

**RADONIX**

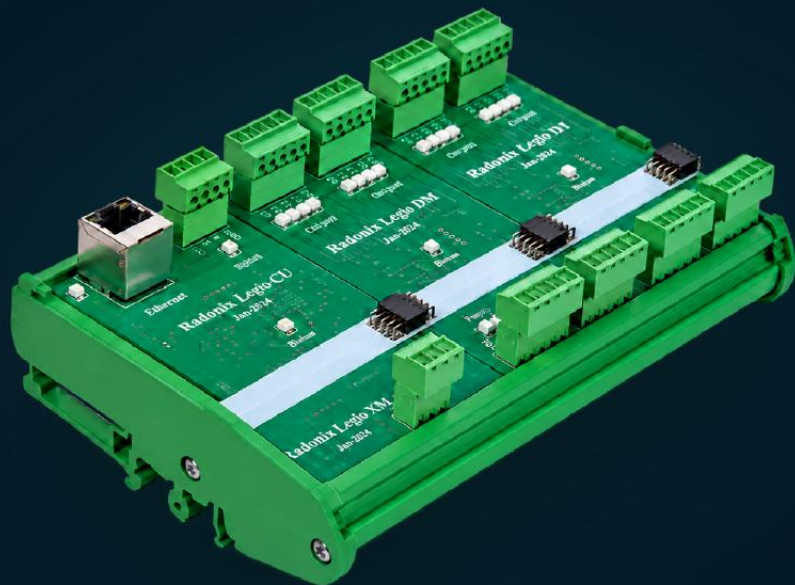
MOTION AND AUTOMATION

MACHINE BUILDER PRODUCT BRIEF / 2026

RADONIX LEGO CONTROLLER PLATFORM

One control platform. One complete machine.

High-performance motion control, built-in machine automation and modular I/O for multi-axis equipment. Shorten development cycles with one platform that is easier to commission, operate and scale.

**16**

Motion axes

1 ms

Control update cycle

4

Independent motion paths

16

Addressed module slots

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MOTION AND AUTOMATION

01 / WHAT MACHINE BUILDERS NEED

From motion control to field I/O, reduce machine integration complexity.

Radonix LEGO brings multi-axis motion, machine automation and field I/O into one platform, leaving machine builders free to focus on process, mechanics and customer experience.

01

Coordinated motion for demanding machines

Control up to 16 physical or virtual axes across 4 independent motion paths with a 1 ms update cycle. Built for synchronized moves, jogging, homing, tracking and continuous path operation.

02

Works with leading servo systems

Industrial EtherCAT connectivity supports established servo families, giving machine builders flexibility to select drives that match performance, availability and budget.

03

Built-in machine automation

Machine sequences, interlocks and auxiliary functions are handled inside the controller, reducing cabinet complexity and the need for separate control hardware.

04

Faster setup and easier service

Machine setup, G-code, CAD import, 3D toolpath preview, live monitoring and simulation are combined in one environment to shorten commissioning and troubleshooting time.

Build the first machine faster

Unified setup, motion, logic and diagnostics reduce tool switching and duplicate integration.

Scale product families

Stable axis, path and module models support both entry-level and complex machine configurations.

Maintain with clarity

Structured status, logs and online monitoring help service teams locate field issues quickly.

FROM SETUP TO PRODUCTION

01

Configure

Define axes, paths, drives and modules.

02

Connect

Connect servo drives and field modules.

03

Test

Verify machine behavior with simulation and live monitoring.

04

Produce

Load production files, preview the path and start with confidence.



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02 / RADONIX MODULAR I/O

Configure I/O around the machine. Keep wiring and topology clear.

One Micro-MM gateway connects the Radonix module family to the machine network. Stable addressing and a consistent module layout make installation and future expansion predictable.

16

Stable module slots and node addresses



DM

Digital field signals

Each module provides 8 inputs and 8 outputs. Selectable input filtering supports limit switches, sensors, operator controls and actuators.

AM

Analog signals and PWM

Built for speed references, pressure, temperature and other continuous signals, with intuitive scaling, independent calibration and configurable hysteresis.

Available I/O configuration: up to 8 DM, 2 AM and 2 EM family positions, for 12 simultaneously connected current-family modules. The remaining positions preserve the 16-slot expansion capacity for future module families. EM availability is subject to final product qualification.

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03 / SELECTION SUMMARY

Designed for machines that are deliverable, maintainable and scalable.

Radonix LEGO is more than a motion controller. It combines coordinated motion, machine automation, field I/O and service tools in one platform, with predictable behavior when communication is interrupted.

- ✓ **Smooth coordinated motion**
Up to 16 axes and 4 independent paths provide the capacity for demanding multi-axis machines.
- ✓ **Flexible servo selection**
Industrial EtherCAT connectivity supports a growing range of established servo families.
- ✓ **Predictable output behavior**
If communication is interrupted, motion is brought toward a controlled stop and output layers return to zero.
- ✓ **Faster troubleshooting**
Clear status, live monitoring, 3D preview and structured reports help service teams identify issues quickly.
- ✓ **One platform from cabinet to screen**
Motion, machine automation and modular I/O are designed to work together as one system.

Key technical data

Motion axes	16 physical or virtual axes
Independent paths	4 ToolPaths
Control update	1 ms / 1000 Hz
Servo connectivity	Industrial EtherCAT
Digital I/O	Up to 64 inputs + 64 outputs
Analog and PWM	4 inputs + 4 outputs + 4 PWM
Encoder inputs	4 x 32-bit channels
Module expansion	16 stable addressed positions

Multi-axis sync

Coordinate multiple servo axes

Continuous paths

Dependable interpolation and trajectory control

Modular machines

Share one platform across configurations

Faster delivery

Improve commissioning and service efficiency

Specifications reflect the current Radonix LEGO product baseline as of September 2026 and may change before commercial release. Final machine safety integration, emergency-stop design, assembled-hardware qualification and application approval remain the responsibility of the machine builder. EtherCAT and related names are trademarks of their respective owners; references describe integrated technology and do not state third-party certification.

Build the entire machine around one control platform.

Radonix LEGO unifies motion, machine automation, modular I/O and setup tools in one clear, extensible control platform.

www.radonix.com

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