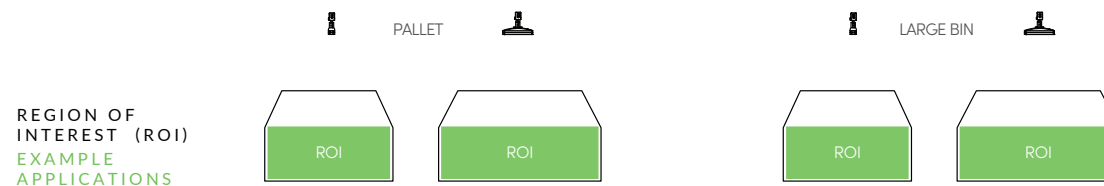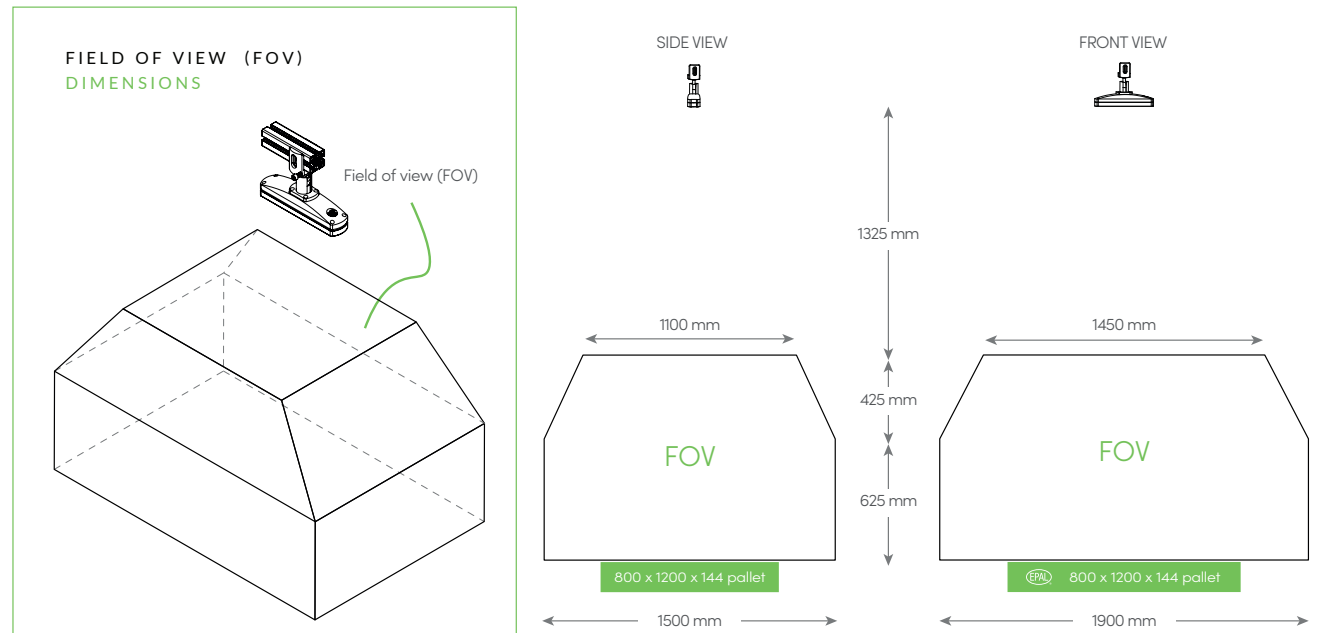# Pick-it L Camera Field of view

To be visible for Pick-it, all parts or items of interest must be inside the **field of view** (FOV) of the 3D camera.

The **region of interest** (ROI) can be seen as a 'bounding box' that fits within the FOV of the 3D camera. This box defines where the actual application takes place. You can define this ROI in the Pick-it software.
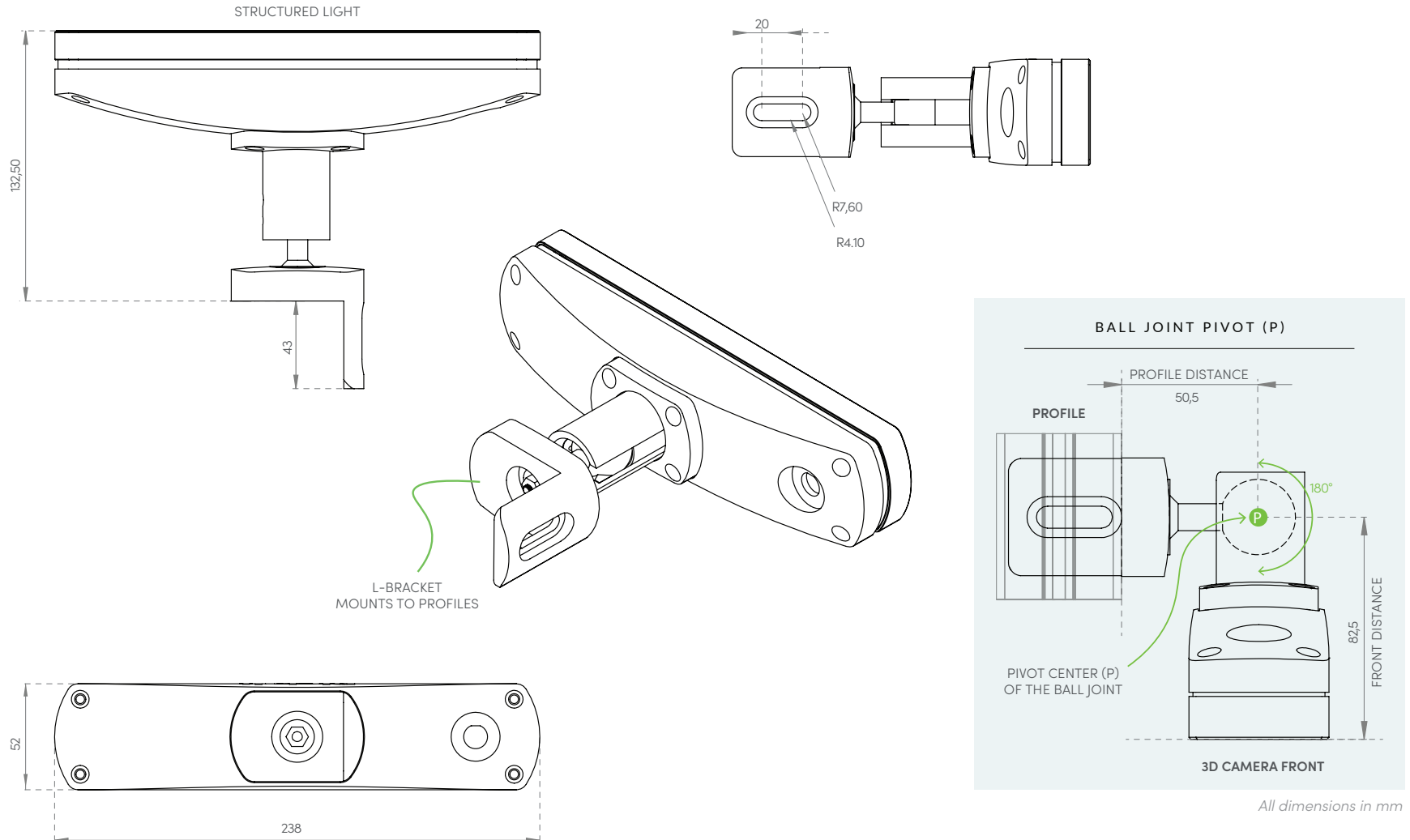
The possible dimensions of the ROI depend of the distance between the 3D camera and your ROI.

**Bringing your application closer to the camera will improve image quality and shrink the potential ROI volume.**

**Bringing your application further from the camera will lower image quality and enlarge the potential ROI volume.**

## FIELD OF VIEW (FOV) DIMENSIONS

Field of view (FOV)

### SIDE VIEW

1325 mm

1100 mm

425 mm

FOV

625 mm

800 x 1200 x 144 pallet

1500 mm

### FRONT VIEW

1450 mm

FOV

EPAL 800 x 1200 x 144 pallet

1900 mm

## REGION OF INTEREST (ROI) EXAMPLE APPLICATIONS

PALLET

ROI

ROI

LARGE BIN

ROI

ROI

# Pick-it Camera Dimensions

STRUCTURED LIGHT

132,50

43

20

R7,60

R4.10

L-BRACKET
MOUNTS TO PROFILES

52

238

## BALL JOINT PIVOT (P)

PROFILE DISTANCE

50,5

PROFILE

180°

P

PIVOT CENTER (P)
OF THE BALL JOINT

FRONT DISTANCE

82,5

3D CAMERA FRONT

*All dimensions in mm*

**Pickit**  ROBOT VISION MADE EASY

# Pick-it Facts



## CAMERA TECHNICAL SPECIFICATIONS

| | |
|---|---|
| 3D measurement method | Structured light |
| Image processing speed | 30 fps |
| 3D Camera accuracy | < 3mm |
| 3D Camera repeatability | < 1mm |
| 3D camera weight | 1030 g |
| 3D camera connection to PC | M12 (USB) – USB3 |
| PC connection to robot | TCP/IP over Ethernet |
| Power supply | USB3 5VDC |
| Temperature | 5°C to 40°C |
| Humidity | ~95% @ 40°C (non-condensing) |
| IP rating | IP55 |
| Vibrations | Operating, 2 Grms, 5–500 Hz, 3 axes |
| Conforms to | CE, FCC |

## CAMERA CABLE TECHNICAL SPECIFICATIONS



**10m**

**Industrial M12 camera connector**

**High-Flex / Continuous-Flex**

- Type-U (R= 67,5mm – 5.000.000 times)
- Type-S (R= 60mm – 1.000.000 times)
- 90° Tick-Tock bending (R= 60mm – 1.000.000 times)



Moving Directions
Bending Radius
Cable
Weight (400g)
left + right 90° Bending
Weight (400g)
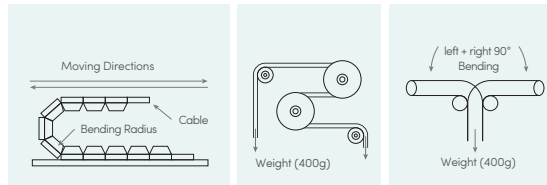
## PROCESSOR



**Power consumption**

- While turned off: 25W
- Booting: 100W
- Idle: 60W
- Heavy processing: 130W

**Technical specifications**

- Processor: 6 cores (12 threads) at 3.7 Ghz
- 19 inch server: rack compatible (2U)
- Temperature: –20°C to 70°C
- Vibrations: Operating, 5 Grms, 5–500 Hz, 3 axes
- IP rating: IP54
- Power supply: 9–32V DC 160W
- Humidity: ~95% @ 40°C (non-condensing)

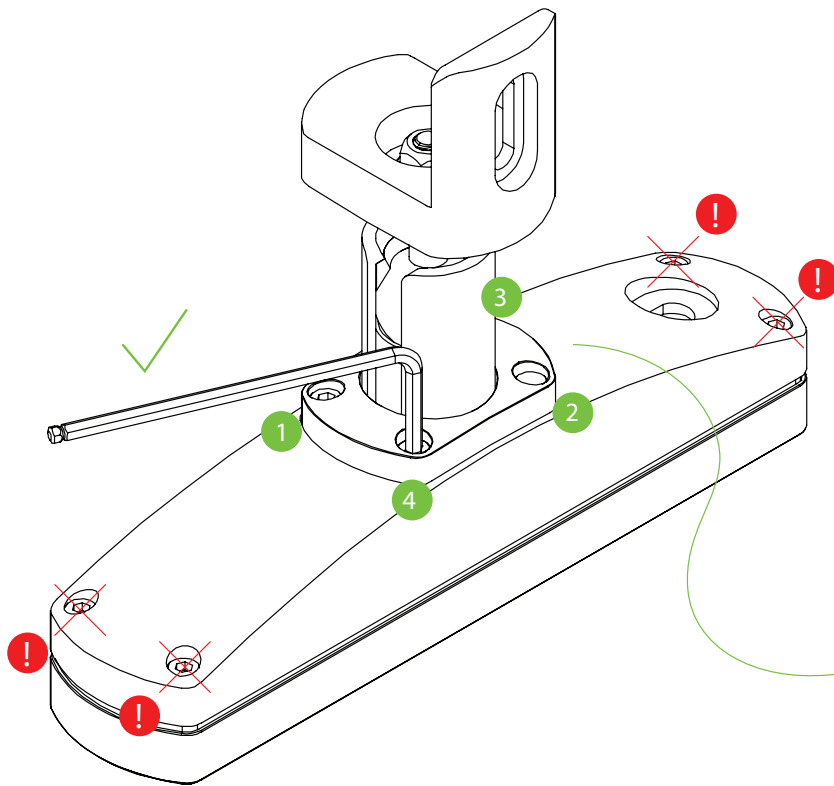## WORKS WITH YOUR ROBOT

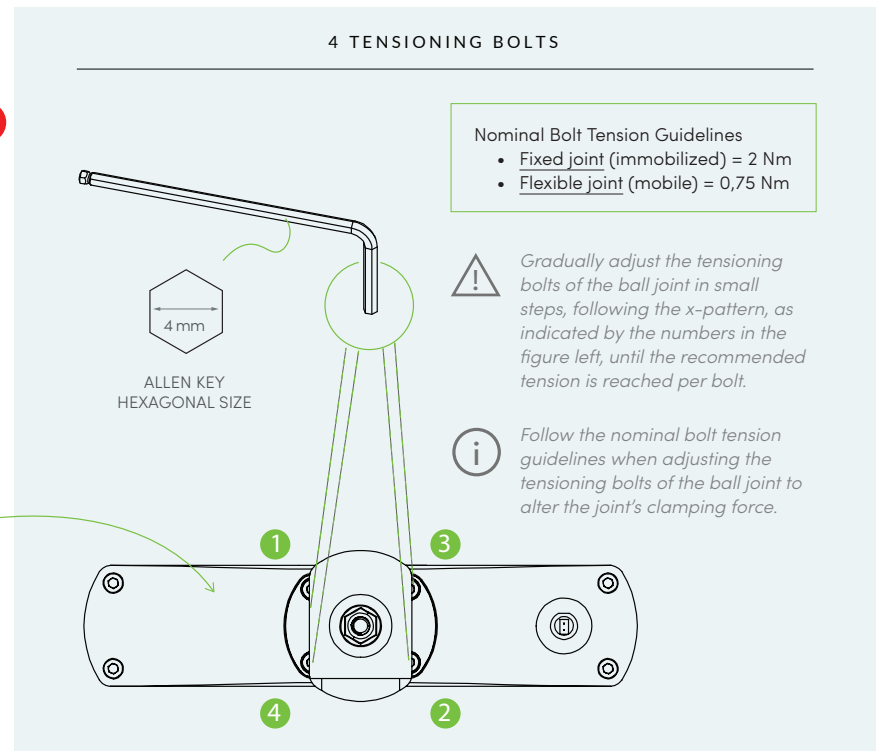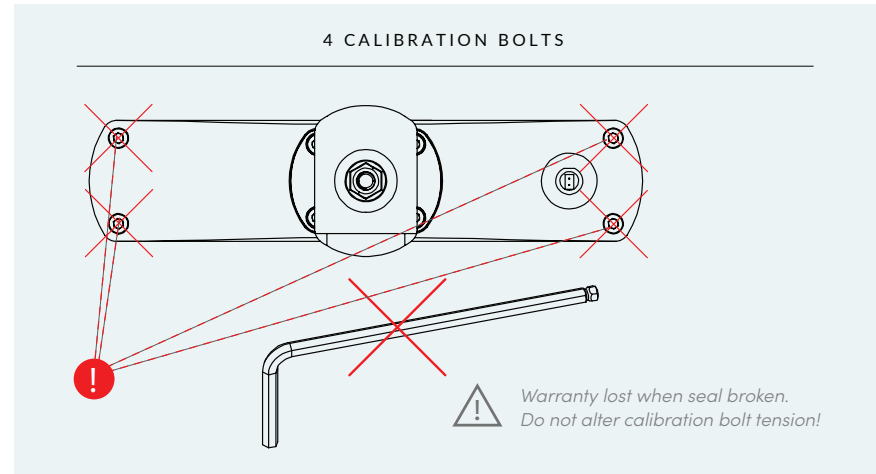FANUC    STÄUBLI    KUKA    YASKAWA    ABB    UNIVERSAL ROBOTS    FRANKA EMIKA    AUBO ROBOTICS

Pickit — ROBOT VISION MADE EASY

# Ball Joint Tension



Adjust the 4 tensioning bolts as indicated at the right to alter the ball joint tightness and obtain a fixed joint or a flexible joint depending your application and needs.

## 4 CALIBRATION BOLTS



*Warranty lost when seal broken. Do not alter calibration bolt tension!*

## 4 TENSIONING BOLTS

Nominal Bolt Tension Guidelines
- Fixed joint (immobilized) = 2 Nm
- Flexible joint (mobile) = 0,75 Nm

4 mm

ALLEN KEY HEXAGONAL SIZE

*Gradually adjust the tensioning bolts of the ball joint in small steps, following the x-pattern, as indicated by the numbers in the figure left, until the recommended tension is reached per bolt.*

*Follow the nominal bolt tension guidelines when adjusting the tensioning bolts of the ball joint to alter the joint's clamping force.*

# Stationary Mounting

**SOFTWARE SUPPORTS ON-ROBOT MOUNTING AND STATIONARY MOUNTING**

## PROFILE MOUNTING

END        SIDE

## 2-AXES POSITIONING

180°        360°

AXIS 1        AXIS 2

2 INDEPENDENT AXES

---

**1**

**PROFILE W**
20 mm > + 45 mm

**2**

**T-SLOT PROFILE NUT**
M8 – M6

**3**

16

M6–M8

**M6-M8 HEX SOCKET @ L 16 MM**
ISO 4762, Cap Head

**M6-M8  HEX SOCKET @ L 16 MM**
ISO 7380, Button Head

**4**

F

L-BRACKET

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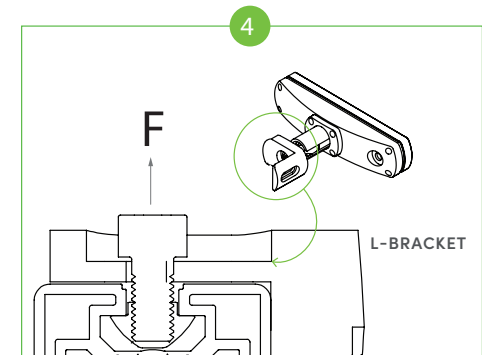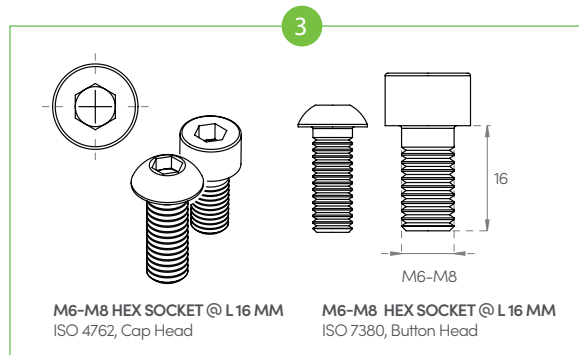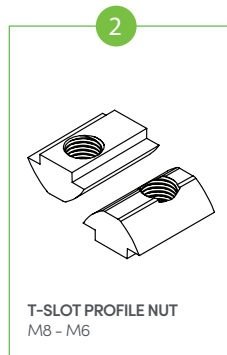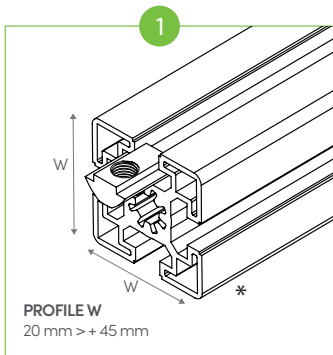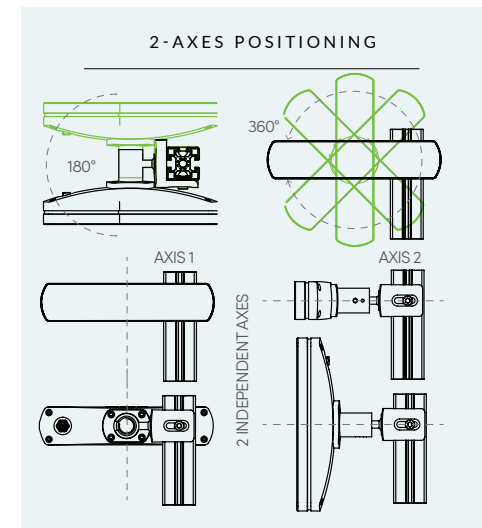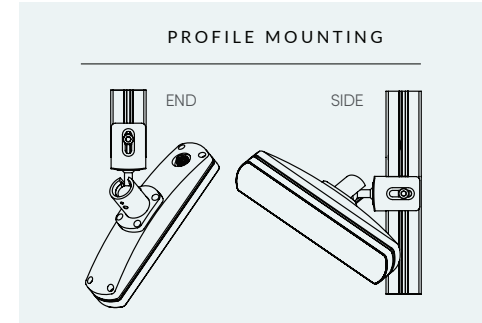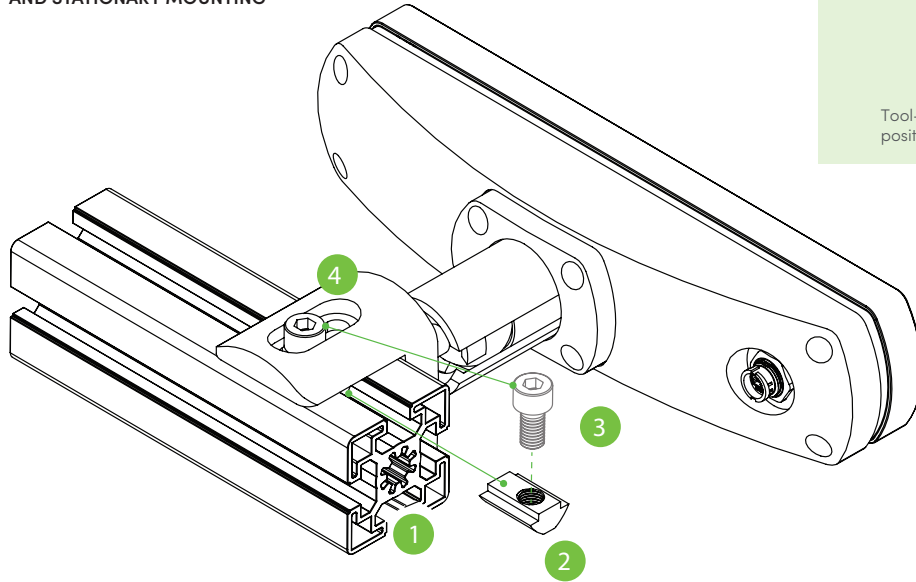
*Profile type shown above is for illustrative purposes only. A wide range of profile types is supported by the L-bracket. Contact us for further info.*

# On-Robot Mounting

**SOFTWARE SUPPORTS ON-ROBOT MOUNTING AND STATIONARY MOUNTING**

**L-BRACKET**

*Replace L-Bracket by 'On-Robot Mounting Adaptor Set' (5 = 5a + 5b + OPTIONAL 5c) to mount the 3D camera onto a robot.*

**LOCK PIN**

**ON-ROBOT MOUNTING ADAPTOR SET**

**5**

**5a**

**5b**

**ROBOT ADAPTOR PLATE**
Mounts to Robot.

**3D CAMERA ADAPTOR PLATE**
Mounts to Threaded Ball Joint Rod.

**ASSEMBLY HOLES**
**M5 HEX SOCKET @ L 16 MM**
ISO 7380, Button Head

**1 THREADED BALL JOINT ROD**

## THREADED BALL JOINT ROD

**1**

**3**

External Screw Thread
Type **ISO M8 @ L 15 MM**

**1**

**M8 SAFETY NUT**
ISO 10511

**3**

## ON-ROBOT MOUNTING ADAPTOR SET

**1 THREADED BALL JOINT ROD**

**5**

BALL JOINT ROD
**MOUNTING HOLE**

**LOCK PIN**

**FLANGE ADAPTER RECEIVER**

**c**

**5b**

**3D CAMERA ADAPTOR PLATE**

**5a**

**ROBOT ADAPTOR PLATE**

**b**

**LOCK PIN HOLE**

**ON-ROBOT MOUNTING ADAPTOR SET**
Incl. 5a : Robot Adaptor Plate
5b : 3D Camera Adaptor Plate
5c : optional flange adapter

**3**

**M8 SAFETY NUT**
ISO 10511
! Optional: Toothed Lock Washer

*Robot shown is for illustrative purposes only. A wide range of robot flange types is supported. Contact sales@pickit3d.com for further info.*