



# IE UCM Universal Camera Mount User Manual

[Home](#) » [Camera](#) » IE UCM Universal Camera Mount User Manual 

## Contents

- 1 IE UCM Universal Camera Mount
- 2 Introduction
- 3 Getting Started
- 4 Operating Instructions
- 5 Additional Information
- 6 PRODUCT INTRODUCTION
- 7 STARTED INFORMATION
- 8 Operating instructions
  - 8.1 UCM operating elements
- 9 ADDITIONAL INFO
- 10 TECHNICAL DATA
- 11 Documents / Resources
  - 11.1 References
- 12 Related Posts

# UCM

**IE UCM Universal Camera Mount**



## Introduction

The UCM Universal Camera Mount is a camera alignment system that allows adjustment of the DUT (device under test) along X, Y, and Z axes. The system is based on linear guidance in combination with a cross focusing rack and ball head. The end position can be fixed with the locking wheels. Please read the manual carefully before using the device to avoid inappropriate utilization that may cause damage to the device, DUT, and/or other components of your setup. Keep these instructions in a safe place and pass them on to any future user.

## Intended Use

The UCM Universal Camera Mount is intended for use as a camera alignment system for adjusting the DUT along X, Y, and Z axes.

## Product Variants

The UCM Universal Camera Mount is available in different product variants.

## Foreseeable Misuse

Foreseeable misuse of the UCM Universal Camera Mount includes stuck linear guidance/ball head, hot/cold environment, and risk of tipping over.

### Stuck Linear Guidance/Ball Head

If you cannot turn the wheels for X, Y, and Z translation or the ball head, loosen the locking wheels and check the ball head joint and any moving parts for debris.

### Hot/Cold Environment

If you use UCM in a very hot or cold environment (for example in combination with iQ-Climate Chamber), please allow the device to approach room temperature again before manipulating it to avoid injuries or mechanical failure.

### Risk of Tipping Over

Only applies to UCM variant 1 (with rectangular frame): When attaching a heavier DUT to UCM and moving the slide all the way to the front of the Z-rail, a counter weight on the back of the frame is highly recommended to keep UCM from tipping over and potentially damaging your equipment.

## Getting Started

## Scope of Delivery

The UCM Universal Camera Mount comes with the necessary parts to assemble the camera alignment system.

## Operating Instructions

Follow the instructions provided in the manual for assembling and operating the UCM Universal Camera Mount. Adjust the DUT along X, Y, and Z axes using the linear guidance and ball head. Fix the end position with the locking wheels.

## Preparing UCM variant 2

Follow the instructions provided in the manual for preparing UCM variant 2.

## Additional Information

### Disposal Instructions

Follow local regulations for disposing of the UCM Universal Camera Mount.

### Technical Data Sheet

For technical specifications, refer to the Technical Data Sheet provided with the UCM Universal Camera Mount.

## PRODUCT INTRODUCTION

**Important information:** Read the manual carefully before using the device.

Inappropriate utilization may cause damage to the device, to the DUT (device under test) and/or other components of your setup.

Keep these instructions in a safe place and pass them on to any future user.

### Intended use

Camera alignment system based on a linear guidance in combination with a cross focusing rack and ball head allows adjustment of the DUT along X, Y and Z axes. Fix the end position with the locking wheels.

- Only suitable for indoor use.

### Product variants

UCM is available in two variants:

- Variant 1: with rectangular frame and adjustable feet to place device on any flat surface
- Variant 2: without frame (Z-rail is then screwed directly to the place of operation. Please note: drilling additional holes suiting your setup will be required).

### Foreseeable misuse

#### Stuck linear guidance / ball head

If you cannot turn the wheels for X, Y and Z translation or the ball head, loosen the locking wheels and check the ball head joint and any moving parts for debris.

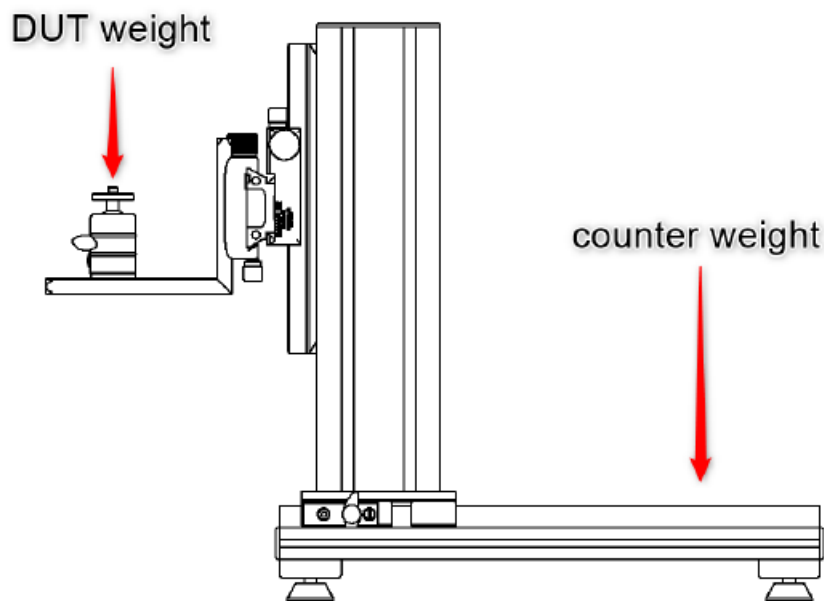
### Hot/cold environment

If you use UCM in a very hot or cold environment (for example in combination with iQ-Climate Chamber), please allow the device to approach room temperature again before manipulating it to avoid injuries or mechanical failure.

### Risk of tipping over

Only applies to UCM variant 1 (with rectangular frame):

When attaching a heavier DUT to UCM and moving the slide all the way to the front of the Z-rail, a counter weight on the back of the frame is highly recommended to keep UCM from tipping over and potentially damaging your equipment.



**Figure 1: Placement of a counter weight**

## STARTED INFORMATION

### Scope of delivery

- UCM – Universal Camera Mount
- Novoflex Ball 19P ball head for rotation adjustment
- Novoflex QPL1 camera coupling plate for vertical camera mounting
- Novoflex QPL Slim VERTIKAL for horizontal camera mounting
- Piece of black molleton to prevent stray light
- Manual

### Operating instructions

#### Setting up for operation

Depending on the desired orientation of your camera, select one of the included quick release plates. If necessary, the small ball head additionally allows free rotation around all axes in both horizontal and vertical orientations. Figure 2 shows two possible setups. Since this system is standard 1/4 inch camera thread, UCM can also be combined with your personal equipment.

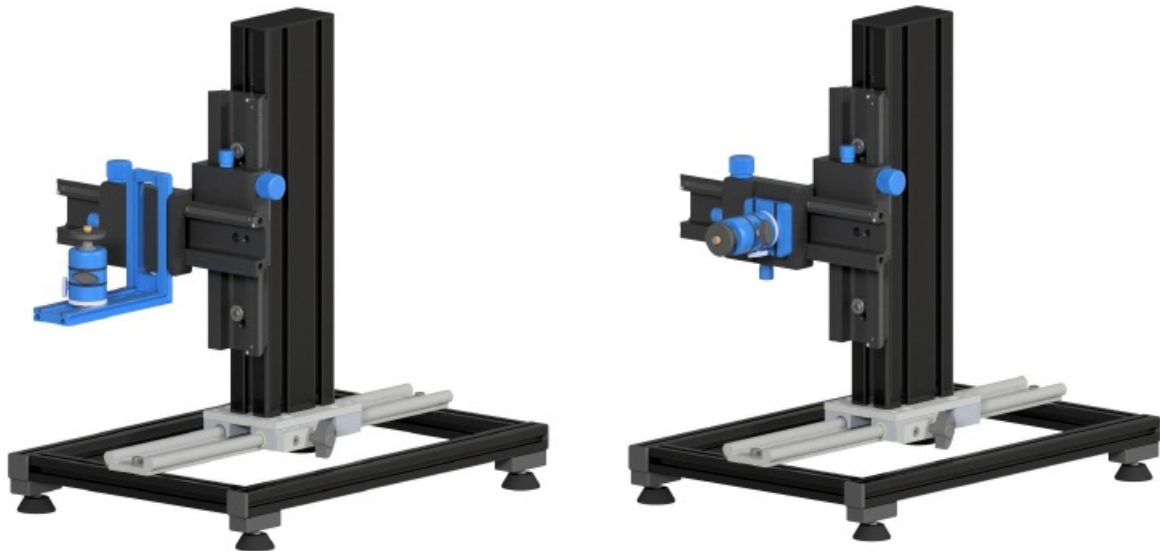


Figure 2: Setup suggestions for horizontal (left) and vertical (right) camera placement

## UCM operating elements

### Cross focusing rack:

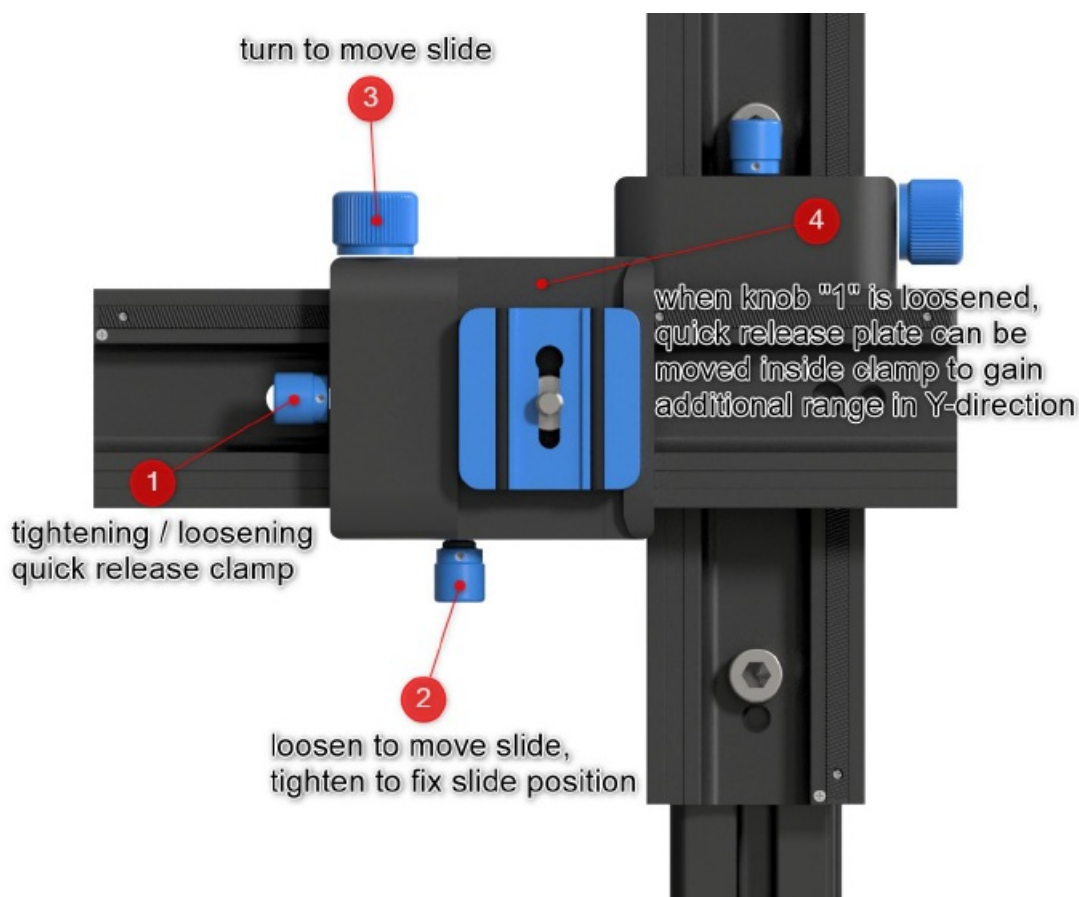
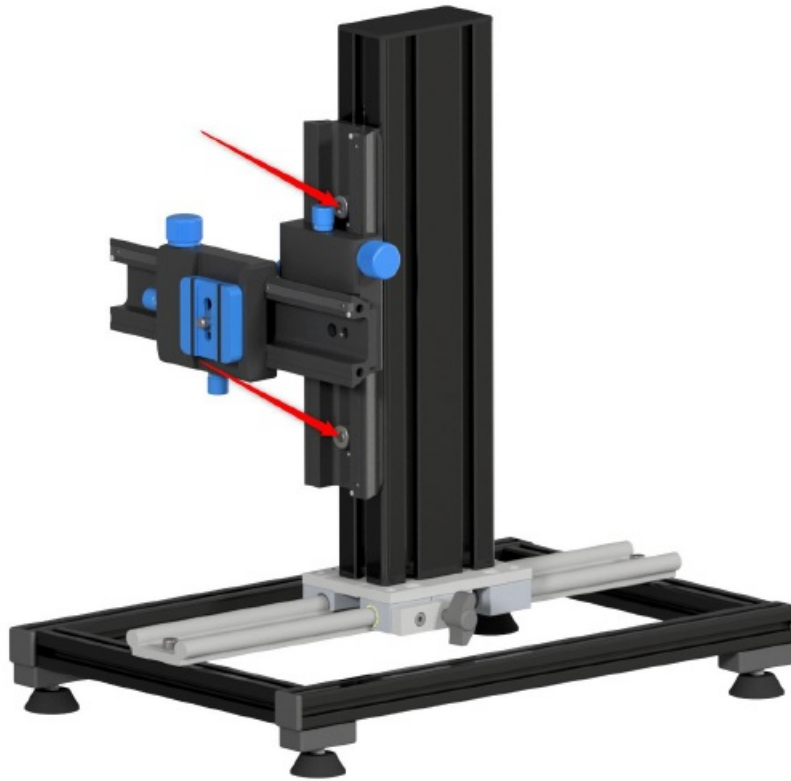


Figure 3: operating elements on the cross focusing rack

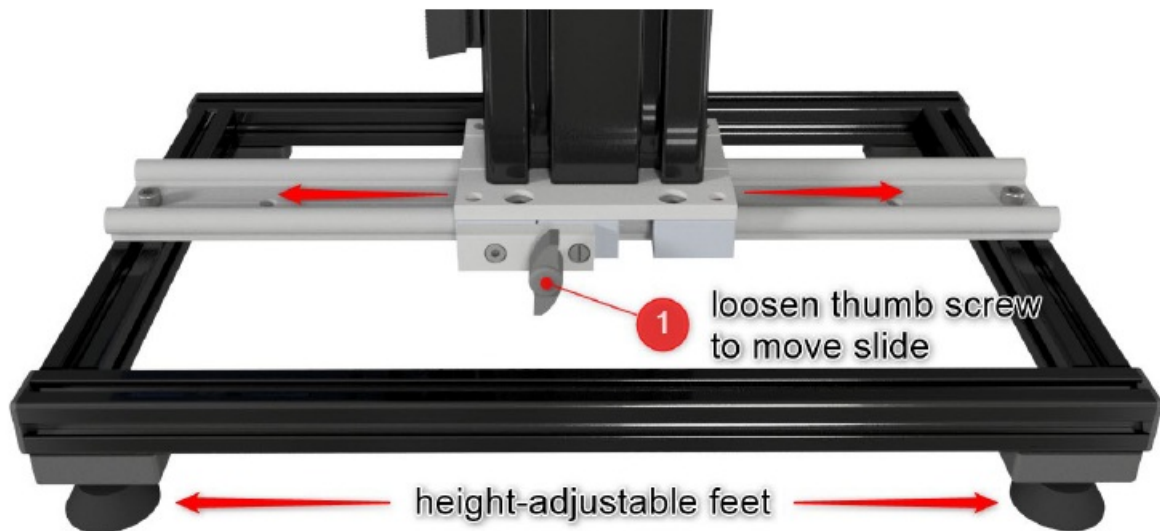
### Camera positioning (X- and Y-axes)

Fix the quick release plate to the DUT, place it in the quick release clamp and tighten it down using knob 1 (Figure 3). To position the slide, make sure knob 2 (Figure 3) is loosened, then turn knob 3 (Figure 3) to move the slide. After reaching the desired position, tighten knob 2 down again to secure the slide against accidental movement. Repeat process for remaining slide.



**Figure 4: screws for additional Y-axis adjustment**

The marked screws in Figure 4 allow for additional adjustment range on the Y-axis. Simply loosen both screws until you can slide the whole cross focusing rack up or down the profile. After reaching the desired position, tighten the screws again.



**Figure 5: positioning of the Z-slide, height-adjustable feet**

Loosen thumb screw (Figure 5, marker 1) and move the Z-slide to the desired position. Then, tighten the thumb screw down again to secure the Z-slide against accidental movement.

#### **Covering reflective/ light emitting parts during measurements**

Depending on your setup and device under test, you might encounter unwanted stray light in your measurements. To counter this, we included a piece of thick, black molleton with a size of 85×85 cm. Since DUTs vary greatly in shape and size, we have not prepared a cutout but leave it up to you to apply a cutout that best suits your requirements.

## Preparing UCM variant 2

If you need a Z-rail longer than 350mm, please let us know when you place your order or preferably beforehand.

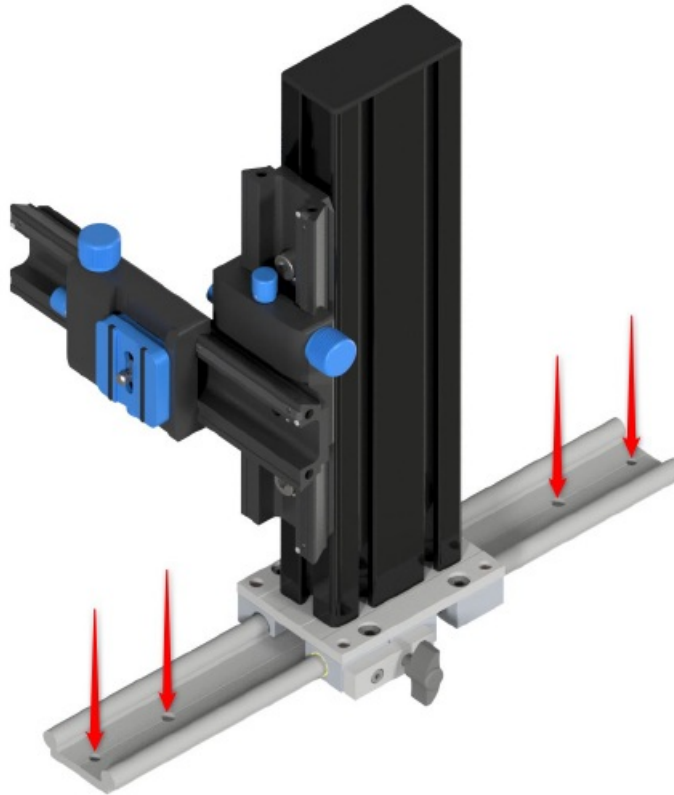


Figure 6: Additional holes for mounting required

The Z-rail for UCM variant 2 is supplied without any holes. Figure 6 shows an example of how the rail could be prepared for mounting.

UCM variant 1 for example is delivered with holes with a diameter 5.5mm. To ensure sufficient stability, it is not recommended to use a smaller drill diameter and/or screws smaller than M5.

For assembly work, the Z-slide holding the cross focusing rack easily slides on and off each end of the Z-rail.

## ADDITIONAL INFO

### Disposal instructions

After the service life of UCM, it must be disposed of properly. Observe your national regulations. Make sure that UCM cannot be used by third parties after disposing of it.

Contact Image Engineering if assistance for disposal is required.

## TECHNICAL DATA

The technical data sheet can be downloaded at the website of Image Engineering as well: [www.image-engineering.com](http://www.image-engineering.com).

## Overview

Product name	UCM – Universal Camera Mount
Principle	Camera alignment system based on a linear guidance in combination with a cross focusing rack and ball head

## Features

DUT positioning device

Travel distance X-axis	280mm
Travel distance Y-axis	approx. 260mm, depending on setup
Travel distance Z-axis	220mm



## General description hardware

Dimension [W x H x D]	240mm x 405mm (max.) x 350mm
Weight	3.4kg
Scope of delivery	Universal Camera Mount, Novoflex Ball 19P ball head, Novoflex coupling plate QP L1, Novoflex QPL Slim VERTIKAL, black molleton, manual
Temperature range	-30°C up to 120°C

## Requirements on device under test (DUT)

- Max. DUT weight 0,5kg

## Documents / Resources

 <p>UCM Universal Camera Mount</p>  <p>User Manual February 10, 2021</p>	<p><a href="#">IE UCM Universal Camera Mount</a> [pdf] User Manual</p> <p>UCM Universal Camera Mount, UCM, Universal Camera Mount, Camera Mount, Mount</p>
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## References

-  [Image Engineering - Solutions to test image Quality](#)



