

The C13182-01 is a 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 transfer
- 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	2^8 /counter gate (gate time 1 μs to 5 μs)
		2^{16} /counter gate (gate time 10 μs to 1 ms)
Counter gate	Counter gate mode	Internal counter gate only
	Internal counter gate time	1 μs to 100 ms (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 100 ms)
OS		Windows® 10 Pro / 11 Pro
Interface		USB 2.0
Supply voltage		+7 V / 750 mA (supplied from AC adapter)
Dimensions (W x H x D)		115.8 mm x 28 mm x 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 85 % (no condensation)
CE marking		<ul style="list-style-type: none"> • EN 61010-1/A1 • EN 61326-1 Emission Limits :CISPR 11 Group 1, Class B Immunity requirements :Table 1 <ul style="list-style-type: none"> • EN IEC 63000
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),
signal cable with SMA-P connectors, cables (red and black) with connector for discrimination level monitor

COUNTING UNIT C13182-01

Figure 1: Count linearity

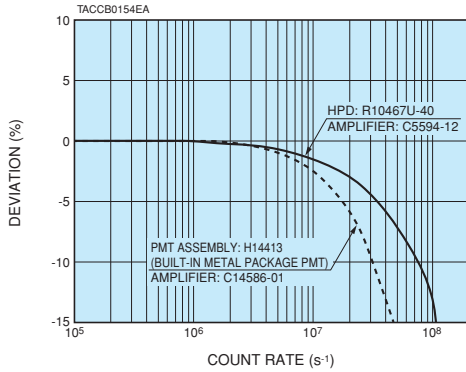
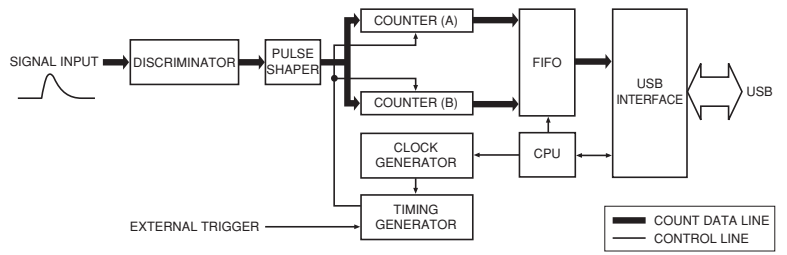
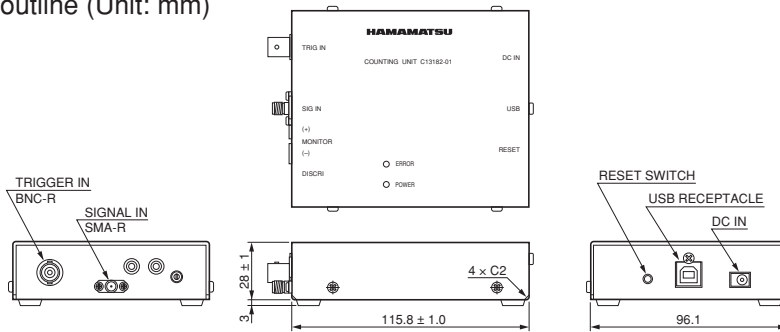


Figure 2: Internal block diagram



TACCC0177EA

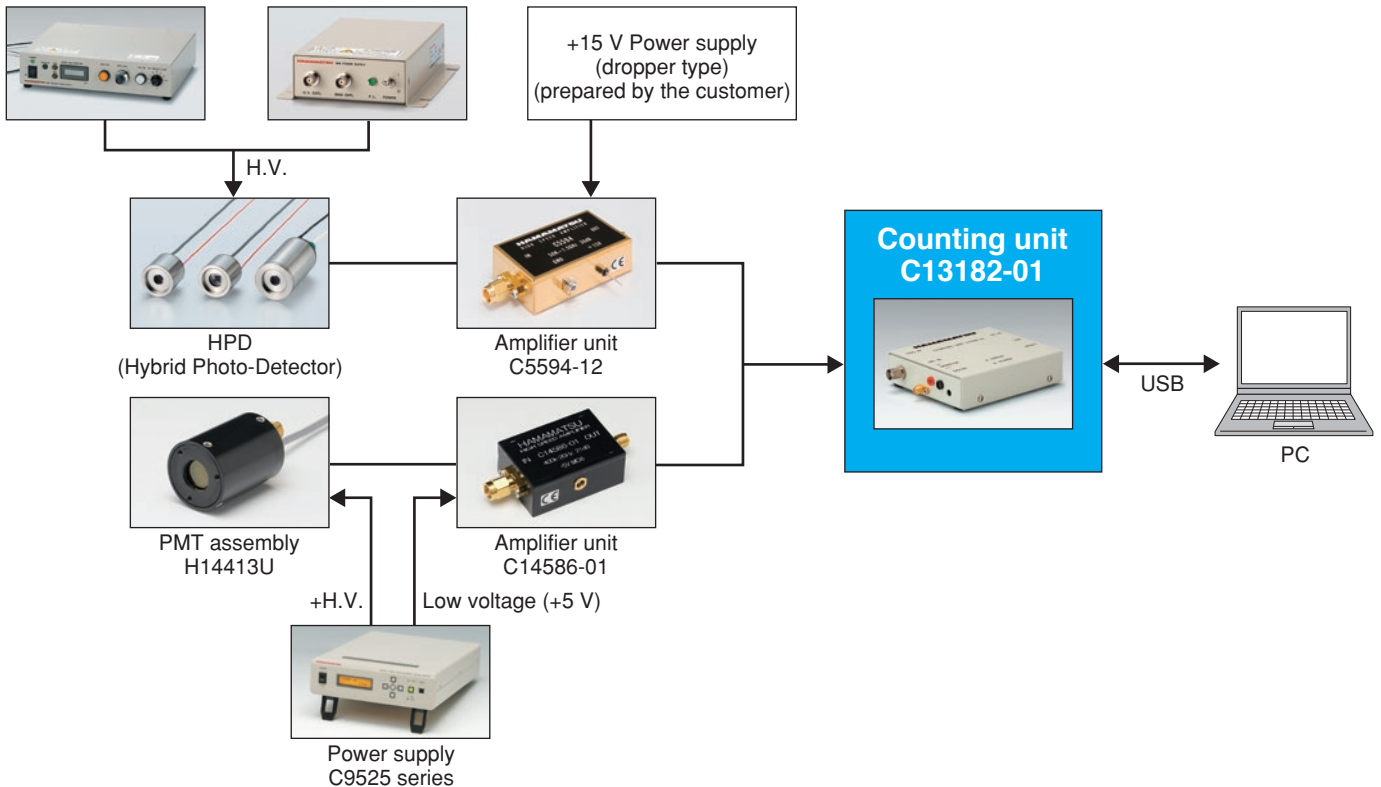
Figure 3: Dimensional outline (Unit: mm)



TACCA0353EA

CONNECTION EXAMPLE

Power supply (AC input) C12929 Power supply (±15 V input) C13265



Windows® is a registered trademark of Microsoft Corporation in the United States and/or other countries.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

Electron Tube Division

314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: HAMAMATSU CORPORATION: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: HAMAMATSU PHOTONICS DEUTSCHLAND GMBH.: Arzbergerstr. 10, 82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: info@hamamatsu.de

France: HAMAMATSU PHOTONICS FRANCE S.A.R.L.: 19 Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr

United Kingdom: HAMAMATSU PHOTONICS UK LIMITED: 2 Howard Court, 10 Twin Road, Welwyn Garden City, Hertfordshire, AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk

North Europe: HAMAMATSU PHOTONICS NORDEN AB: Torshamnsgatan 35, 16440 Kista, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01 E-mail: info@hamamatsu.se

Italy: HAMAMATSU PHOTONICS ITALIA S.R.L.: Strada della Moia, 1 int. 6 20044 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it

China: HAMAMATSU PHOTONICS (CHINA) CO., LTD.: 1201, Tower B, Jiaming Center, 27 Dongsanhuan Bellu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2868 E-mail: hpc@hamamatsu.com.cn

Taiwan: HAMAMATSU PHOTONICS TAIWAN CO., LTD.: 13F-1, No.101, Section 2, Gongdao 5th Road, East Dist., Hsinchu City, 300046, Taiwan(R.O.C) Telephone: (866)3-659-0080, Fax: (866)3-659-0081 E-mail: info@hamamatsu.com.tw

TACC1073E04
APR. 2024 IP