

● XS-5P-U3-UC-TC
Multifunctional USB Hub

Ximea accessories ●
Technical Manual ●
Version v240830 ●

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.

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Contents

About this manual	2
About XIMEA	2
Contact XIMEA	2
1 General description	4
2 Dimensional drawings	5
3 Configuration	6
4 Connectors	7
4.1 Location of connectors	7
4.2 Data interfaces	8
4.2.1 Micro-coax connector	8
4.2.2 USB 3.2 Gen1 Type-C	9
4.2.3 Power connector	9
4.2.4 IO connector	10
5 Quickstart guide	11
5.1 Hardware setup	11
5.1.1 Essential components	11
List of figures	12
List of tables	13

1 General description

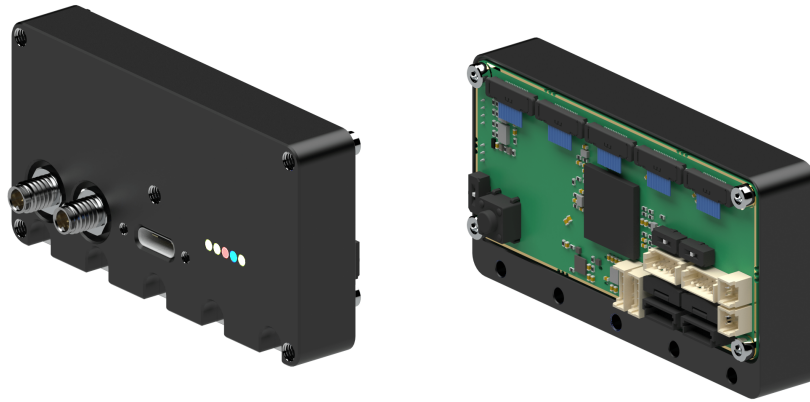


Figure 1: isometric view of XS-5P-U3-UC-TC

XS ximea switch - Multifunctional USB Hub.

- UFP (upstream facing port) connector: USB3.2 Gen1, Type-C
- DFP (downstream facing port) connectors: 5 x USB3.2 Gen1, I-PEX Cabline SS 14pos

LEDs

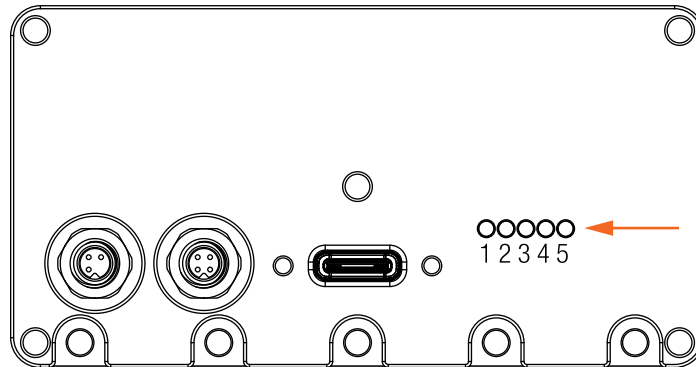


Figure 2: LEDs location

LED	Color	Defaults	Note
1	Green	True	TBD
2	Green	True	TBD
3	Red	TBD	TBD
4	Blue	TBD	TBD
5	Green	TBD	TBD

Table 1: Leds output description

2 Dimensional drawings

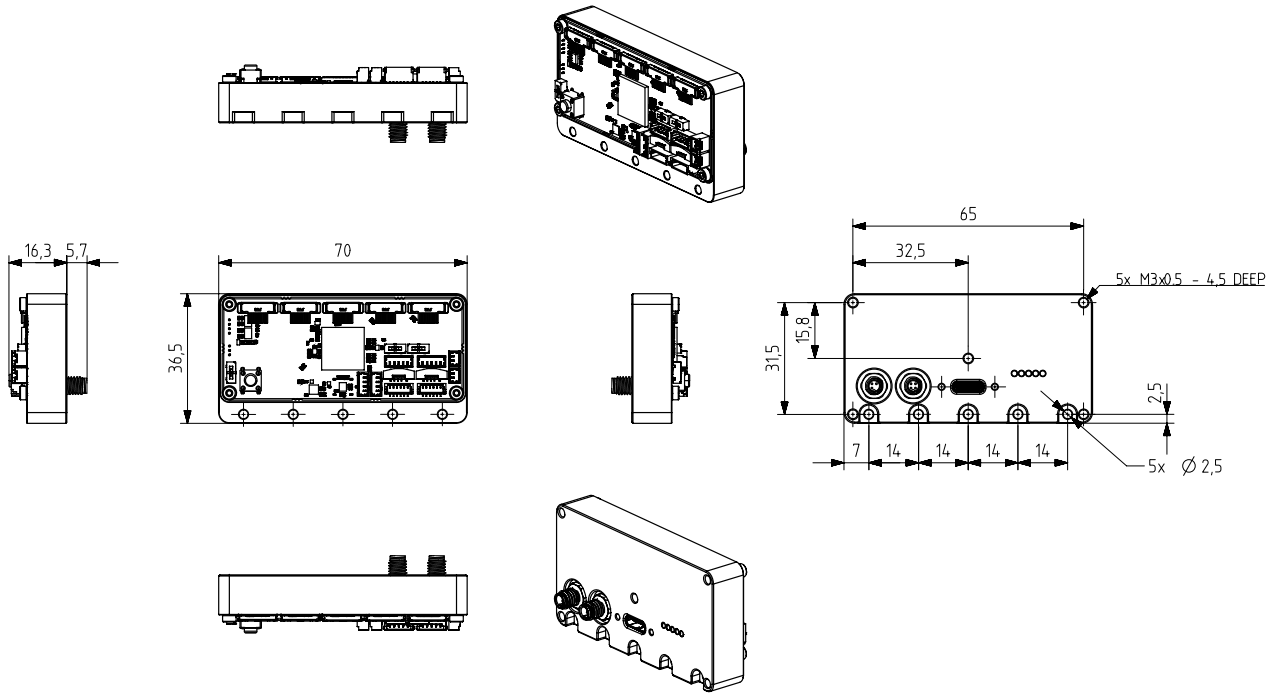


Figure 3: dimensional drawing of XS-5P-U3-UC-TC

Width [W]	Height [H]	Depth [D]	Mass [M]
70 mm	36.5 mm	22 mm	TBD

Table 2: parameters

3 Configuration

DIP switch

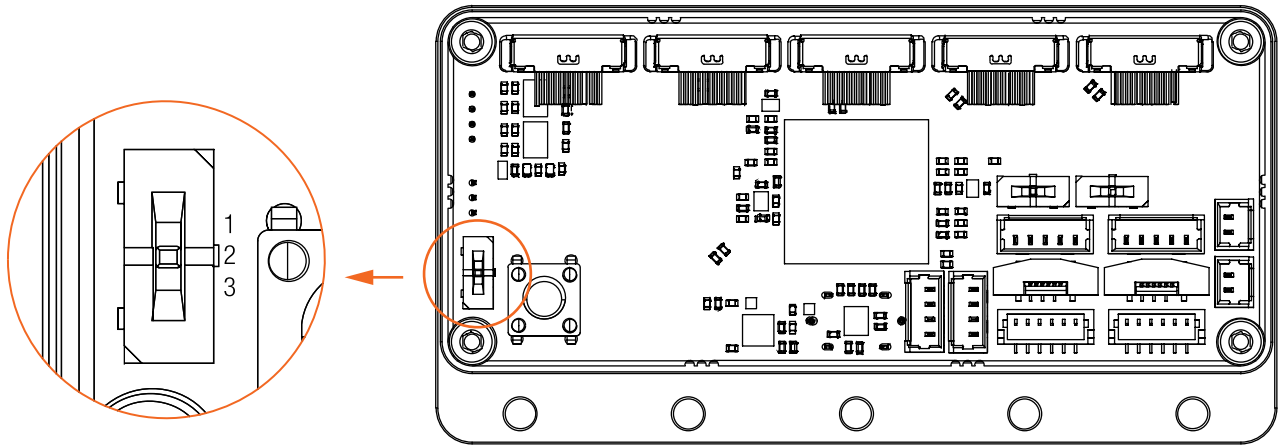


Figure 4: DIP switch location

DIP switch position	Mode name	Mode description
1	External trigger mode	Trigger signal generated from the IO connector GPI_EXT signal
2	-	Not connected
3	Master-Slave mode	Trigger signal generated from the DFP camera connector GPO1 signal (port 1) ¹

¹see figure 7: I-PEX Cabline SS 14pos ports in section [Location of connectors](#)

Table 3: DIP switches position

In both cases, the trigger signal is distributed across all 5 DFP camera connectors to GPIO1 signal, see image below.

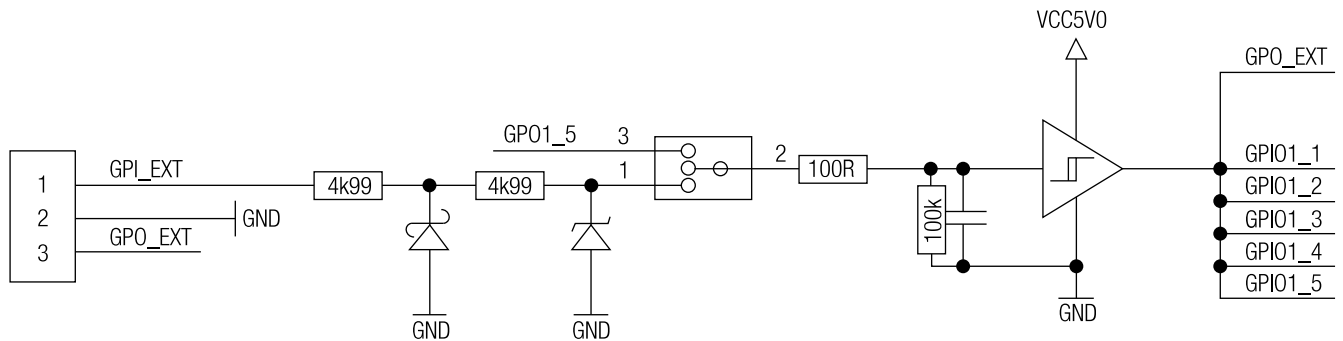


Figure 5: I-PEX Cabline SS, 14pos connectors GPIO1 signal scheme

4 Connectors

4.1 Location of connectors

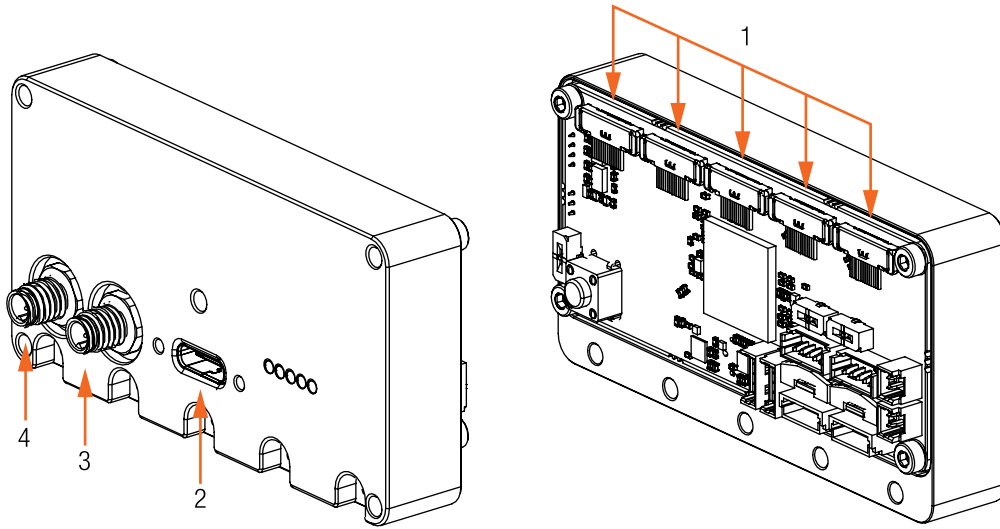


Figure 6: XS-5P-U3-UC-TC connectors location

Num	Connector
1	5 x USB3.2 Gen1, I-PEX Cabline SS 14pos
2	USB3.2 Gen1, Type-C
3	Power connector
4	IO connector

Table 4: connectors description

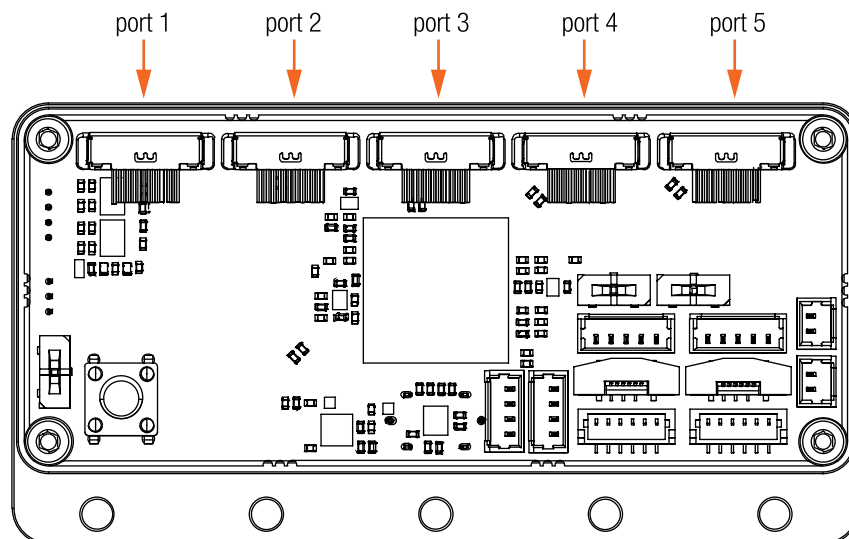


Figure 7: I-PEX Cabline SS 14pos ports

4.2 Data interfaces

4.2.1 Micro-coax connector

Item	Value
Connector	CONN-20374-R14E-31
Signals	Camera connector
Mating cables	CBL-U3-PSD-UC-0M10

Table 5: micro-coax connectors description

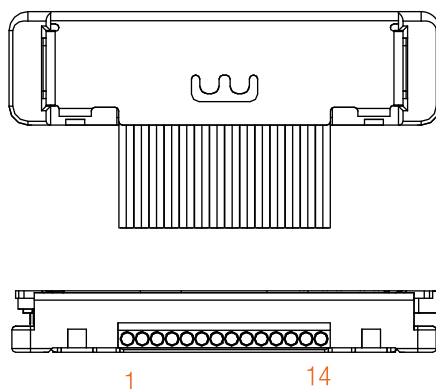


Figure 8: micro-coax connector pinning

Pin	Signal	Description
1	VBUS	+5 V Power input
2	VBUS	+5 V Power input
3	INOUT2	Non isolated Input/Ouput (<0.3 Low; > 1.3 High)
4	OUT2	Non isolated TTL Output
5	SSTX-	SuperSpeed transmitter differential pair
6	SSTX+	SuperSpeed transmitter differential pair
7	D+ USB	2.0 differential pair
8	D- USB	2.0 differential pair
9	SSRX-	SuperSpeed receiver differential pair
10	SSRX+	SuperSpeed receiver differential pair
11	INOUT1	Non isolated Input/Ouput (<0.3 Low; > 1.3 High)
12	OUT1	Non isolated TTL Output
13	VBUS	+5 V Power input
14	VBUS	+5 V Power input

Table 6: micro-coax connectors pin assignment

4.2.2 USB 3.2 Gen1 Type-C

Item	Value
Connector	USB 3.2
Signals	Standard USB 3.2 Gen1 Type-C Connector
Mating Connectors	Standard USB 3.1 Type C Connector with thumbscrews Screw thread M2

Table 7: power connector description

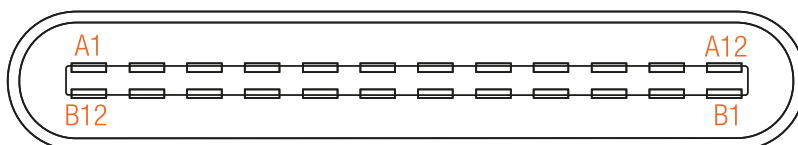


Figure 9: pinning of Type-C connector

4.2.3 Power connector

Supply voltage: 12 to 20V nominal.

Recommended power supply brick: GSM60B15-P1J (60W, 15V, 4A)

Power consumption depends on the amount and type of cameras connected to the USB Hub, without any camera connection the power consumption is TBD W.

Item	Value
Connector	Binder PN: 09 3111 81 04
Signals	Power input
Mating Connectors	Binder 79 3108 52 04

Table 8: power connector description

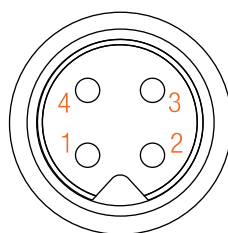


Figure 10: power connector pinning

Pin	Name	Type
1	GND	Power ground
2	AUX PWR	Power supply input
3	AUX PWR	Power supply input
4	GND	Power ground

Table 9: IO connector pinning

4.2.4 IO connector

Cameras connected to DFP ports can be synchronized by external trigger, or in master-slave mode. This functionality is configured by a hardware DIP switch located on the bottom left corner of the the board, see [DIP switch](#).

Item	Value
Connector	I/O & Binder 09 3105 81 03
Signals	Digital Input and Output
Mating Connectors	Binder 77 3550 0000 40003-0x000 (connector on cable side)

Table 10: IO connector description

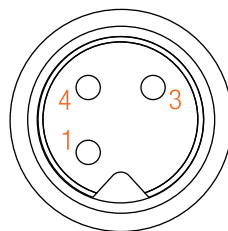


Figure 11: IO connector pinning

Pin	Name	Type
1	GPIO_GND	Common ground for Input and Output
3	IN	Digital Input (IN)
4	OUT	Digital Output (OUT)

Table 11: IO connector pin assignment

5 Quickstart guide

5.1 Hardware setup

5.1.1 Essential components

NOTE: The power must be turned off when inserting/detaching the cable. General ESD precautions need to be applied.

- Ximea camera with microCoax connector
- CBL-U3-PSD-UC-0M10 microCoax cable
- USB type-C cable (CBL-U3-P-TC-xM)
- power cable (CBL-MJ-PWR-2M0)
- IO cable (Binder 77 3550 0000 40003-0x000)

- Step 1.** Make sure the DIP switch is in the right position
- Step 2.** Connect CBL-CSS-14-100-50-R1 microCoax cable to the XS-5P-U3-UC-TC
- Step 3.** Connect CBL-CSS-14-100-50-R1 microCoax cable to camera
- Step 4.** Connect USB type-C cable (CBL-U3-P-TC-xM) to the XS-5P-U3-UC-TC
- Step 5.** Connect USB type-C cable (CBL-U3-P-TC-xM) to host (pc)
- Step 6.** Connect IO cable to the XS-5P-U3-UC-TC
- Step 7.** Connect power cable (CBL-MJ-PWR-2M0)

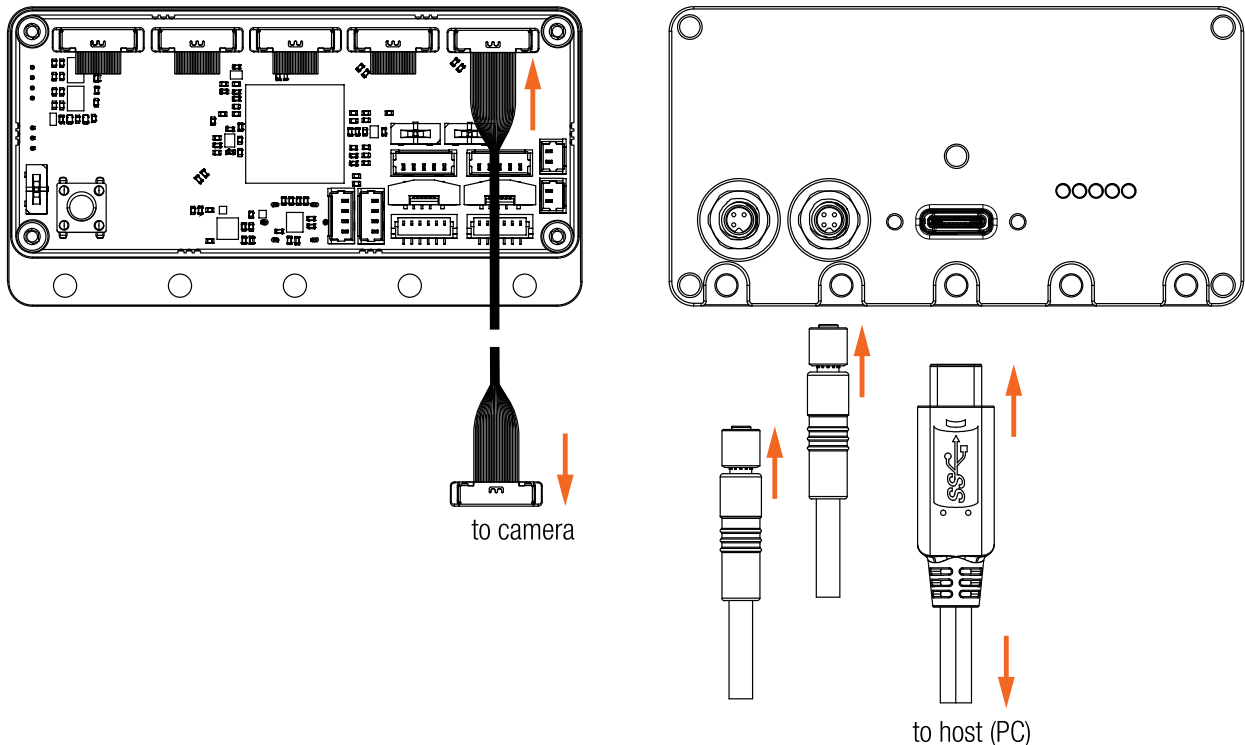


Figure 12: power connector pinning

For more information about XS-5P-U3-UC-TC please contact: sales@ximea.com.

List of Figures

1	isometric view of XS-5P-U3-UC-TC	4
2	LEDs location	4
3	dimensional drawing of XS-5P-U3-UC-TC	5
4	DIP switch location	6
5	I-PEX Cabline SS, 14pos connectors GPIO1 signal scheme	6
6	XS-5P-U3-UC-TC connecotrs location	7
7	I-PEX Cabline SS 14pos ports	7
8	micro-coax connector pinning	8
9	pinning of Type-C connector	9
10	power connector pinning	9
11	IO connector pinning	10
12	power connector pinning	11

List of Tables

- 1 Leds output description 4
- 2 parameters 5
- 3 DIP switches position 6
- 4 connectors description 7
- 5 micro-coax connectors description 8
- 6 micro-coax connectors pin assignment 8
- 7 power connector description 9
- 8 power connector description 9
- 9 IO connector pinning 9
- 10 IO connector description 10
- 11 IO connector pin assignment 10



