

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 Isc (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 |

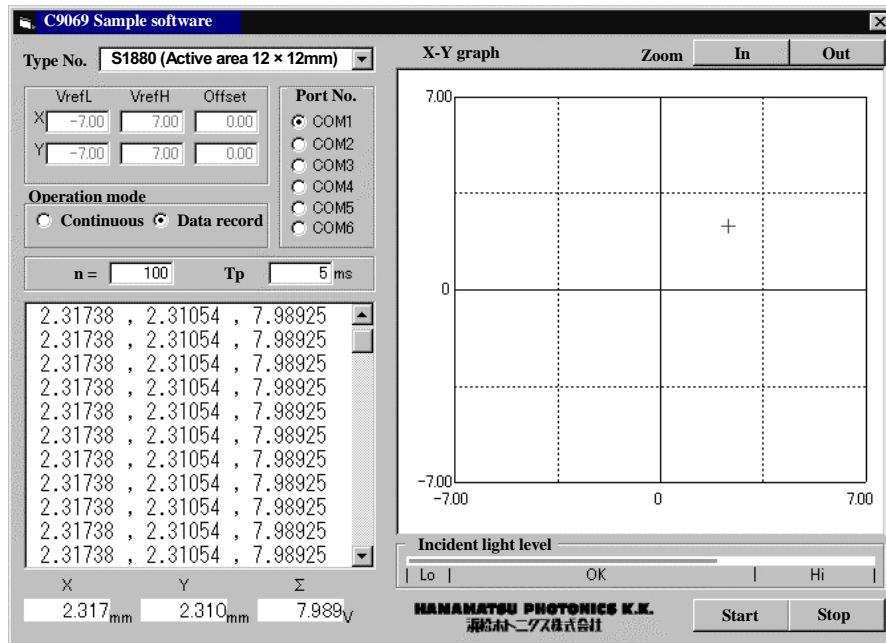
*4: These PSDs cannot be directly mounted on the circuit board. Connect to the through-hole terminals at the edge of the circuit board by external wiring.

*5: An attachment board should be used.

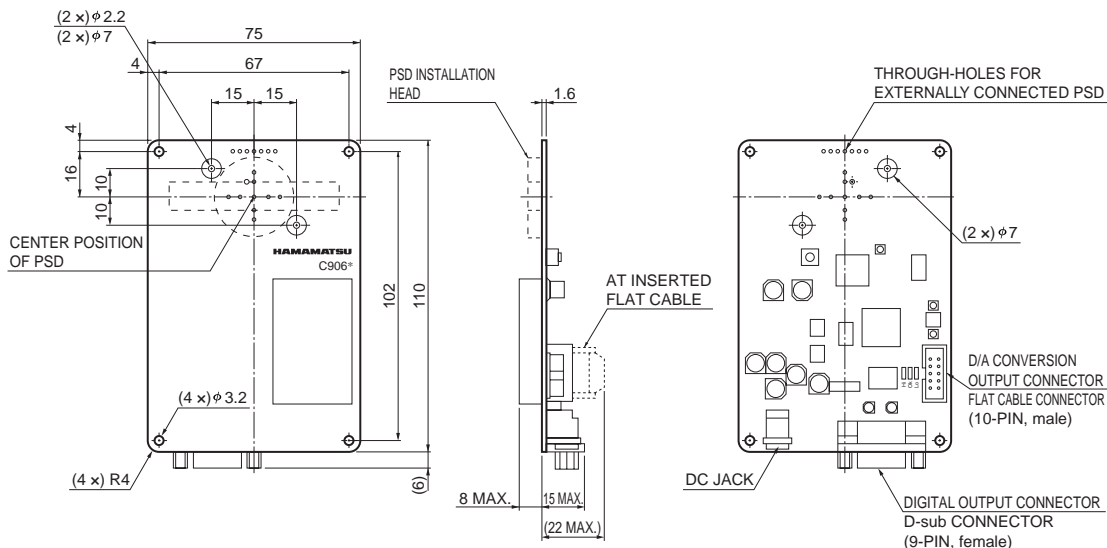
■ Accessory sample software display example (C9069)

Position data is displayed in numerical values and graphs.

OS: Windows 98SE/NT/2000/Me/XP



■ 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.

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