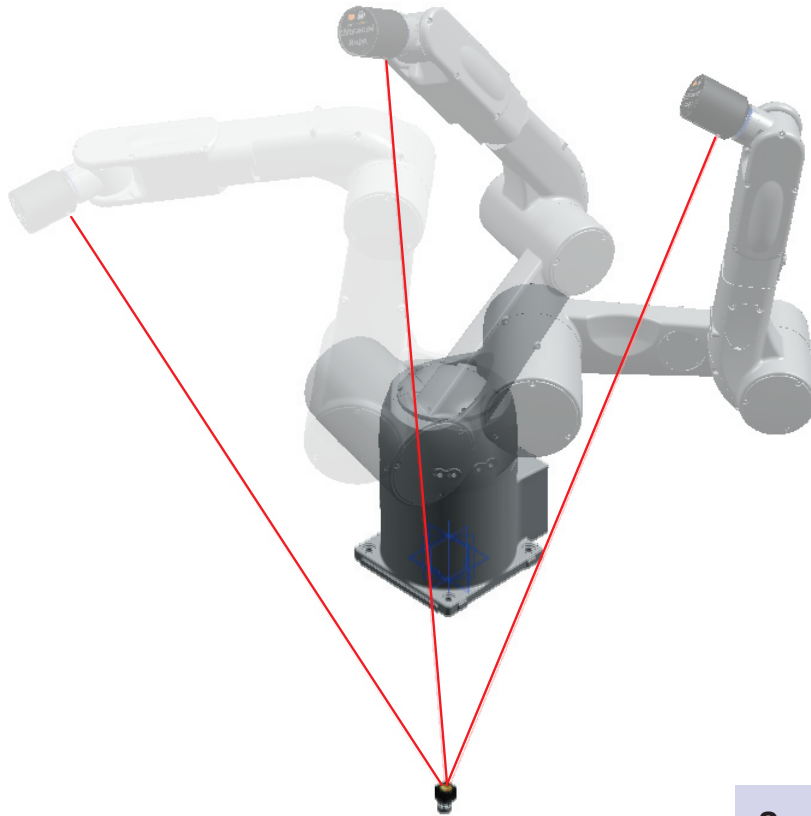


# UltraCal<sup>V5</sup>

Laser-based Robot Calibration System



The laser-based UltraCal Robot Calibration System can be used to perform absolute calibration of industrial robots, or any motion system capable of pointing the laser beam into a target.

Due to its measurement accuracy of under 25 $\mu$ m, very reliable results are achieved quickly, without the need for a sophisticated setup and pre-calibration.

The calibration can be performed at any stage of the robot's life and substantially increases accuracy for palletizing, vision and conveyor-tracking applications as well as providing a reproducible reference frame.

UltraCal works with any Adept controller with V+ 10.0 or higher and requires no external PC or software.

## System Specifications

ISO 9283-compatible Algorithm

Joint offsets only: yes

V+ Kinematic model: yes

Full DH-Parameters: yes

Gravity compensation: yes

Sensor resolution: 5 $\mu$ m

Sensor accuracy:  $\pm$ 25 $\mu$ m

Lateral range:  $\pm$ 2mm

Target angular range:  $\pm$ 35 $^\circ$

Distance range: 0-5m

Interface: RS232

Laser Class: 2

Output power: < 1mW

Wavelength: 635 nm

# UltraCal<sup>V5</sup>

Laser-based Robot Calibration System

## Key features:

Fully automated path generation including collision avoidance and fully automated calibration process.

All robot and math code is written in Adept V+

No additional controller or PC is needed.

We can also port the software to other controllers.

Up to 4 targets can be used to increase final accuracy for DH-parameters and to define a fixed reproducible reference frame.

Mounting adapters for ISO 9409-2 flanges from 31,5mm to 80mm easily adapts UltraCal to most industrial robots.

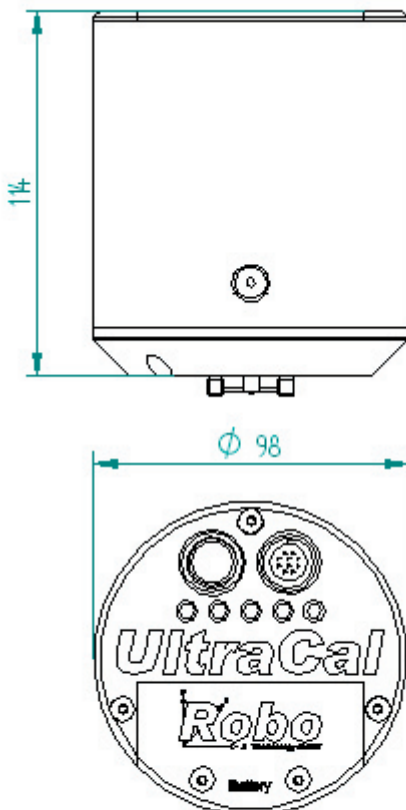
Custom adapters for other flanges are available on request.

Wireless serial link via Bluetooth, no cables necessary.

6+ hours of continuous operation from internal battery.



## Mechanical Dimensions:



all dimensions in mm