

Accessories for infrared detector

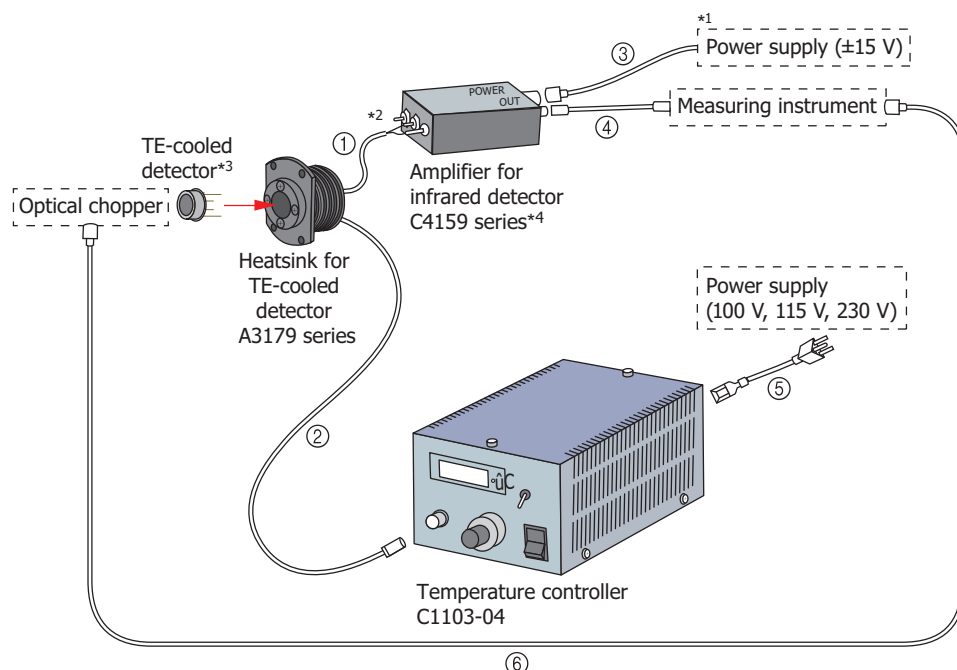


Temperature controllers, heatsinks for TE-cooled detector, cable, etc.

Wide lineups of accessories for infrared detector

HAMAMATSU provides temperature controllers, heatsinks for TE-cooled detector, and cables, etc as accessories for infrared detectors.

Connection example of accessories for infrared detectors



KACCC0321EE

*1: Attach the bare wire ends to a 3-pin or 4-pin connector or to a banana jack, and then connect them to the power supply.

*2: Soldering is needed.

*3: No socket is available. Soldering is needed.

*4: Refer to the datasheet "Amplifiers for infrared detectors" for detailed information.

Note: Refer to page 4 for details on cables.

Temperature controllers C1103-04

The C1103-04 is a temperature controller designed for thermoelectrically cooled infrared detectors. It allows easy but accurate temperature setting for the thermoelectric cooler mounted in an infrared detector.

Specifications

| Parameter | Specification |
|--|--|
| Applicable detector*5 | One-stage/two-stage TE-cooled type InAsSb, InAs photovoltaic detector, InGaAs, Si photodiode |
| Setting element temperature | -30 to +20 °C |
| Temperature stability | Within ± 0.1 °C |
| Output current for temperature control | 1.1 A min., 1.2 A typ., 1.3 A max. |
| Power supply | 100 V \pm 10 % · 50/60 Hz*6 |
| Power consumption | 30 W |
| Dimensions | 107 (W) \times 84 (H) \times 190 (D) mm |
| Weight | 1.9 kg approx. |
| Accessories | Instruction manual 4-conductor cable (with a connector, 3 m) A4372-05*7, power supply cable |

*5: It doesn't correspond to TE-cooled type infrared detector module with preamp.

*6: Please specify power supply requirement (AC line voltage) from among 100 V, 115 V and 230 V when ordering.

*7: When used in combination with an A3179 series heatsink, do not use the 4-conductor cable supplied with the A3179 series, but use the A4372-05 instead.

Absolute maximum ratings

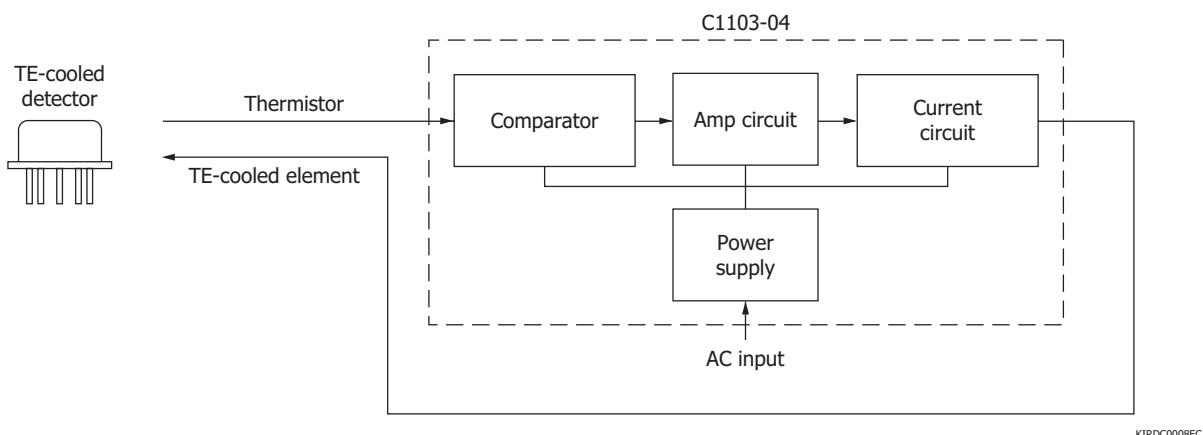
| Parameter | Value |
|-----------------------|---------------|
| Operating temperature | +10 to +40 °C |
| Operating humidity | 90% Max.*8 |
| Storage temperature | -20 to +40 °C |

*8: No dew condensation

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.

Block diagram



Heatsinks for TE-cooled detector (TO-8 package) A3179 series

These heatsinks are designed for use with thermoelectric cooled detector sealed in a 6-pin TO-8 package. The cooling (heat dissipation) capacity of the A3179 and A3179-03 is about 35 °C relative to the ambient temperature 25 °C, the A3179-01 is about 40 °C. The A3179-03 is designed only for two-cooler detector K3413 series, the A3179,A3179-01 for TO-8.

Accessories

→ Instruction manual

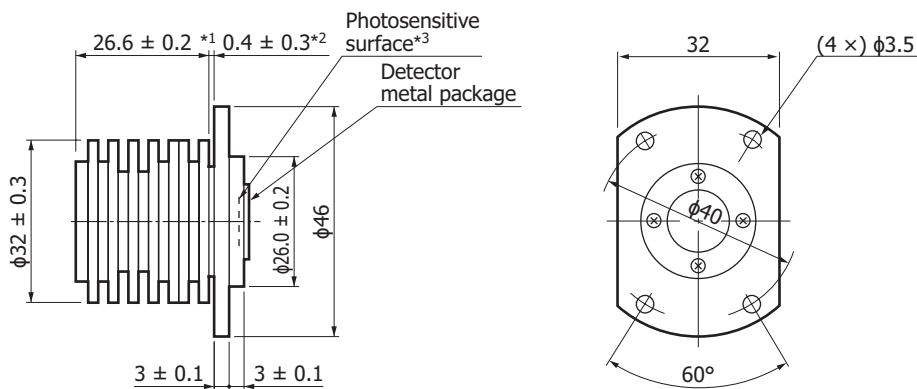
→ 4-conductor cable (2 m): for TE-cooler and thermistor^{*9, *10} Coaxial cable (2 m): for signal^{*10}

^{*9}: When used in combination with a C1103-04 temperature controller, do not use the 4-conductor cable supplied with the A3179 series, but use the 4-conductor cable A4372-05 (sold separately, with a connector).

^{*10}: No socket is supplied for connection to infrared detectors. Connect infrared detectors by soldering. Cover the soldered joints and detector pins with vinyl insulating tubes.

Dimensional outlines (unit: mm, tolerance unless otherwise noted: ±0.3)

A3179



Weight: 50 g approx.

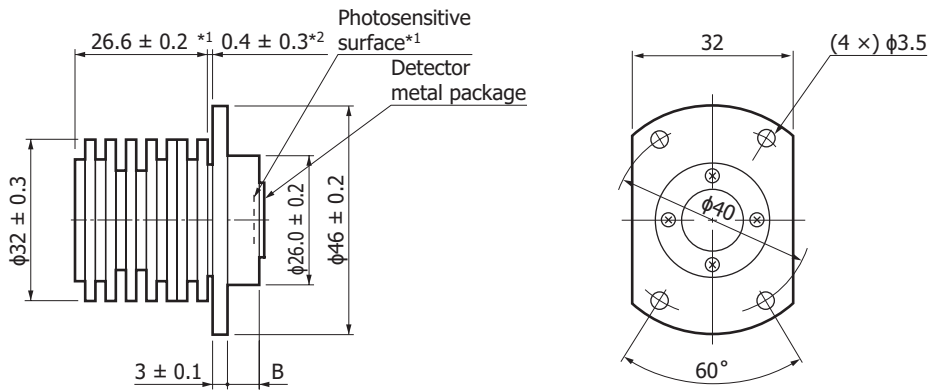
^{*1}: Bottom surface (reference surface) of detector metal package

^{*2}: When detector is installed

^{*3}: The position of the photosensitive surface differs according to the detector used.

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A3179-01, A3179-03



A3179-01: B=6
A3179-03: B=6.4
Weight: approx. 53 g

- *1: Bottom surface (reference surface) of detector metal package
- *2: When detector is installed
- *3: The position of the photosensitive surface differs according to the detector used.

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Cables A4372 series

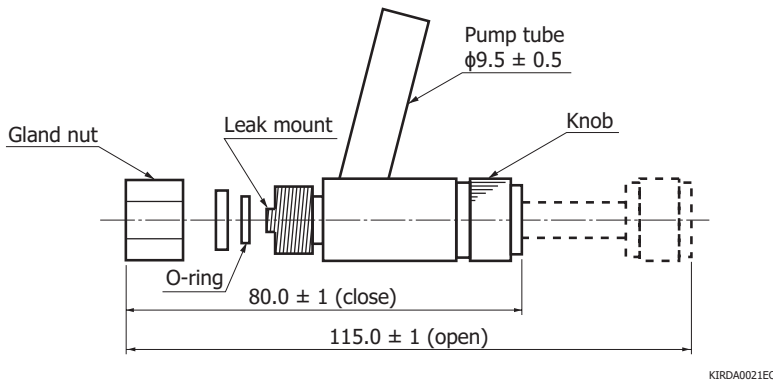
| Cable No. | Cable | Length approx. | Note |
|-----------|---|----------------|---|
| ① | Coaxial cable (for signal) | 2 m | Supplied with heatsink A3179 series. When using this cable, make it as short as possible (preferably about 10 cm). |
| ② | 4-conductor cable (with a connector) A4372-05 | 3 m | Supplied with temperature controller C1103-04. This cable is also sold separately. |
| ③ | 4-conductor cable (with a connector) A4372-02 | 2 m | This cable is supplied with the C4159 series, amplifiers for infrared detector, and infrared detector modules with preamp (room temperature operation type). This cable is also sold separately. Besides this cable, the A4372-03, which is a 6-conductor cable (with connector) supplied with "infrared detector module with preamp", is also sold separately. |
| ④ | BNC connector cable E2573 | 1 m | Option |
| ⑤ | Power supply cable (for temperature controller) | 1.9 m | Supplied with temperature controller C1103-04 |
| ⑥ | Cable | - | Prepared by user |

Valve operator for metal dewar A3515

With this valve operator, metal dewars can be re-evacuated to maintain the desired vacuum level. Refer to the instruction manual for details. Please be aware that the detector performance is not guaranteed after re-evacuation at the customer side.



Dimensional outline (unit: mm)



Related information

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

- Precautions
- Disclaimer
- Compound semiconductor photosensors / Technical note

Information described in this material is current as of April 2022.

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HAMAMATSU

www.hamamatsu.com

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, 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 Tewin 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, Jianning Center, 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, Section 2, 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