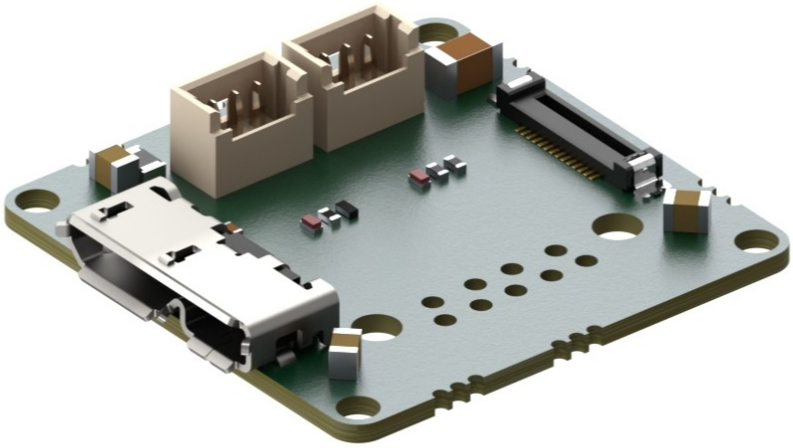
ximea



# • ADPT-U3-UC-U3-UB
# Micro-Coax to USB3 Micro-B Adapter Board

XIMEA Accessories •
Technical Manual •
Version v260128 •

# Introductions

## About this manual

Dear customer,

Thank you for purchasing a product from XIMEA.

We hope that this manual can answer your questions, but should you have any further queries or if you wish to claim a service or warranty case, please contact your local dealer or refer to XIMEA Support on our website: www.ximea.com/support

The purpose of this document is to provide a description of XIMEA Accessories and to describe the correct way to install related software, drivers and run it successfully. Please read this manual thoroughly before operating your new XIMEA Accessories for the first time. Please follow all instructions and observe the warnings.

This document is subject to change without notice.

## About XIMEA

XIMEA is one of the worldwide leaders for innovative camera solutions with a 30-year history of research, development and production of digital image acquisition systems. Based in Slovakia, Germany and the US, with a global distributor network, XIMEA offers their cameras worldwide. In close collaboration with customers XIMEA has developed a broad spectrum of technologies and cutting-edge, highly competitive products.

XIMEA's camera centric technology portfolio comprises a broad spectrum of digital technologies, from data interfaces such as USB 2.0, USB 3.1 and PCIe to cooled digital cameras with CCD, CMOS and sCMOS sensors, as well as X-ray cameras.

XIMEA has three divisions – generic machine vision and integrated vision systems, scientific imaging and OEM/custom.

Our broad portfolio of cameras includes thermally stabilized astronomy and x-ray cameras, as well as specialty cameras for medical applications, research, surveillance and defense.

## Contact XIMEA

XIMEA is a worldwide operating company


| Headquarters, Sales worldwide | Sales America | R&D, Production |
|---|---|---|
| XIMEA GmbH<br>Am Mittelhafen 16<br>48155 Münster<br>Germany | XIMEA Corp.<br>12600 W Colfax Ave., Suite A-130<br>Lakewood, CO 80215<br>USA | XIMEA s.r.o.<br>Lesná 52<br>900 33 Marianka<br>Slovakia |
| Tel: +49 (251) 202 408-0<br>Fax: +49 (251) 202 408-99 | Tel: +1 (303) 389-9838<br>Fax: +1 (303) 202-6350 | Tel: +421 (2) 205 104 26<br>Fax: +421 (2) 205 104 27 |

| | |
|---|---|
| Web | www.ximea.com |
| General inquiries | info@ximea.com |
| Sales | sales@ximea.com |
| Support | XIMEA Support |

# Contents


About this manual ..... 2
About XIMEA ..... 2
Contact XIMEA ..... 2

1 General description ..... 4

2 Dimensional drawings ..... 5

3 Connectors ..... 6
3.1 Location of connectors ..... 6
3.2 Data interfaces ..... 7
3.2.1 Micro-Coax 14 pos ..... 7
3.2.2 USB 3.0 Micro-B ..... 8
3.2.3 GPIO connectors ..... 9

4 Quickstart guide ..... 10
4.1 Hardware setup ..... 10
4.1.1 Essential components ..... 10
4.1.2 Connecting the components ..... 10

List of figures ..... 11

List of tables ..... 12

# 1 General description

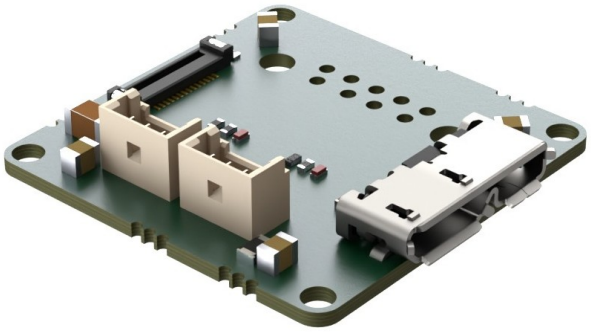


Figure 1: Isometric view of ADPT-U3-UC-U3-UB

The ADPT-U3-UC-U3-UB adapter allows -UC enabled cameras to connect to cables with microB USB 3.0 connectors. The adapter also provides a GPIO interface for synchronization.

The ADPT-U3-UC-U3-UB adapter is suitable for xiMU and xiC cameras.

# 2 Dimensional drawings

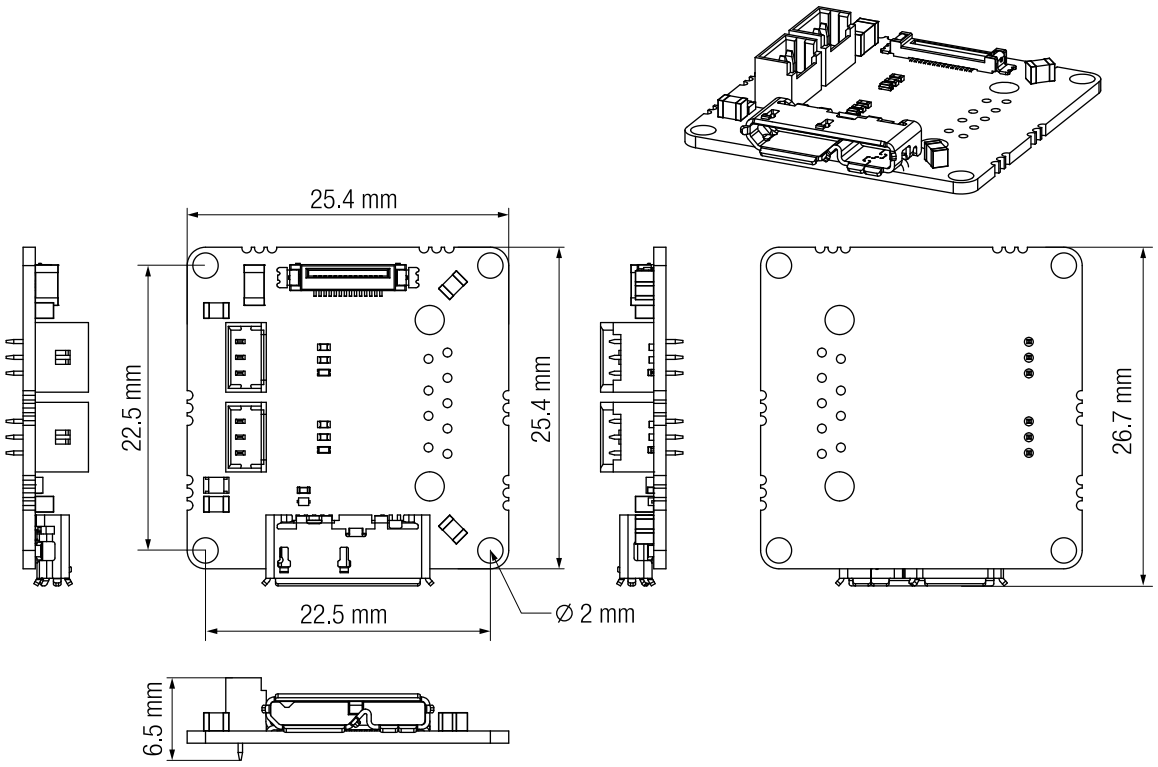



Figure 2: ADPT-U3-UC-U3-UB dimensional drawing

| Width [ W ] | Height [ H ] | Depth [ D ] | Mass [ M ] |
|---|---|---|---|
| 25.4 mm | 26.7 mm | 6.5 mm | 6.4 g |

Table 1: Dimensions and mass of ADPT-U3-UC-U3-UB

# 3 Connectors

## 3.1 Location of connectors

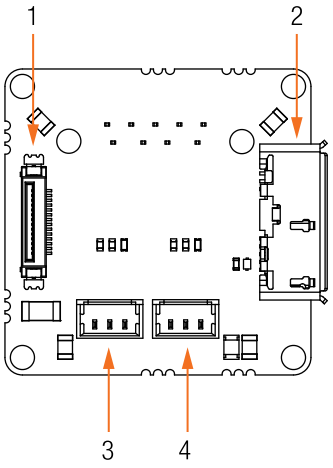



Figure 3: ADPT-U3-UC-U3-UB location of connectors

| Num. | Connector |
|---|---|
| 1 | I-PEX SS Micro Coax 14pos, device connector |
| 2 | USB 3.0 Micro-B connector, host connector |
| 3 | IO 2 connector, Molex PicoBlade, 3 pos |
| 4 | IO 1 connector, Molex PicoBlade, 3 pos |

Table 2: Description of connectors

## 3.2 Data interfaces

### 3.2.1 Micro-Coax 14 pos

| Item | Value |
|---|---|
| Connector | CONN I-PEX Cabline SS Micro Coax Cable Receptacle, 14pos |
| Signals | Differential pairs for SuperSpeed data, PWR, GND |
| Mating Connectors | I-PEX Cabline SS Micro Coax Cable Plug, 14 Position |
| XIMEA PN | CBL-U3-PSD-UC-0M25, CBL-U3-PSD-UC-0M50, CBL-U3-PSD-UC-1M0 |

Table 3: Micro-Coax connector general description

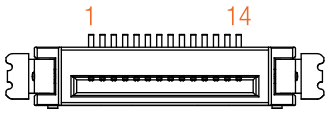



Figure 4: Micro-Coax connector pinout

| Pin | Signal | Description |
|---|---|---|
| 1 | VBUS | +5 V Power input |
| 2 | VBUS | +5 V Power input |
| 3 | INOUT2 | Non-isolated Input/Output 2 |
| 4 | OUT2 | Non-isoalted Output 2 |
| 5 | SSRX+ | SuperSpeed receiver differential pair |
| 6 | SSRX- | SuperSpeed receiver differential pair |
| 7 | D+ | 2.0 differential pair |
| 8 | D- | 2.0 differential pair |
| 9 | SStX+ | SuperSpeed transmitter differential pair |
| 10 | SStX- | SuperSpeed transmitter differential pair |
| 11 | INOUT1 | Non-isolated Input/Output 1 |
| 12 | OUT1 | Non-isoalted Output 1 |
| 13 | VBUS | +5 V Power input |
| 14 | VBUS | +5 V Power input |

Table 4: Micro-Coax connector pin assignment

### 3.2.2 USB 3.0 Micro-B

| Item | Value |
|---|---|
| Connector | USB - micro B USB 3.0 (USB 3.1 Gen 1, Superspeed) Receptacle Connector 10 Position |
| Signals | USB 3.0/3.1 Gen 1 SuperSpeed, PWR, GND |
| Mating Connectors | Standard USB 3.1 Gen1 Micro-B Connector |

Table 5: Micro-B connector general description

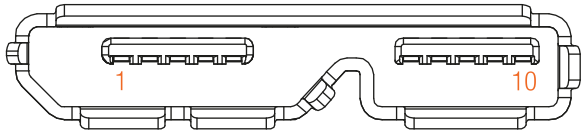



Figure 5: Micro-B pinout

| Pin | Signal | Description |
|---|---|---|
| 1 | VBUS | Power |
| 2 | D- | USB 2.0 signal pair |
| 3 | D+ | USB 2.0 signal pair |
| 4 | ID | OTG Identification |
| 5 | GND | Power Ground |
| 6 | SSTX- | USB 3.0 SuperSpeed transmitter signal pair |
| 7 | SSTX+ | USB 3.0 SuperSpeed transmitter signal pair |
| 8 | GND_DRAIN | USB 3.0 signal Ground |
| 9 | SSRX- | USB 3.0 SuperSpeed receiver signal pair |
| 10 | SSRX+ | USB 3.0 SuperSpeed receiver signal pair |

Table 6: Micro-B connector pin assignment

### 3.2.3 GPIO connectors

| Item | Value |
|---|---|
| Connector | Molex PicoBlade Header, 3 pos, PN: 0530470310 |
| Signal | Digital Input and Output |
| Mating connectors | PN: 0510210300 |
| XIMEA PN | CBL-S-PB3-PT-0M40 |

Table 7: ADPT-U3-UC-U3-UB GPIO connector description

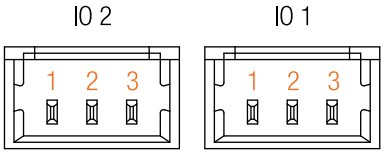



Figure 6: IO connectors pinout

| Pin | Name | Description |
|---|---|---|
| 1 | GPIO1 | Digital Input/Output |
| 2 | GND | Ground |
| 3 | GPO1 | Digital Output |

Table 8: IO 1 connector pin assignment

| Pin | Name | Description |
|---|---|---|
| 1 | GPIO2 | Digital Input/Output |
| 2 | GND | Ground |
| 3 | GPO2 | Digital Output |

Table 9: IO 2 connector pin assignment

# 4 Quickstart guide

## 4.1 Hardware setup

### 4.1.1 Essential components

It is important that the power is turned off when inserting/detaching the cables. General ESD precautions need to be applied.

- ADPT-U3-UC-U3-UB adapter board
- Camera cable: Micro-Coaxial cable (e.g. CBL-U3-PSD-UC-0M25)
- Device (e.g. XIMEA camera) with Micro-Coaxial interface
- Host cables: USB Micro-B cable
- IO cable CBL-S-PB3-PT-0M40
- Host PC

### 4.1.2 Connecting the components

Step 1. Ensure the camera / device and the computer are turned off before connecting any cables. The order of cable connections is not strictly specified.

Step 2. Power on the device /computer.

For more information about ADPT-U3-UC-U3-UB please contact: sales@ximea.com.

# List of Figures


1 Isometric view of ADPT-U3-UC-U3-UB ..... 4
2 ADPT-U3-UC-U3-UB dimensional drawing ..... 5
3 ADPT-U3-UC-U3-UB location of connectors ..... 6
4 Micro-Coax connector pinout ..... 7
5 Micro-B pinout ..... 8
6 IO connectors pinout ..... 9

# List of Tables


1 Dimensions and mass of ADPT-U3-UC-U3-UB ..... 5
2 Description of connectors ..... 6
3 Micro-Coax connector general description ..... 7
4 Micro-Coax connector pin assignment ..... 7
5 Micro-B connector general description ..... 8
6 Micro-B connector pin assignment ..... 8
7 ADPT-U3-UC-U3-UB GPIO connector description ..... 9
8 IO 1 connector pin assignment ..... 9
9 IO 2 connector pin assignment ..... 9

XIMEA GmbH
Am Mittelhafen 16 • 48155 Münster • Germany • www.ximea.com
© Copyright, XIMEA GmbH, All rights reserved