

PSD signal processing circuit C9068, C9069

Digital output for connection with PC



C9068 (for one-dimensional PSD) and C9069 (for pin-cushion type two-dimensional PSD) are DC signal processing circuits specifically designed for position measurement using PSD. Digital output allows direct connection with a personal computer through a serial (RS-232C) interface. C9068 and C9069 are capable of detecting accurate positions of a spot light regardless of light intensity.

A D/A conversion signal is also output for monitoring, and when a voltmeter is connected to this D/A conversion output, the output voltage value directly represents position data. (Output voltage represents the distance from the center of PSD. 1 V=1 mm)

Features

- Digital output
- Serial (RS-232C) connection with PC
- D/A conversion signal output for monitoring
- Easy handling due to single +12 V supply operation
- No complicated adjustment required

Applications

- Displacement measurement using PSD
- Testing using PSD
- PSD performance evaluation

■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Supply voltage	Vcc Max.	+18	V
Operating temperature *1	Topr	0 to +40	°C
Storage temperature *1	Tstg	-10 to +60	°C

*1: No condensation

■ Electrical and optical characteristics (Ta=25 °C, Vcc=+12 V)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Conversion impedance	Tz	-	1×10^5	-	V/A
Feedback capacitance	Cf	-	100	-	pF
Input signal current *2	C9068	1×10^{-5}	-	9×10^{-5}	A
	C9069	1×10^{-5}	-	9×10^{-5}	A
Signal conversion time *3	Tr	5	-	-	ms
Digital output format	-	Conforms to RS-232C (position signal, light level monitor output) 12-bit			-
D/A conversion output amplitude	Vo	-10	-	+10	V
Supply voltage	Vcc	+9	+12	+18	V
Current consumption	Icc	-	200	-	mA

*2: Photocurrent I_{sc} (total input signals) from PSD mounted on the C9068 or C9069 circuit board.

*3: Output response time versus spot light position change.

■ Combination with PSD

The following PSDs can be used by soldering the PSD leads to the through-hole terminals on the circuit board.

NOTE) PSDs sold separately.

PSD signal processing circuit	Compatible PSD	
	Type	Type No.
C9068	One-dimensional PSD	S3979 *4, S3931, S3932, S1352, S3270 *4
C9069	Pin-cushion type two-dimensional PSD	S1880, S1881 *4, S2044, S5990-01 *5, S5991-01 *5

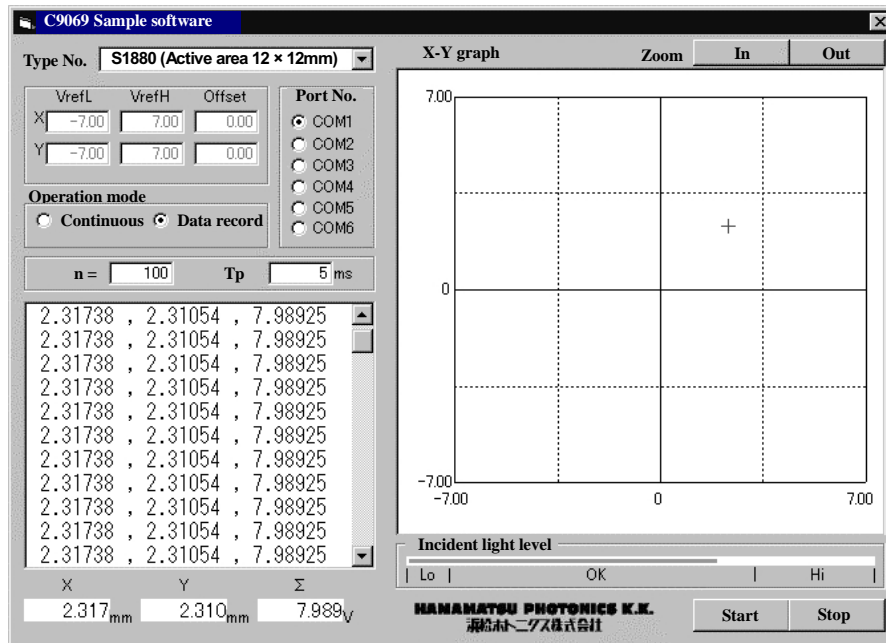
*4: These PSDs cannot be directly mounted on the circuit board. Connect to the through-hole terminals at the edge of the circuit board by external wiring.

*5: An attachment board should be used.

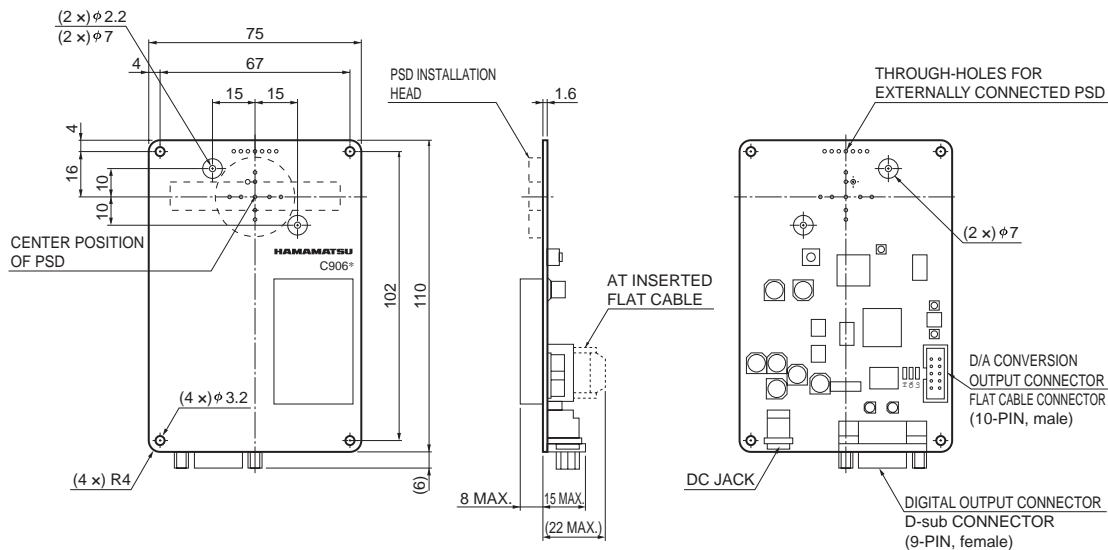
■ Accessory sample software display example (C9069)

Position data is displayed in numerical values and graphs.

OS: Windows 98SE



■ Dimensional outline (unit: mm)



KACCA0118EB

■ Accessories

- Dedicated AC adapter
- Sample software (CD-ROM)
- Flat cable (48 cm) with connector for D/A conversion signal output
- Attachment board for S5990-01/S5991-01 (C9069 only)

NOTE) RS-232C cable (straight) not supplied.

HAMAMATSU

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2003 Hamamatsu Photonics K.K.

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, 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 00

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

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741