CARIMO

CATALOG 2026 · V2.0

Control systems, but make it tangible.

15+
years classroom tested

IIT B
officially licensed from IIT Bombay

IIT · NIT
used across top institutes

The CARIMO DC Motor Kit puts a real motor, real loads and real controllers on your desk. From first PI loop to advanced control. Developed at IIT Bombay.

- PI / PID Python app included
- 7 experiments
- Portable desk kit
- Position + speed control



0–3,200 RPM · PI / PID PYTHON APP INCLUDED · MATLAB® / SIMULINK® READY · MADE IN INDIA

Born in labs. Made for your lab.

Developed at IIT Bombay under the MHRD Virtual Labs "Remote Triggered Labs" project (NMEICT) and refined over 15+ years in classrooms. Labs that skip it keep teaching control theory from slides. Labs that have it let students feel it.

Teach what you implement

Faculty run the exact controllers they teach on the bench. No new tool to learn, no extra burden.

Handy and portable

A desk-sized kit you can carry to class, lab or demo.

Industry-ready skills

Prepare students for challenges in industrial automation.

Improvise your learning

Change loads, gains and setpoints live. Every session can be different.

Product info

Brand	CARIMO
Product	DC Motor Kit
Category	Education Tech
Model	2.0
HSN	9023
SKU	CARIMO-DCMK-V11
OEM	CARIMO Technologies Pvt Ltd



Give your students hands-on control. They are the ones industry calls first.

A real motor. Real physics.



DC motor + quadrature encoder
Permanent-magnet brushed DC motor with precise position and speed feedback

Driver circuitry
H-bridge driver with 3.5 A peak output

Embedded interface
Cortex-M4F at 84 MHz talks to your PC over USB 2.0

Magnetic load disks
3 disks with 4, 6 and 8 magnets. Hot-swap them to change the load while it runs

Specs at a glance

0–3,200 RPM speed range	**±8** RPM accuracy	**84 MHz** ARM Cortex-M4F
3.5 A H-bridge peak	**USB 2.0** to your PC	**12 V DC** adapter (230 V AC mains)



Plug in. Play. Learn.

USB to your PC · Open the app · Run an experiment

Free runtime app, durable ABS body, Windows 10/11.

Start with PID. Grow with your course.

PI / PID Control (Python) ships with every kit. Other control packages are add-ons, picked to match what your curriculum and customers need. Bring your own MATLAB® / Simulink® (R2021a or newer) for the Simulink® packages.

INCLUDED WITH THE KIT

PI / PID Control (Python)

Standalone Windows app. No MATLAB® needed.

ADD-ON, AS YOU NEED

PI / PID Control (Simulink®)

Runs from the Simulink® interface files.

ADD-ON, AS YOU NEED

MPC Control (Python)

Model predictive control as a desktop app.

ADD-ON, AS YOU NEED

MPC Control (Simulink®)

Needs the MPC Toolbox™ from MathWorks.

ADD-ON, AS YOU NEED

Fuzzy Logic (Python)

Rule-based control without the maths overhead.

ADD-ON, AS YOU NEED

Fuzzy Logic (Simulink®)

Build and tune fuzzy controllers in Simulink®.

- Interactive: tune setpoints and gains live
- CSV logging of every run
- Perpetual license, free upgrades for 1 year



Theory builds the base. Practical skills tip the scale.

Control Systems, Signal Processing and System Modeling are the foundation. Students step into employment when they can also run, tune and debug a real system.

MATLAB®, Simulink® and MPC Toolbox™ are trademarks of The MathWorks, Inc. and are not supplied with the kit.

7 experiments. Zero boring.

Master DC motor speed control across the full 0–3,200 RPM range with the PI / PID Python app that comes with the kit, then go further.

1 **Plant identification**
Open-loop step response gives the FOPDT model (Kp, τ, θ)

2 **PI setpoint tracking**
Multi-step accuracy across 1k–3k RPM

3 **Disturbance rejection**
Recover from magnetic-disk load events

That is just the warm-up.

Four more experiments take you from steady speed control to position control, where the real fun starts. Every one runs on the actual motor, not on a screen.



Real loads. Real mess.

Swap the 4, 6 or 8 magnet disk mid-run and see what your controller is really made of.

Need more? Add-on control packages bring further experiments to match your curriculum.

Trusted in real classrooms.

Developed and tested at IIT Bombay. Used in engineering colleges across India.

SUPPORT THAT STICKS

1-year warranty on parts and labor
Free software upgrades for 1 year
2 hours of free online training
Perpetual software license

OPTIONAL, EXTRA COST

Hands-on demo training
Software installation on additional laptops
Annual updates after year 1

IN THE BOX

+ DC Motor Kit unit
+ 12 V DC adapter
+ 3 magnetic load disks
+ USB cable
+ Manual
+ 1-year warranty

TALK TO US

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Demo video | Website | LinkedIn

About CARIMO

An AI-based startup recognized by the Government of India (July 2024), incubated at IIT Bombay and built on 36 years of expertise in Systems and Control. Fields: Control, AI, Real-Time Systems, Implementation, Modeling and Optimization. DPIIT recognized · UDYAM MSME registered.

7
guided experiments, from speed control to position control

1 yr
warranty and free software upgrades

2 hrs
of free online training for your faculty

Give your students the bench, not just the book.

Message us on WhatsApp or email for a quote for your lab.

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