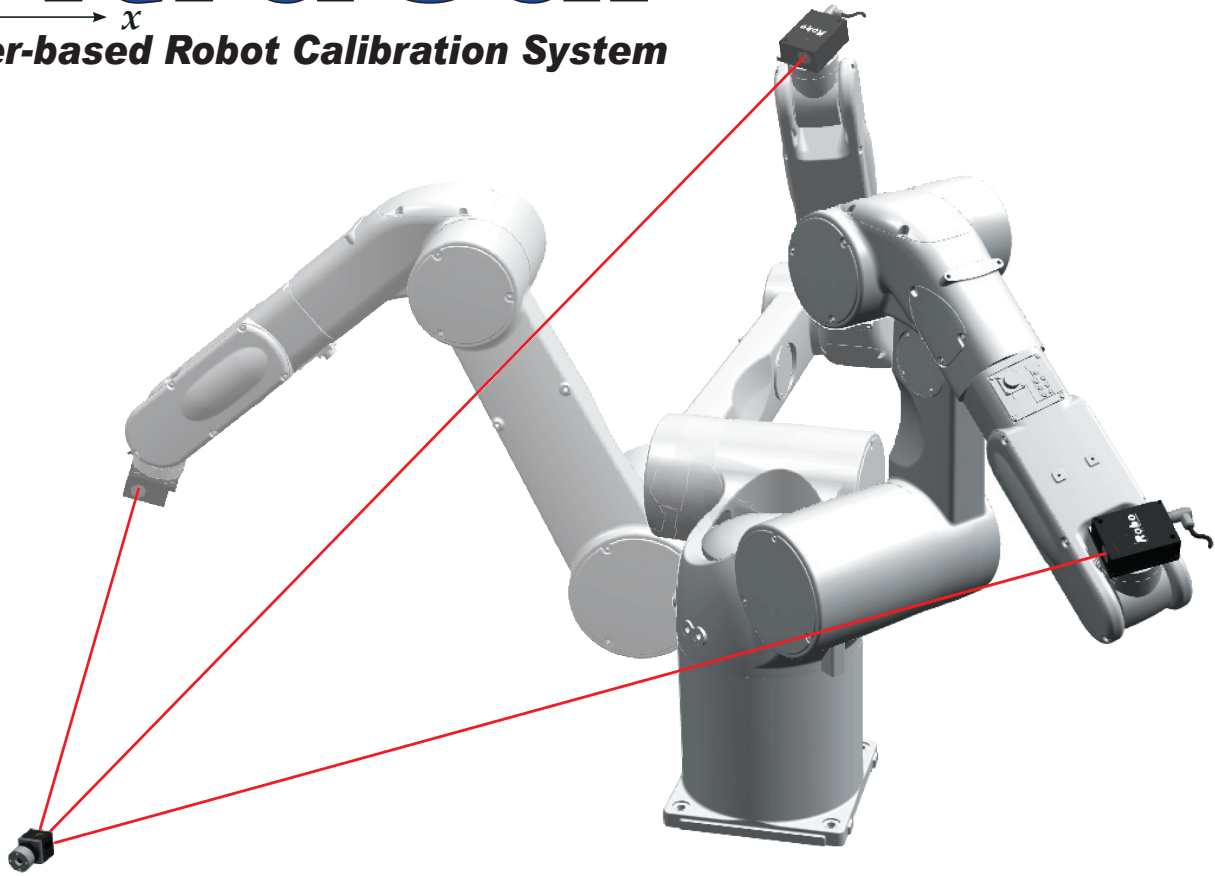


UltraCal

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 μ 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 μ m

Sensor accuracy: $\pm 25\mu$ m

Lateral range: ± 2 mm

Target angular range: $\pm 45^\circ$

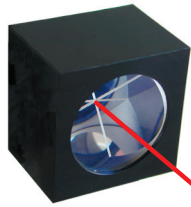
Distance range: 0-5m

Interface: RS232

Laser Class: 2

Output power: < 1mW

Wavelength: 635 nm



UltraCal

Laser-based Robot Calibration System

Key features:

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

All robot and math code in Adept V+.

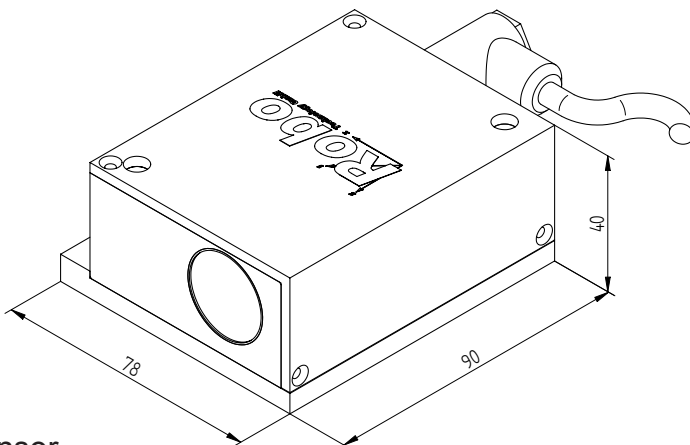
No additional controller or PC needed.

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

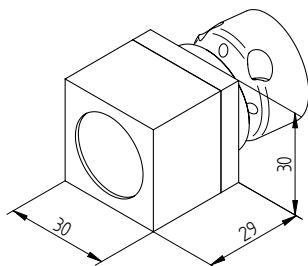
Universal mounting plate for all ISO flanges from 31,5mm to 80mm: UltraCal easily adapts to most industrial robots using Adept Controllers.



Mechanical Dimensions:

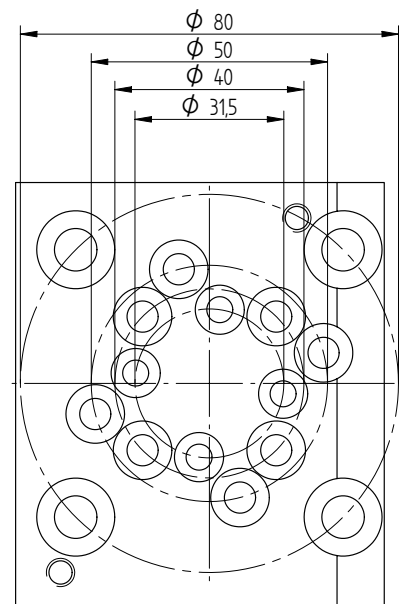


Sensor



Target

Mounting plate, fitting following ISO 9409-2 robot flanges:



all dimensions in mm