



C10460-01

Specifically dedicated for PSD module

The C10460-01 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)
- **Single +12 V supply voltage 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		+13	V
Input voltage	Vin max	*1	±12	V
Supply current	Iin max		2	A
Operating temperature	Topr	No dew condensation*2	0 to +40	°C
Storage temperature	Tstg	No dew condensation*2	-10 to +60	°C

*1: Output current from PSD module

*2: When there is a temperature difference between a product and the surrounding area in high humidity environments, 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	*3	+11.5	+12	+12.5	V
Input voltage	Vin		-10.9	-	0	V
Current consumption	Is	*3	-	200	-	mA

*3: A power supply of approximately 12 V and 1.25 A is recommended. The electric current for operating this product varies depending on the use environment. Please check in advance.

■ Analog section

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Maximum output amplitude voltage	Vfs	*4	-	-	±10	V	
Output noise voltage	Vn	*5	-	5	-	mVp-p	
Output offset voltage	Vos	*5	-10	-	+10	mV	
Position detection error	E		-	±3	-	%	
Cutoff frequency	fc	-3 dB	Lower	-	DC	-	kHz
			Upper	-	13.5	-	
Position resolution	ΔR	*6	-	5	-	μm	

*4: Vfs can be changed by using the range selector switch on the front panel of the unit.

*5: Measured when pseudo signal Vin (VX1=VX2=VY1=VY2=-2 V) is input in place of PSD module output voltage.

*6: 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*7	2	-	-	ms
		Mode: 5 ms*8	5	-	-	

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

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

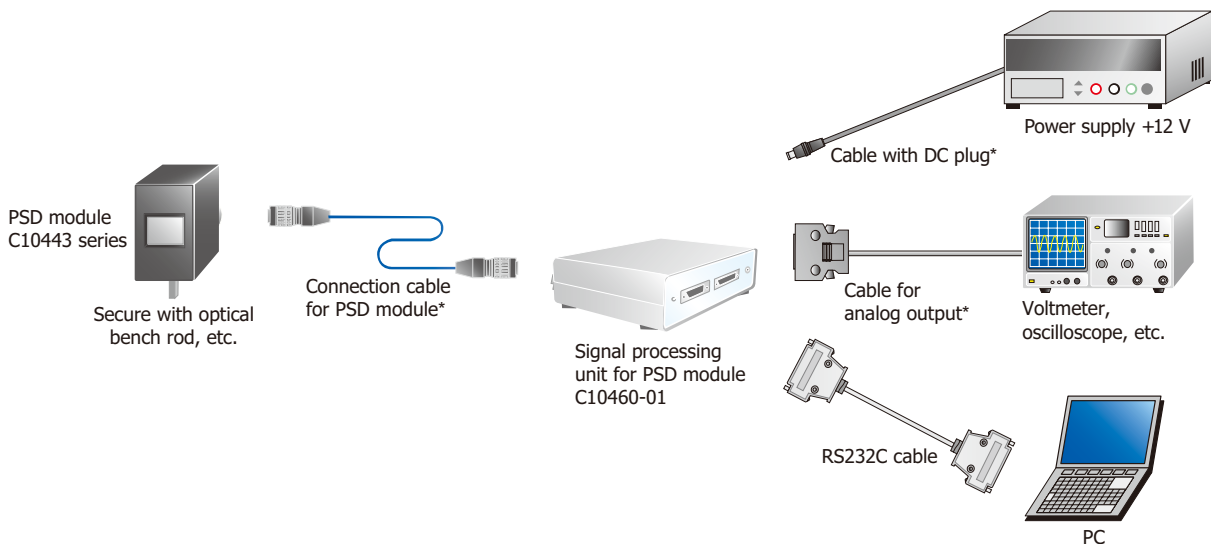
■ Applicable PSD modules

· C10443-01

· C10443-02

Note: The C10443-06 is not supported.

■ Connection example



* Accessories of C10460-01

KACCC1179EA

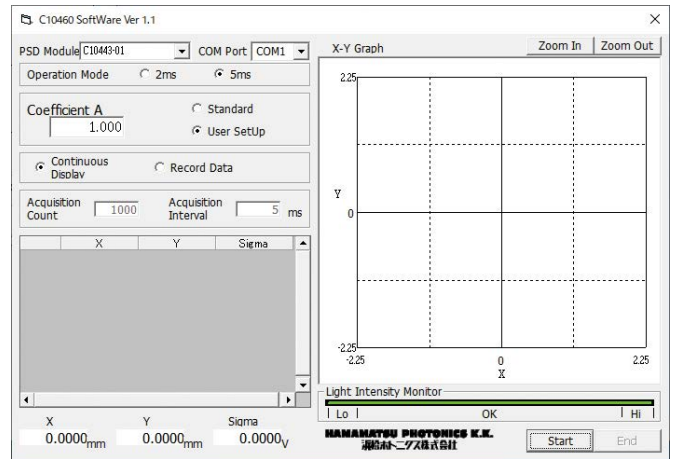
Sample software (accessory)

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

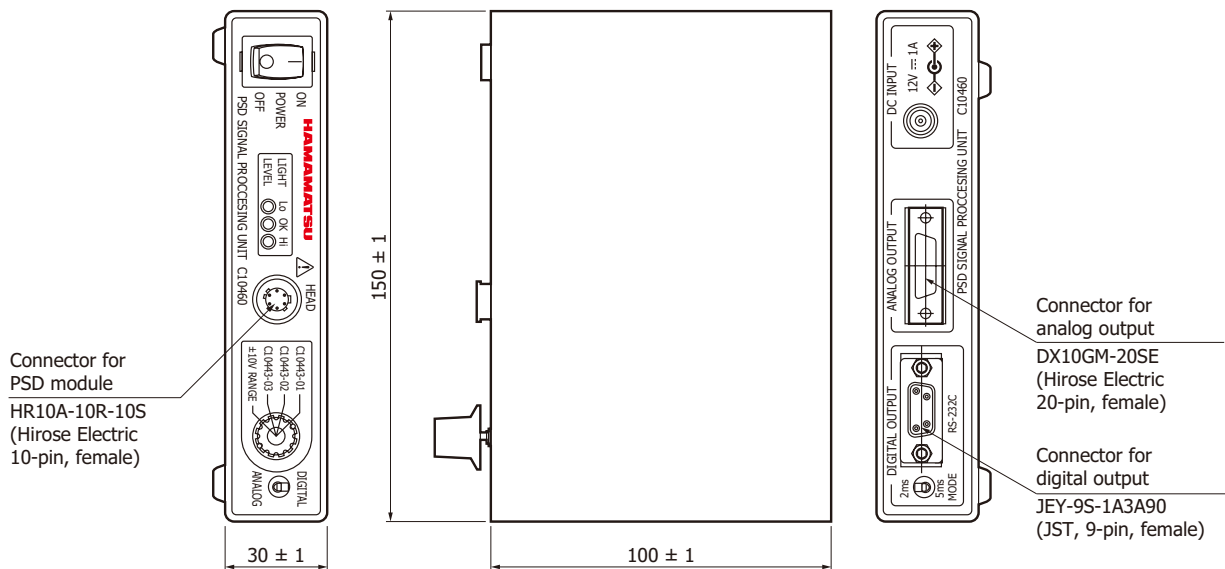
- Acquisition count: 1 to 300000
- Acquisition interval
 - Mode 1: 2 ms to 120000 ms (in 2 ms intervals)
 - Mode 2: 5 ms to 300000 ms (in 5 ms intervals)

Compatible OS:
Microsoft® Windows® 10 Pro (32-bit, 64-bit)

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



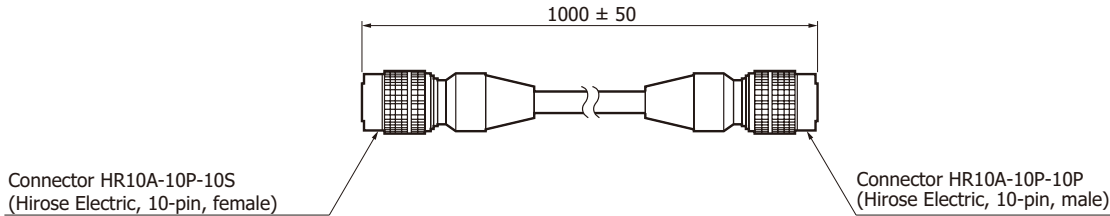
Dimensional outline (unit: mm)



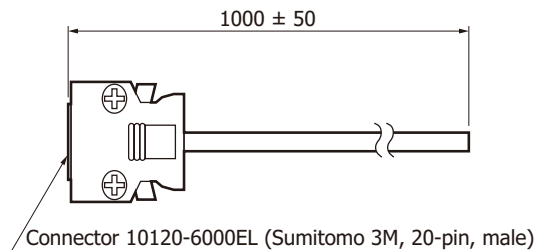
KACCA0195EE

Accessories (unit: mm)

- Instruction manual
- Sample software CD-ROM
- Cable with DC plug
- Cable for PSD module



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



Note: RS232C cable is not supplied with C10460-01. 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

Technical notes

- PSD
- PSD signal processing circuits, PSD modules

Information described in this material is current as of May 2024.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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