (HPD)
- Count linearity: more than $5 \times 10^7 \text{ s}^{-1}$
- USB interface allows high-speed data communication
- Accurate measurement with no dead time (Double counter method)
- Sample software bundled



C13182-01-A1: for Japan
C13182-01-A2: for USA
C13182-01-A3: for EU

SPECIFICATIONS

Parameter		Description / Value
Input	Number of input signal channel	1
	Signal input level	+50 mV to +1.2 V
	Signal pulse width	1 ns or longer
	Input Impedance	50 Ω
	Discrimination level	+5 mV to +1.2 V
	Max. count linearity	more than $5 \times 10^7 \text{ s}^{-1}$ (random pulse, count loss 10 %)
	Pulse-pair resolution	2 ns
Counter	Counter method	Double counter method
	Max. counter capacity	2^9 /counter gate (gate time 1 μs to 5 μs)
		2^{16} /counter gate (gate time 10 μs to 5 ms)
Counter gate	Counter gate mode	Internal counter gate only
	Internal counter gate time	1 μs to 10 s (1, 2, 5 step)
Trigger	Trigger method	Software / External trigger
	External trigger signal	TTL negative logic
FIFO capacity		2048 count data (gate time 1 μs to 5 ms) 64 count data (gate time 10 ms to 10 s)
OS		Windows® 7/8/8.1/10 Pro
Interface		USB 2.0
Supply voltage		+7 V / 750 mA (supplied from AC adapter)
Dimensions (W × H × D)		115.8 mm × 28 mm × 96 mm (excluding rubber feet and projecting parts)
Weight		240 g
Operating ambient temperature / Humidity		+5 °C to +45 °C / Below 80 % (no condensation)
Storage temperature / Humidity		0 °C to +50 °C / Below 80 % (no condensation)
CE marking		IEC61010-1, IEC61326-1 GROUP 1, CLASS B
AC adapter	Input	AC 100 V to AC 240 V
	Output	+7 V / 1.6 A

Supplied: CD-ROM (containing device driver, DLL, sample software, instruction manual, etc.) USB cable,
AC adapter (-A1: for Japan, -A2: for USA, -A3: for EU), AC cable,
signal cable with SMA-P connectors, cables (red and black) with connector for discrimination level monitor

USB INTERFACE COMPATIBLE COUNTING UNIT C13182-01

Figure 1: Count linearity

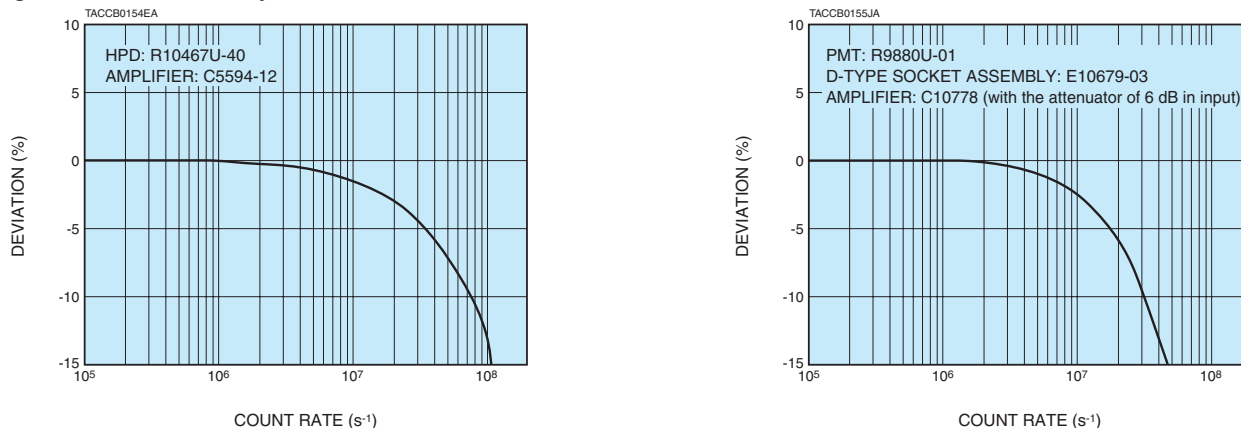


Figure 2: Internal block diagram

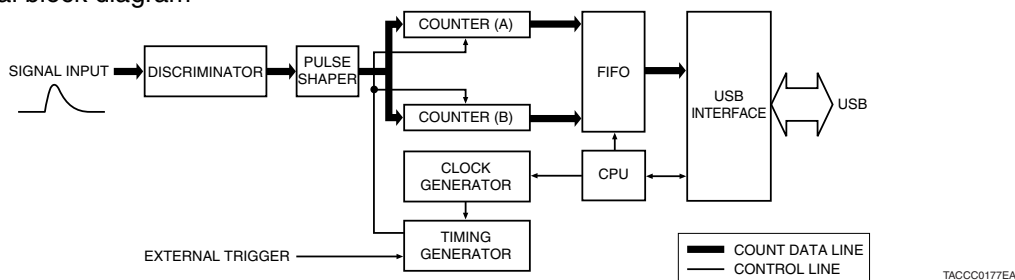
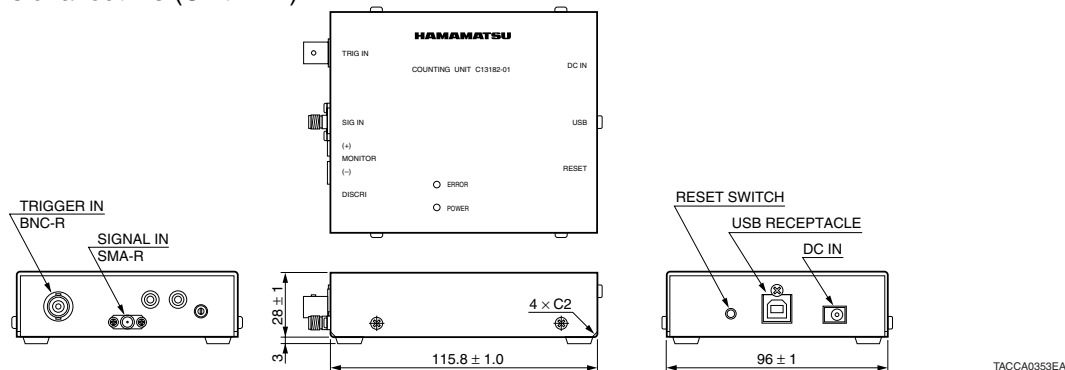


Figure 3: Dimensional outline (Unit: mm)



RELATED PRODUCTS

HIGH SPEED AMPLIFIER UNIT

We recommend using the following high-speed amplifiers that are compatible with the input signal polarity (positive) of this unit.

- **C5594-12 (non-inverted output):** For HPD and high-speed photodetectors that provide positive polarity output
- **C10778 (inverted output):** For high-speed photomultiplier tubes such as metal package photomultiplier tubes

For details on the connections, please contact with our sales office.

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