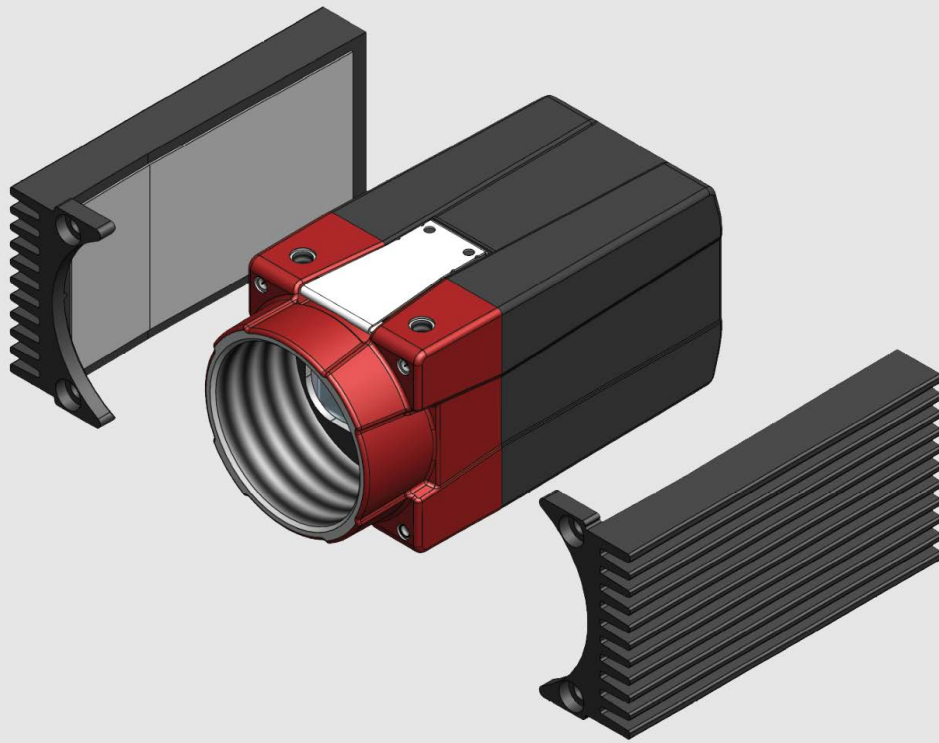




5GIGE CAMERAS

Alvium G5/G5X Heat Sink Kit

User Guide

V1.2.1

**Quick links**

- [This document at a glance](#) on page 10
- [Contact us](#) on page 11
- [Contents](#) on page 12

Read before use

EN - English

Safety

Before using the product, read these safety instructions. Observe the warnings at all times. Use the product only as stated in the [Intended use](#) on page 17.

**CAUTION****Risk of burns**

The product in operation can reach temperature levels which could cause burns.

**CAUTION****Injury by a falling product**

The falling product can cause injury.

Intended use

Intended use of Allied Vision product is the integration into vision systems by professionals. All Allied Vision product is sold in a B2B setting.

DA - Dansk

Sikkerhed

Læs sikkerhedsanvisningerne, før produkt bruges. Overhold alle advarsler. Brug kun produkt som anført i [Intended use](#) på side 17.



FORSIGTIG

Forbrændingsfare

Når produkt bruges, kan det blive meget varmt og forårsage forbrændinger.



FORSIGTIG

Kvæstelser, hvis produkt falder ned

Falder produkt ned, kan dette forårsage kvæstelser.

Tilsigtet brug

Allied Vision produktets tilsigtede brug er en indbygning i et visionssystem, udført af fagfolk. Alle Allied Vision produkter sælges i B2B.

DE - Deutsch

Sicherheit

Bevor Sie das Produkt benutzen, lesen Sie diese Sicherheitshinweise. Beachten Sie diese Hinweise immer. Verwenden Sie das Produkt nur wie beschrieben in [Intended use](#) auf Seite 17.



VORSICHT

Gefahr von Verbrennungen

Im Betrieb kann das Produkt Temperaturen erreichen, die zu Verbrennungen führen.



VORSICHT

Verletzung durch das fallende Produkt

Das fallende Produkt kann Verletzungen verursachen.

Bestimmungsgemäßer Gebrauch

Allied Vision Produkte sind bestimmt für die Integration in Bildverarbeitungssysteme durch Fachpersonal. Alle Allied Vision Produkte werden in einer B2B-Umgebung verkauft.

ES - Español

Seguridad

Antes de utilizar el producto lea estas instrucciones de seguridad. Observe las advertencias en todo momento. Utilice el producto solo tal y como se estipula en el [Intended use](#) en la página 17.



ATENCIÓN

Riesgo de quemaduras

El producto en funcionamiento puede alcanzar temperaturas que podrían provocar quemaduras.



ATENCIÓN

Lesiones en caso de que el producto se cae

Si el producto se cae puede provocar lesiones.

Uso previsto

El uso previsto del producto Allied Vision es la integración en el sistema de visión por parte de profesionales. Todos los productos Allied Vision se venden dentro de una relación B2B.

FI - Suomi

Turvallisuus

Lue nämä turvallisuusohjeet ennen tuotteen käyttöä. Noudata tuotetta joka hetki. Käytä tuotteen ainoastaan kohdassa [Intended use](#) sivulla 17 kuvatulla tavalla.



HUOMIO

Palovammojen vaara

Käytössä olevan tuotteen saavuttamat lämpötilatasot voivat aiheuttaa palovammoja.



HUOMIO

Putoavan tuotteen aiheuttamat vammat

Putoava tuote voi aiheuttaa vammoja.

Käyttötarkoitus

Allied Vision-tuotteen käyttötarkoitus on integrointi kuvajärjestelmiin ammattilaisten toimesta. Kaikki Allied Vision-tuotteet myydään B2B-ympäristössä.

FR - Français

Sécurité

Veuillez lire ces consignes de sécurité avant d'utiliser le produit. Respectez continuellement les avertissements. Utilisez le produit uniquement comme indiqué sous [Intended use](#), page 17.



ATTENTION

Risque de brûlures

Le produit en service peut atteindre des niveaux de température susceptibles d'entraîner des brûlures.



ATTENTION

Blessures en cas de chute du produit

La chute de la produit peut entraîner des blessures.

Utilisation prévue

L'utilisation prévue du produit Allied Vision est son intégration dans des systèmes de vision par le soin de professionnels. Tout produit Allied Vision est vendu dans un cadre B2B.

עברית - HE

בטיחות

לפני השימוש במוצר, עליך לקרוא את הוראות הביטחון האלו. עליך לממש הוראות ביטחון אלו תמיד. השימוש במצלמה הוא רק לפי מה שכתוב ב"כוונת השימוש" ([Intended use](#) בעמוד 17).

זהירות

סכנת כווייה

בזמן הפעלת המוצר עלולות לעלות טמפרטורות גבוהות, שיכולות לגרום לכוויות.



זהירות

פגיעה מנפילת המוצר

נפילת המוצר עלולה לגרום לפגיעה.



שימוש מיועד

מוצרי AlliedVision מיועדים לשילוב במערכות ממוחשבת לעיבוד צילומים ע"י אנשי מקצוע. כל מוצרי AlliedVision נמכרים לשימוש בסביבת B2B.

IT - Italiano

Sicurezza

Leggere queste istruzioni per la sicurezza prima di utilizzare il prodotto. Osservare sempre tutte le avvertenze. Utilizzare il prodotto come descritto alla sezione [Intended use](#) a pagina 17.



ATTENZIONE

Pericolo di ustioni

Durante il funzionamento, il prodotto può raggiungere temperature elevate che possono essere causa di ustioni.



ATTENZIONE

Lesioni dovute alla caduta del prodotto

Il prodotto può causare delle lesioni.

Uso previsto

Il prodotto Allied Vision è concepito per essere integrato in sistemi di monitoraggio in campo professionale. Tutti i prodotti Allied Vision sono venduti in uno scenario B2B.

JA – 日本語

安全性

本製品を使用する前に、この安全ガイドをお読みください。警告を必ず守ってください。必ず21ページの[Intended use](#) 17 ページに従って使用してください。



注意

やけどの危険性

作動中のカメラは、やけどを引き起こす温度まで熱くなる恐れがあります。



注意

製品の落下によるケガ

本製品が落下すると、けがをするおそれがあります。

用途

Allied Vision製品は、専門家が視覚装置に統合することを意図したものです。すべてのAllied Vision製品は、企業間取り引き用に販売されています。

NL - Nederlands

Veiligheid

Lees deze veiligheidsinstructies voordat u het product gebruikt. Neem deze waarschuwingen altijd in acht. Gebruik het product uitsluitend, zoals aangegeven in het [Intended use](#) op pagina 17.



VOORZICHTIG

Risico van verbranding

Het gebruikte product, kan temperatuurwaarden bereiken die brandwonden kunnen veroorzaken.



VOORZICHTIG

Letsel door het vallende product

Het vallende product kan verwondingen veroorzaken.

Beoogd gebruik

Het beoogde gebruik van het Allied Vision-product is de integratie in optische systemen door professionals. Alle Allied Vision-producten worden verkocht in de B2B-markt.

NO - Norsk

Sikkerhet

Les disse sikkerhetsinstruksene før du bruker produkt. Følg advarslene til en hver tid. Bruk kun produkt i samsvar med [Intended use](#) på side 17.



FORSIKTIG

Risiko for brannskader

Produktet i bruk kan nå temperaturnivåer som kan forårsake brannskader.



FORSIKTIG

Skade ved det fallende produktet

Det fallende produktet kan forårsake skade.

Tiltenkt bruk

Den tiltenkte bruken av Allied Vision-produktet er integrering i visjonssystemer av profesjonelle. Alle Allied Vision-produkter selges i en forretning til forretning-situasjon.

SV - Svenska

Säkerhet

Läs igenom säkerhetsinstruktionerna innan du använder produkten. Var hela tiden särskilt uppmärksam på varningarna. Använd enbart produkten på det sätt som anges i [Intended use](#) på sida 17.



VARNING

Risk för brännskada

Produkten i drift kan komma upp i temperaturer som kan orsaka brännskador.



VARNING

Risk för skador från fallande produkter

Fallande produkter kan förorsaka skador.

Avsedd användning

Den avsedda användningen av Allied Vision-produkter är integrering i visionssystem av fackmän. Samtliga Allied Vision-produkter säljs i en B2B-miljö.

ZH – 简体中文版

安全需知

在使用产品之前，请阅读这些安全说明。请务必遵守相关警告 和 [Intended use](#) 于第 17 页。



注意事项

烫伤风险

在产品运行过程中，温度可能会上升，导致烧伤的危险。



注意事项

由坠落的产品造成的伤害

产品可能会坠落并造成伤害。

预期用途

Allied Vision 产品的预期用途是由专业人士整合到视觉系统中。所有 Allied Vision 的产品均通过 B2B 渠道销售。

This document at a glance



Read this document carefully

Learn to use the lateral heat sinks in the most safe and efficient way and avoid damage to your Alvium G5/G5X camera.

Requirement for heat dissipation

Depending on the individual setup, Alvium G5/G5X cameras can exceed the specified maximum operating temperature. In many cases, mounting the camera on a metal surface or using a lens will be sufficient to cool the camera effectively. However, especially when operated in higher ambient temperatures, additional measures for heat dissipation, such as using a heat sink, should be considered.

The Alvium G5/G5X heat sink kit has been designed to optimize heat dissipation, using minimum space.

You can further adjust the camera installation for your individual application, using [Additional measures](#) on page 27.

If you have doubts or questions, please feel free to contact your Allied Vision Sales representative for support!

Shipping contents

The delivery consists of:

- 2 × lateral heat sink, including thermal pad
- 4 × cylinder head screw M2×3 ISO 14580-A2 black



Alvium G5/G5X camera documentation and accessories

For detailed information on Alvium cameras, see your camera's user guide at www.alliedvision.com/en/support/technical-documentation/alvium-gige-documentation.

Contact us

Website, email

General

www.alliedvision.com/en/contact
info@alliedvision.com

Distribution partners

www.alliedvision.com/en/avt-locations/avt-distributors

Support

www.alliedvision.com/en/support
www.alliedvision.com/en/about-us/contact-us/technical-support-repair/-rma

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Document history and conventions



This chapter includes:

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Document history

Version	Date	Remarks
V1.2.1	2024-May-16	- Added contents for Heat sink mounting on page 18. - Added note against the injury by falling heat sinks in the instructions for Mounting the heat sinks on page 26. - Applied editorial changes.
V1.2.0	2023-Jul-12	- Added support for Alvium G5X. - Added Hebrew safety notes in Read before use on page 2.
V1.1.0	2022-Jul-15	Replaced notes to inquire with Allied Vision Sales representatives by download links to the Allied Vision website.
V1.0.2	2022-Mar-14	Initial release

Table 1: Document history

Conventions used in this user guide

To give this user guide an easily understood layout and to emphasize important information, the following typographical styles and symbols are used:

Typographical styles

Style	Function
Emphasis	Highlighting important things
Web links and references	Links to webpages and internal cross references

Table 2: Typographical styles

Symbols and notes



CAUTION

Risk of burns

Precautions are described.



CAUTION

Injury by falling heat sinks

Precautions are described.

**Material damage**

Precautions are described.

**Additional information**

Web link or reference to an external source with more information is shown.

NOTICE

Compliance, safety, and intended use



This chapter includes:

Intended use	17
Copyright and trademarks	17
Your safety	17
Product safety	18

Intended use

Allied Vision's objective is the development, design, production, maintenance, servicing and distribution of digital cameras and components for image processing. We are offering standard products as well as customized solutions.

Intended use of Allied Vision product is the integration into Vision systems by professionals. All Allied Vision product is sold in a B2B setting.

Allied Vision isn't a legal manufacturer of medical product. Instead, Allied Vision cameras and accessories may be used as components for medical product after design-in by the medical device manufacturer and based on a quality assurance agreement (QAA) between Allied Vision (supplier) and medical device manufacturer (customer). Allied Vision's duties in that respect are defined by ISO 13485, clause 7.2 (customer-related processes, equivalent to ISO 9001, clause 8.2).

Copyright and trademarks

All text, pictures, and graphics are protected by copyright and other laws protecting intellectual property. All content is subject to change without notice.

All trademarks, logos, and brands cited in this document are property and/or copyright material of their respective owners. Use of these trademarks, logos, and brands does not imply endorsement.

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Your safety

This section informs about issues related to your personal safety. Descriptions explain how to avoid hazards and operate Alvium G5/G5X cameras safely.

Handling hot cameras

Depending on the individual setup, Alvium G5/G5X cameras can exceed the specified maximum operating temperature. In many cases, large metal mounting bases or lenses with metal housings can be used to cool the camera effectively. In other cases, consider additional measures for heat dissipation.

If the mainboard temperature exceeds the specified maximum for more than two seconds, the camera is powered off automatically. The current value for mainboard temperature is output by `DeviceTemperature`. You can use this value to control cooling by software, for example, to control a fan.

However, if you hold the camera in your hands during operation, your skin may get hurt. If you touch the camera when it is heated up, we recommend wearing protective gloves.

Providing optimum heat dissipation

Keep the operating temperature in the specified range to enable best image quality and to protect the camera from damage.

For your safety and to improve camera performance, ensure heat dissipation by measures, such as:

- Heat sinks mounted
- [Additional measures](#) on page 27.

Heat sink mounting

Heat sinks must be mounted using the mounting threads. If vibration is higher than specified, heat sinks can disconnect from cameras. Falling heat sinks can hurt you. To avoid personal injury:

Mount heat sinks according to the instructions in [Mounting the heat sinks](#) on page 26.

Product safety

Observe the instructions and safety notes in this document to avoid damage to cameras and heat sinks.

Specifications and technical drawings



This chapter includes:

Specifications	20
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Specifications

Feature	Specification
Product code	16185
Dimensions ¹ : 1 lateral heat sink (Length × width × height [mm])	52.5 × 7.1 × 27
Dimensions ² : Alvium G5/G5X cameras with 2 lateral heat sinks mounted (Length × width × height [mm])	• S-Mount: 55 × 44 × 29 • CS-Mount: 55 × 44 × 29 • C-Mount: 60 × 44 × 29
Mass : 2 lateral heat sinks with screws	40 g
Supported cameras	Alvium G5/G5X cameras
¹ Height relates to the cooling fins, protruding beyond the camera. The curved front part the with mounting holes equals the height of the camera (29 mm). ² Rounded values, related to the user guide. See Technical drawings on page 21 for more accurate values.	

Table 3: Alvium G5/G5X heat sink kit specifications

The drawings in this chapter show Alvium G5/G5X cameras with heat sinks mounted.

Technical drawings of the M2000 camera module, showing dimensions and mounting details:

- Top View:** Shows the overall dimensions: 60 mm (total width), 42 mm ± 0.3 (main body width), 13 mm ± 0.1 (flange width), 52.5 mm (bottom width), 5.4 mm (bottom flange width), 20 mm ± 0.1 (height), and 43.6 mm (total height). Mounting holes are specified as M3 - 3 and M3 - 2.5 Ψ (2x).
- Front View:** Shows the lens assembly with a diameter of $\varnothing 29.35^{+0.20}_{-0.05}$ mm and a mounting hole of M2 - 2 Ψ (4x). The lens diameter is $\varnothing 24 \pm 0.1$ mm. The mounting hole is C-Mount (1x32 TPI-UNS-2B). The height of the lens assembly is 27 mm.
- Side View:** Shows the side profile with a height of 7.9 mm, a diameter of $\varnothing 27.8^{+0.1}_{-0.1}$ mm, and a note "no draft angles".
- Bottom View:** Shows the bottom of the module with mounting holes M2 - 4.5 Ψ (4x) and dimensions 5.9 mm and 5.7 mm. The height of the bottom flange is 16.8 mm.
- Isometric Views:** Two isometric views of the module, one showing the front and side, and the other showing the rear and side.

Figure 1: Alvium G5/G5X C-Mount camera with lateral heat sinks mounted

CS-Mount

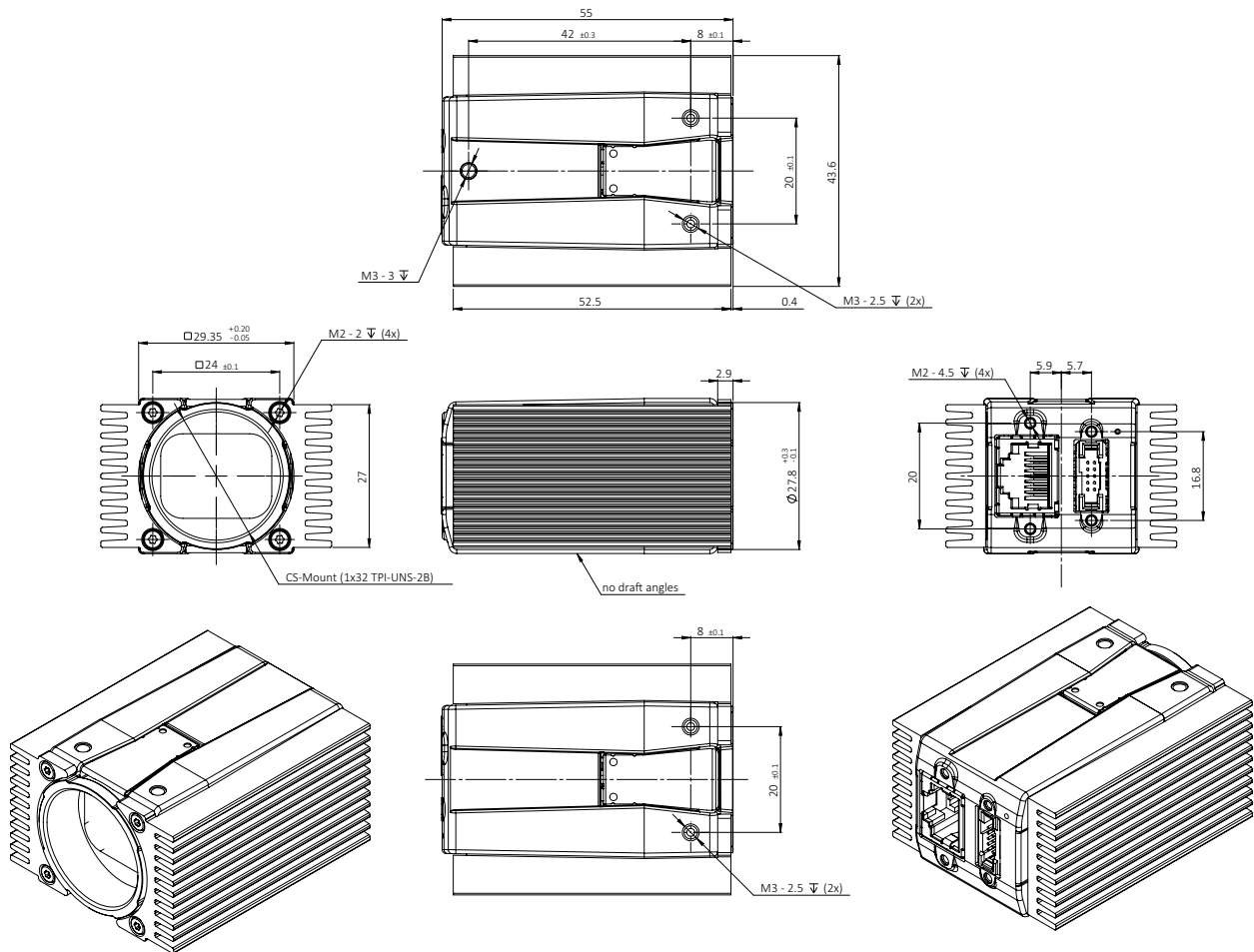


Figure 2: Alvium G5/G5X CS-Mount camera with lateral heat sinks mounted

S-Mount

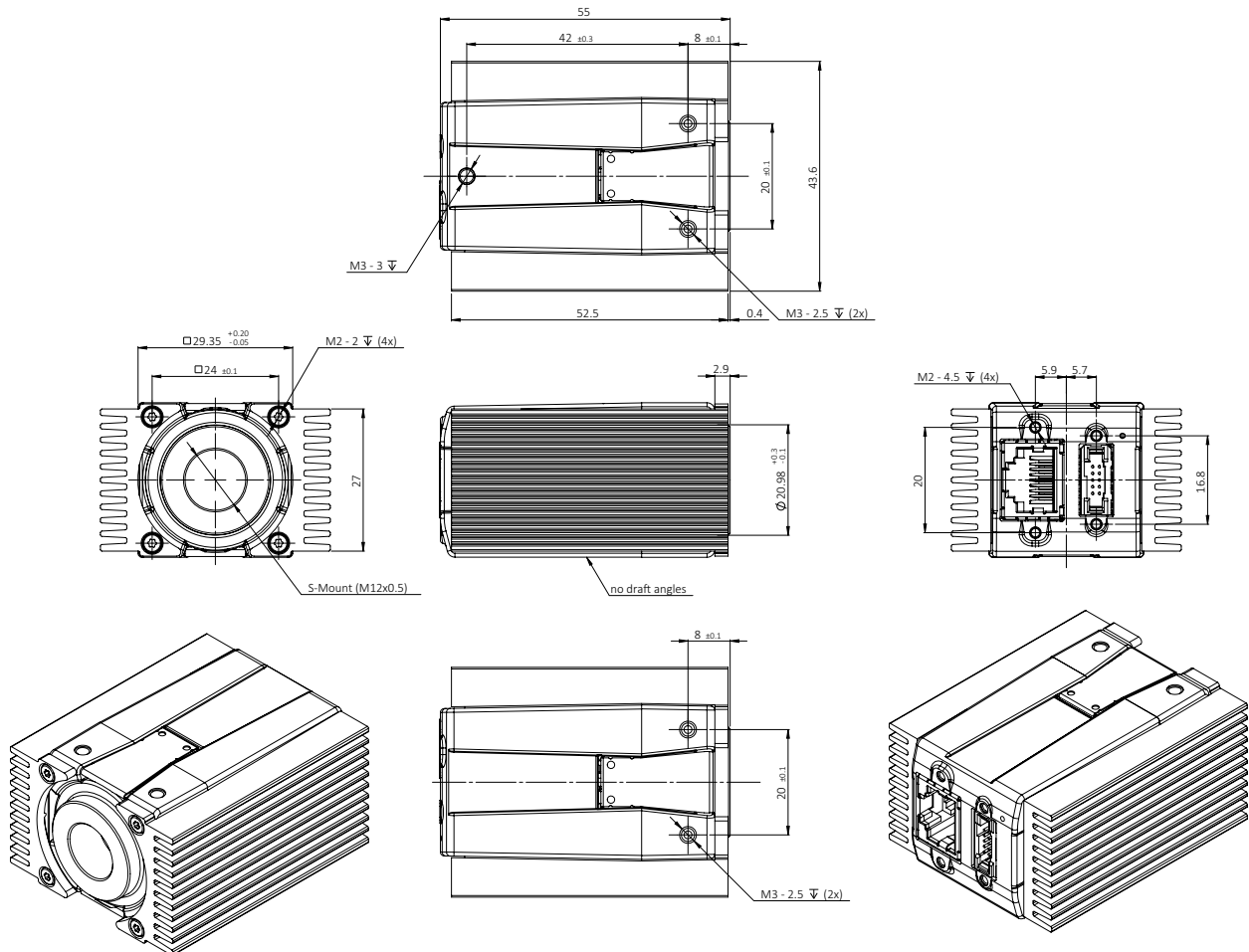


Figure 3: Alvium G5/G5X S-Mount camera with lateral heat sinks mounted

Mounting heat sinks



This chapter includes:

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Mounting the heat sinks	26

Preconditions



CAUTION

Risk of burns

- Operate Alvium G5/G5X cameras only with sufficient heat dissipation.
- For measures above using the heat sink kit, see [Additional measures](#) on page 27.



CAUTION

Injury by falling heat sinks

Follow the instructions below.

You need the following items to mount the heat sinks to the camera:

- Alvium G5/G5X Camera
- 2 heat sinks and 4 screws from the delivery contents
- Clean desktop or work bench
- Thin flat head screwdriver
- Compatible Torx T6 torque wrench
- Cotton gloves

Mounting the heat sinks

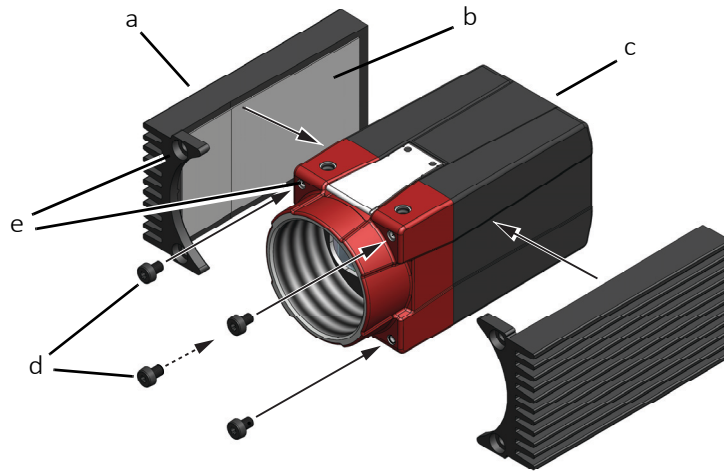


Figure 4: Mounting lateral heat sinks on Alvium G5/G5X C-Mount camera

1. Put on cotton gloves to keep grease and dirt away from the surface of the camera housing and the heat sinks.



NOTICE

Damage to the camera and heat sinks

Remove the protective foil before mounting the heat sinks.

2. Using a thin flat head screwdriver, remove the protection foil from the thermal pad of the left heat sink (b).
3. Fit the left heat sink (a) to the left side of the camera (c) with the mounting holes (e) matching for both components.



CAUTION

Injury by falling heat sinks

- Tighten screws at 0.17 Nm maximum torque.
 - Lock screws by such as screw locking varnish.
4. Insert the screws (d) and tighten at 0.17 Nm maximum torque, using the Torx T6 torque wrench.
 5. Mount the right heat sink correspondingly.
 6. To ensure that the screws do not become loose over time, we recommend you to use means for securing screws, such as screw locking varnish.

Additional measures



This chapter provides a brief overview of additional measures for heat dissipation.

Scope

This section gives an overview of potential measures to increase the heat dissipation for Alvium G5/G5X cameras after heat sinks have been installed.

Camera power

Camera power by PoE increases the camera's power consumption, resulting in more heat. Therefore, use external power by the I/O connector to reduce heating of the camera.

Lens

Mount a lens or other optical component, preferably with a metal housing. This way, you add another "heat sink".

Mounting base

Mount cameras to a base with a high thermal conductivity. The mounting base should consist of solid metal. Consider that different types of metal with different conductivity have a strong influence, as well as size and shape of the mounting base.

Thermal pads

Use thermal pads (or other conductive media) between cameras and mounting bases. The thermal pads must cover the complete area between the mounted camera and the mounting base.

Airflow

Provide airflow on the surface of the camera, heat sinks, and mounting base. You can increase the airflow by using fans. Of course, this may have dust and noise as disadvantages.



Additional information

If you need help for your design, please contact our Technical Support team at www.alliedvision.com/en/about-us/contact-us/technical-support-repair/-rma.