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Signal processing unit for PSD module

C10460

Specifically dedicated for PSD module

The C10460 is a signal processing unit specifically design to convert the output from a PSD module C10443 series (except for the C10443-06) into position signals.
Position signals are output as both analog and digital signals. In case of analog output, connecting the output connector to a voltmeter shows an output voltage that directly represents the position information (The output voltage indicates a position from the center of the PSD, 1 V=1 mm). While, digital output allows serial connection (RS-232C) to a PC. Position information can be easily loaded into a PC via the sample software that comes with the unit.

Features

- **Both analog and digital outputs**
  Analog output: Output voltage directly represents the position information.
  Digital output: High-resolution digital output (16-bit)
- **AC adapter (+12 V) operation**
- **Supplies power to PSD modules**

Applications

- **Optical axis alignment**
- **Range finder**
- **Two-dimensional measurement**
- **Three-dimensional measurement**
- **Length measurement**
- **Liquid level sensors**
- **Distortion measurement**
- **Displacement sensors**

Absolute maximum ratings (Ta=25 °C unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Supply voltage	Vs max		+18	V
Input voltage	Vin max		±12	V
Operating temperature	Topr	No dew condensation*1	0 to +40	°C
Storage temperature	Tstg	No dew condensation*1	-10 to +60	°C

*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical characteristics (Ta=25 °C, Vs=+12 V, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	Vs	*2	+9	+12	+18	V
Input voltage	Vin		-10.9	-	0	V
Current consumption	Is	*2	-	200	-	mA

*2: Be sure to use the supplied AC adapter.

Analog section

Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Maximum output amplitude voltage	Vfs	*3		-	-	±10	V
Output noise voltage	Vn	*4		-	5	-	mVp-p
Output offset voltage	Vos	*4		-10	-	+10	mV
Position detection error	E			-	±3	-	%
Cutoff frequency	fc	-3 dB	Lower	-	DC	-	kHz
			Upper	-	13.5	-	
Position resolution	ΔR	*5		-	5	-	μm

*3: Vfs can be changed by using the range selector switch on the front panel of the unit.
*4: Measured when pseudo signal Vin (VX1=VX2=VY1=VY2=-2 V) is input in place of PSD module output voltage.
*5: Reference value. Values may vary depending on operating environment.

Digital section

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Digital output form	-	-	Conforms to RS-232C, 16-bit (outputs position signals X, Y, and light level monitor Σ)			-
Signal conversion time	-	Mode: 2 ms*6	2	-	-	ms
		Mode: 5 ms*7	5	-	-	

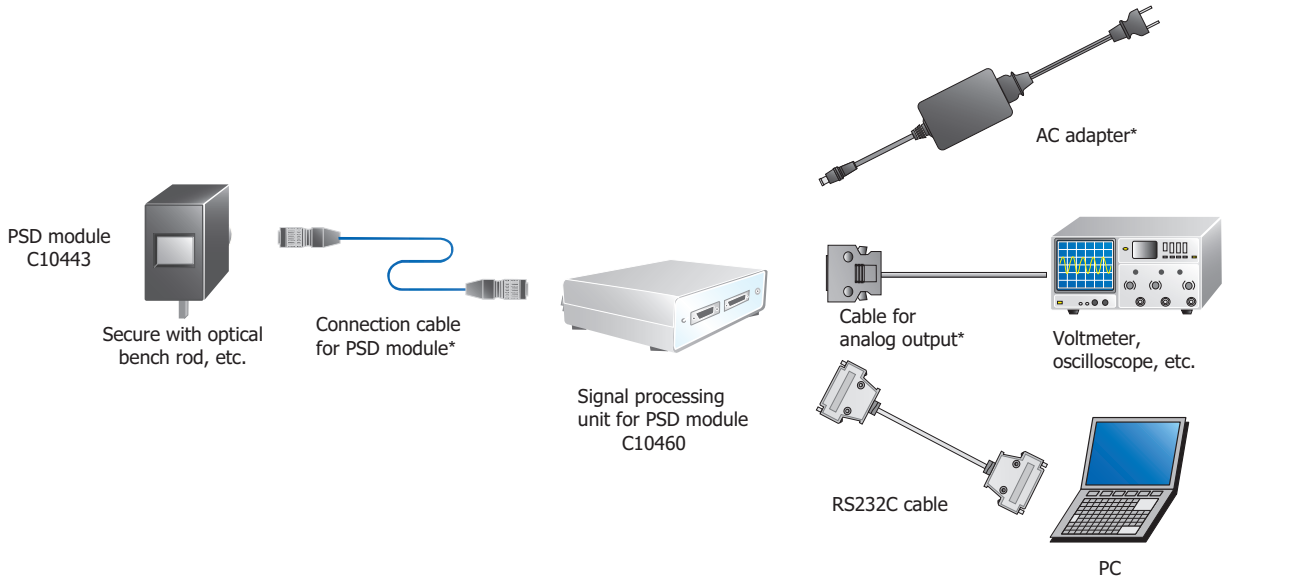
*6: Communication parameter 115200 bps/8-bit/Non-parity/1 stop bit
*7: Communication parameter 38400 bps/8-bit/Non-parity/1 stop bit

Applicable PSD modules

· C10443-01
· C10443-02
· C10443-03
· C10443-04*8

Note: The C10443-06 is not supported.
*8: When used in combination with C10460, the cutoff frequency is 13.5 kHz.

Connection example



* Accessories of C10460

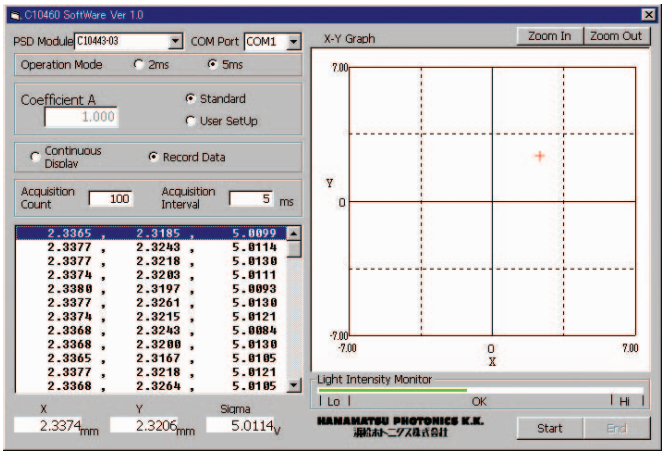
KACCC0349EC

Sample software (accessory)

Sample software acquires and displays position data as numerical values and on an XY graph, as well as recording the data.

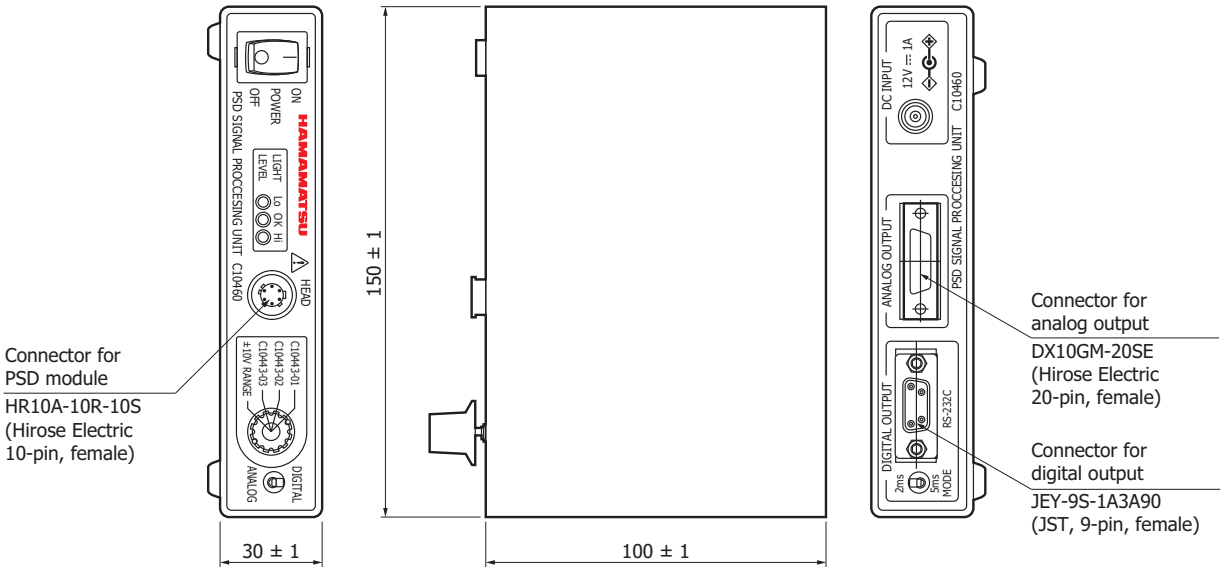
· Acquisition count: 1 to 300000
· Acquisition interval
  Mode 1: 2 ms to 120000 ms (in 2 ms intervals)
  Mode 2: 5 ms to 300000 ms (in 5 ms intervals)

Compatible OS:
Microsoft® Windows® 7 Professional SP1 (32/64-bit)
Microsoft Windows 8 Professional (32/64-bit)
Microsoft Windows 10 Professional (32-bit, 64-bit)



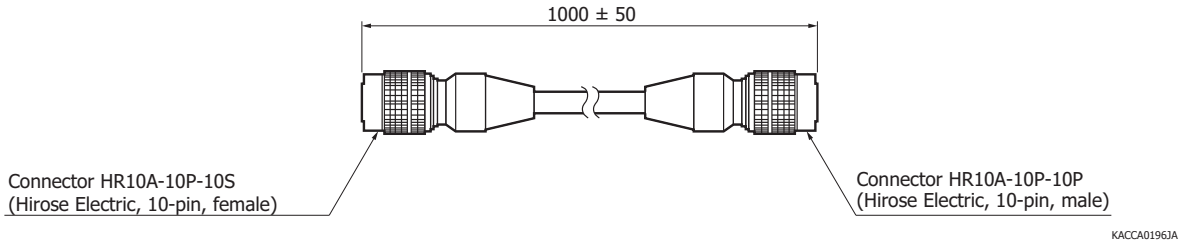
Note: Microsoft Windows is either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Dimensional outline (unit: mm)

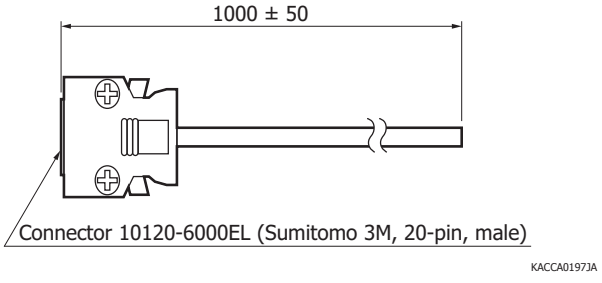


Accessories (unit: mm)

· Instruction manual
· Sample software CD-ROM
· AC adapter
· Cable for PSD module



· Cable for analog output (no connector on one end)



Note: RS232C cable is not supplied with C10460. Use a commercially available cable with 9-pin D-sub connectors. (male - female, straight)

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions
· Disclaimer

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HAMAMATSU PHOTONICS K.K., Solid State Division
1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81)53-434-3311, Fax: (81)53-434-5184
U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, N.J. 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, D-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 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, 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, 20020 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.: B1201, Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R.China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866, E-mail: hpc@hamamatsu.com.cn
Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No. 158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081, E-mail: info@hamamatsu.com.tw

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