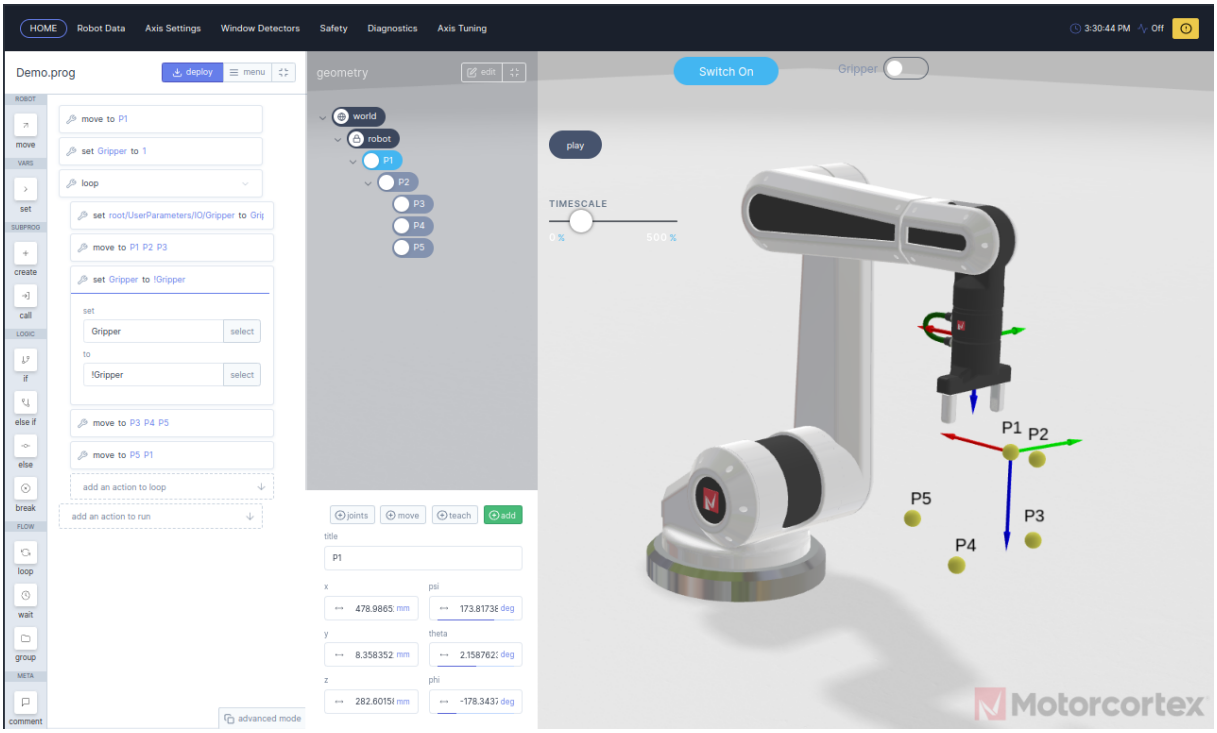
MOTORCORTEX-ROBOT-APP

TURN-KEY FULLY FEATURED ROBOT MOTION CONTROL APP



Motorcortex-Robot-App is a turn-key motion control software for multi-axes Serial and Parallel Robots. It provides the machine logic, kinematics, motion control, errorhandling and interfacing to hardware. Shorten your time-to-market and reduce software development time.

The responsive and fresh browser-based Graphical User Interface is suitable for single- or multi-touch teach pendants. With the intuitive visual programming interface you can program you robot in minutes. Or use the free and open API to send robot programs from your Vision application, ROS node or any other source.

Fast EtherCAT communication gives you the freedom to connect many hardware devices and allows virtually unlimited expansion with i/o and additional axes.

All robot data is securely accessible from a webbrowser and via open APIs for all major programming languages. The data can be streamed to and from other applications and databases at thousands of samples per second. This enables new opportunities for data use such as AI, 3D visualization and data storage.

Use the motorcortex.io portal to securely deploy the Robot-App to your fleet of Robots with a single click. Manage your machine configurations, configure your EtherCAT devices, collect, visualize and distribute data and simulate your Robots including a Digital Twin for offline programming and debugging.

RECOMMENDED CONTROLLER HARDWARE	
cpu architecture	4 Core Intel or ARM CPU
cpu frequency	1 GHz+
memory / disk space	2 Gb+ / 4 Gb+
ethernet	2 x Gigabit Ethernet (1 x for EtherCAT)

CONTROL SYSTEM	
operating system	Motorcortex MCX-RTOS, realtime Linux
update rate	1 kHz (typical, adjustable to cpu performance)
serial kinematics	cartesian, 6dof, scara, paletizer
parallel kinematics	delta, delta with sliding joints, hexapod
dynamics model	yes, rigid body dynamics model
feedforward	computed-torque, friction compensation
auto-referencing	supported
force control	yes, fidelity depending on robot hardware
digital-twin	realtime physics built-in, EtherCAT simulation

HARDWARE CONNECTIVITY	
industrial bus	EtherCAT
i/o	expandable via EtherCAT
tool-changing	yes, through EtherCAT Hot Connect
drive protocols	SERCOS (SoE), CiA402 (CoE)
safety integration	FSoE or conventional (with digital i/o)
usb devices	IMUs (Bosch, XSens), Joysticks/Gamepads

SOFTWARE CONNECTIVITY	
middleware	Motorcortex
messaging	publish/subscibe, request/reply
API	C++, C#, JavaScript, Python
security	TLS, end-to-end encryption
framework support	ROS, Node-RED
streaming interface	Websockets, UDP, MQTT, OPC-UA

USER INTERFACE	
teach pendant	tablet with webbrowser
multitouch support	yes
number of clients	unlimited
user permissions	users authentication via logon screen
3D visualization	GLTF models (open standard)
customization	user interface fully customizable

ROBOT PROGRAMMING FEATURES	
programming	from teach pendant, tablet or laptop
teaching	on-screen joysticks or compliance mode
move commands	joint, cartesian (linear), circular
blended moves	yes, adjustable segment velocities
logical commands	loop (break), if-then-else, wait, set, math
user variables	unlimited, scalars or arrays
subprograms	yes, with arguments, object oriented
debug features	slow-motion, pause, command highlighting
data tracing	Motorcortex-DESK, python datalogger

For more information and a free trial visit **https://motorcortex.io/**