

SRPlatform04 Mobile Servicerobot

Autonomous operation, omnidirectional motion and 6-axis object manipulation: the SRPlatform04, the Commonplace Robotics service robot, offers an ideal base for your R&D projects!



Structure

The service robot consists of the subsystems platform, arm, sensors and control system. All parts are accessible and easy to add. The arm can be dismantled for transport with 4 screws and a plug connector. The Windows version of the robot is easy to operate. In the Linux version it can be easily integrated into a ROS environment.

Applications

- ➔ Research and Development in service robotics
- ➔ Learning / Training in the IIOT area

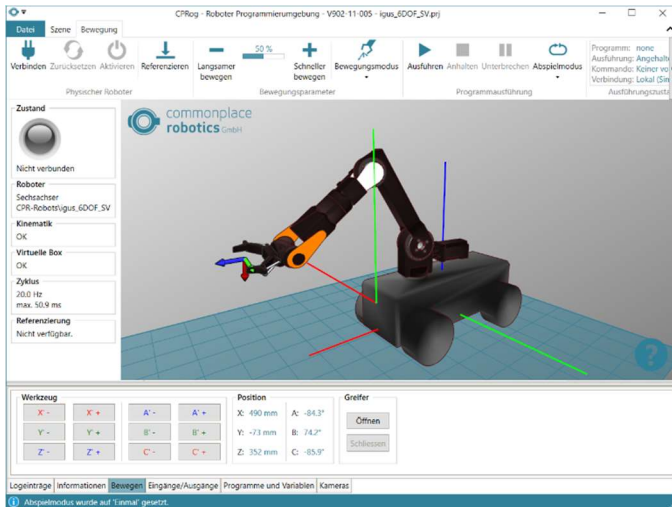
An exemplary pick-and-place scenario can be implemented directly with the supplied CmdDesk planning software:

- The robot navigates autonomously between 3 previously programmed positions: start, pickup and deposit position
- The position of the platform in front of the pick-up position is approached with an accuracy of a few cm. By means of computer-sensible tags, the exact gripping position is determined.
- The robot arm can pick up and place the workpieces precisely.
- This enables an autonomous fetch-and-carry service

Specifications

Platform dimensions:	585 x 328 mm
Platform drive:	154mm Mecanum wheels, pendulum axis
Weight:	approx. 15 kg
Arm:	6 axis kinematic
Gripper:	Electric 2 finger gripper
Reach / payload:	550 mm / 500 g
Interfaces:	ROS via WLAN / Ethernet CRI via WLAN / Ethernet
Power supply:	24V / 10 Ah Lilon battery with 3A charger Operation time 2-3 hours
Control:	intel NUC Core i5, 16 GB RAM, 500 GB SSD with Win or Linux
Sensors:	SlamTec RPLidar A2
Sensors optional:	realsense 415 3D-Kamera, further sensors depending on your requirements

Pictures and specifications are preliminary.



The installed robot controller performs all basic functions such as hardware control, kinematics, navigation in known maps, and program playback. It is installed as a Windows software with 3D user interface, or as Linux console application.

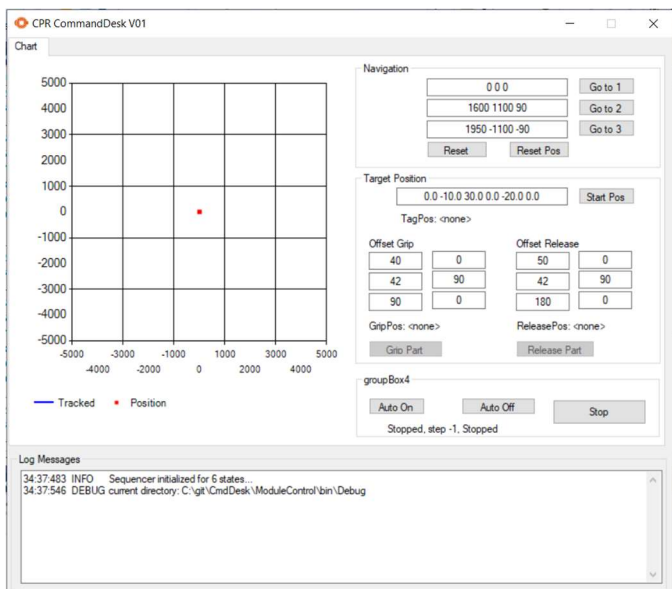
The task planning is carried out by a separate software. This can either be the included demo software CmdDesk or an adapted task planning environment, e.g. on ROS basis.

The task planner communicates closely with the robot controller:

- Reception of sensor data and robot telemetry
- Evaluation of the data and generation of the next movement instruction
- Transmission of instructions to the robot controller.

The interfaces are documented, example source code is available.

We are pleased to adapt the platform to your needs!



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