roboception

Roboception Commissioning Guide

Project Description: (e.g. Bag Picking Cell for Customer XY)

_____

Used Hardware: (e.g. rc_cube I with 2x rc_visard 160m-6 and randomdot projector)

_____

Checklist

Device	Instructions	Reference	☑
Mechanical and Electrical Setup			
rc_randomdot	In case an rc_visard with an additional rc_randomdot Projector is used: Mount projector on rc_visard	rc_randomdot mounting	☐
Notes: _____			
	Mount the camera securely on a rigid support or robot end-effector to prevent vibrations and misalignment.		☐
Notes: _____			
rc_visard	Use the designated mounting holes and recommended fasteners (e.g., M4 screws, 2.5 Nm torque, threadlocker).	Hardware Specification: Mechanical Interface	☐
Notes: _____			
rc_viscore	Use the designated mounting holes and recommended fasteners (e.g., M4 screws, 3.3 Nm torque, threadlocker).	Installation: Mounting	☐
Notes: _____			
	Connect the camera and, if applicable, the rc_cube to the power supply and ensure the power supply delivers the correct voltage and current as specified by the manufacturer.	rc_visard: Power Supply Specifications rc_viscore: Power Supply Specifications Run max_power test	☐
Notes: _____			
rc_cube / rc_visard	Connect a network cable to the camera and plug it into the “sensor” port of the rc_cube, or directly to the network, in case an rc_visard is used standalone.	LED of rc_visard needs to be green, for error codes: Troubleshooting Quick Start Guides rc_viscore, rc_visard, rc_randomdot: Knowledge Base	☐
Notes: _____			
rc_cube	Connect the “extern” port of the rc_cube to the network.		☐
Notes: _____			
	Fully screw all power and network connectors in without applying excessive torque.		☐
Notes: _____			
	Implement proper cable management to prevent tension or strain on connectors and cables.		☐
Notes: _____			
	Verify that the mounting location allows for the recommended camera-object distance.		☐
Notes: _____			

Version: 1.0
Date: 2025-10-06

roboception

Network and Connectivity			
	Confirm all network devices and cables support 1000 Mbit/s (Gigabit Ethernet) bandwidth.		☐
Notes: _____			
	Download and install Roboception's Discovery GUI Tool on the host PC.	Download rcdiscover-gui	☐
Notes: _____			
rc_cube / rc_visard	Use the Discovery Tool to detect and confirm the device is reachable from the host PC.	Connect and discover the rc_visard	☐
Notes: _____			
rc_cube / rc_visard	If the device is not in the same subnet, assign a temporary IP address using the Discovery Tool.	Assign a temporary IP address	☐
Notes: _____			
rc_cube / rc_visard	Set a permanent IP address and network configuration.	rc_visard network configuration rc_cube network configuration	☐
Notes: _____			
rc_cube / rc_visard	Ensure the device, host PC, and robot controller are mutually reachable (test with ping).		☐
Notes: _____			
rc_cube / rc_visard	Set correct date and time or specify NTP server using the Web GUI.	Web GUI: System → System Time	☐
Notes: _____			
Base Configuration			
rc_cube / rc_visard	Update the firmware of all Roboception devices to the latest supported version.	Download the firmware here and upload latest firmware file (WebGUI: System → Firmware & License)	☐
Notes: _____			
rc_cube / rc_visard	Confirm the link speed is 1000 Mbit/s in the Web GUI.	Web GUI: Dashboard → Link Speed	☐
Notes: _____			
rc_cube / rc_visard	Verify that the required rc_reason software module (e.g., ItemPick, BoxPick) is licensed.	Web GUI: System → Firmware & License	☐
Notes: _____			
rc_cube	Make sure the camera pipelines are configured correctly to match the number and type of the connected cameras	WebGUI: System → Camera Pipelines → Configure Camera Pipelines	☐
Notes: _____			
rc_randomdot / rc_viscore	In case an rc_randomdot projector or rc_viscore is used, adjust the focus and the brightness.	Obtain dense depth images with the rc_randomdot projector	☐
Notes: _____			

roboception

Calibration			
	In case of **rc_visard standalone, rc_cube with rc_visard, rc_viscore or stereo_ace** pipeline: Verify the stereo calibration in the Web GUI and redo if recommended.		☐
Notes: _____			
	Perform hand-eye-calibration after initial installation or any change in camera or robot mounting or after camera calibration.		☐
Notes: _____			
	Redo hand-eye-calibration if you observe inaccuracies in object localization or grasp computation.		☐
Notes: _____			

Documentation

Parameter	**Value**
Camera Type / Serial # / Pipeline:	_____ /_____ / _____
Date of last hand-eye-calibration:	_____
Camera Type / Serial # / Pipeline:	_____ /_____ / _____
Date of last hand-eye-calibration:	_____
Camera Type / Serial # / Pipeline:	_____ /_____ / _____
Date of last hand-eye-calibration:	_____
Camera Type / Serial # / Pipeline:	_____ /_____ / _____
Date of last hand-eye-calibration:	_____
rc_cube Serial # / dongle #	_____ /_____
rc_cube / rc_visard IP Address:	_____ . _____ . _____ . _____
Robot IP Address:	_____ . _____ . _____ . _____
Date of Commissioning:	_____
Commissioning Engineer:	_____

roboception

Additional Observations

Use this section to record any observations and additional notes:

_____
_____
_____
_____
_____
_____

Detailed Instructions

All cameras:

- Always start with the default settings for camera, depth image and the software modules (click “Reset” in the “Settings” section of the corresponding page).
- Perform a functional test by clicking “Detect” in the Try Out area of the respective module and verifying correct visualization in the Web GUI.
- Periodically inspect the mounting and cable management for wear or loosening.
- Schedule regular firmware updates as released by Roboception (January, April, July, October each year).

rc_visard / rc_viscore / stereo_ace:

- Always use the default camera and depth image settings, **unless** when using a projector (see next bullet points).
- When using a projector, make the following settings in the Web GUI:
    - Camera page: Set “Auto Exposure Mode” to “AdaptiveOut1” or “Out1High”
    - Depth Image page: Set “Acquisition Mode” to “Single+Out1”
- On the Camera page of the Web GUI, use ”Manual” exposure only in controlled lighting conditions.
- On the Depth Image page of the Web GUI, only use Quality "Full" if required by the application.
- On the Depth Image page of the Web GUI, only switch off “Smoothing” if required by the application.

Zivid:

- If a red error bar in the Web GUI indicates that the connected Zivid camera requires a firmware update, update the Zivid camera by clicking on the error bar and then clicking “Update Zivid firmware”.
- On the Camera page of the Web GUI: Select the appropriate 2D preset name.
- On the Depth Image page of the Web GUI: Select the appropriate 3D preset name.

Orbbec:

- No additional recommendations.

roboception

References

rc_visard User Manual:	https://doc.rc-visard.com/latest/en/index.html
rc_viscore User Manual:	https://doc.rc-viscore.com/en/index.html
rc_visard NG User Manual:	https://doc.rc-visard-ng.com/latest/en/index.html
rc_cube User Manual:	https://doc.rc-cube.com/latest/en/index.html
Tutorials:	https://tutorials.roboception.de/
Github:	https://github.com/roboception
Knowledge Base:	https://roboception.com/resources/knowledge-base/
Troubleshooting:	https://doc.rc-cube.com/latest/en/troubleshooting.html

If you encounter any issues, please reach to our support via:
support@roboception.de
+49 89 889 50 79-0 (09:00-17:00 CET)

Version: 1.0
Date: 2025-10-06